

PRATIYOGITA DARPAAN

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The First British Asian Prime Minister

PRATIYOGITA DARPAN

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To Our Readers

Dear Readers,

It is with a sense of great delight and pleasure that we are presenting the December issue of your favourite magazine **Pratiyogita Darpan**. As usual the present issue of the magazine contains useful material relevant to competitive examinations. Our editorial board and the team of highly qualified and experienced authors take painstaking efforts to present the study material keeping in view the requirements of our esteemed readers. We are sure that if you read it intelligently and wisely, it will go a long way in equipping you with knowledge to face the gruelling battle of the examination and bring you sure success.

We always try to understand the demands and requirements of our readers, their suggestions and changes in the pattern and contents of the competitive examinations. We make all efforts to include them, as far as possible, in successive issues of the magazine. It gives us great satisfaction to know that our readers have unanimously endorsed the utility of the magazine.

In the present issue, a number of core articles on important national and international events contributed by reputed authors have been given. Some of the representative articles in the present issue of this magazine are : Angela Merkel Felicitated with UNHCR Nansen Refugee Award 2022; Nobel Prizes 2022; Shehan Karunatilaka Wins Booker Prize 2022; Sakharov Award 2022; Ballon d'Or; Roger Binny Elected BCCI President; Indian Women Win Women's Asia Cup 2022; Zozo Championship 2022; 36th National Games Organized in Gujarat; India Wins Sultan of Johor Cup 2022.

The most important section of the Magazine contains a number of question papers selected from various competitive examinations. These are fully solved with relevant hints and short, but clear-cut explanations. All efforts are made to give their error-free solutions. A careful study of and practice session with these papers will be very useful to face any competitive examination.

The columns **Divya Darpan**, **Compendium**, **Test Your Knowledge**, **Memorable Points** and **Concentric Quiz** have been widely appreciated as trusted tools for the benefit of our readers. An intelligent study and memorizing of their contents will be highly useful in solving questions in any future examination.

Pratiyogita Darpan gives you the best guidance and reading material. It is upto you to make the best use of it for a bright success in any competitive examination.

Read Pratiyogita Darpan regularly and intelligently. It gives you the power to master your career and shape your destiny.

With best wishes for your brilliant success and bright future.

Sincerely yours,

RAHUL JAIN
(Editor)

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Be Sensibly Sensitive

Troubles galore in the world arise because of the fact that we are neither sensible, nor sensitive to the desired level. In personal life as well as in our relation to others, it is of utmost importance that we are sufficiently sensible and sensitive. We can also say that it is imperative for us to be sensibly sensitive. A sensible person knows life in all its ramifications and acts as per the requirement of the situation. Being sensible also means having adequate commonsense. There is need of commonsense at every step of life, otherwise we shall encounter pitfalls and aberrations in abundant measure. A sensible person is respected in family, the society, here, there and everywhere. On the contrary, a man bereft of commonsense does not command respect anywhere. Similarly, we should be sensitive to life's situations. Our reactions to situations must be based on adequate commonsense. Being too much sensitive is fraught with innumerable troubles in personal, familial and societal existence. A too-much sensitive person more often than not faces nervous disorders. But in relation to others we must be sensitive. We should be sensitive to the sorrows, agonies and afflictions of others. Those who pity others' sorrowful lives and get ready to help them are sensitive. Those who are not sensitive to others' sorrows are not really human beings in the strict sense of the term. The whole discussion boils down to the fact that we should be sensibly sensitive.

Quick to respond, is a sensitive person. Slow to react is a sensible person. We need to be both. We must be sensitive enough to smell the rat, but must take our own time to assess the situation, lest we may land our efforts in waste. The great modern thinker, J. Krishna Murthi has written in his famous book "At the Feet of the Master" that "Our higher mind should respond to the desires of the astral body, but must know that it is not 'I' that desires it, but the lower mind. It is the donkey ridden by the rider, that kicks against the pricks."

Although the context of Krishna Murthi's discussion is different, yet it tells in a very illustrative way how one could control and lead in the desired direction the donkey of lower desires. To be sensitive to the stimuli is good, but one must not be led away by them. Being of pure and unpolluted nature, young blood is quick both to respond and react. But one who is able to have control over his reactions, is sure to go a long way of a successful life, because he is the master of the vehicles by which he is destined to go on his journey.

Life is a journey through a series of halts in the worldly sense and through a series of incarnations in the philosophical sense. We have come a long way. We have yet to go a long way.

The word journey implies a goal and a road to be traversed. The trio of destination, route and movement ever go together and each has a significance in relation to the other.

Granted, that you have decided your goal or the form of achievement which you have before you. Then comes the road you have to traverse. You may reply that when the goal is fixed, the road leading to it is automatically known. But we are afraid that the equation of goal and road is not so simple as you think or presume it to be. The road may look the same to every traveller, but the atmosphere—the nature of halts and difficulties on it, may be reacted to differently by different persons, because every person is an individual and experiences are not transferable. Each one has his own susceptibilities and capacity to acclimatize and adjust. It is here how we are able to set a favourable equation of the road and the movements. So, it is desirable to have first hand knowledge of the road to be taken and not to undertake the journey at the instance of someone else. In case otherwise, the journey is doomed to be a failure.

Power of grasping and retaining as memory is nurtured in the cradle of sensibility. In this context, these words of Albert Einstein are of great significance—"A human being is the part of the whole, called by us the universe. A part limited in time and space, he has to experience his thoughts and feelings as separated from the rest, a kind of optical delusion of consciousness. This delusion is a kind of prison for us, restricting us to personal likes and dislikes, our task must be to free ourselves from this

prison." This can be done only if our susceptibilities and reactions are well within control of the mind. Striving to be sensible in respect of our susceptibilities is a part of liberation referred to above.

If one is simultaneously aware of the objective nature and the subjective nature of thought or aware of the wholeness of thought, then, one is bestowed with realistic perception, which in turn depends upon the degree of control of our mind. This is nothing but how we deal with the messages given by the five senses—which, in the world of practical life is called prevailing of good sense. The horse chestnut provides us with a useful illustration. The fruit is surrounded by a thick husk and shell. In the course of time, the husk becomes brittle and develops a number of spikes. The spikes harden until a protective prickly cover is formed. In due time, the nut falls to the ground, the shell breaks open and the shining fruit is revealed. Only then is it capable of producing a tree. Development of our good sense may be related to the ripening of the chestnut. The sooner it is done, the sooner our movements adapt themselves to the conditions of the road, we have chosen to tread. We can not tread on the path, until we have, in some measure rid ourselves of personal idiosyncrasies. So, the first step to be taken is to be the gaining of sensitivity at all levels, the Physical, the Astral, the Mental.



Nation

This Month

IAF Gets 1st Home Made LCH 'Prachanda'

On 3 October, 2022, Raksha Mantri Shri Rajnath Singh inducted Indigenously Designed and Developed Light Combat Helicopter (LCH-5.5 tonne class)—'Prachanda' into Indian Air Force. LCH is designed and developed by Hindustan Aeronautics Limited (HAL) in Jodhpur. The trust reposed and support extended by the IAF towards indigenous design & development is evident through the examples such as Marut, Light Combat Aircraft, Akash missile system, Advanced Light Helicopter and the Light Combat Helicopter.



The indigenously developed Light Combat Helicopter (LCH) 'Prachanda'

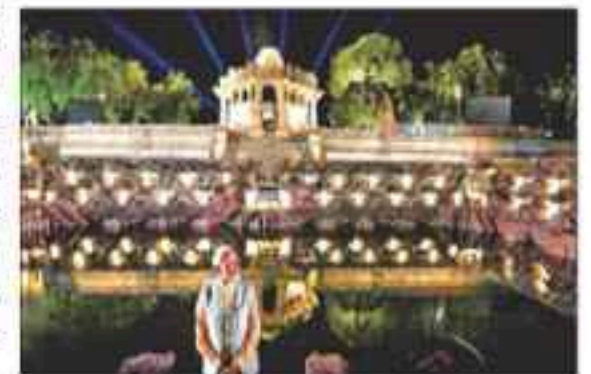
Key Facts :

- The formal induction of the LCH comes after the Cabinet Committee on Security, chaired by the Prime Minister, approved in March the procurement of 15 LCH Limited Series Production (LSP) for ₹ 3,887 crore along with allied infrastructure sanctions worth ₹ 377 crore. Of the 15 helicopters being procured from the LSP, 10 are for the IAF and five for the Indian Army.
- Since the Kargil War in 1999, the need for LCH was felt more and today's LCH was a result of two decades of R&D and indigenous efforts in that direction.

PM Declares Modhera as India's First Solar-Powered Village

On 9 October, 2022, the Prime Minister declared the village of Modhera as India's first 24 x 7 solar-powered village. The Prime Minister Modi also laid the foundation stone and dedicated various projects worth over ₹ 3900 crore to the nation and the entire North Gujarat. The earlier Modhera was known for Surya Mandir but now Surya Mandir has inspired Saur Gram and that has made a place on the environment and energy map of the world.

The Prime Minister include Gauge Conversion of Sabarmati-Jagudan segment of Ahmedabad-Mehsana Gauge Conversion project; ONGC's Nandan Geological oil production project; Sujalam Sufalam Canal from Kherava to Shingoda Lake; Dharoi Dam Based Vadnagar Kheralu and Dharoi Group Reform Scheme; project of four laning of a section of Bechraji Modhera-Chanasma state highway; project to expand a section of Unja-Dasaj Upera Ladol (Bhankhar Approach Road); New Building of Regional Training Centre, Sardar Patel Institute of Public Administration (SPIPA), Mehana; and Projection Mapping at Sun Temple at Modhera, among others.



Modhera village in Gujarat is home to the Sun Temple.

- ➔ IAF Gets 1st Home Made LCH 'Prachanda'
- ➔ PM Declares Modhera as India's First Solar-Powered Villages
- ➔ PM Modi Visits Ujjain and Inaugurates 'Mahakal Lok' Corridor Development Project
- ➔ Adani Green Energy Ltd. Launches World's Largest Wind-Solar Power Plant
- ➔ PM Modi Inaugurates 4th Vande Bharat Express
- ➔ PM Inaugurates Second United Nations World Geospatial Information Congress in Hyderabad
- ➔ Justice D.Y. Chandrachud Appointed as 50th CJI
- ➔ Central Government Approves 1st Suspension Bridge in India
- ➔ PM Lays Foundation Stone of the Second Bulk Drug Park in Una
- ➔ INS Arihant Launcher Submarine Launched Ballistic Missile (SLBM)
- ➔ Indian Air Force Celebrates 90th Air Force Day at Chandigarh
- ➔ World's Oldest Dock-Lothal Set to get National Maritime Heritage Complex
- ➔ PM Inaugurates 90th Interpol General Assembly in New Delhi

Key Facts :

- The Prime Minister pointed out solar energy will power house lights, agricultural needs as well as vehicles in Modhera. "For a self-reliant India of the 21st century, we have to increase such efforts related to our energy needs."
- The Prime Minister recalled the success of Jyotigram Scheme that began in Unjha to provide electricity to every village for twenty-four hours, and the government had allocated a thousand days to complete the work.
- In 1930, the British had made a road map of the development of Mahesana-Ambaji-Taranga-Aburod railway line.

PM Modi Visits Ujjain and Inaugurates 'Mahakal Lok' Corridor Development Project

On 11 October, 2022, Prime Minister inaugurated the first phase of 856 crore Mahakaleshwar Temple Corridor Development Project which is situated in Ujjain city of Madhya Pradesh and organised by the state government. The development of the project has been planned under two phases.



Key Facts :

- The new corridor measures over 900 metres in length and is dotted with 108 ornate sandstone columns in a row bearing decorative 'Trishul' design on top and 'mudras' of Lord Shiva on its faces. The Mahakal Path contains 108 stambhs (pillars) which depict Anand Tandav Swaroop (Dance form) of Lord Shiva.
- The mural wall along the path is based on stories about the act of creation, the birth of Ganesha, story of Sati and Daksha among others from Shiva Purana.
- The area of plaza is spread over 2.5 hectares and is surrounded by a lotus pond which contains the statue of Shiva along with water fountains. The entire premise will be monitored 24 x 7 by Integrated Command and Control Centre with the help of artificial intelligence and surveillance cameras.
- The Mahakaleshwar Temple is one of the 12 'jyotirlingas' in the country and gets devotees throughout the year.

Adani Green Energy Ltd. Launches World's Largest Wind-Solar Power Plant

Adani Green Energy Ltd. has commissioned the world's largest wind-solar power plant of 600 MW capacities in Jaisalmer, Rajasthan. The project consists of 600 MW solar and 150 MW wind plants. Adani Green

Energy Ltd. (AGEL) has commissioned the world's largest wind-solar power plant of 600 MW capacities in Jaisalmer, Rajasthan. The plant has a power purchase agreement with Solar Energy Corporation of India (SECI) at ₹ 2.69/kWh for 25 years.

About Adani Green Energy (AGEL)

Adani Green Energy Limited (AGEL) is an Indian renewable energy company headquartered in Ahmedabad, Gujarat. It is owned by Indian conglomerate Adani Group. The company operates the Kamuthi Solar Power Project which is one of the largest solar photovoltaic plants in the world.



Key Points :

- The project consists of 600 MW solar-wind plants.
- In May 2022, AGEL operationalized India's first hybrid power plant with a capacity of 390 MW in Jaisalmer.
- The commencement of the 600 MW plant AGEL has a total operational generation capacity of 6-7 GW.
- This includes an operational hydropower generation capacity of 1 GW, the largest in the world.
- AGEL's total renewable portfolio goes up to 20.4 GW to reach its vision of 45 GW capacity by 2030.

PM Modi Inaugurates 4th Vande Bharat Express

On 13 October, 2022, Prime Minister Shri Narendra Modi flagged off the inaugural run of the new Vande Bharat Express from

Amb Andaura, Una (Himachal Pradesh) to New Delhi. Train No. 22447/22448 New Delhi—Amb Andaura—New Delhi Vande Bharat Express shall commence its regular service from 19th October, 2022. This train will run six



PM Narendra Modi inaugurated 4th Vande Bharat Express in Una (Himachal Pradesh).

days a week (except Friday). Vande Bharat Express is a train set rake of 16 coaches comprising of Executive Class and Chair Car coaches. The travelling time reduced by two hours from Una (Himachal Pradesh) to New Delhi. It was the fourth Vande Bharat train to be introduced in the country and is an advanced version compared to the earlier ones, being much lighter and capable of reaching higher speeds in a shorter duration :

1. 1st Vande Bharat Express—3 October, 2019 (New Delhi to Varanasi).
2. 2nd Vande Bharat Express—9 September, 2022 (Delhi to Katra)

3. 3rd Vande Bharat Express—30 September, 2022 (Mumbai central to Gandhi Nagar).
4. 4th Vande Bharat Express—13 October, 2022 (New Delhi to Una).

PM Inaugurates Second United Nations World Geospatial Information Congress in Hyderabad

On 11 October, 2022, the Second United Nations World Geospatial Information Congress (UNWGIC 2022) was held in Hyderabad. The five day conference is being hosted by Department of Science & Technology, Ministry of Science and Technology and convened by the United Nations Committee of Experts on Global Geospatial Information Management. With the theme of 'Geo-Enabling the Global Village : No one should be left behind,' the Second UNWGIC 2022 will reflect on the importance of integrated geospatial information infrastructure and knowledge services to support implementation and monitoring of sustainable development goals.



Inauguration of Second United Nations World Geospatial Information Congress in Hyderabad.

Key Facts :

- 450 million unbanked people were brought under banking net and 135 million people were given insurance and sanitation facilities were taken to 110 million families and tap water connections to over 60 million families.
- The Prime Minister underscored the endless possibilities that geospatial technology offers which include sustainable urban development, managing and mitigating disasters, tracking the impact of climate change, forest management, water management, stopping desertification and food security.
- The geospatial economy is expected to cross ₹ 63,000 crore by 2025 at a growth rate of 12-8% and to provide employment to more than 10 lakh people mainly through Geospatial start-ups.

Justice D.Y. Chandrachud Appointed as 50th CJ

On 17 October, 2022, in exercise of the power conferred by clause (2) of Article 124 of the Constitution of India, the President is pleased to appoint Dr. Justice Dhananjaya Yashwant Chandrachud, Judge of the

Supreme Court, as the Chief Justice of India, with effect from 9th November, 2022. Justice D.Y. Chandrachud will take oath as the 50th Chief Justice of India on November 9, 2022 a day after incumbent CJI Justice Uday Umesh Lalit demits office on attaining the age of 65. Justice Chandrachud served as the Chief Justice of Allahabad High Court from October 31, 2013. He also served as a Judge of the Bombay High Court from March 2000 to October 2013. Justice Chandrachud is known for his love of cricket.



50th CJI : Justice Dr. Justice Dhananjaya Yashwant Chandrachud.

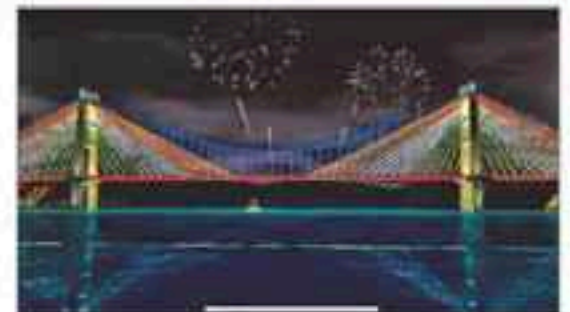
Key Facts :

- Justice Chandrachud will serve as the CJI for two years. He will demit office on November 10, 2024.
- Justice Chandrachud, presently the seniormost Supreme Court judge after Justice Lalit, was elevated to the Supreme Court on May 13, 2016.
- He is son of former Supreme Court judge Y.V. Chandrachud, the longest serving CJI who was in office for about seven years and four months between 1978 to 1985.
- The SC collegium is headed by CJI and comprises four other senior most judges of the court. The collegium system is the system of appointment and transfer of judges that has evolved through judgements of the SC (Judges Cases), and not by an Act of Parliament or by a provision of the Constitution.
- In 2019, the SC ruled that the office of Chief Justice of India (CJI) comes under the purview of the Right to Information (RTI) Act, 2005.

Central Government Approves 1st Suspension Bridge in India

The central government has approved the construction of an iconic cable stayed-cum-suspension bridge across the Krishna River connecting

Telangana and Andhra Pradesh and passing through the Nallamala forest range. The decision was announced by the union minister for road transport and national highways Nitin Gadkari. Gadkari who said the iconic bridge will have several unique features like the longest glass pedestrian walkway across a river, gopuram-like pylons, signature lighting and a large navigational span. The two-storeyed cable bridge with a four-lane carriageway across the Krishna river was approved last week by the standing committee on finance for the union ministry of road transport and national highways.



1st cable stayed-cum-suspension Bridges across the Krishna River

Key Facts :

- The 3 km-long bridge will reduce the distance between Hyderabad and Tirupati by 80 km. The bridge begins at Somasila at Kollapur in Telangana's Nagarkurnool district and Atmakur in Andhra Pradesh's Kurnool district.
- River travel remains riskier due to the flow of the Krishna river. A boat capsizes incident that took place on this route on January 18, 2007, resulted in the death of nearly 60 people. Since that incident, people from both sides have been asking for a bridge across the river to reduce the distance.
- After constant pursuit by the Telangana government, the Centre finally gave the approval for the project under the Bharatmala Pariyojana project.

PM Lays Foundation Stone of the Second Bulk Drug Park in Una

On 13 October, 2022, the Prime Minister, Shri Narendra Modi laid the foundation stone of second Bulk Drug Park and dedicated the Indian Institute of Information Technology (IIIT) Una to the nation. Its foundation stone was laid by the Prime Minister in 2017. Currently, more than 530 students are pursuing studies at this institute. Various projects have been or their foundation stones have been laid in Himachal Pradesh. Himachal Pradesh has played a crucial role in making India the number one medicine manufacturer in the world. Bulk Drug Park will give further strength to the



government's campaign to provide quality and affordable medical care to people.

Background

Department of Pharmaceuticals implements the Scheme for Promotion of Bulk Drug Parks to facilitate setting up of Three (3) Bulk Drug Parks in the country with the objective to bring down the cost of manufacturing of bulk drugs by creation of world class common infrastructure facilities. The financial assistance by the centre is subject to a maximum limit of ₹ 1000 Crore per park or 70% of the project cost of CIF (90% in case of North Eastern States and Hilly States i.e., Himachal Pradesh, Uttarakhand, UT of Jammu & Kashmir and UT of Ladakh), whichever is less. The total financial outlay of the scheme is ₹ 3000 crore and the tenure of the Scheme is from 2020-21 to 2024-25.

Under the scheme, financial assistance would be provided for creation of Common Infrastructure Facilities (CIF) like : (i) Central Effluent Treatment Plant(s) (CETP) (ii) Solid waste management (iii) Storm water drains network (iv) Common Solvent Storage System, Solvent recovery and distillation plant (v) Common Warehouse (vi) Dedicated power sub-station and distribution system with the necessary transformers at factory gate (vii) Raw, Potable and Demineralized Water (viii) Steam generation and distribution system (ix) Common cooling system and distribution network (x) Common logistics (xi) Advanced laboratory testing Centre, suitable for even complex testing/research needs of APIs, including microbiology laboratory and stability chambers (xii) Emergency Response Centre (xiii) Safety/ Hazardous operations audits centre and (xiv) Centre of Excellence etc. in any upcoming Bulk Drug Park promoted by State Government/State Corporation. The common infrastructure facilities created under the scheme will help reduce the manufacturing cost of bulk drugs and also enhance the competitiveness of the domestic industry.



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Key Facts :

- The Prime Minister laid the foundation stone of Bulk Drug Park at Haroli in Una district which will be built at a cost of over ₹ 1900 crore.
- The Bulk Drug Park will help reduce dependence on API imports. It is expected to attract investment of around ₹ 10,000 crores and provide employment to more than 20,000 people. It will also give a fillip to economic activities in the region.

INS Arihant Launcher Submarine Launched Ballistic Missile (SLBM)

On 14 October, 2022, INS Arihant carried out a successful launch of a Submarine Launched Ballistic Missile (SLBM). The missile was tested to a predetermined range and impacted the target area in the Bay of Bengal with very high accuracy. All operational and technological parameters of the weapon system have been validated. INS Arihant is presently armed with K-15 SLBM with a range of 750 km. INS Arihant was quietly commissioned into service in August 2016. It has a displacement of 6,000 tonne and is powered by an 83 MW pressurised light-water reactor with enriched uranium. The Advanced Technology Project (ATV) project began in 1980s and the first of them, Arihant, was launched into water in 2009.



The successful user training launch of the SLBM by INS Arihant is significant to prove crew competency and validate the SSBN programme, a key element of India's nuclear deterrence capability. A robust, survivable and assured retaliatory capability is in keeping with India's policy to have 'Credible Minimum Deterrence' that underpins its 'No First Use' commitment.

Key Facts :

- In 1998, India conducted nuclear tests under Phokran-II and.
- In 2003, India declared its nuclear doctrine based on CMD and a NFU policy while reserving the right of massive retaliation if struck with nuclear weapons first.
- In November 2019, India formally declared its nuclear triad, stated in its nuclear doctrine, operational after INS Arihant completed its first deterrence patrol.
- Without confirming the particular missile, a defence source said it was not the longer K-4 SLBM but the older SLBM in use.
- In January 2020, the Defence Research and Development Organisation (DRDO) had successfully test fired a 3,500 km range SLBM K-4 from a submerged pontoon off Visakhapatnam coast.

Indian Air Force Celebrates 90th Air Force Day at Chandigarh

On 8th October, 2022, the Indian Air Force (IAF) celebrated 90th Air Force Day. The Air Force in India was officially raised in 1932 as the supporting force of the Royal Air Force of the United Kingdom. The Indian Air Force called the Royal Indian Air Force during World War II and it became the Indian Air Force after the republic in 1950. The event of the day is celebrated at Chandigarh Air Force Station at first time and consists of a parade and flyover.



LCH "Prachanda, Light Combat Aircraft (LCA) Tejas, Sukhoi, Mig-29, Jaguar, Rafale, IL-76, C-130J, and Hawk have taken part in the fly-past. Among helicopters, Advanced Light Helicopter Dhruv, Chinook, Apache and Mi-17 will be part of the aerial display. Motto of India Air Force: Touch the sky with Glory which has been taken from the eleventh chapter of the Bhagavad Gita.

Key Facts :

- India Air Force is the fourth largest in the world after the USA, China and Russia.
- The Chief of Air Staff, an air chief marshal is responsible for the operational command of the air force.
- The President of India holds the rank of Supreme Commander of the air force.

World's Oldest Dock-Lothal Set to Get National Maritime Heritage Complex

World's oldest dockyard, Lothal, is all set to get heritage complex as Prime Minister Narendra Modi reviewed the construction of the National Maritime Heritage Complex (NMHC) site via video conferencing. Lothal was not only a major trading centre of the Indus Valley Civilisation, but was also a symbol of maritime power and prosperity of India. With NMHC, Lothal will act as a centre for learning and understanding India's maritime history. According to Archaeological Survey of India (ASI), Lothal had the world's earliest known dock, connecting the city to an ancient course of the Sabarmati River.



The National Maritime Heritage Complex commenced in March 2022 and is being developed at a cost of ₹ 3,500 crore. This complex will have several innovative features, including the i-recreation, which will recreate

Harappan architecture and lifestyle through immersive technology and four theme parks. It will also house the world's tallest light house museum, along with 14 galleries, highlighting India's maritime heritage starting from the Harappan time to present.

World's Oldest Dock-Lothal

It is one of the southernmost sites of the Indus Valley Civilisation, situated in the Bhal region in the present-day Gujarat and built in 2,200 BC. This port city was a thriving trade centre in ancient times with its trade of beads, gems and ornaments reaching West Asia and Africa. The word 'Lothal' is a combination of Loth and thal, meaning the mound of the dead in Gujarati. The port city was discovered after a team of archaeologists led by SR Rao started the search for Harappan civilisation post 1947 in the Saurashtra region. In 2014, Lothal was nominated as a UNESCO World Heritage Site, however, its application is still pending.

Key Facts :

- According to the dossier submitted to UNESCO, the excavated site of Lothal is the only port-town of the Indus Valley Civilisation.
- Its heritage value is comparable to many other ancient port-towns around the world, which includes - Xel Ha (Peru), Ostia (Port of Rome) and Carthage (Port of Tunis) in Italy, Hepu in China, Canopus in Egypt, Gabel (Byblos of the Phoenicians), Jaffa in Israel, Ur in Mesopotamia, Hoi An in Vietnam, as per the dossier. In the region, it can be compared with other Indus port towns of Balakot (Pakistan), Khirasa (in Gujarat's Kutch) and Kuntasi (in Rajkot).
- In 1963, the ASI for the first time started excavation in a village. Between 1998 and 2001, the ASI team led by Amarendra Nath again started excavation.
- The Haryana govt. planned to develop the world's largest museum of Harappan culture in Rakhigarhi to showcase about 5,000-year-old Indus Valley artifacts.
- During the preliminary excavations, a cluster of seven mounds marked as RGR 1 to RGR 7 were found which together formed the largest settlements of the Harappan civilization.
- In 2013, 2016 and 2022, another excavation work led by V.S. Shinde, former Vice-Chancellor of Deccan University, Pune, was done.
- Fifty-six skeletons have been found in Rakhigarhi since 1998. Of these, 36 were discovered by Shinde and his team. The skeletons of two women found in the excavation of mound number 7 are about 7,000 years old.

PM Inaugurates 90th Interpol General Assembly in New Delhi

On 18 October, 2022, The Prime Minister, Shri Narendra Modi addressed the 90th Interpol General Assembly in Pragati Maidan, New Delhi. The Interpol will be celebrating 100 years of its inception in the year

2023. It is a time for retrospection as well as a time to decide the future. The PM referred to the connection of Interpol philosophy with Indian culture and underlined the similarity between the Interpol's motto of 'Connecting Police with a Safer World' with quote from the Vedas stating "Aano Bhadra Krtavo Yantu Vishwatah". i.e.,



Inaugural session presented by PM Narendra Modi.

The geographical and cultural diversity of India is vast and Indian Police at the federal and state levels cooperate to implement more than 900 national and around ten thousand state laws. Interpol has connected police organizations globally across 195 countries for the past 99 years, and to mark the glorious occasion, the Government of India is releasing a commemorative stamp and coin. Interpol can help by speeding up Red Corner Notices for fugitive offenders. The Prime Minister released a commemorative postal stamp and a ₹ 100 coin to mark the 90th Interpol General Assembly.

Historical Background of Interpol

The 90th General Assembly of Interpol is being held from the 18th to the 21st of October, 2022. The meeting is being attended by delegations from 195 Interpol member countries comprising ministers, police chiefs of countries, heads of national central bureaus and senior police officers. The General Assembly is Interpol's supreme governing body and meets once a year to take key decisions related to its functioning.

The Interpol General Assembly meeting is taking place in India after a gap of about 25 years—it was last held in 1997. India's proposal to host the Interpol's General Assembly in 2022 at New Delhi coinciding with celebrations for the 75th year of India's independence was accepted by the General Assembly with an overwhelming majority. The event provides an opportunity to showcase best practices in India's law and order system to the entire world.

Interpol Launches First Global Police Metaverse

At a surprise session of the 90th Interpol General Assembly in New Delhi, the global police organization unveiled the first ever Metaverse specifically designed for law enforcement worldwide. Fully operational, the Interpol Metaverse allows registered users to tour a virtual facsimile of the Interpol General Secretariat headquarters in Lyon, France without any geographical or physical boundaries, interact with other officers via their avatars, and even take immersive training courses in forensic investigation and other policing capabilities. The Interpol Metaverse is provided through the Interpol Secure Cloud, ensuring its neutrality. During the interactive session, General Assembly delegates in New Delhi were able to digitally enter the Lyon building through avatars, using virtual reality headsets.



World

This Month

World's 1st Space Tourist Signs up for Moon

The world's first space tourist has signed up to spin around the moon aboard Elon Musk's Starship. The world's first space tourist (Dennis Tito 82) wants to go back and he signed up for a spin around the moon aboard Elon Musk's Starship. It's date to be determined and years in the future will bring him within 125 miles (200 kilometers) of the lunar far side with also his wife, Akiko, and 10 others willing to shell out big bucks for the ride. His Russian station flight cost \$ 20 million.



Background

Dennis Tito kicked off space tourism in 2001, becoming the first person to pay his own way to space and antagonizing NASA in the process. The US space agency didn't want a sightseer hanging around while the station was being built. But the Russian Space Agency needed the cash and, with the help of US-based Space Adventures, launched a string of wealthy clients to the station through the 2000s.

Key Facts :

- Starship has yet to launch atop a Super Heavy booster from the southern tip of Texas, near the Mexican border. At 394 feet (120 meters) and 17 million pounds (7.7 million kilograms) of liftoff thrust, it's the biggest and most powerful rocket ever built. NASA already has contracted for a Starship to land its astronauts on the moon in 2025 or so, in the first lunar touchdown since Apollo.
- Well-heeled customers are sampling briefer tastes of space with Jeff Bezos' Blue Origin rocket company. Richard Branson's Virgin Galactic expects to take paying passengers next year 2023.
- Tito is actually the second billionaire to make a Starship reservation for a flight around the moon. Japanese fashion tycoon Yusaku Maezawa announced in 2018 he was buying an entire flight so he could take eight or so others with him, preferably artists. The two men both flew to the space station, from Kazakhstan atop Russian rockets, 20 years apart.
- Tito expects he'll also shatter preconceived notions about age, much as John Glenn's space shuttle flight did in 1998. The first American to orbit the Earth still holds the record as the oldest person in orbit. "He was only 77. He was just a young man," Tito said. "I might end up being 10 years older than him,"

Israel and Lebanon Sign Agreement on Maritime Border and Gas Fields

On 11 October, 2022, Lebanon and Israel have reached a 'historic' deal to end a long-running maritime border dispute in the gas-rich Mediterranean Sea, according to negotiators from the two countries, after submitting the United States-brokered final draft of the deal to President Michel Aoun that an agreement had been reached that satisfies both sides.

- ➔ World 1st Space Tourist Signs up for Moon
- ➔ Israel and Lebanon Sign Agreement on Maritime Border and Gas Fields
- ➔ Historic MoU Signed to Launch India's Rupay Debit Card in Oman
- ➔ Burkina's Ibrahim Traore is World's Youngest President at Age 34
- ➔ Russian Launches Rocket from US After 20 years
- ➔ Rishi Sunak—The First British Asian Prime Minister
- ➔ European Union Approves Phone Charger Reform
- ➔ Japan and Australia Ink Security Pact
- ➔ Xi Jinping Begins 3rd Term as Chinese President
- ➔ The Indo-US Tri-Services Amphibious HADR Exercise, 'Tiger Triumph 2022'
- ➔ WHO Alert Over India-Made Cough Syrups After Deaths in the Gambia
- ➔ Elon Musk Completes Twitter Takeover
- ➔ United Nations Secretary General Visits India

Historical Background of Conflict

Israel and Lebanon has been at war for decades since 1948, with both countries staking claim over a swathe of territory in the Mediterranean Sea, which contains part of the Karish gas field and Qana, a prospective gas field. Negotiations pertaining to the Israeli-Lebanese border dispute over gas-rich waters off the countries' Mediterranean coasts have been on-going since October 2020. The Karish gas field (developed by Israel) has come under threat from Hezbollah, Lebanon's powerful political and militant group is backed by Iran. It's important to note that the agreement only pertains to a territorial dispute in a corner of the eastern Mediterranean sea, not land borders, which are still being contested.

Israel-Lebanon maritime border dispute



Key Facts :

- Israel and Lebanon reached a historic agreement to resolve a long-running maritime border dispute, following months of negotiations guided by the United States.
- His comments came after Lebanon received the final draft of the US-brokered agreement with Israel.

Historic MoU Signed to Launch India's Rupay Debit Card in Oman

National Payments Corporation of India (NPCI) and Central Financial Institution of Oman signed a historic MoU to launch the Rupay debit card in Oman. National Payments Corporation of India (NPCI) and Central Financial Institution of Oman signed a historic MoU to launch the



Historic MoU signed to launch India's Rupay debit card in Oman.

Rupay debit card in Oman, paving the best way for a brand new period of monetary connectivity.

Relations Between India and Oman

As per the Embassy of India in Oman, there are about 624,000 Indians in Oman, of which about 4,83,901 are staff and professionals, as of March 2021. There are Indian households residing in Oman for greater than 150-200 years. Furthermore, the 2 international locations maintain robust financial, business and cultural ties. In 2018, Prime Minister Narendra Modi additionally visited Oman, whereas External Affairs Minister S. Jaishankar visited Oman in 2019. In latest months, International Minister of Oman Sayyid Badr al-Busaidi visited India in March 2022, and Qais bin Mohammed al Yousef, Minister of Commerce, Trade and Funding Promotion visited India in MIGHT 2022.

Burkina's Ibrahim Traore is World's Youngest President at Age 34

The man who led the latest coup in Burkina Faso has been named interim president until elections in July 2024.

A national forum declared that Capt. Ibrahim Traoré would not be allowed to stand in the polls. He seized power two weeks ago from Lt-Gen. Paul-Henri Damiba, who staged a coup in January accusing the authorities of failing to deal with Islamist militants. The insurgency intensified after the general's takeover, prompting Capt Traoré to remove him by force. More than 300 military officials, politicians and community leaders are meeting in Burkina Faso to chart the country's future following its second coup in less than a year. They are expected to agree that elections should be held by July 2024.



New Junta Chief Ibrahim Traore

Who is Ibrahim Traore ?

- Traore was born in Bondokuy, in western Burkina Faso, and studied geology in Ouagadougou before joining the army in 2010.
- He graduated as an officer from the Georges Namonao Military School—a second-tier institution compared to the prestigious Kadiogo Military Academy (PMK) of which Damiba and others in the elite are alumni.
- He served in the badly-hit north and centre of the country before heading to a posting in neighbouring Mali in 2018 in the UN's MINUSMA peacekeeping mission.
- He was appointed captain in 2020.
- The new president faces a daunting task in regaining the upper hand over jihadist groups, some affiliated with Al-Qaeda and others with the Islamic State. They have steadily gained ground since they launched their attacks from Mali in 2015.

Russian Launches Rocket from US After 20 Years

On 5 October, 2022, a Russian cosmonaut rocketed from the US, launching to the International Space Station alongside NASA and Japanese astronauts for the first time in 20 years. A

SpaceX Falcon 9 rocket and the Dragon capsule, with a multinational crew of four astronauts, lifted off from Launch Complex 39-A, beginning a five-month mission to the International Space Station. She was among the three newcomers on the



The SpaceX Falcon 9 rocket carrying the Crew5 Dragon spacecraft lifts off from the Kennedy Space Center in Florida

flight, alongside Marine Col. Nicole Mann, the first Native American woman to orbit the world, and Navy Capt. Josh Cassada. They were joined by Japan Space Agency's Koichi Wakata, who is making his fifth spaceflight.

Key Facts :

- Their SpaceX flight was delayed by Hurricane Ian, which devastated parts of the state last week. The weather was ideal as the Falcon rocket blasted into a brilliant noontime sky.
- Ms. Kikina is the Russian Space Agency's exchange for NASA's Frank Rubio, who launched to the space station two weeks ago from Kazakhstan aboard a Soyuz rocket. He flew up with two cosmonauts.
- The space agencies agreed over the summer to swap seats on their flights in order to ensure a continuous U.S. and Russian presence aboard the 260-mile-high (420-kilometer-high) outpost. The barter was authorized even as global hostilities mounted over Russia's invasion of Ukraine in late February 2022.
- Mr. Krikalev, a former cosmonaut who was the first to launch on a US rocket, noted that the two countries are at a new phase of space cooperation that began with the Apollo-Soyuz orbital linkup in 1975. NASA's commander for that mission, Thomas Stafford, attended Wednesday's launch.
- NASA started flying cosmonauts on its space shuttles in 1994, first to Russia's Mir space station and then to the fledgling space station. The 2003 Columbia reentry disaster put an end to it. But US astronauts continued to hitch rides on Russian rockets for tens of millions of dollars per seat.
- Ms. Kakina is only the fifth Russian woman to rocket off the planet. She said she was surprised to be selected for the seat swap after encountering 'many tests and obstacles' during her decade of training.
- Ms. Mann, a member of the Wailacki of the Round Valley Indian Tribes in California, took along her mother's dream catcher, a small traditional webbed hoop believed to offer protection. Retired NASA

astronaut John Herrington of the Chickasaw Nation became the first Native American in space in 2002.

- Elon Musk's SpaceX has now launched eight crews since 2020 : six for NASA and two private groups. Boeing, NASA's other contracted taxi service, plans to make its first astronaut flight early next year, after delays to fix software and other issues that cropped up on test flights.

Rishi Sunak : The First British Asian Prime Minister

On 25 October, 2022, Rishi Sunak formerly became prime minister after losing the Conservative leadership contest to Liz Truss (56th UK Prime Minister) in the first week of September 2022. He became the third Conservative prime minister in less than two months

in six years. He has also made history as the first practising Hindu to lead the country and, at the age of 42, the youngest Prime Minister in more than 200 years. Sunak takes on the role at a time of deep economic crisis, and is expected to make tough decisions on taxation and public spending that may prove unpopular. He emphasised a commitment to levelling up, to a net zero policy on the climate crisis and continued support for Ukraine. Rishi Sunak's first cabinet are as follows :



57th UK Prime Minister Rishi Sunak

1. Rishi Sunak Prime Minister
2. Dominic Raab deputy Prime Minister
3. Jeremy Hunt as Chancellor
4. James Cleverly as Foreign Secretary
5. Suella Braverman as Home Secretary
6. Ben Wallace as Defence Secretary.

Key Facts :

- Sunak's parents are of Indian descent. His father, Yashvir, was born in Kenya and his mother, Usha, in Tanzania. They migrated to the UK in the 1960s. He is married to Akshata Murty, the daughter of Narayana Murthy, the Indian billionaire businessman who founded Infosys. They have two daughters.
- Rishi Sunak is about to become the UK's first Prime Minister of colour and the first Hindu Prime Minister, both milestones in Britain's evolution as a multi-cultural and multi-faith society. At 42, Sunak is the youngest Prime Minister for more than 200 years.
- Rishi Sunak is not the first minority ethnic PM—Benjamin Disraeli, who held the office twice between 1868 and 1880, was of Jewish heritage.
- After the 2017 general election, he swore his oath to Parliament upon the sacred Hindu text the Bhagavad Gita.
- Mr. Sunak was first elected as an MP in 2015 for Richmond in north Yorkshire but rose quickly, and was made Finance Minister or Chancellor in February 2020 under Boris Johnson.

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Japan and Australia Ink Security Pact

On 22 October, 2022, Australia and Japan agreed to deal sensitive intelligence and deepen defence cooperation and signed a security pact to counter China's military rise. Japan Prime Minister Fumio Kishida and his Australian counterpart Anthony Albanese inked the accord in the Western Australian city of Perth, revamping a dusty 15-year-old accord drafted in the Japanese and English languages, both texts having equal validity when terrorism and weapons proliferation were the overriding concerns.



Japan Prime Minister Fumio Kishida and his Australia

According to the deal, the countries defence forces will train together in Northern Australia and, expand and strengthen cooperation across defence, intelligence sharing and a raft of other areas. This landmark declaration sends a strong signal to the region of our strategic alignment", and is hailing the "Joint Declaration on Security Cooperation".

Xi Jinping Begins 3rd Term as Chinese President

On 23 October, 2022, Chinese President Xi Jinping was re-elected for a third term in power. He became the first leader of the ruling Communist Party to do so since party founder Mao Zedong. Xi Jinping was also re-elected as the Communist Party's General Secretary for a historic third five-year term. China's Communist Party Congress concluded elected Xi Jinping as the party's most powerful leader since Mao Zedong.



The 'election' of Xi Jinping to a third term in power officially ends the three-decade tradition followed by his predecessors, with the exception of Mao, of retiring after a 10-year tenure. Xi was elected in 2012 and will finish his 10-year term this year. A seven-member Standing Committee, which was elected by the Political Bureau, elected Xi for a third, five-year term as General Secretary. No women have been inducted into the line-up.

Key Facts :

- The Congress also established a new anti-corruption department of the party called the Central Commission for Discipline Inspection (CCDI), which reports directly to Xi. According to official figures, the CCDI has sentenced about five million officials, including many high army generals, over the last ten years.
- The 20th Party Congress, the most important meeting of the ruling Chinese Communist party five-year political cycle, saw about 2,400 delegates gather in Beijing to rubber-stamp major reshuffles and constitutional changes before its official close.
- In 2018 Xi spearheaded the abolition of presidential term limits on leaders, paving the way for him to become leader for life. Massive anti-corruption purges during his tenure.

The Indo-US Tri-Services Amphibious HADR Exercise, 'Tiger Triumph 2022'

The second edition of the Indo-US Tri-Services Amphibious HADR Exercise, "Tiger Triumph 2022" was conducted at Visakhapatnam from 18 to 20 October, 2022. The Indian Navy is led by Rear Admiral Manish Sharma, CSO (Ops) HQENC, while Major General Chris McPhillips, Director, INDOPACOM is leading US delegation. The exercise aims to consolidate interoperability and validate procedures for conducting amphibious HADR operations in the aftermath of a natural calamity. The Tiger Triumph exercise was the second collaboration between the Indian and US Militaries to coordinate disaster relief in the region.



The first exercise took place over the course of nine days in November 2019 and featured more than 500 US Marines and sailors. The first exercise included 1200 Indian sailors, soldiers, and Airmen.

WHO Alert Over India-Made Cough Syrups After Deaths in the Gambia

A global alert has been issued over four cough syrups after the World Health Organization (WHO) warned they could be linked to the deaths of 66 children in The Gambia. The syrups have been “potentially linked with acute kidney injuries and 66 deaths among children. The products were manufactured by an Indian company, Maiden Pharmaceuticals, which had failed to provide guarantees about their safety and the firm, has not yet commented. The WHO identified the medicines as :

- (1) Promethazine Oral Solution
- (2) Kofexmalin Baby Cough Syrup
- (3) Makoff Baby Cough Syrup
- (4) Magrip N Cold Syrup.

The four products had been identified in The Gambia, but “may have been distributed, through informal markets, to other countries or regions, in the alert published on its website. It warned that their use may result in serious injury or death, especially among children.

The Gambian Parliament has assigned its select committee on health, disaster and humanitarian relief to investigate the deaths of more than 80 children after taking Indian-manufactured cough syrup. This news came during an extraordinary session about the deaths. The committee is expected to come up with findings and present it to Parliament on 30 November, 2022.

Elon Musk Completes Twitter Takeover

On 28 October, 2022, the world’s richest man, Elon Musk, has completed his \$ 44 billion acquisition of Twitter, amid warnings from politicians and campaigners that hate speech on the platform must be held in check. The social media group confirmed the deal in a brief filing on the New York Stock Exchange,



disclosing the deal had closed the day before. Shares in the company have been suspended and will delist on 8 November, capping a chaotic saga that began when the Tesla CEO first announced his plans to take the tech business private in April 2022.

Musk marked the transaction with a post to his 110 million followers declaring the “bird is freed”, in a reference to the company’s corporate logo.

Key Facts :

- Elon Musk made his fortune through the electric car company Tesla, and space exploration firm SpaceX.
- Mr. Parag Agrawal and two other executives (Chief financial officer Ned Segal, and the firm’s top legal and policy executive, Vijaya Gadde) were escorted out of Twitter’s San Francisco headquarters on October 27, 2022.
- Elon Musk ploughed his fortune into a new rocket company, SpaceX which he aimed to make a cost-effective alternative to NASA and a new electric car company, Tesla, where he chaired the board until becoming chief executive in 2008.
- Forbes and Bloomberg now rank him as the world’s richest person, with a net worth of about \$ 250 billion tens of billions more than rivals such as Amazon founder Jeff Bezos.
- He was one of the first business executives to part ways with former President Donald Trump, quitting a White House business council after Mr. Trump withdrew the US from a global climate agreement.

United Nations Secretary General Visits India

Antonio Guterres, Secretary-General of the United Nations (UNSG) was on an official visit to India from 18-20 October, 2022.

This was UNSG’s first visit to India, since he commenced his second term in office in January 2022. He had earlier visited India (in his first term) from 1-4 October, 2018,” the MEA said.



According to ministry, Guterres commenced his visit to India, by paying tributes to the victims of the 26/11 terror attacks at the Taj Mahal Palace Hotel in Mumbai. He would be also delivered a public address at IIT Mumbai on the subject—“India @75 : UN-India Partnership : Strengthening South-South Cooperation”.

Key Facts :

- On 20 October, in Gujarat (Ekta Nagar, Kevadiya), the UN chief joined Prime Minister Narendra Modi at the launch of the Mission LiFE (Lifestyle for Environment) booklet, logo and tagline on October 20 in Gujarat’s Ekta Nagar, Kevadiya.
- It is to be noted that PM Modi introduced the concept of LiFE during COP26 at Glasgow in November 2021.



NOBEL PRIZES 2022

Nobel Prizes, one of the most prestigious honours of the world, were announced as usual in October 2022 in six traditional categories or fields—Medicine or Physiology, Physics, Chemistry, Literature, Peace and Economics. Except Nobel for Peace, all awards were announced from Stockholm, Sweden. Nobel for Peace was declared in Oslo, the capital of Norway.



Svante Pääbo

Medicine or Physiology

Swedish scientist **Svante Pääbo** won the 2022 Nobel Prize in Physiology or Medicine for discoveries “concerning the genomes of extinct hominins and human evolution” as Thomas Perlmann, secretary of the Nobel Committee for Medicine award, announced Mr. Pääbo as the winner on October 3, 2022 at the Karolinska Institute in Stockholm, Sweden. Through his pioneering research, Svante Pääbo accomplished something seemingly impossible: sequencing the genome of the Neanderthal, an extinct relative of present-day humans. He also made the sensational discovery of a previously unknown hominin, Denisova. Importantly, Pääbo also found that gene transfer had occurred from these now extinct hominins to *Homo sapiens* following the migration out of Africa around 70,000 years ago. This ancient flow of genes to present-day humans has physiological relevance today, for example affecting how our immune system reacts to infections. Pääbo’s seminal research gave rise to an entirely new scientific discipline; *paleogenomics*. Pääbo, son of the Nobel Prize-winning biochemist Sune Bergström, founded the Max Planck Institute for Evolutionary Anthropology in Leipzig, Germany where he is still active.

Physics

The 2022 Nobel Prize for Physics was jointly awarded to **Alain Aspect**, **John F. Clauser** and **Anton Zeilinger** on October 4, 2022 for their experiments with entangled photons, establishing the violation of Bell inequalities and pioneering quantum information science. The Royal Swedish Academy of Sciences said the three laureates conducted groundbreaking experiments using entangled quantum states, where two particles behave like a single unit even when they are separated. Their results have cleared the way for new technology based on quantum information. The release by the Royal Swedish Academy of Sciences further added that John Clauser developed John Bell’s ideas. John Bell was a physicist from Northern Ireland and the originator of Bell’s theorem. His ideas had some loopholes which were closed by Alain Aspect via a setup and then Anton Zeilinger’s research group through refined tools and a long series of experiments added to those findings.



Alain Aspect, John Clauser and Anton Zeilinger



Carolyn R. Bertozzi, Morten Meldal and K. Barry Sharpless

Chemistry

Carolyn R. Bertozzi from Stanford University, USA, **Morten Meldal** from University of Copenhagen, Denmark and **K. Barry Sharpless** from Scripps Research, La Jolla, USA were declared the joint winners of the Nobel Prize 2022 for Chemistry on October 5, 2022 by the Royal Swedish Academy of Sciences “for the development of click chemistry and bioorthogonal chemistry”. Barry Sharpless and Morten Meldal laid the foundation for a functional form of chemistry click chemistry in which molecular building blocks snap together quickly and efficiently. Carolyn Bertozzi took it to a new dimension and started utilising it in living organisms. This year Prize in Chemistry deals with not overcomplicating matters, instead working with what is easy and simple. Functional molecules can be built even by taking a straightforward route, said Johan Aqvist, Chair of the Nobel Committee for Chemistry. Barry Sharpless won the Nobel Prize for Chemistry second time as his previous Nobel came in 2001 “for his work on chirally catalyzed oxidation reactions,” a method that has allowed for the production of safer and more effective antibiotics, anti-inflammatory drugs, heart medicines, and agricultural chemicals.



Annie Ernaux

Literature

French author **Annie Ernaux** was awarded this year's Nobel Prize in literature on October 6 for "the courage and clinical acuity with which she uncovers the roots, estrangements and collective restraints of personal memory". She earned huge fame in the world of literature for her seminal work 'The Years'. Her book on her illegal abortion in the 1960s, 'Happening' (first published in 2001) has also been in the limelight after abortion rights were curtailed in the U.S. Anders Olsson, chairman, Nobel Committee for literature, said Ernaux's work was often uncompromising and written in plain language, scraped clean.

Peace

The Norwegian Nobel Committee in Oslo on October 07, 2022 declared **Ales Bialiatski** from Belarus and two organisations—Russian human rights organisation **Memorial** and the Ukrainian human rights organisation **Center for Civil Liberties** as the joint winners of the Nobel Peace Prize for 2022. Ales Bialiatski was one of the initiators of the democracy movement that emerged in Belarus in the mid-1980s. He has devoted his life to promoting democracy and peaceful development in his home country. Among other things, he founded the organisation Viasna (Spring) in 1996 in response to the controversial constitutional amendments that gave the president dictatorial powers and that triggered widespread demonstrations.



Ales Bialiatski

The human rights organisation Memorial was established in 1987 by human rights activists in the former Soviet Union who wanted to ensure that the victims of the communist regime's oppression would never be forgotten. Nobel Peace Prize laureate Andrei Sakharov and human rights advocate Svetlana Gannushkina were among the founders. Memorial is based on the notion that confronting past crimes is essential in preventing new ones.

The Center for Civil Liberties was founded in Kyiv in 2007 for the purpose of advancing human rights and democracy in Ukraine. The center has taken a stand to strengthen Ukrainian civil society and pressure the authorities to make Ukraine a full-fledged democracy. To develop Ukraine into a state governed by rule of law, Center for Civil Liberties has actively advocated that Ukraine become affiliated with the International Criminal Court.



Ben S. Bernanke, Douglas W. Diamond & Philip H. Dybvig

Economics

Ben S. Bernanke from The Brookings Institution, Washington DC, USA, **Douglas W. Diamond** from the University of Chicago, USA and **Philip H. Dybvig** from Washington University in St. Louis, USA were declared the joint winners of the 2022 Nobel Prize in Economics by the Royal Swedish Academy of Sciences in Stockholm,

Sweden on October 10, 2022 "for research on banks and financial crises." The committee said that the three laureates have significantly improved our understanding of the role of banks in the economy, particularly during financial crises, and an important finding in their research is why avoiding bank collapses is vital. Their analyses have been of great practical importance in regulating financial markets and dealing with financial crises.

Nobel Prize in Economics is originally called 'Sveriges Riksbank Prize in Economic Sciences. It was not part of original Nobel awards given in the fields of Chemistry, Physics, Physiology or Medicine, Peace and Literature as per the will of Alfred Nobel in 1895. The honour in economics was instituted in 1968 by Sveriges Riksbank, Sweden's Central Bank in memory of Alfred Nobel.

The Nobel Prizes will be presented on December 10, 2022 on the occasion of the death anniversary of Alfred Nobel in Stockholm. Only Nobel Peace Prize is given in Oslo, the capital of Norway. The Nobel Prize in each category carries a prize money worth 10 million Swedish Kronor.



Updates

National and International

ACRONYMS

IEA	— International Energy Agency
IWA	— International Water Association
NSIAL	— New Space India Limited
PMO	— Prime Minister's Office
UNWTO	— United Nations World Tourism Organization

APPOINTMENTS/NOMINATIONS

Roger Binny Replaced Sourav Ganguly as BCCI Chief

Roger Binny, 67, was elected unopposed at the Annual General Meeting of the world's richest cricket board (The Board of Control for Cricket in India) on October 18, 2022. Roger Binny, appointed 36th BCCI president, takes over from Sourav Ganguly.

Jay Shah, was re-elected as the secretary for a second successive term. The other office bearers who were elected unopposed included treasurer Ashish Shelar, Vice-president Rajeev Shukla and joint secretary Devjit Saikia.

Roger Michael Humphrey Binny (full name) is former Indian international cricketer. He was part of the 1983 Cricket World Cup winning squad of India. Binny was the first Anglo-Indian of Scottish origin to play cricket for India.

His son, Stuart Binny, has played state cricket for Karnataka cricket team, and international cricket for the India national cricket team.

Ajay Bhadoo Appointed Election Commissioner

Ajay Bhadoo has been appointed as the Deputy Election Commissioner of the poll body of India. The government notification stated "Appointment of Ajay Bhadoo, IAS (GJ : 1999), as Deputy Election Commissioner, Election Commission of India, from the date of assumption of the charge of the post, for an overall tenure of five years up to 24/07/2024 or until further orders, which is earlier."

He was appointed as Joint Secretary to former President Ram Nath Kovind in July 2020. Earlier, Bhadoo served as Gujarat's Vadodara Municipal Commissioner.



Roger Binny



Ajay Bhadoo

Appointment of Chief Justices to Karnataka, Rajasthan and J&K High Courts

Law Ministry of India notified appointment of Chief Justices to Karnataka, Rajasthan and J&K High Court on October 11, 2022.

Justice Prasann Bhalachandra Varale of Bombay High Court was appointed as Chief Justice of Karnataka HC.

Incumbent Chief Justice of J&K High Court, Justice Pankaj Mithal was transferred to the Rajasthan High Court in the same capacity.

Justice Ali Mohammad Magrey of the Jammu and Kashmir (J&K) High Court has been elevated as its Chief Justice.

DEATHS

Veteran Assamese Actor Nipon Goswami

Veteran Assamese actor Nipon Goswami died at the age of 80 on October 27, 2022 in Guwahati.

He debuted in the Assamese film industry as a child artist in the movie Piyali Phukan, directed by Phani Sarma in 1957. As a lead actor, Sangram was his first Assamese film and a hit movie. His last movie was Lankakanda in 2022. He also acted in few Hindi movies as a character actor.

Deputy Speaker Mamani

Deputy Speaker of Karnataka Legislative Assembly Vishwanathan Chandrashekar Mamani, also known as Anand Mamani, died in Bengaluru on October 23, 2022. He was 56.

Anand Mamani came from a politically powerful Lingayat family in Saundatti where the Yellamma temple is situated, around 90 km from Belagavi. Mamani was a three-time MLA from Saundatti constituency and was a Bharatiya Janata Party (BJP) leader.

Former FIFA Referee Sukanta Ghosh

Kolkata based Federation of International Football Association (FIFA) referee Sukanta Ghosh, who officiated in pre-World Cup and pre-Olympic tournaments, died on September 29, 2022. He was 70. Ghosh became a FIFA referee in 1990 and retired in 1997.

ORS Icon Dr. Dilip Mahalanabis

Renowned physician Dr. Dilip Mahalanabis, credited with pioneering the oral rehydration therapy, died on October 16, 2022 in Kolkata. He was 87.

Mahalanabis had hit the headlines during the Liberation War in Bangladesh in 1971, when the doctor saved thousands of lives with the Oral Rehydration Solution (ORS) during an outbreak of Cholera, while serving in a refugee camp at Bangaon in West Bengal.

Mahalanabis was a pioneer in the treatment of cholera and enteric diseases through low-cost methods.

Apollo, Gemini Astronaut James McDivitt

James McDivitt, a former U.S. astronaut who commanded some of NASA's earliest and most ambitious missions in space, died on October 17, 2022.

McDivitt, who was selected for NASA's second astronaut class in 1962, was the commanding pilot for the U.S. space agency's Gemini 4 mission in 1965 and Apollo 9 in 1969, a mission that helped pave the way for the first human lunar landing.

Hindi Author Shekhar Joshi

Famous Hindi story writer Shekhar Joshi passed away at the age of 90. He breathed his last in Ghaziabad. Shekhar Joshi was born in the month of September 1932 in Olia village of Almora district of Uttarakhand.

Joshi's best-known works are Dajyu (Big Brother) and Kosi Ka Ghatwar (The Miller of Kosi). Joshi's acclaimed story, Dajyu has been made into a children's film by the Children's Film Society of India. Kosi Ka Ghatwar and many other stories have been translated into English, Russian, Czech, Polish and Japanese.



Shekhar Joshi

Mulayam Singh Yadav

Veteran Indian politician Mulayam Singh Yadav died at the age of 82 on October 10, 2022.

Mulayam Yadav, born on November 22, 1939, rose in UP politics in a period of intense social and political ferment after the 1970s. Emerging as a socialist leader, Mulayam established himself as an Other Backward Class (OBC) stalwart.

He first took oath as UP's 15th CM in 1989, which marked the year when the Congress was voted out, failing to return to power in the state ever since.

With a political career spanning more than six decades, being elected as the Member of Parliament (MP) for 7 times and the Member of the Legislative Assembly (MLA) for 10 times, the veteran politician was a prominent figure of his time in Indian Politics. He was often referred to as Netaji (meaning respected leader in Hindi) by party leaders and workers.



Mulayam Singh Yadav

In 1992, Yadav founded his own Samajwadi Party (Socialist Party). Muslims make a sizeable minority in the Uttar Pradesh state. Samajwadi Party and Yadav emerged as the advocates for Muslims.

In the United Front coalition government formed in 1996, his party joined and he was named India's Defence Minister in the Deve Gowda Ministry.

AWARDS AND HONOURS

Angela Merkel Felicitated with UNHCR Nansen Refugee Award 2022

Former German Chancellor Angela Merkel was honoured with the Nansen Refugee Award from the UN Refugee Agency (UNHCR) in Geneva on October 10, 2022

for the role she played in 2015 and 2016 when she opened Germany's borders to more than 1.2 million refugees fleeing from war in Syria, and elsewhere. Angela Merkel is the 2022 Nansen Award global laureate for her political courage, compassion and decisive action as Federal Chancellor of Germany to protect people forced to flee.

Merkel dedicated her award to the thousands of people who volunteered to welcome refugees in 2015 when Germany took in over one million people fleeing war, many from Syria. Merkel was given a medal and prize money of \$ 150,000 (€154,500) which she requested be shared among the four regional winners of the prize.

- The Nansen Award 2022 regional winner for Africa was **The Mbera Fire Brigade**, an all-volunteer firefighting group in Mauritania led by Ahmedou Ag Albohary.
- The award for the Americas went to **Vicenta González**, a women's rights advocate and activist whose cacao cooperative in Costa Rica empowers local and asylum-seeking women.
- **Meikswe Myanmar**, a humanitarian organization that assists communities in need, including internally displaced people was announced as the regional winner for Asia and the Pacific.
- **Nagham Hasan** was another winner of the honour. She is a gynaecologist from Iraq who helps fellow Yazidi women who were forced into slavery by ISIS to recover from their trauma.

The Nansen Award has been given out every year since 1954 in honor of the UNHCR's first commissioner, Norwegian Arctic explorer and humanitarian Fridtjof Nansen.

Yunqing Tang Chosen for SASTRA Ramanujan Prize for 2022

Yunqing Tang, Assistant Professor with the University of California, Berkeley, U.S.A. was declared winner of the SASTRA Ramanujan Prize for 2022 in October 2022 for her great contribution in the field of mathematics. A release by Krishnaswami Alladi, chair of SASTRA Ramanujan Prize Committee, said Ms. Yunqing's works "display a remarkable combination of sophisticated techniques, in which the arithmetic and geometry of modular curves and of Shimura varieties play a central role, and her results and methods are bound to have major impact on future research in this area." Ms. Yunqing, born in China, completed her B.Sc. in Peking University in 2011, following which she went to Harvard University for higher studies. She completed her Ph.D. in 2016 at Harvard under the supervision of Mark Kisin. After stints in Princeton University as a postdoctoral fellow, Instructor, and Assistant Professor, she joined UC Berkeley in July 2022 as Assistant Professor.

The award, instituted by the Shanmugha Arts, Science, Technology & Research Academy (SASTRA) in 2005 with a cash prize of \$10,000, is presented annually to individuals aged 32 and below, who made outstanding contributions in the field of mathematics. The prize will be awarded at the International Conference on Number Theory during December 20-22, 2022 at SASTRA University.

Prof. Wazahat Husain Gets Coveted UAE Award

Prof. Wazahat Husain, a scholar from the Aligarh Muslim University, received the Second Sheikh Zayed International Award on October 10, 2022 in an event organized by the Zayed Charitable and Humanitarian Foundation. Husain is a retired chairman of the Department of Botany at the AMU. The Foundation is a UAE-based non-governmental, non-profit organization that invests in developing human capital to improve the quality of life. The award aims to give recognition to eminent academics and scientists of Traditional Complementary and Alternative Medicine (TCAM) globally, and TCAM physicians from the UAE, for enhancing TCAM knowledge and practices, and contributing to improving the quality of life for humanity.

Shehan Karunatilaka Wins Booker Prize 2022 for 'The Seven Moons of Maali Almeida'

Sri Lankan novelist Shehan Karunatilaka won the Booker Prize for fiction 2022 for his book *The Seven Moons of Maali Almeida* on October 17, 2022 as Britain's Queen Camilla presented the coveted honour to Shehan in London. Karunatilaka is the second Sri Lankan-born author to win the Booker Prize since it was founded in 1969, following Michael Ondaatje, whose novel *The English Patient* won in 1992. The Booker-winning novel tells the story of a dead war photographer on a mission in the afterlife. *The Seven Moons of Maali Almeida* is the second novel by Shehan. He received 50,000 pound (\$ 56,810) as prize money.



Shehan Karunatilaka with his Booker Prize 2022

- This year's shortlisted contenders included British author Alan Garner's *Treacle Walker*, Zimbabwean author NoViolet Bulawayo's *Glory*, *Small Things Like These* by Irish writer Claire Keegan, US author Percival Everett's *The Trees* and *Oh William!* by U.S. author Elizabeth Strout.
- The Booker, which comes with a cash prize of £50,000, or roughly \$ 57,000, is awarded annually to the best novel written in English and published in Britain or Ireland.
- While the prize was previously open only to writers from Britain, Ireland, the Commonwealth and Zimbabwe, the judges changed the rules in 2014, and opened it up to all English-language authors whose work is released in Britain or Ireland.
- Past winners include literary giants like V.S. Naipaul, Kazuo Ishiguro, Salman Rushdie, Margaret Atwood, Ian McEwan and Hilary Mantel.

Harmanpreet Singh Named FIH Player of the Year for Second Consecutive Year; Felice Albers of the Netherlands Take the Honour in Women Category

Indian defender Harmanpreet Singh was on October 7, 2022 chosen for the FIH Player of the Year honour in the men's category for the second successive time. He became just the fourth player to win the Player of the Year award (men's category) in consecutive years, joining an elite list that includes Teun De Nooijer (Netherlands), Jamie Dwyer (Australia) and Arthur van Doren (Belgium). Harmanpreet's total points tally for the FIH Player of the year award stood at 29.4 points, followed by Thierry Brinkmann with 23.6 points and Tom Boon with 23.4 points. The India vice-captain has scored an incredible 18 goals from 16 games, with two hat-tricks, in the FIH Hockey Pro League 2021-22. With those 18 goals, he ended the season as the top scorer for India and now holds the record for most goals scored by a player in a single season of the Pro League.

In Women's category, Felice Albers of the Netherlands was named the FIH Player of the Year. The 22-year-old became the youngest winner of the FIH Player of the Year award (women's category) since Germany's Natascha Keller (1999). Albers total points tally stood at 29.1 points, narrowly edging Maria Granatto (26.9 points), in one of the closest races of the FIH Hockey Stars Awards 2021-22.

Karim Benzema and Alexia Putellas Win Ballon d'Or

Karim Benzema won the men's Ballon d'Or, the coveted award of Football world, for the first time on October 17, 2022 after a brilliant season with Real Madrid capped by the Champions League and Spanish league titles. Benzema became the fifth Frenchman to win it after Raymond Kopa, Michel Platini, Jean-Pierre Papin and Zinedine Zidane. Benzema won ahead of Liverpool's Sadio Mane and Manchester City playmaker Kevin De Bruyne.

Spanish player Alexia Putellas won the women's Ballon d'Or trophy for the second straight year following another standout season with Barcelona.

- Awarded by France Football magazine, the Ballon d'Or has been given out to men every year since 1956 when Stanley Matthews won. The women's trophy was created in 2018, and both were canceled in 2020 because of the pandemic.
- For the first time this year, the Ballon d'Or was based on achievements from the past season. It had previously been awarded based on performances throughout calendar years.

Ukrainian People Win EP's 2022 Sakharov Award

The European Parliament on October 19, 2022 awarded the people of Ukraine its annual Sakharov Prize for Freedom of Thought to honour their fight against Russia's invasion. The award comes with prize money of 50,000 euros (\$ 49,100), which will be distributed to representatives of Ukrainian civil society. The prize, named after the late Soviet dissident Andrei Sakharov, has been awarded annually since 1988 to individuals and

organizations defending human rights and fundamental freedoms.

Hyderabad Wins 'World Green City Award 2022'

Hyderabad won the prestigious 'World Green City Award 2022' beating Paris in France, Bogota in Colombia, Mexico City, Montreal in Canada and Fortaleza in Brazil at the IUCN Leaders Forum in Jeju, South Korea on October 14, 2022. Hyderabad is the only Indian city that was selected for the 'World Green City 2022,' award, the best across all six categories. The Indian City of Hyderabad was adjudged the grand winner in the overall category for the initiative "Green Garland to the State of Telangana (Telangana Ku Haritha Haram)". Hyderabad also bagged the award in the 'Living green for economic recovery and inclusive growth'. It has been awarded for its efforts at creating systems and solutions that allow all city residents to overcome economic distress and thrive.

The award acknowledged the State's programme of 'Telangana Ku Haritha Haram', a large-scale tree-planting program that the State has taken up from 2015-16.

AIPH Awards in Different Categories :

- **Living Green for Biodiversity** : Reverdecer Bogotá, Bogota D.C, Colombia.
- **Living Green for Climate Change** : Mexico City's Environmental and Climate Change Program, Mexico City, Mexico.
- **Living Green for Health and Wellbeing** : Transforming degraded land into Urban Micro Parks, City of Fortaleza, Brazil.
- **Living Green for Water** : The Phytotechnology Stations at the Montréal Botanical Garden / Space for Life, City of Montreal, Canada.
- **Living Green for Social Cohesion** : OASIS School-yard Project, City of Paris, France.
- **Living Green for Economic Recovery and Inclusive Growth** : Green Garland to the State of Telangana, City of Hyderabad.

MEETING/CONFERENCE/CONGRESS

2nd UN World Geospatial Information Congress in India

Second United Nations World Geospatial Information Congress (UNWGIC 2022) was held in Hyderabad International Convention Centre, India, from 10-14 October, 2022. It was convened by the United Nations Committee of Experts on Global Geospatial Information Management (UN-GGIM).

UNWGIC 2022 was organised by the Department of Economic and Social Affairs of the United Nations and hosted by the Government of India, which is celebrating its 75th anniversary as an independent country through its Ministry of Science and Technology.

The Second UNWGIC Congress focused on the theme "Geo-Enabling the Global Village: No one should be left behind."

The convening of the UNWGIC arises out of the mandate from the United Nations Economic and Social Council (ECOSOC) to UN-GGIM to organise global

forums to promote comprehensive dialogue on global geospatial information management with all relevant governments, international organisations, and stakeholders.

Fifth Assembly of International Solar Alliance

The Fifth Assembly of the International Solar Alliance (ISA) was held on October 17-20, 2022 in New Delhi and inaugurated by Shri Raj Kumar Singh, Minister of Power and New & Renewable Energy, India in his capacity as the President, International Solar Alliance.

The Assembly is the apex decision-making body of ISA, in which each Member Country is represented. Ministers from 20 countries and delegates from across 110 Member and Signatory countries and 18 prospective countries joined the inaugural ceremony of the 5th ISA Assembly.

International Solar Alliance is an international organisation with 110 Member and Signatory countries. It works with governments to improve energy access and security worldwide and promote solar power as a sustainable way to transition to a carbon-neutral future.

With the signing and ratification of the ISA Framework Agreement by 15 countries on 6 December, 2017, ISA became the first international intergovernmental organisation to be headquartered in India.

The Government of India also hosted a High-Level Conference on New Technologies for Clean Energy Transition on 19 October, 2022 at Hotel Ashok, Chanakyapuri, New Delhi.

Panel to Study SC Status of Dalits Post Conversion

The Union government has formed a three-member Commission of Inquiry in October 2022, headed by former Chief Justice of India, Justice K.G. Balakrishnan, to examine the issue of whether Scheduled Caste (SC) status can be accorded to Dalits who have over the years converted to religions other than Sikhism or Buddhism.

The three-member commission will also comprise Professor Sushma Yadav, member, University Grants Commission (UGC) and retired IAS officer Ravinder Kumar Jain.

The commission has been given a two-year deadline to submit a report on the issue—starting from the day Justice Balakrishnan takes charge of the commission.

The commission's inquiry will also look into the changes an SC person goes through after converting to another religion and its implications on the question of including them as SCs.

8th G20 Parliamentary Speaker's Summit

Lok Sabha speaker Om Birla attended the 8th G20 Parliamentary Speaker's Summit where he led the Indian delegation to the P-20 conference (organisation of G-20 parliaments) in Jakarta. This included Rajya Sabha Deputy Chairman Harivansh, Rajya Sabha Secretary-General PC Mody, and other officials. The parliaments of the G-20 countries are organised as P-20.

India will host the G-20 (Group of 20) leaders' summit in New Delhi next year in 2023. The 17th G20 Heads of State and Government Summit will be held in Indonesia in November 2022, after which India will take over the G20 presidency in December 2022.

SPACE/SATELLITE

Sodium on the Moon Mapped First Time

The X-ray spectrometer CLASS on the Chandrayaan-2 Orbiter has mapped the abundance of sodium on the Moon for the first time.

In a recent work published in The Astrophysical Journal Letters, Chandrayaan-2 mapped the abundance of sodium on the Moon for the very first time using its large area X-ray spectrometer, CLASS. Built at the U R Rao Satellite Centre of ISRO in Bengaluru.

Chandrayaan-1 X-ray Fluorescence Spectrometer (C1XS) detected sodium from its characteristic line in X-rays which opened up the possibility of mapping the amount of sodium on the Moon.

China Launches first Solar Observatory Nicknamed Kuafu-1

China launched the Advanced Space-based Solar Observatory (ASO-S), nicknamed Kuafu-1 in Chinese on October 9, 2022. The launch was carried out from the Jiuquan Satellite Launch Center using the Long March-2D Carrier Rocket. Kuafu-1 entered its planned orbit successfully. This is expected to last four years.

Kuafu-1 will provide insights into how the Sun's magnetic field causes coronal mass ejections (CMEs) and other eruptions.

Crew-4 Returned to Earth From Space Station

After 170 days in space, Dragon and Crew-4 astronauts Kjell Lindgren, Bob Hines, Jessica Watkins, and Samantha Cristoforetti returned to Earth from the International Space Station and splashed down off the coast of Florida on October 14, 2022.

Falcon 9 launched Dragon and the Crew-4 astronauts to the orbiting laboratory on April 27, 2022 from Launch Complex 39A at NASA's Kennedy Space Centre in Florida. ISRO Launched 36 British Satellites.

DEFENCE

Ballistic Missile Launched from Arihant Submarine

Submarine INS Arihant carried out a successful launch of a Submarine Launched Ballistic Missile (SLBM) on October 14, 2022.

The missile was tested to a pre-determined range and impacted the target area in the Bay of Bengal with very high accuracy. All operational and technological parameters of the weapon system have been validated.

The lead vessel of the class, INS Arihant was launched in 2009, and after extensive sea trials, was confirmed to be commissioned in August 2016.

Arihant holds the distinction of being the first nuclear powered ballistic missile submarine to have been built by India.



Indian Navy Exercise Prasthan

An offshore security exercise, 'Prasthan' was conducted in the Krishna Godavari Basin Offshore Development Area (ODA) on 11-12 October, 2022, under the aegis of Headquarters, Eastern Naval Command.

The exercise was conducted on board Drill rigs Platinum Explorer and DDKG of ONGC and RIL located about 40 nm south of Kakinada.

Led by the Navy, the exercise saw participation from the various oil operators, like ONGC, RIL, Vedanta, and other stakeholders in the domain of maritime security including AP Marine Police, AP fisheries department and the Coast Guard.

Contingencies such as terrorist intrusion, bomb explosion, casualty evacuation, search and rescue, man overboard, major fire, oil spill and mass evacuation were exercised. Army dog zoom died.

DefExpo- 2022

The Defence Ministry organised the 12th edition of the prestigious Biennial Defence Exhibition—DefExpo 2022 in Gandhinagar, Gujarat starting from October 18 to 22. This mega defence exhibition is focusing on Land, Air, Naval and Homeland Security systems Prime Minister Narendra Modi inaugurated the DefExpo 2022 in Gandhinagar, Gujarat on October 19, 2022.

This is the first defence expo that only features Made in India equipment and has only Indian companies participating. The expo has more than 1,300 exhibitors which includes the Indian Defence Industry, some joint ventures associated with Indian Defence Industry, MSMEs and more than 100 start-ups. This is also the first time more than 400 Memorandum of Understanding (MoU) are being signed.

Singapore and Brunei Navies Concluded Bilateral Exercise Pelican

The Republic of Singapore Navy (RSN) and the Royal Brunei Navy (RBN) have concluded the 40th edition of Exercise Pelican a flagship bilateral exercise between the two navies, from 3 to 8 October, 2022.

RSN and the RBN Personnel conducted joint planning and professional exchanges ashore at Changi Naval Base from 3-5 October and during the sea phase between 6-7 October, both navies executed a range of serials, including gunnery firing, air defence, manoeuvring and communication drills within international waters in the southern reaches of the South China Sea.

Pelican has indeed come a long way. Since its inception in 1979, the exercise has evolved significantly. Both navies have derived good value from Exercise Pelican, and the exercise has remained a cornerstone of bilateral relations.

India Test Fired Agni Prime Ballistic Missile

The Agni Prime new generation ballistic missile was successfully test fired off the coast of Odisha on October 21, 2022. The sleek missile was test fired from a mobile launcher from the APJ Abdul Kalam Island.

Agni Prime is a new generation advanced variant of the Agni class of missiles with range capability between 1,000 and 2,000 km.

With this third consecutive successful flight test of the Agni Prime missile, the accuracy and reliability of the system has been established.

IBSAMAR VII

The 7th edition of IBSAMAR, a joint multinational maritime exercise, among the Indian, Brazilian and South Africa navies was held at Port Gqeberha (also known as Port Elizabeth), South Africa from 10 to 12 October, 2022.

The Indian Navy was represented in it by the guided missile frigate, INS Tarkash, a Chetak helicopter and MARCOS special forces.

The objectives of the exercise included strengthening maritime relations, promoting joint operational military training, combating maritime crimes, securing Sea Lines of Communication and enhancing interoperability to pursue common evolutions at sea.

ARCHAEOLOGY

ASI Finds Buddhist Caves, Temples in Madhya Pradesh's Bandhavgarh Tiger Reserve

In Bandhavgarh Forest Reserve, remarkable archaeological remains were unravelled by Archaeological Survey of India, Jabalpur Circle. In an exploration 26 temples, 26 caves, 2 monasteries, 2 votive stupas, 24 inscriptions, 46 sculptures, other scattered remains & 19 water structure are recorded.

The time period of the findings covered the reigns of the kings Shri Bhimsena, Maharaja Pothasiri, Maharaja Bhattadeva. Places deciphered in the inscriptions are Kaushami, Mathura, Pavata (Parvata), Vejabharada and Sapatanaairikaa.

An ASI team covered nearly 170 sq km falling in the area of the Bandhavgarh Tiger Reserve over months-long exploration of the region which was undertaken for the first time since 1938.

MILITRY/OPERATION EXERCISE

Operation Chakra

In an effort to track down cyber criminals who indulge in financial crimes and fraud, the Central Bureau of Investigation (CBI) launched Operation Chakra in October 2022.

The Operation Chakra' of the CBI to dismantle cyber crime gangs operating in the country has been launched in coordination with State police, Interpol and agencies of other countries,

The inter-agency coordination work was done by the CBI's recently set up International Operations division. It is learnt that the head of Interpol's cyber crime unit also visited India to facilitate smooth sharing of actionable intelligence.

The operation intends to dismantle the infrastructure of these international cyber crime gangs in India and bring these perpetrators to justice.

After analysing all the inputs, the Operation Chakra" was launched. The police forces in Delhi, Punjab, Raja-

sthan, Assam, Karnataka, Andaman & Nicobar Islands, Chandigarh and Haryana also participated in the searches that took place at 115 locations. The CBI teams searched 87 places across 16 States in connection with 11 cases. In all, 16 accused persons were arrested, according to the agency.

Operation Garuda

The Central Bureau of Investigation (CBI) in coordination with the Narcotics Control Bureau (NCB) and police of multiple states conducted a major crack-down against drug peddlers under 'Operation Garuda'.

The federal probe agency said on September 29, 2022 that they have launched a multi phase 'Operation Garuda' to disrupt, degrade and dismantle drug networks with international linkages through rapid exchange of criminal intelligence on drug trafficking and coordinated law enforcement actions across international jurisdiction through Interpol.

SCIENCE/TECHNOLOGY

Six Spider Species Discovered In India

Arachnologists from the Centre for Animal Taxonomy and Ecology (CATE), Christ College, Irinjalakuda, Kerala have discovered six new species of spiders from across the country.

Studies were conducted with financial assistance from the Department of Science and Technology (DST), Council of Scientific and Industrial Research (CSIR), University Grants Commission (UGC), and the Kerala State Council for Science, Technology and Environment (KSCSTE).

Two new species of spiders belonging to the family of spiny-legged spiders (Oxyopidae) have been discovered from the Thumboormuzhi butterfly garden, near the Athirappilly waterfalls, and on the Calicut University campus. The former one is characterised by a yellowish body and is named as *Oxyopes peetham*. The latter one has been named as *Oxyopes thumboormuzhi ensis*.

Two new species of spiders coming under the family of jumping spiders (Salticidae) were discovered from the Thar desert of Rajasthan and the Kurichiyad forest ranges of the Wayanad Wildlife Sanctuary. *Afraflacilla miajlaensis*, is the Thar species, and *Afraflacilla kurichiadensis*, the Wayanad species.

The first spotting of the genus *Siamspinops* from the Garo hills of Meghalaya, India with a new species *Siamspinops garoensis*. This belongs to the family of flat spiders, *Selenopidae*.

The Beetle Named *Duvalius Dokovici*

Scientists in Serbia have named a beetle *Duvalius Dokovici* after their country's legendary tennis star Novak Djokovic.

The insect belongs to the *Duvalius* genus of ground beetles that are present in Europe. According to the researcher Nikola Vesovic the insect as "a specialised, blind, subterranean ground beetle (Coleoptera, Carabidae) found in a pit near the town of Ljubovija" in the west of the Balkan country.

DISASTERS/ACCIDENTS

Indonesia Football Stadium Stampede

A stampede at a soccer stadium in Indonesia killed at least 125 people and injured more than 320 after police sought to quell violence on the pitch on October 1, 2022 in one of the world's worst stadium disasters.

When supporters of the losing home team invaded the pitch to express their frustration caused a clash between supporters of two Indonesian soccer teams at Kanjuruhan Stadium in Malang in East Java. Officers fired tear gas in an attempt to control the situation, triggering a stampede and cases of suffocation.

Navy Mig-29 Crashed

A MiG 29K fighter aircraft crashed over the sea on a routine sortie off the Goa coast on October 12, 2022.

As per the official Twitter handle of the Indian Navy, "A MiG 29K on a routine sortie over the sea off Goa developed a technical malfunction while returning to base. The pilot ejected safely."

Helicopter Crashed In Uttarakhand

The helicopter, carrying pilgrims, crashed right after the takeoff from the Kedarnath shrine near Garud Chatti in Rudrapur, Uttarakhand on October 18, 2022.

Aviation regulator sources said a loud noise was heard before the helicopter caught fire. "A Bell 407 helicopter VT-RPN belonging to a Delhi-based Aryan Aviation has crashed on the way from Kedarnath to Guptkashi, possibly due to cloudy weather." Pilot, and 6 Kedarnath Pilgrims were Killed As Chopper crashed.

Army's Advanced Light Helicopter Crashed In Arunachal

The weapon system integrated version of an Advanced Light Helicopter (ALH) crashed near Migging village in Upper Siang District in Arunachal Pradesh on October 21, 2022.

The helicopter, carrying 5 Army Personnel including two pilots, was on a regular sortie after taking off from Likabali. All on board were killed.

Hurricane Julia

Hurricane Julia was a deadly tropical cyclone that caused significant impacts in Central America as a Category 1 hurricane in October 2022.

Julia brought heavy rains that caused life-threatening flash floods and deadly mudslides in northern Venezuela and much of Central America. Flash floods, storm surges, total and partial collapse of houses, fallen trees, and flooding of deadly rivers and streams have occurred throughout Central America. Julia caused 91 deaths and US \$ 300 million in damage.

Hurricane Orlene

Category 4 hurricane Orlene was active from September 29 to October 4, 2022 in southwestern Mexico Coast.

Orlene brought heavy rain to several states in Western Mexico, which resulted in widespread flooding and several mudslides in Sinaloa and Nayarit, but caused no major damage; also, there were no casualties reported as the storm moved through.

Italy's Stromboli Volcano Erupted

A volcano on Italy's Stromboli island erupted on October 9, 2022 leading to a partial collapse of the crater terrace and the lava flow produced a 3-minute seismic signal recorded by the seismic network.

There has been no damage to life and property, huge plumes of lava and smoke have been seen from space. The northernmost island of the Aeolian archipelago, located just off the northern tip of Sicily, Stromboli volcano has been erupting almost continuously for the past 90 years.

The stratovolcano is composed of layers of hardened volcanic ash, rocks, and lava flows and is also known as the Light house of the Mediterranean.

Cyclone Sitrang

Cyclone Sitrang was a tropical cyclone that originated from an area of low pressure near the Bay of Bengal and affected India and Bangladesh in the last week of October 2022. On October 23, the cyclone gained more strength within the gulf and reached the status of a cyclonic storm, being called Sitrang by India Meteorological Department (IMD).

The cyclone, which crossed the Bangladesh coast near Barisal on October 24, had caused moderate to heavy rain in West Bengal's coastal districts of South 24 Parganas, North 24 Parganas and East Midnapore.

The cyclone, which moved towards northeastern regions of India, caused widespread moderate to heavy rainfall over Assam, Arunachal Pradesh, Meghalaya, Mizoram and Tripura on October 25.

At least 24 died in Bangladesh from tropical storm. The government said about 10,000 homes were damaged and more than 6,000 hectares (15,000 acres) of crops was destroyed. Thousands of fishing projects were also washed away.

HERITAGE

UNESCO Launched List Documenting 50 Iconic Indian Heritage Textiles

United Nations Educational, Scientific and Cultural Organisation (UNESCO) released a list of 50 exclusive and iconic heritage textile crafts of India on September 28, 2022.

The publication "Handmade for the 21st Century : Safeguarding Traditional Indian Textile" aims to bring together years of research on the 50 selected textiles. It mentions the causes for their dwindling popularity, and provides strategies for their preservation.

A few of the textile icons added are :

- Toda embroidery—Tamil Nadu
- Himroo weaves—Aurangabad, Maharashtra
- Bandha tie and dye weaving—Sambalpur in Odisha
- Khes—Panipat
- Chamba rumals—Himachal Pradesh
- Thigma or wool tie and dye—Ladakh
- Awadh Jamdani—Varanasi
- Ilkal and Lambadi or Banjara embroidery—Karnataka
- Sikalnayakanpet Kalamkari—Thanjavur
- Kunbi weave—Goa
- Mashru weaves—Gujarat
- Patola—Gujarat

RELIGION

Hindu Temple in Dubai

The doors of the new Hindu temple were opened to worshippers in Jebel Ali Village, Dubai on October 5, 2022 on the auspicious occasion of Dussehra.

This is the second Hindu temple in the UAE (the other being the BAPS Hindu Mandir in Abu Dhabi) built at a cost of about 60 million Dirhams (\$ 16 million).

The groundwork for the temple was started in February 2020. The Dubai temple has a huge capacity to comfortably hold between 1,000 and 1,200 worshippers every day. The latest temple is an extension of the Sindhi Guru Darbar.

The 369-foot-tall Shiva Statue 'Viswas Swaroopam'

The 369-foot-tall Shiva statue 'Viswas Swaroopam' installed in Nathdwara town of Rajasthan's Rajsamand district was inaugurated on October 29, 2022. The statue, which is situated 45 kms from Udaipur, has been constructed by Tat Padam Sansthan.

The foundation of the project was laid in August 2012. Three thousand tonnes of steel and iron, 2.5 lakh cubic tonnes of concrete and sand have been used in its construction, which took 10 years to complete. This is claimed to be the world's tallest Shiva idol in which lifts, stairs, and a hall for devotees have been built. There are four lifts and three stairs to go inside. Installed on a hilltop over an expanse of 51 bighas, the statue is styled in a posture of meditation, and is said to be visible from 20 kilometres away.

PLACES IN THE NEWS

Indore (Madhya Pradesh)

Indore was declared the cleanest city in India for the sixth consecutive year while Surat and Navi Mumbai followed it on the next two spots in the Central government's Swachh Survekshan 2022 released on October 1, 2022. Indore and Surat retained their top positions in the big cities category this year, while Vijaywada lost its third spot to Navi Mumbai. In the category of best performing states in 'Swachh Survekshan Awards 2022', Madhya Pradesh has secured the first position, followed by Chhattisgarh and Maharashtra. Among the states having fewer than 100 urban local bodies, Tripura has bagged the top rank, according to the survey results.

Indore is also India's first 7-star garbage-free city, which is one of the key objectives of the second iteration of the Swachh Bharat Mission launched last year. Eleven cities, including Surat, Bhopal, Mysuru, Navi Mumbai, Visakhapatnam and Tirupati, earned 5-star garbage-free certifications, according to the housing and urban affairs ministry. In the category of cities having population fewer than one lakh, Maharashtra's Panchgani was ranked number one, followed by Chhattisgarh's Patan (NP) and Maharashtra's Karhad.

Haridwar was adjudged the cleanest Ganga town in the category of more than 1 lakh population, followed by Varanasi and Rishikesh.

PD/December/2022/30

President Droupadi Murmu on October 1, 2022 gave away the awards to the winners at an event in Delhi also attended by Union Housing and Urban Affairs Minister Hardeep Singh Puri and others. In the survey, Maharashtra's Deolali was adjudged the country's cleanest Cantonment Board. The 7th edition of Swachh Survekshan was conducted to study the progress of the Swachh Bharat Mission (Urban) and rank the Urban Local Bodies (ULBs) based on various cleanliness and sanitation parameters.

Gandhinagar (Gujarat)

PM Narendra Modi inaugurated 'DefExpo 2022' on October 19, 2022 at Mahatma Gandhi Convention and Exhibition Centre in Gandhinagar. This is the 12th edition of the event that has been organised on the theme 'Path to Pride'. At the India Pavilion, Prime Minister unveiled HTT-40—the indigenous trainer aircraft designed by Hindustan Aeronautics Limited (HAL). Indian defence exports have grown 8 times in the last 5 years, and stood at USD 1.59 billion USD in 2021-22. Mr. Modi said that the country now aims to increase defence exports to 5 billion USD in near future.

BOOKS & AUTHORS

1. **Best Of Friends** —Kamila Shamsie
2. **Ambedkar : A Life** —Shashi Tharoor
3. **Kalam: The Untold Story** —R.K. Prasad
4. **The Wonder that Was : Harappan Civilisation** —T.S. Subramanyam (Curator)
5. **The Journey of Hindi Language Journalism in India : From Raj to Swaraj and Beyond** —Mrinal Pande
6. **Between Heaven & Earth : Writings on the Indian Hills** —Ruskin Bond, Bulbul Sharma (Editors)
7. **The Life and Times of George Fernandes** —Rahul Ramagundam
8. **The Education of Yuri** —Jerry Pinto

IMPORTANT DAYS/WEEKS/YEARS

December 2022

National

- | | | |
|----------|----|----------------------------------|
| December | 4 | Navy Day |
| December | 7 | Armed Forces Flag Day |
| December | 14 | National Energy Conservation Day |
| December | 19 | Goa's Liberation Day |
| December | 22 | National Mathematics Day |
| December | 23 | Kisan Divas (Farmers' Day) |

International

- | | | |
|----------|----|--|
| December | 1 | World AIDS Day |
| December | 2 | International Day for the Abolition of Slavery |
| December | 3 | World Disability Day |
| December | 9 | International Anti-Corruption Day |
| December | 10 | Human Rights Day |
| December | 11 | International Mountain Day |
| December | 18 | International Migrants Day |
| December | 20 | International Human Solidarity Day |



Regional News

Chhattisgarh

Colleges to be Set up Under PPP Model in Chhattisgarh's Remote Areas

The Chhattisgarh government will run colleges in backward areas and places difficult to access under the public-private partnership (PPP) model.

The Cabinet has passed a proposal on this. Opening colleges on the PPP model in Chhattisgarh is an innovation for the state because no such scheme has been implemented in the past. None of the existing private colleges is operating under the arrangement provisioned in the proposed scheme. Under the Madhya Pradesh Private Colleges and Institutions (Establishment and Regulation) Act, 12 private colleges in the state are being run under 100 per cent regular grants.

In a Historic First, Forest Dwellers Get Land Deeds in Chhattisgarh

The state government has surveyed and allotted 'masahati pattas' (land ownership deeds) to inhabitants in the densely forested pocket of the Bastar region. The development will facilitate villagers in getting benefits of welfare schemes of the Central and State governments.

A masahati study is a kind of land revenue survey. Under the system, the administration determines the landholdings of villagers through their gram sabhas instead of conducting a revenue survey, which involves capturing satellite images of the area and door-to-door compilations of records.

Gujarat

Cabinet Approves Development of Container Terminal at Tuna Tekra, Gujarat

The Union Cabinet on October 12, 2022 approved a proposal to develop a container terminal at Tuna-Tekra, Deendayal Port, in Gujarat, at an estimated cost of ₹ 4,500 crore (approx). The development will be under the public-private partnership mode.

The estimated cost of ₹ 4,243-64 crore will be on the part of the concessionaire while common user facilities of ₹ 296-20 crore will be on the part of the concessioning authority.

The project consists of construction of an offshore berthing structure for handling three vessels at a time with allied facilities and handling capacity of 2.19 million TEUs per annum.

Initially, it will cater 14-metre draught vessels of 6000 TEUs and the common access channel will be dredged & maintained at 15-50 m to navigate container vessels (of 14 m draught) all round the clock.

Multi-purpose Cargo Berth

The Cabinet has also approved development of a multi-purpose cargo berth (other than Container/Liquid) off Tuna Tekra at Gulf of Kutch at Kandla on BOT basis under PPP mode. The total estimated cost of ₹ 2,250-64 crore of which ₹ 1,719-22 crore will be borne by concessionaire for development of the berth (including dredging work) and ₹ 531-42 crore that will be borne by the Deendayal Port Authority towards capital dredging of common user-access channel and construction of common-user road.

The project involves construction of offshore berthing structure for handling four vessels and handling capacity of 18.33 million tonnes per annum. Initially, the project will cater 15 m draught vessels of 1,00,000 Deadweight Tonnage (DWT) and accordingly, the channel will be dredged and maintained with 15 m draught. The projected traffic gap by 2026 would be 2.85 mtpa and by 2030 it would be 27.49 mtpa, a statement by the Ministry said adding that the development of multi-purpose cargo berth 'will give strategic advantage' as it will be the closest container terminal serving the vast hinterland of northern India.

PM Modi Launches Mission School of Excellence in Gujarat

Prime Minister Narendra Modi on October 19, 2022 launched the Mission Schools of Excellence in Gujarat in a programme at Tri Mandir's Dadanagar Convention Hall, Adalaj, Gandhinagar. The Mission has been conceived with a total outlay of 10,000 crore. The Mission will help strengthen education infrastructure in Gujarat by setting up new classrooms, smart classrooms, computer labs and overall upgradation of the infrastructure of schools in the State.

Under the programme, in the next four-five years, 50,000 classrooms will be built and 1.5 lakh smart classrooms, 20,000 computer labs and 5,000 Atal Tinkering Labs will be set up.

The Election Commission of India (ECI) Announces Poll Schedule for Himachal Pradesh Legislative Assembly

The Election Commission of India (ECI) on October 14, 2022 announced the schedule for the polling to be held in Himachal Pradesh. Polling for Himachal Pradesh Legislative Assembly will take place on November 12, and the counting of votes will be held on December 8. There are over 55 lakh eligible voters in Himachal Pradesh for 68 assembly seats. 1.86 lakh of these are first-time voters whereas 1.22 lakh aged 80-plus, said the EC while announcing the polling dates. Chief Election Commissioner (CEO) Rajiv Kumar said voting would take place in a single phase on November 12. With the announcement of the poll schedule by the ECI, Kumar said that Model Code of Conduct comes into effect. The tenure of the Himachal Pradesh Legislative Assembly is scheduled to end on January 8, 2023.

The Centre Government Announces New Chief Justices for Rajasthan, Karnataka, J&K and Ladakh High Courts

The Central government in a notification on October 11, 2022 announced elevation of two judges as chief justice of Karnataka high court, Jammu & Kashmir and Ladakh High Court and also notified the transfer of Chief Justice of J&K and Ladakh High Court to the Rajasthan High Court. Union Minister of Law and Justice Kiren Rijju informed that following the Constitutional provisions, Justice Prasanna B Varale has been appointed as the Karnataka HC's Chief Justice, Justice AM Magrey as the Chief Justice of Jammu and Kashmir and Ladakh.

J&K lieutenant governor Manoj Sinha administered the oath of office to Justice Ali Mohammad Magray as the new chief justice of the common high court for the union territory of Jammu & Kashmir and union territory of Ladakh in Srinagar on October 13, 2022. The elevation of Justice Magray to the chair of chief justice of J&K and Ladakh comes owing to the transfer of Justice Pankaj Mithal to Rajasthan high Court as the CJ. Bombay High Court judge P.B. Varale was appointed as the Chief Justice of the Karnataka High Court.

Meghalaya

Meghalaya Scraps Act Promoting Casinos, Gaming Parlours

Under pressure from church leaders, the Conrad Sangma government on October 13, 2022 announced that it was scrapping the Meghalaya Regulation of Gaming Act, introduced last year to promote setting up of casinos and other gambling parlours in the state.

The gaming act was meant to boost revenue, tourism & employment. Following meetings with stakeholders, it became clear to the government that it was in the best interest of our state to completely scrap the Act. Therefore, the Meghalaya Regulation of Gaming Act, 2021, will be repealed.

North-East Region

Union Cabinet Approves Prime Minister's Development Initiative for North-East Region (PM-DevINE)

The Union Cabinet chaired by Prime Minister Narendra Modi on October 12, 2022 approved a new scheme, Prime Minister's Development Initiative for North-East Region (PM-DevINE) for the remaining four years of the 15th Finance Commission from 2022-23 to 2025-26. The PM-DevINE, a ₹ 6,600 crore scheme to support infrastructure and livelihood projects in the Northeastern states, is a Central Sector Scheme with 100% Central funding and will be implemented by Ministry of Development of North Eastern Region (DoNER). PM-DevINE will provide support to infrastructure and social development projects which may be larger in size and will also provide an end-to-end development solution instead of isolated projects. It will be ensured that there is no duplication of project support under PM-DevINE with any of the other schemes of MDoNER or those of any other Ministry/Department.

PM-DevINE was announced in the Union Budget 2022-23 to address development gaps in the North Eastern Region (NER). Announcement of PM-DevINE is yet another instance of the importance being attached to the development of NE Region by the Government. Measures would be taken to ensure adequate operation and maintenance of the projects sanctioned under the PM-DevINE so that they are sustainable *e.g.*, to limit construction risks of time and cost overrun, falling on the government projects would be implemented on an engineering-procurement-construction (EPC) basis, to the extent possible.

The objectives of PM-DevINE are to :

- Fund infrastructure convergently, in the spirit of PM Gati Shakti;
- Support social development projects based on felt needs of the NER;
- Enable livelihood activities for youth and women;
- Fill the development gaps in various sectors.

Punjab

Asia's Largest Compressed Bio Gas Plant Inaugurated in Punjab

Union Minister of Petroleum & Natural Gas Hardeep Singh Puri inaugurated Asia's largest Compressed Bio Gas (CBG) plant in Lehragaga, Sangrur, Punjab on October 18, 2022. The plant in Sangrur is just the beginning of India's master plan for a CBG-based rural economy and the government is taking all steps to promote the ecosystem around it. Punjab Chief Minister Bhagwant Mann and senior management from Verbio India Private Limited were also present at the inaugural ceremony.

Rajasthan

Coal India to Set up 1,190 MW Solar Power Plant in Rajasthan

Coal India Ltd. (CIL) will set up a 1,190-MW solar power plant in Bikaner district of Rajasthan. For this, the CIL signed a Memorandum of Understanding (MoU) with the Rajasthan Vidyut Utpadan Nigam Ltd. (RUVNL). The solar plant will be set up in a 2,000-MW solar park being developed by RVUNL in Poogal, Bikaner.

The state government has allotted 4,846 hectare land to develop the park in which the RVUNL will set up its own solar project of 810 MW, and a power project of 1,190 will be set up by the CIL.

Tamil Nadu

Tamil Nadu Govt. Notifies India's First Slender Loris Sanctuary in Kadavur

The Tamil Nadu State government on October 12, 2022 notified India's first Slender Loris sanctuary, over an area of 11,806 hectares, in Dindigul and Karur districts. The Department of Environment, Climate and Forest gazette notified the Kadavur Slender Loris Sanctuary under the Wildlife (Protection) Act of 1972. The state

government, after wide consultation with domain experts and field studies, identified seven forest blocks that are important habitats of the Slender Loris to establish the first-of-its-kind sanctuary in India. The Kadavur Slender Loris sanctuary is to cover Vedasandur, Dindigul East and Natham taluks in Dindigul district and Kadavur taluk in Karur district.

Slender Lorises that are small nocturnal mammals are arboreal in nature as they spend most of their life on trees. The species acts as a biological predator of pests in agricultural crops and benefits farmers. Listed as an endangered species by the International Union for Conservation of Nature (IUCN), Slender Loris has a wide range of ecological roles to play in the terrestrial ecosystem. The survival of the species depends on its habitat improvement, conservation efforts and mitigation of threats.

Telangana

Scheduled Tribe Quota Hiked to 10 per cent in Telangana

Bringing cheers to the faces of tribals in Telangana in the Dasara festive season, the State government issued orders enhancing reservations for Scheduled Tribes from 6 per cent to 10 per cent, with effect from October 1, 2022. The reservations will be applicable in educational institutions and government jobs.

Around six years ago, the Telangana State Legislative Assembly passed a bill hiking reservations for tribals in the State and sent it to the Union government for the Presidential assent. Despite repeated pleas from the State government, the Chief Minister and tribals the Centre kept the bill in the cold storage.

In the Indra Sawhney case, the Supreme Court held that reservations should be capped at 50 per cent, but in 'special circumstances', it could go beyond the set limits. It may be noted that tribal population is more in Telangana and they have been subjected to oppression and exploitation, and also they live in most backward areas in the State.

Uttar Pradesh

Uttar Pradesh's Merchandise Exports Surge 32% to ₹ 60,578 Crore

Despite weak economic sentiment in key international markets, the Uttar Pradesh merchandise exports have surged 32 per cent year-on-year to ₹ 60,578 crore during the April-July 2022 period.

- The state exported goods worth ₹ 45,861 crore during April-July 2021.
- Uttar Pradesh is ahead of some major states, including Andhra Pradesh, Haryana, West Bengal, and Odisha, in terms of growth in exports even as the corresponding growth rate of eight Indian states even went negative.
- The states that saw their exports taking a nosedive into a negative territory include Uttarakhand, Tripura, Nagaland, Mizoram, Manipur, Jharkhand, etc.

- Uttar Pradesh registered an upswing in exports of an array of labour-intensive segments, such as electrical machinery/equipment, meat, textiles, footwear, vehicles/auto parts, etc.
- The electrical machinery/equipment segment grew nearly 90 per cent with shipments jumping to ₹ 13,606 crore in the April-July 2022 from ₹ 7,202 crore in the year-ago period.
- Meanwhile, the UP government is targeting to increase merchandise exports from the current level of ₹ 1.56 trillion to ₹ 3 trillion in the next three years.
- The micro, small, and medium enterprises (MSME) sector contributes the maximum of more than 70 per cent to the UP export basket.
- The state has witnessed a surge in shipments, especially after the government implemented its flagship One District One Product scheme, which is aimed at reviving the indigenous industries through financial infusion, capacity building and marketing support.
- Now, the state is developing each of its 75 districts as export hubs to provide impetus to shipments. Of the 50 pan-Indian districts selected by the Centre to develop as model export hubs under a pilot project, six belong to UP, namely Moradabad, Kanpur, Varanasi, Bhadohi, Agra, and Gautam Buddha Nagar (Noida).
- Moreover, the UP government is striving for import substitution to bolster the domestic industries and create job opportunities.
- During fiscal year 2021-22, UP had clocked merchandise imports worth more than ₹ 55,000 crore via dry ports (railway and road cargo terminals directly linked with domestic seaports).
- The state has identified 95 items constituting its import basket, of which four dozen items account for imported value ranging from ₹ 100 to over ₹ 10,000 crore. These include industrial and engineering products, chemical, minerals, precious stones, agricultural/food processing items, etc.

UP Govt. to Promote Private Industrial Parks Under the 'Make-in-UP' Theme

The Uttar Pradesh government will promote private industrial parks in the state to catalyse the manufacturing sector under the ambitious 'Make in UP' theme—

- These parks would be facilitated in the vicinity of state expressways and freight corridors for extracting maximum benefit due to brisk connectivity.
- According to the draft New UP Industrial Policy 2022, the state would provide an array of incentives to the private industrial parks, especially in the backward Purvanchal (Eastern UP) and Bundelkhand regions.
- The proposed policy aims to establish UP as an internationally competitive investment destination, generating employment and stoking sustainable economic growth.

Continued on Page 174



Employment And Career News

Staff Selection Commission

Invites online applications from eligible candidates for Constable (GD) in Central Armed Police Forces (CAPFs), SSF, Rifleman (GD) in Assam Rifles and Sepoy in Narcotics Control Bureau Examination, 2022.

Last Date for Online Submission of Application : November 30, 2022.

Age Limit (As on January 1, 2023) : Between 18 to 23 years as on January 1, 2023. Candidates should not have been born earlier than January 2, 2000 and later than January 1, 2005. Relaxation in the upper age limit will be conceded as per the government norms.

Essential Educational Qualifications : The candidates must have passed Matriculation or 10th Class Examination from a recognized Board/University.

Scheme of Examination : There will be a Computer based examination (CBE) comprising one objective type paper containing 80 questions carrying 2 marks each. All questions will be of Objective Multiple Choice Type. Successful candidates in the CBE will be invited for Physical Efficiency Test (PET)/Physical Standard Test (PST).

How to Apply : Applications must be submitted in online mode at the official website of the Commission i.e., <https://ssc.nic.in>. Applications will be accepted through online mode only.

Institute of Banking Personnel Selection

Invites online applications from eligible candidates for Common Recruitment Process (CRP) for selection of personnel in Specialist Officers' cadre in the Participating Banks.

Last Date for Online Submission of Application : November 21, 2022.

Age Limit : The age of the candidates should not be less than 20 years and not more than 30 years as on November 21, 2022. Relaxation in the upper age limit will be conceded as per the government norms.

Continued on Page 148

FORTHCOMING COMPETITIVE EXAMINATIONS

2022

- S.S.C. Central Police Armed Police Forces/Delhi Police Sub-Inspector Exam., 2022 (Nov.)
- SSC Junior Engineer (Civil/Mechanical/Electrical) Exam., 2022 (Nov.)
- Indian Coast Guard Navik (General Duty)/Domestic Branch and Yantrik Recruitment Exam. (First Stage) (Nov.)
- State Bank of India Junior Associates (Customer Support & Sales) Preliminary Exam. (Nov.)
- Madhya Pradesh Category-3 Sub-Engineer, Manchitrakar, Samaypal and Equivalent Posts Combined Recruitment Exam., 2022 (6 Nov. onwards)
- Haryana Teacher Eligibility Test (HTET-2022) for Level 1, 2 & 3 (12-13 Nov.)
- S.S.C. Stenographer Grade 'C' & 'D' Exam., 2022 (17-18 Nov.)
- BSF Head Constable (Radio Operator and Radio Mechanic) Direct Recruitment Exam. (First Stage) (20 Nov.)
- Madhya Pradesh Veterinary Officer, Staff Nurse, Lab Technician etc. Combined Recruitment Exam., 22 (25 Nov. onwards)
- SSC Combined Graduate Level Preliminary Exam., 2022 (First Stage) (Dec.)
- State Bank of India Circle Based Officers Computer Based Exam. (4 Dec.)
- Central Teacher Eligibility Test December, 2022 (Dec.-Jan.)
- State Bank of India P.O. Preliminary Exam., 2022 (17-20 Dec.)

- Uttarakhand SSSC Sub-Inspector (Police/PAC) and Firemen Officer Second Recruitment Exam. (18 Dec.)
- Uttar Pradesh Vidya Gyan School Preliminary Exam., 2023-24 (18 Dec.)
- Common Law Admission Test (CLAT), 2023 (18 Dec.)
- Bihar Simultala Residential School (Main) Exam., 2022 (22 Dec.)
- IBPS Bank Specialist Officers (Pre.) (24 & 31 Dec.)
(Online Closing Date : 21 Nov.)

2023

- SSC Police Constable (Gen. Duty) for BSF, CRPF, CISF, ITBP, etc. and Assam Rifle Rifleman (GD) Exam. 2022 (Jan.)
(Online Closing Date : 30 Nov., 2022)
- Rajasthan SSC Common Eligibility Test (CET-2022) for Graduate Level (6-9 Jan.)
- All India Sainik Schools Entrance Exam., 2023 (For Class-VI & IX) (8 Jan.)
- Uttarakhand SSSC Revenue Sub-Inspector/Lekhpal Exam., (8 Jan.)
- Uttarakhand SSSC Forest Guard Exam. (22 Jan.)
- IBPS Bank Specialist Officers (Main) Exam. (29 Jan.)
- Jawahar Navodaya Vidyalaya Entrance Exam. 2023-24 (For Class-IX) (11 Feb.)
- Uttarakhand SSSC Assistant Accountant/Account Officer Exam. (12 Feb.)
- Rajasthan SSC Common Eligibility Test (CET-2022) For Senior Secondary Level (18, 19 & 25, 26 Feb.)



Sports World



CRICKET

Indian Women Win Women's Asia Cup 2022

Indian Women cricket team emerged champion of the Women's Asia Cup 2022, the most prestigious trophy of women's cricket in Asia, as India registered a thumping eight wicket victory over Sri Lanka in the final on October 15, 2022 at Sylhet International Cricket Stadium, Sylhet. Winning the toss, Sri Lanka opted to bat first but this decision backfired on the Lankans as they could score only 65 runs. Smriti Mandhana led the Indian chase with her 51 not out off 25 balls as the Indian side chased down a paltry target of 66 runs against Sri Lanka in only 8.3 overs at the two wickets cost.

- It was the eighth edition of the Women's Asia Cup.
- Indian women team won the Women's Asia Cup for the record-extending 7th time.
- Harmanpreet Kaur was the captain of the Indian team while Chamari Athapaththu was the Sri Lankan skipper.

Roger Binny Elected BCCI President

Roger Binny, the highest wicket-taker of India's triumphant 1983 World Cup campaign, was elected unopposed the President of the Board of Control for Cricket in India (BCCI) at the Annual General Meeting (AGM) of the BCCI in Mumbai on October 18, 2022. Roger will be the 36th President of the BCCI. Binny replaced former India captain Sourav Ganguly, whose three-year tenure as the board chief came to end. BCCI secretary Jay Shah, departing president Sourav Ganguly, treasurer Arun Dhumal and Vice-president Rajeev Shukla were all present at the 91st annual general meeting of the board. With his

appointment, Binny becomes the first-ever former World Cup-winning cricketer to become BCCI's president. Binny, who represented India in 27 Tests and 72 ODIs, has also served as a member of the national selection committee. Binny, the right-arm medium pacer who was a handy batter down the order, is most remembered for his performance in the 1983 World Cup. With 18 wickets, Binny ended up as highest wicket-taker of the tournament and played a pivotal role in the Kapil Dev-led Indian side lifting their maiden world title.

The other BCCI office bearers, who were elected unanimously include secretary Jay Shah, Ashish Shelar (treasurer), Rajeev Shukla (Vice-president) and Devajit Saikia (joint secretary). Outgoing treasurer Arun Dhumal was elected in the IPL governing council alongside Avishek Dalmiya. Dhumal has become the new IPL chairman, replacing Brijesh Patel.

India Wins T20I Series Against South Africa 2-1

South Africa avoided a Series sweep against host India by winning the third and final T20I match by 49 runs on October 4, 2022 in Indore. Riding high on Rilee Rossouw's sizzling century, South Africa piled up 227 runs at its three wickets cost. In reply, the hosts crumbled under pressure as they kept losing wickets at regular intervals and were bowled out for 178 in 18.3 overs. Despite the loss, India clinched the three-match series 2-1.

Earlier India took 1-0 lead in the three T20I Series, beating touring South Africa by 8 wickets in the first T20 on September 28, 2022 in Thiruvananthapuram. South African team could score only 106 runs under disciplined bowling performance by India bowlers. In reply India easily achieved the target at its two wickets cost with 20 balls to spare. India defeated South Africa by 16 runs in a

high-scoring second T20I to take an unassailable 2-0 lead in the three-match series on October 2, 2022 in Guwahati. Batting first, India scored 237 runs. South Africa in reply could score only 221 runs and lost the match by 16 runs and the series as well.

- Rohit Sharma was the skipper of the Indian side while Temba Bavuma led the South African team as the captain in the series.
- Indian batsman Suryakumar Yadav was adjudged the Player of the series.

India Wins ODI Series 2-1 against South Africa

India clinched the three match ODI Series against touring South Africa 2-1 by winning the third and final ODI by 7 wickets on October 11, 2022 in New Delhi. South Africa could score only 99 runs due to a brilliant bowling performance by Indians. India easily chased down 100 runs target at its 3 wickets cost in just 19.1 overs.

Earlier, India suffered a nine-run loss to South Africa in the rain-curtailed first ODI in Lucknow on October 6, 2022. Chasing 250 runs target, India could score only 240 runs and lost the match by 9 runs. India levelled the Series 1-1 by winning the second ODI by 7 wickets in Ranchi on October 9, 2022.

Shikhar Dhawan was the skipper of the Indian team in the series. Indian pace bowler Mohammed Siraj was adjudged Player of the series.



FOOTBALL

Spain Retains FIFA Under-17 Women's World Cup Crown

Defending champions Spain won the FIFA U-17 Women's World Cup with a 1-0 victory over first-time finalist Colombia whose campaign ended in a heartbreak after an own goal in the summit clash at the D.Y.

Patil Stadium in Navi Mumbai on October 30, 2022. Colombian player Ana Maria Guzman Zapata's own goal gave Spain the lead in the 82nd minute of the final, which eventually proved to be the only goal of the match as the Spaniards defended their title after winning it in 2018.

Spain's Vicky Lopez was adjudged as the player of the tournament whereas goalkeeper Sofia Fuente won the award for best goalkeeping. This year India hosted the FIFA Under-17 Women's World Cup title in 2022.

- Marina Artero was the skipper of the Spanish team.
- Nigeria defeated Germany to secure third place in the tournament.
- Spain beat Germany in the semi-final while Colombia defeated Nigeria in another semi-final.



TENNIS

Taylor Fritz Wins ATP Japan Open 2022 Singles Crown; McDonald and Marcelo Melo Take Doubles

Third seed Taylor Fritz emerged champion of the ATP Japan Open Singles title 2022 as he prevailed over Frances Tiafoe 7-6(3), 7-6(2) in an all American final on October 9, 2022 in Tokyo. It is Taylor's third title of the year after his victories in Eastbourne and Indian open earlier. With this success at Japan Open, Taylor became the 10th different American singles champion at this ATP 500 event and the first since Pete Sampras in 1996. Taylor pipped Canada's Denis Shapovalov in the semi-final of the Japan Open.

Mackenzie McDonald of the USA and Marcelo Melo of Brazil clinched the ATP Japan Open 2022 Doubles title beating Rafael Matos and David Vega Hernandez 6-4, 3-6, 10-4 in the final.

China Open; Naomi Osaka and Dominic Thiem Take Singles Crowns

Naomi Osaka from Japan defeated top seed Ashleigh Barty from Australia 3-6, 6-3, 6-2 in the final on October 7, 2022 in Beijing to clinch the China Open Women's Singles title.

Osaka pipped defending champion Caroline Wozniacki in the semi-final to secure her place in the China Open final. Osaka's win follows the two-time Grand Slam winner's victory last month at the Toray Pan Pacific Open in her birthplace of Osaka, Japan, her first singles title since the Australian Open in January.

In the Men's Singles final of the China Open, top-seeded Austrian Dominic Thiem beat Greece's Stefanos Tsitsipas 3-6, 6-4, 6-1. It was Thiem's fourth title of the season.

Felix Auger Aliassime Wins ATP Swiss Indoors Basel 2022 Title

Félix Auger-Aliassime from Canada clinched the ATP Swiss Indoors Basel 2022 Singles title, beating Holger Rune of Denmark 6-3, 7-5 in the final on October 30, 2022 in Basel, Switzerland. Third seed Felix Auger defeated Carlos Alcaraz Garfia in the semifinal to secure his place in the final.

Ivan Dodig from Croatia and Austin Krajicek of the USA clinched the ATP Swiss Indoors Basel Doubles title beating Nicolas Mahut and Edouard Roger-Vasselin 6-4, 7-6(5) in the final.

Daniil Medvedev Wins ATP Vienna Open 2022 Title

Daniil Medvedev from Russia clinched the ATP Vienna Open Singles crown 2022, also known as Erste Bank Open beating Canada's Denis Shapovalov 4-6, 6-3, 6-2 in the final on October 30, 2022 in Vienna, Austria. It is the second title of the season and 15th in his career. Top seed Medvedev pipped G Dimitrov in the semi-final.

Local boys Alexander Erler and Lucas Miedler clinched the ATP Erste Bank Open Doubles title beating Santiago Gonzalez and Andres Molteni 6-3, 7-6(1) in the final.



HOCKEY

Indian Wins Sultan of Johor Cup 2022

The Indian junior men's hockey team (Under 21) defeated Australia 5-4 on a penalty shootout in a nail-

biting final at the Taman Daya Hockey Stadium in Johor Bahru, Malaysia, on October 29, 2022 to win the Sultan of Johor Cup 2022 title. The finalists were tied at 1-1 in regulation time, following which the penalty shootout was taken to decide the winner. India edged the shootout 5-4 and won their third Sultan of Johor Cup title. Sudeep Chirmako (14') scored the goal for India in regulation time. Uttam Singh was the skipper of the Indian side.

- It was the 10th edition of the Sultan of Johor Cup hockey tournament.
- The Indian colts had won the Sultan of Johor Cup in 2013 and 2014 before this one in 2022.
- Great Britain secured third place in the tournament, beating Japan in a match for third place.



BADMINTON

BWF Denmark Open 2022; China Sweeps Four Major Titles

Chinese shuttlers dominated the BWF Denmark Open tournament 2022 held from October 18 to 23, 2022 in Odense, Denmark by sweeping four major titles out of five in the tournament. Shi Yu Qi of China clinched the Denmark Open 2022 Men's Singles title, beating Malaysia's third-ranked Lee Zii Jia 21-18, 16-21, 21-12 in the final on October 23, 2022 in Odense. It was Shi's first title in three years. Shi pipped Japan's Kodai Naraoka in the semi-final.

He Bingjiao beat Chen Yufei 22-20, 12-21, 21-10 in an all Chinese final to clinch the Denmark Open Women's Singles title. Bingjiao defeated fellow Chinese shuttler Han Yue in the semi-final. China's Chen Qingchen and Jia Yifan won the Denmark Open Women's Doubles title as the Chinese pair trounced South Korean pair of Baek Ha-na and Lee So-hee 21-12, 21-15 in the final.

In the all-Chinese mixed doubles final, world No. 2 pair of Zheng Siwei and Huang Yaqiong won the Denmark Open Mixed Doubles crown by defeating Feng Yanzhe and Huang Dongping 21-19, 20-22, 21-19.

In the Men's Doubles final, Indonesia's Fajar Alfian Ina and Muhammad Rian Ardianto beat compatriot pair of Marcus Fernaldi Gideon and Kevin Sanjaya Sukamulio 21-19, 28-26 to win the title.

Yonex French Open 2022; Indian Men's Pair Wins French Open Men's Doubles Crown

Reigning world and Olympic champion Viktor Axelsen from Denmark emerged champion of the BWF French Open 2022 Men's Singles event as he defeated compatriot Rasmus Gemke in straight sets (21-14, 21-15) in the final on October 30, 2022 in Paris, France. With this win, Axelsen becomes the most successful player on the men's world tour, overtaking Japan's Kento Momota with 16 wins in 21 finals compared to Momota's 15 from 21. Axelsen pipped Japan's Kodai Naraoka in the semi-final.

He Bingjiao of China clinched the French Open 2022 Women's Singles title as she prevailed over Carolina Marin of Spain 16-21, 21-9, 22-20 in a closely-fought final. Bingjiao defeated Taiwan's Tai Tzu Ying in the semi-final. In the women's doubles final, Malaysian pair of Pearly Tan and Thinaah Muralitharan beat Japanese duo of Matsumoto Mayu and Nagahara Wakana 21-19, 18-21, 21-15 to lift the French Open Women's Doubles 2022 title.

Chinese pair of Zheng Si Wei and Huang Ya Qiong beat Robin Tabeling and Selena Piek of the Netherlands 21-16, 14-21, 22-20 in the final to win the Mixed Doubles event.

Indian duo Satwiksairaj Rankireddy and Chirag Shetty clinched the French Open 2022 Men's Doubles title as they registered a facile straight sets (21-13, 21-19) victory over Chinese Taipei's Lu Ching Yao and Yang Po Han in the final. Satwik and Chirag, who were the runners-up in the 2019 edition, continued their dream run this year, having won the Indian Open super 500, Commonwealth Games gold, Thomas Cup and World Championships bronze. For the Indian duo, the French Open marks their third world tour title after the 2019 Thailand Open and the 2022 Indian Open. Satwik and Chirag have also become the first Indian pair to win a Super 750 tournament with this win.



FORMULA-1 RACE

Sergio Perez Wins Singapore Grand Prix 2022

Red Bull's Mexican F1 driver Sergio Perez won the Singapore Grand Prix 2022 on October 2, 2022 as he finished the race fastest in 02 hours, 02 minutes and 20.238 seconds at the Marina Bay Street Circuit in Singapore. It was Perez's second win of the year after coming out on top in another rain-hit race around a street circuit, in Monaco earlier in the year. Perez beat his nearest rival and pole-sitter in the race Charles Leclerc of Ferrari team by 02.595 seconds in the race. Carlos Sainz finished third in the race.

Max Verstappen Crowned World Formula One Champion 2022 With Japanese Grand Prix 2022 Triumph

Dutch Formula One driver Max Verstappen of Red Bull team emerged winner of the Japanese Grand Prix 2022 as he finished the race in 03 hour, 01 minute and 44 seconds, beating second-placed Sergio Perez of Red Bull by whopping 27 seconds at rain hit Suzuka circuit in Japan on October 9, 2022. With this win, defending world Formula one champion Verstappen was declared the 2022 World Formula One Champion with four races to go in the current season. Red Bull's Verstappen crossed the line first and was then awarded the title when Ferrari's Charles Leclerc who had emerged second was pushed back to third after receiving a five-second post-race penalty. Leclerc's drop meant Verstappen's teammate Sergio Perez finished second.

Verstappen was the pole position holder in the Japanese Grand Prix 2022.

Verstappen Wins US Grand Prix 2022; Red Bull Clinches Constructor's Title 2022

Formula one champion Max Verstappen of Red Bull team won the United States Grand Prix 2022 on October 24, 2022 at Austin, Texas as he finished the race in 01 hour, 42 minutes and 11.687 seconds, about 5 seconds faster than runner up Lewis Hamilton of Mercedes team.

Verstappen's win was his 13th of the season, equalling the Formula One record held jointly with Ferrari great Michael Schumacher and Vettel, and the 33rd of his career and second in a row in Texas. Carlos Sainz of Ferrari team was the pole position holder in the race.

Red Bull team clinched the 2022 Formula One Drivers Constructor's title at the US Grand Prix with three races remaining in the season. Red Bull's title victory ended an eight-year streak by Mercedes who have yet to win a race this season. The title was Red Bull's first since 2013, when they completed a fourth successive title double with Germany's Sebastian Vettel at the end of the sport's V8 era.

Verstappen Wins Mexican Grand Prix 2022

World Formula One Champion Max Verstappen of Red Bull team continued his winning streak in formula one race by winning the Mexican Grand Prix 2022 on October 30, 2022 in Mexico City. He completed the race in 01 hour, 38 minutes and 36.729 seconds and beat his nearest rival in the race Lewis Hamilton of Mercedes team by whopping 15 seconds. With the victory, Verstappen now has 14 wins in the 2022 season, setting a new all-time record for most F1 wins in a single year. Verstappen was also the pole position holder in the race.



GOLF

Keegan Bradley Wins Zozo Championship 2022

American golfer Keegan Bradley clinched the Zozo Championship 2022 on October 16, 2022 as he registered one shot victory over Rickie Fowler and Andrew Putnam at



Bradley with his Zozo Championship 2022 trophy

Narashino Country Club in Inzai, Chiba, Japan. Bradley finished with a 15-under total of 265 with a 2-under 68 in the final phase of the event. Bradley's last PGA TOUR victory was in 2018 at the BMW Championship. This is his fifth TOUR victory. He received \$ 1.98 million for being the champion.

The ZOZO, played at the Accordia Golf Narashino Country Club on the outskirts of Tokyo, is the only PGA TOUR event in Japan.

MISCELLANEOUS

36th National Games Organized in Gujarat

36th National Games were successfully organised at different venues in Gujarat from September 29 to October 12, 2022. The National Games were held after a long gap of 7 years as Kerala hosted the last edition of the National Games in 2015. Prime Minister Narendra Modi inaugurated the 36th National Games at a grand Opening Ceremony at the Narendra Modi stadium in Ahmedabad on September 29, 2022 in presence of Union Minister for Youth Affairs & Sports Anurag Thakur, Gujarat Chief Minister Bhupendra Patel, other dignitaries and sports icons including Olympic champion Neeraj Chopra, Olympic medallists PV Sindhu, Ravi Dahiya, Mirabai Chanu, Gagan Narang, former national hockey captain and new HI Chief Dilip Tirkey along with World Championship medallist Anju Bobby George. In keeping with the Olympic convention, but with a modern twist, Gujarat's swimming star Maana Patel brought in the symbolic Torch of Unity into the arena and handed it over to the Prime Minister. Then PM Modi placed the Torch on the podium and officially declared the Games open.

Praising the theme behind the Games anthem, 'Judega India, Jitega India', the Prime Minister said that the National Games would act as a launch pad for every youngster for many international sports events. Around 7000 athletes from 28 states

and eight union territories along with the Services sports team of the Indian Armed Forces participated in the Games comprising 36 sports events. Tennis star Ankita Raina took the oath on behalf of all the athletes for the Games.

- The Games were held in six cities, Ahmedabad, Gandhinagar, Surat, Vadodara, Rajkot and Bhavnagar, in Gujarat.
- The complete list of sports which were competed at the National Games 2022 in Gujarat are: aquatics, archery, athletics, badminton, basketball, boxing, canoeing & kayaking, cycling, fencing, football, gymnastics, golf, handball, hockey, judo, kabaddi, kho-kho, lawn bowls, mallakhamb, netball, roller skating, rowing, rugby 7s, shooting, softball, soft tennis, squash, table tennis, taekwondo, tennis, triathlon, volleyball, weightlifting, wrestling, wushu and yogasana.
- Hosts Gujarat won the first gold medal of the National Games 2022, clinching the men's table tennis team title after beating Maharashtra in the finals.
- Three-time defending champion Services team, having won the National Games in 2007, 2011 and 2015, emerged the overall champion of the Games in 2022 also by securing top position on the medal table with 128 medals including 61 gold and 35 silver medals.
- Honourable Vice-President Jagdeep Dhankhar gave away the coveted Raja Bhalindra Singh

Trophy to the hybrid contingent of Services for the fourth time in succession for being the overall champion of the Games.

- Among states Maharashtra secured the top position on the medals table and second overall after the Services team with total 140 medals including 39 gold medals and 38 silver medals.
- Maharashtra remained on top position in terms of number of medals.
- Maharashtra bagged the Indian Olympic Association's Best State trophy for finishing second in the medals tally with the most medals amongst States and UTs.
- Haryana secured third rank overall after Services and Maharashtra with total 116 medals including 38 golds.
- Hosts Gujarat also registered their best ever performance in the history of National Games, bagging 13 gold, 15 silver and 21 bronze medals for a total of 49. The hosts finished 12th in the overall standings.
- The 36th National Games came to a poignant end at the Pandit Deendayal Upadhyay Indoor Stadium on October 12, 2022, with Services Sports Control Board, Kerala's Sajan Prakash and Karnataka's Hashika Ramchandra walking away with the top athletes honours in male and female category respectively.
- The official mascot for the National Games 2022 was Savaj, the Asiatic lion.

Florian

National Games 2022 Medal Tally (Top 15)

Rank	State/Union Territory/Team	Gold	Silver	Bronze	Total
1	Services	61	35	32	128
2	Maharashtra	39	38	63	140
3	Haryana	38	38	40	116
4	Karnataka	27	23	38	88
5	Tamil Nadu	25	22	27	74
6	Kerala	23	18	13	54
7	Madhya Pradesh	20	25	21	66
8	Uttar Pradesh	20	18	18	56
9	Manipur	20	10	20	50
10	Punjab	19	32	25	76
11	Delhi	14	17	40	71
12	Gujarat	13	15	21	49
13	West Bengal	13	14	17	44
14	Assam	9	10	9	28
15	Telangana	8	7	8	23



Memorable Points

NATIONAL

- Who was made national icon of Election Commission of India ? → **Pankaj Tripathi**
 - ☛ Noted actor Pankaj Tripathi was made national icon of Election Commission of India at a ceremony by the ECI in Delhi on October 3, 2022. The actor was chosen for the honour for 'his association with ECI in creating awareness amongst voters'. The announcement was made in Delhi by Chief Election Commissioner Rajiv Kumar in the presence of the actor. Pankaj, who has appeared in films and web series including Sacred Games, Mirzapur, Mimi, and Newton, was already an EC state icon for Bihar.
- Defence Minister Rajnath Singh formally inducted the indigenously-developed Light Combat Helicopters (LCH) in the Indian Air Force. The LCH has been named as → **'Prachanda'**
 - ☛ Defence Minister Rajnath Singh formally inducted the indigenously-developed Light Combat Helicopters (LCH) in the Indian Air Force at a ceremony held at Air Force Station, Jodhpur in Rajasthan on October 3, 2022. The LCH named as 'Prachanda' would be inducted into the 143 Helicopter Unit. Prachanda LCH developed by Hindustan Aeronautics Ltd. (HAL) is a state-of-the-art modern combat helicopter, primarily designed for deployment in high-altitude regions. LCH is the only attack helicopter in the world which can land and take-off at an altitude of 5,000 m with a considerable load of weapons and fuel. This helicopter is powered by two Shakti engines and is equipped with stealth features, all-weather combat capability, armour protection, night attack capability, and crash-worthy landing gear.
- RBI launched its advanced supervisory monitoring system named → **Daksh**
 - ☛ Reserve Bank of India Governor Shaktikanta Das on October 6, 2022 launched a new 'SupTech' initiative DAKSH—the bank's Advanced Supervisory Monitoring System, which is expected to make the supervisory processes more effective and powerful. DAKSH means 'efficient' & 'competent', reflecting the underlying capabilities of the application. The new system is a web-based end-to-end workflow application through which RBI shall monitor compliance requirements in a more focused manner with the objective of further improving the compliance culture in Supervised Entities (SEs) like Banks, NBFCs, etc.
- Two beaches in Lakshadweep have been included in the 'Blue flag' list. Those beaches are → **Minicoy Thundi beach and Kadmat beach**
 - ☛ Minicoy Thundi beach and Kadmat beach, both in Lakshadweep were included in the coveted International eco-label 'Blue Flag' beaches list on October 25, 2022, taking India's tally of such beaches to 12 in the list of the world's cleanest and most eco-friendly "beaches, marinas, and sustainable boating tourism operators". Located on the scenic southernmost island of Lakshadweep, Minicoy Thundi beach is considered one of the most pristine and beautiful beaches in the country. Kadmat beach is situated at a distance of 407 km from Cochin and boasts of a huge lagoon, long sandy stretches and huge coral growth, among other attractions.
- Who has been chosen for the SASTRA Ramanujan Prize for 2022 ? → **Yunqing Tang**
 - ☛ Yunqing Tang, Assistant Professor with the University of California, Berkeley, USA was chosen for the SASTRA Ramanujan Prize for 2022 in October 2022 for her great contribution in the field of mathematics. After stints in Princeton University as a postdoctoral fellow, Instructor, and Assistant Professor, Yunqing Tang joined UC Berkeley in July 2022 as Assistant Professor. The award, instituted by the Shanmugha Arts, Science, Technology & Research Academy (SASTRA) in 2005 with a cash prize of \$ 10,000, is presented annually to individuals aged 32 and below, who made outstanding contributions in the field of mathematics.
- Which Indian state launched a common credit portal 'SAFAL' for farmers ? → **Odisha**
 - ☛ In a bid to boost the agricultural sector, Odisha Chief Minister Naveen Patnaik on October 27, 2022 launched a common credit portal 'SAFAL' (Simplified Application for Agricultural Loans) for farmers with access to 300 term loan products. SAFAL is an abridged application for agricultural loans that will enable farmers and agri-entrepreneurs to access over 300 term loan products from more than 40 partner banks. It will ease the loan application process benefiting both the farmers and banks significantly. The portal will also reduce information asymmetry by sending farmers real-time notifications at every stage of their loan application.
- Which Indian state formed a 10-member panel for Vulture conservation ? → **Tamil Nadu**
 - ☛ Tamil Nadu state government on October 19, 2022 formed a 10-member state-level committee for the conservation of vultures, an endangered species. The "Vulture Conservation Committee", headed by principal chief conservator of forests and chief wildlife warden, will monitor, conserve, recover vulture sites; map vulture population; and create safe zones for them. The tenure of the committee is two years. The committee will prepare and implement "Tamil Nadu Action Plan for Vulture Conservation (TNAPVC)" and chalk out and implement a regulatory mechanism to ban drugs toxic to vultures. Of the nine species of vultures recorded in India, four viz. oriental white-backed vulture, long-billed vulture, red-headed vulture and Egyptian vulture are found in Tamil Nadu.
- Madhya Pradesh Wildlife Board approved a new tiger reserve in Madhya Pradesh named → **Durgavati Tiger Reserve**
 - ☛ Madhya Pradesh Wildlife Board on October 14, 2022 approved a new reserve for tigers in Madhya Pradesh. The 2,339 square kilometres new tiger reserve, to be called Durgavati Tiger Reserve, will spread across Narisinghpur, Damoh and

Sagar districts. A green corridor linking Panna Tiger Reserve (PTR) with Durgavati will be developed for the natural movement of the tiger to the new reserve. The Board's meeting, chaired by Madhya Pradesh Chief Minister Shivraj Singh Chouhan, approved a proposal to notify 1,414 sq km area as core area and 925 sq km as a buffer in the new tiger reserve.

- Which team emerged the Overall champion of the 36th National Games ? → **Services**
 - ☛ Three-time defending champion Services team emerged the overall champion of the 36th National Games concluded on October 12, 2022 in Gujarat as the Services clinched the top position on the Games' medal table by securing 128 medals including 61 gold and 35 silver medals. It was Services' fourth successive National Games championship triumph as it had been the champion of the Games in 2007, 2011 and 2015. Honourable Vice-President Jagdeep Dhankhar gave away the coveted Raja Bhalindra Singh Trophy to the hybrid contingent of Services for the fourth time in succession for being the overall champion of the Games.

INTERNATIONAL

- The Second United Nations World Geospatial Information Congress (UNWGIC 2022) was held in → **Hyderabad (India)**
 - ☛ The Second United Nations World Geospatial Information Congress (UNWGIC 2022) was organized from October 10 to 14, 2022 in Hyderabad, India. 'Geo-Enabling the Global Village: No one should be left behind' was the theme of the UNWGIC 2022 hosted by the Department of Science & Technology, Ministry of Science and Technology, India and convened by the United Nations Committee of Experts on Global Geospatial Information Management. The first United Nations World Geospatial Information Congress was held in Deqing, Zhejiang Province, China in 2018.
- Which country launched its first comprehensive solar probe, the Advanced Space-based Solar Observatory (ASO-S) nicknamed Kuafu-1 ? → **China**
 - ☛ China on October 9, 2022 launched its first comprehensive solar probe, the Advanced Space-based Solar Observatory (ASO-S) atop a Long March-2D carrier rocket from northwest China's Jiuquan Satellite Launch Center. China's ASO-S has been nicknamed Kuafu-1. It's the world's first near-Earth satellite telescope to simultaneously monitor solar flares, coronal mass ejections and the sun's magnetic field. The instruments on board the observatory include a magnetograph to study the Sun's magnetic field, an X-ray imager for studying the high-energy radiations released by electrons accelerated in solar flares and a coronagraph which will look at the Sun in the ultraviolet visible range.
- Which Indian-American got the Lifetime Achievement Award by US President Joe Biden with the citation of 'With Grateful Recognition' ? → **Vivek Lall**
 - ☛ Vivek Lall, an Indian-origin General Atomic Global Corporation Chief Executive is honored with the Lifetime Achievement Award by US President Joe Biden with the citation of 'With Grateful Recognition' in October 2022. The citation was given to Dr. Lall by the AmeriCorps, which is a part of the US Government and aims to foster activities that bring Americans closer together to 'serve communities'. Dr. Lall is an industry leader and Chief Executive Officer of General Atomics. The company is a global leader in the specialised fields of nuclear technology and has developed state-of-the-art Unmanned Aerial Vehicles (UAVs) like the Predator, Reaper, and Guardian drones.
- Who emerged the winner of the Booker Prize 2022 ? → **Shehan Karunatilaka from Sri Lanka**
 - ☛ Sri Lankan novelist Shehan Karunatilaka emerged the winner of the Booker Prize for fiction 2022 for his book, The Seven Moons of Maali Almeida on October 17, 2022 as Britain's Queen Camilla felicitated him with the coveted honour in London. Karunatilaka is the second Sri Lankan-born author to win the Booker Prize since it was founded in 1969, following Michael Ondaatje, whose novel "The English Patient" won in 1992. "The Seven Moons of Maali Almeida," is the second novel by Shehan. He received 50,000 pound (\$56,810) as prize money.
- Who has been awarded the Nobel Prize 2022 in literature ? → **Annie Ernaux**
 - ☛ French author Annie Ernaux was awarded this year's Nobel Prize in literature on October 06 for "the courage and clinical acuity with which she uncovers the roots, estrangements and collective restraints of personal memory. She earned huge fame in the world of literature for her seminal work 'The Years'. Her book on her illegal abortion in the 1960s, 'Happening' (first published in 2001) has also been in the limelight after abortion rights were curtailed in the US.
- Which Asian country has been added to FATF's list of high-risk countries ? → **Myanmar**
 - ☛ The Financial Action Task Force (FATF) October 22, 2022 added Myanmar to a group of high-risk countries, known as the 'black list,' in the meeting of the FATF under the Presidency of Singapore in Paris citing its failure to make enough progress in addressing illicit financial flows. Myanmar is the third country to be added in this list along with North Korea and Iran which have been on the high-risk list since 2020.
- Which country passed the Plain Language Bill ? → **New Zealand**
 - ☛ The New Zealand Parliament on October 19, 2022 passed the Plain Language Bill, that requires bureaucrats to use simple, easily understood language while communicating with the public. The passage of the Plain Language Bill is aimed at making democracy more inclusive, especially for non-native English speakers, people with disabilities, and those who are under-educated. The law was based on the United States Plain Writing Act of 2010 which requires the US Federal Government to produce public documents in a 'clear, concise, well-organized' manner. According to the Bill, plain language is defined as 'appropriate to the intended audience' and 'clear, concise, and well organized'.
- Which country emerged on top of the Commitment to Reducing Inequality Index (CRII) 2022 ? → **Norway**
 - ☛ Norway emerged on top of the 2022 Commitment to Reducing Inequality Index or CRI Index, 2022 released in October 2022. It is the fourth edition of the CRI Index based on 161 countries worldwide. Norway is followed by Germany and Australia on top positions of the CRII. The CRII is a joint project of Oxfam International and Development Finance International to measure government policies and actions in three areas proven to have a major impact on reducing inequality. The three areas are public services (health, education, and social protection), taxation and workers' rights. India has been placed on 123rd rank on the CRII 2022, moving six places up as its rank in the 2020 edition was 129.



Economic Scenario

- Consumer Confidence Survey September 2022
- Households' Inflation Expectations Survey, September 2022
- Industrial Outlook Survey of the Manufacturing Sector for Q2 : 2022-23
- India Raises Total Import Duty on Platinum to 15-4% from 10-75%
- SBI Report Warns of Freebies Time-Bomb, Urges Supreme Court to Cap Such Spends
- PNB Launches WhatsApp Banking for Customers and Non-Customers
- India's GDP Growth to Fall to Just 5-7% in 2022 : UNCTAD
- 'Chip 4' Group
- India Emerges as the World's Largest Producer and Consumer of Sugar and World's 2nd Largest Exporter of Sugar
- RBI Launches **दक्ष (DAKSH)** Reserve Bank's Advanced Supervisory Monitoring System
- The Reserve Bank Introduces Internal Ombudsman Mechanism for Credit Information Companies (CICs)
- IMF Calls India's Deployment of Cash Transfer Scheme a 'Logistical Marvel'
- India Up Six Places for Reducing Inequality, Ranks 123 Globally : CRII 2022
- 15 States Among Achievers in Logistics Performance Index 2022 : DPIIT Report
- India Ranks 107th Out of 121 Countries on Global Hunger Index 2022
- Gallup Law and Order Index for 2021
- Union Cabinet Approves Development of Container Terminal at Tuna Tekra, Gujarat
- Pradhan Mantri Bharatiya Jan Urovarak Pariyojana (One Nation One Fertiliser) : PM Modi Launches Single Brand 'Bharat' for Subsidised Fertilisers
- Cabinet Approves Minimum Support Prices for All Rabi Crops for Marketing Season 2023-24
- 3rd Advance Estimates of Area and Production of Horticultural Crops for the Year 2021-22
- Competition Commission of India Imposed Penalty of ₹ 2,273 Crore on Google

Consumer Confidence Survey September 2022

The Reserve Bank of India on September 30, 2022 released the results of its Consumer Confidence Survey (CCS) for the September 2022 round. The survey obtains current perceptions (vis-à-vis a year ago) and one year ahead expectations on general economic situation, employment scenario, overall price situation and own income and spending across 19 major cities. The latest round of the survey was conducted during September 1-10, 2022, covering 6,062 responses.

Highlights :

1. Consumer confidence has been on recovery path since July 2021 after the impact of the COVID-19 pandemic waned; though the current situation index (CSI) remained in negative terrain, it improved in the latest survey round on the back of better sentiments on general economic situation and spending.
2. Households expressed pessimism on their current income but a majority of them expect higher income over the next one year.
3. The expectations on employment conditions have moderated since March 2022 survey round but they remained in positive terrain.
4. Consumer confidence for the next one year, as measured by the future expectations index (FEI), remained steady and the expectation at the aggregate level remains close to its level in the previous survey round.
5. Most households reported higher current spending, which was mainly driven by essential spending; nearly three-fourths of the respondents expect further rise in overall spending over the next one year and another 20 per cent expect it to remain around the prevailing levels.

Households' Inflation Expectations Survey, September 2022

Reserve Bank of India on September 30, 2022 released the results of the September 2022 round of the Inflation Expectations Survey of Households (IESH). The survey was conducted during September 1-10, 2022 in 19 major cities. The results are based on responses from 6,052 urban households.

Highlights :

1. Households' median inflation perceptions for the current period increased by 90 basis points (bps) since July 2022 to 10.2 per cent in September 2022, while it rose by 50 bps each for both three months and one year ahead.
2. Most categories of respondents expect higher inflation for both three months and one year ahead periods.
3. A larger share of households expects higher prices for all product groups as compared to the previous round of the survey.
4. Overall prices and inflation expectations for three months ahead period were generally aligned with food products, non-food products and cost of services, while they were more aligned with non-food products and cost of services for the longer horizon of one year.
5. The survey is conducted at bi-monthly intervals by the Reserve Bank and it provides directional information on near-term inflationary pressures as expected by the respondents and may reflect their own consumption patterns. Hence, they should be treated as households' sentiments on inflation. All estimates of inflation expectations are given in the form of medians, unless stated otherwise.

Industrial Outlook Survey of the Manufacturing Sector for Q2 : 2022-23

Reserve Bank on September 30, 2022 released the results of the 99th round of its industrial outlook survey (IOS) conducted during July-September 2022. The survey encapsulates qualitative assessment of the business climate by Indian manufacturing companies for Q2 : 2022-23 and their expectations for Q3 : 2022-23. In all, 1,234 companies responded in this round of the survey. The additional response block for assessing the outlook on key parameters for two more quarters, which was introduced in the wake of uncertainties since the onset of the COVID-19 pandemic, was continued in this round of survey.

Highlights :

(A) Assessment for Q2 : 2022-23

- Business conditions in the manufacturing sector moved further on the recovery path during Q2 : 2022-23 as the impact of the COVID-19 pandemic ebbed further; respondents maintained positive assessment for production, order books, capacity utilisation, employment and foreign trade situations, though the sentiments were marginally tempered from the previous round of the survey.
- Manufacturers assessed continued pressures from rising cost for raw materials, salary outgo and the cost of finance during the quarter; they, however, perceived some moderation in the pace of increase in raw material cost.
- Respondents reported deceleration in the pace of rise in selling prices during Q2 : 2022-23; their sentiments on profit margin for the quarter deteriorated.
- Overall, business sentiments in the manufacturing sector remained positive, albeit with some moderation; the business assessment index (BAI) stood at 106.7 in Q2:2022-23 as compared with 110.7 in the previous quarter.

(B) Expectations for Q3 : 2022-23

- Respondents remained optimistic on demand conditions during Q3 : 2022-23, though it waned marginally, as reflected in their expectations on production, order books and employment.
- Pressures from purchase of raw materials and staff cost are likely to soften during Q3 : 2022-23.
- Selling prices and profit margins are expected to rise further; lower share of respondents expect further rise in selling prices as well as rise in profit margins during the ensuing quarter vis-à-vis the survey round.
- Overall, manufacturers remained optimistic about business conditions : the business expectations index (BEI) remained high at 134.4 in Q3 : 2022-23 though it moderated marginally from 137.7 in the previous quarter.

India Raises Total Import Duty on Platinum to 15.4% from 10.75%

Import duty on platinum has been increased to a total of 15.4 per cent with effect from October 3, 2022 through a notification by the Finance Ministry.

Platinum and palladium for use in manufacture of precious metal chemicals, compounds (noble metal compounds and solutions) and catalytic converters will continue at basic customs duty of 7.5 per cent subject to IGCR. Rhodium will also continue with BCD of 2.5 per cent.

- It is being presumed that the increase in duty on platinum is to plug a loophole which is helping bullion importers to make record profits.
- As per reports some bullion importers are importing refined gold disguised as platinum alloy.
- Gold attracts 15 per cent import duty, as opposed to platinum alloy that invites a duty of 10.75 per cent which observers say is a case of mis-declaration and duty violation.

There were reports that the customs had cleared consignments since the loophole in the notification have not clearly defined alloys of

precious metals. The consignments of platinum alloy contained 96 per cent gold and some importers are importing refined gold under the guise of platinum alloy and making bullion bars.

SBI Report Warns of Freebies Time-Bomb, Urges Supreme Court to Cap Such Spends

With states after states competing to offer freebies, a report of SBI has suggested that the Supreme Court-led panel could cap such welfare schemes at 1 per cent of the State's GDP or 1 per cent of its own tax collection.

Citing the examples of just three states, a report penned by Soumya Kanti Ghosh, the group chief economic adviser to State Bank of India, said annual pension liabilities of the poor states of Chhattisgarh, Jharkhand and Rajasthan are estimated at ₹ 3 lakh crore.

When looked in relation to these states own tax revenue, pension liabilities are quite high for Jharkhand, Rajasthan and Chhattisgarh at 217, 190 and 207 per cent respectively.

While for states contemplating the change, it would be as high as 450 per cent of own tax revenue in case of Himachal Pradesh, 138 per cent of own tax revenue in case of Gujarat and 242 per cent of own tax revenue for Punjab, which has also decided to revert to the old pension system wherein the beneficiaries pay nothing.

Ghosh also points out that according to the latest available information, the off-budget borrowings of states, which are loans raised by state-owned entities and guaranteed by the states, have reached around 4.5 percent of GDP in 2022 and the extent of such guarantees have achieved significant proportion of GDP for various states.

Such guarantee amount is significant at 11.7 per cent of GDP for Telangana, 10.8 per cent for Sikkim, 9.8 per cent for Andhra, 7.1 per cent for Rajasthan, and 6.3 per cent for UP. While the power sector accounts for almost 40 per cent of these guarantees, other beneficiaries include sectors like irrigation, infrastructure development, food and water supply.

On the cost of the election promises made by various political parties in the poll-bound states as percentage of revenue receipts and own tax revenue of these states it is 1-3 and 2-10 in Himachal 5-8, and 8-13 in Gujarat respectively.

The unfunded pension liabilities of the state which have gone back to the old pension scheme or pay as you go scheme, as percentage of own tax revenue, it's a staggering 450 for Himachal, 138 for Gujarat, 207 for Chhattisgarh, 190 for Rajasthan, 217 for Jharkhand and 242 for Punjab.

The combined liabilities of the states which have reverted to the old pension scheme stood at ₹ 3,45,505 crore in FY20 and the same will go up as percentage of GSDP of Chhattisgarh to 1.9 and incremental burden of 60,000 crore from ₹ 6,638 crore in FY20.

For Jharkhand it was ₹ 6,005 crore and will be 1.7 per cent of GSDP and will increase by ₹ 54,000 crore; Rajasthan ₹ 20,761 crore, 6 per cent and will jump by ₹ 1.87 lakh crore; Punjab ₹ 10,294 crore, 3 per cent and will rise by ₹ 92,000 crore, Himachal Pradesh ₹ 5,490 crore, 1.6 per cent of GSDP and will rise by ₹ 49,000 crore and for Gujarat the pension burden was ₹ 17,663 crore in FY20 and will jump to 5.1 per cent of GDP and will rise by 1.59 lakh crore.

When the freebies announced by the states in FY23 are compared to percentage of the each of the state's GDP and revenue receipts and own tax revenue, they are more staggering.

Quoting from a recent RBI paper on financial assistance/cash transfers, utility subsidies, loan or fee waivers and interest free loans announced by the states in their latest budgets, estimate expenditure on freebies range from 0.1-2.7 per cent of GSDP for different states. The freebies have exceeded 2 per cent of GSDP for some of the highly indebted states such as Andhra Pradesh and Punjab.

PNB Launches WhatsApp Banking for Customers and Non-Customers

In an effort to make banking services more accessible, state-owned Punjab National Bank (PNB) on

October 3, 2022 said it has introduced banking services through WhatsApp for both customers and non-customers.

At present, PNB would be offering non-financial services such as balance inquiry, last five transactions, stop cheque, request cheque book to its account holders through the WhatsApp banking service.

Other informative services that would be provided to both account and non-account holders include online account opening, enquire bank deposit/loan products, digital products, NRI services, locate branch/atm, opt-in, opt-out options, it said.

The WhatsApp banking service will be available 24x7, including holidays, on both android and iOS-based mobile phones.

India's GDP Growth to Fall to Just 5.7% in 2022: UNCTAD

India's growth will likely ease to just 5.7% in 2022 from 8.2% in 2021, as economic activity is "being hampered by higher financing costs and weaker public expenditures", the United Nations Conference on Trade and Development (UNCTAD) said in its Trade and Development Report 2022 on October 3, 2022. The country's growth will further drop to 4.7% in 2023.

With this, among all the agencies, Unctad has firmed up the most conservative forecast for India (although it's on a calendar year basis). It's way lower than Moody's

Railway Protection Force (RPF) Undertook Many Focused Operations During the Month of September 2022

In furtherance of the pledge of 'Sewa Hi Sankalp' by RPF, a pan India month long drive under the code name SAMSAR (SAMAJIK SAROKAR) incorporating the elements of several focused operations namely Operation 'SEWA', Operation 'Dignity', Operation 'Nanhe Fariste', Mission 'Jeevan Raksha' and Operation 'Matrishakti' was conducted in the month of September 2022.

- **Operation 'SEWA'** : With a view to provide safe and comfortable journey, RPF personnel assist the elderly citizens, women, physically disabled and provide amenities like wheelchairs, stretchers, medical help, ambulances, infant food etc. under operation 'SEWA'.
- **'Operation Dignity'** : RPF has played an important role in rescuing persons lost or having run away from their homes or disoriented due to certain reason or distressed and in need of care and protection. They are vulnerable for getting exploited or trafficked and are under the risk of serious bodily harm, if not secured in time. The force personnel worked selflessly to provide timely intervention under code name 'Operation Dignity'.
- **'Operation Nanhe Fariste'** : RPF personnel under the code name 'Operation Nanhe Fariste' undertake the noble cause of identifying and rescuing children lost/runaway/separated from their family due to various reasons and in need of care & protection.
- **Mission 'Jeevan Raksha'** : RPF personnel go beyond the call of duty risking their own lives to save other lives. There are incidents wherein passengers trying to board/de-board a moving train, slip and fall with the risk of coming under the wheels of running train. In other instances, the individuals with suicidal tendency come in front of running train with intention to end their lives. RPF personnel lookout for such cases and intervene in the nick of time to save precious lives.
- **'Operation Matrishakti'** : RPF personnel, especially lady RPF personnel, go out of the way to help pregnant women passengers, experiencing labour pain during their train journey under 'Operation Matrishakti'.
- **SAMSAR (SAMAJIK SAROKAR) drive** : Giving blood is a uniquely powerful act. Every instance of blood donation improves or saves lives and enhances social solidarity. It sends a powerful message of mutual co-existence and showcases the unconditional service to Humanity. As part of month long SAMSAR (SAMAJIK SAROKAR) drive, Railway Protection Force conducted a Mega Blood Donation programme on 17th and 20th September, 2022, on the special occasion of Railway Protection Force Raising Day.
- **'Citizens in Uniform'** : RPF has been doing its bit to fulfil its social commitment as 'Citizens in Uniform'. It will continue to act with empathy in our endeavor to provide 'security with compassion' to 23 million passengers travelling by Railways every day.

latest forecast of 7.7% for the calendar year 2022. Various other agencies have projected India's growth to be in the range of 6.7% to 7.4% in FY23. The RBI cut its FY23 real growth forecast for the country by 20 basis points to 7%.

The report predicted China's economic growth to be 3.9% in 2022, down from 8.1% in 2021. However, it will touch 5.3% in 2023, which means China's growth which beat India's in the next calendar year. India, the report said, had recorded real GDP growth of 8.2% in 2021, the strongest among G20 nations.

'Chip 4' Group

'Chip 4' group is an organization of world's leading chip (Semiconductors) manufacturing countries—the US, Japan, South Korea and Taiwan. The establishment of the group comes on the heels of a new US law passed in August 2022 that includes \$ 52 billion in subsidies for companies that make chips or conduct chip research in the United States, as Washington looks to lessen US reliance on Asia for semi-conductors.

The 'Chip 4' group's Asian members are home to the world's largest contract chip maker Taiwan Semiconductor Manufacturing Co Ltd., South Korean memory chip giants Samsung Electronics Co Ltd. and SK Hynix, and key Japanese suppliers of semiconductor materials and equipment.

A preliminary meeting of the group took place in September 2022 with representatives from Taiwan, the United States, South Korea and Japan attending.

India Emerges as the World's Largest Producer and Consumer of Sugar and World's 2nd Largest Exporter of Sugar

In Sugar Season (Oct.-Sep.) 2021-22, a record of more than 5000 Lakh Metric Tons (LMT) sugarcane was produced in the country out of which about 3574 LMT of sugarcane was crushed by sugar mills to produce about 394 LMT of sugar (Sucrose). Out of this, 35 LMT sugar was diver-

ted to ethanol production and 359 LMT sugar was produced by sugar mills. With this, India has emerged as the world's largest producer and consumer of sugar as well as the world's 2nd largest exporter of sugar.

The season has proven to be a watershed season for Indian Sugar Sector. All records of sugarcane production, sugar production, sugar exports, cane procured, cane dues paid and ethanol production were made during the season.

Another shining highlight of the season is the highest exports of sugar of about 109.8 LMT that too with no financial assistance which was being extended upto 2020-21. Supportive international prices and Indian Government Policy led to this feat of Indian Sugar Industry. These exports earned foreign currency of about ₹ 40,000 crore for the country.

During SS 2021-22, sugar mills procured sugarcane worth more than ₹1.18 lakh crore and released payment of more than ₹ 1.12 lakh crore with no financial assistance (subsidy) from Government of India. Thus, cane dues at the end of sugar season are less than ₹ 6,000 crore indicating that 95% of cane dues have already been cleared. It is also noteworthy that for SS 2020-21, more than 99.9% cane dues are cleared.

Growth of ethanol as biofuel sector in last 5 years has amply supported the sugar sector as use of sugar to ethanol has led to better financial positions of sugar mills due to faster payments, reduced working capital requirements and less blockage of funds due to less surplus sugar with mills. During 2021-22, revenue of about ₹ 18,000 crore has been made by sugar mills/distilleries from sale of ethanol which has also played its role in early clearance of cane dues of farmers. Ethanol production capacity of molasses/sugar-based distilleries has increased to 605 crore litres per annum and the progress is still continuing to meet targets of 20% blending by 2025 under Ethanol Blending with Petrol (EBP) Programme. In new season, the diversion of sugar to ethanol is expected to increase from 35 LMT to 50 LMT which would generate revenue for sugar mills amounting to about ₹ 25,000 crore.

RBI Launches दक्ष (DAKSH) Reserve Bank's Advanced Supervisory Monitoring System

The Reserve Bank of India has been taking various initiatives in strengthening supervision, which among other initiatives include adoption of latest data and analytical tools as well as leveraging technology for implementing more efficient and automated work processes. In continuation of this effort, Shri Shaktikanta Das, Governor, on October 6, 2022 launched a new SupTech initiative named "दक्ष (DAKSH) Reserve Bank's Advanced Supervisory Monitoring System", which is expected to make the Supervisory processes more robust.

'दक्ष (DAKSH)' means 'efficient' & 'competent', reflecting the underlying capabilities of the application. 'दक्ष (DAKSH)' is a web-based end-to-end workflow application through which RBI shall monitor compliance requirements in a more focused manner with the objective of further improving the compliance culture in Supervised Entities (SEs) like Banks, NBFCs, etc. The application will also enable seamless communication, inspection planning and execution, cyber incident reporting and analysis, provision of various MIS reports etc., through a Platform which enables anytime-anywhere secure access.

The Reserve Bank Introduces Internal Ombudsman Mechanism for Credit Information Companies (CICs)

As announced in the 'Statement on Developmental and Regulatory Policies' issued as part of the Monetary Policy statement dated August 5, 2022, the Reserve Bank, in exercise of the powers conferred by sub-section (1) of Section 11 of the Credit Information Companies (Regulation) Act, 2005 (the Act), being satisfied that it is necessary in the public interest to do so, directs all Credit Information Companies (CICs) holding a Certificate of Registration under sub-section (2) of Section 5 of the Act, to

appoint Internal Ombudsman (IO) at the apex of their internal grievance redress mechanism by April 1, 2023.

India's Balance of Payments (US \$ billion)		
FY	Quarter	Balance of Payment (US\$ billion)
2017-18	Q1	- 15
	Q2	- 7
	Q3	- 13.7
	Q4	- 13.1
	Full Year	- 48.7
2018-19	Q1	- 15.8
	Q2	- 19.1
	Q3	- 17.8
	Q4	- 4.6
	Full Year	- 57.2
2019-20	Q1	- 15
	Q2	- 7.6
	Q3	- 2.6
	Q4	+ 0.6
	Full Year	- 24.6
2020-21	Q1	+ 19.1
	Q2	+ 15.3
	Q3	- 2.2
	Q4	- 8.2
	Full Year	+ 24.0
2021-22	Q1	- 6.6
	Q2	- 9.7
	Q3	- 22.2
	Q4	- 13.4
	Full Year	- 38.7
2022-23	Q1	- 23.9

The Direction covers, inter-alia, the appointment/tenure, role and responsibilities, procedural guidelines, and oversight mechanism for the IO. Under the mechanism, all complaints that are partly or wholly rejected by CICs will be reviewed by the IO before the final decision of the CIC is conveyed to the complainant. The IO will not entertain any complaints directly from the members of public.

The implementation of the IO mechanism will be monitored by the CIC's internal audit system, apart from regulatory oversight by RBI.

IMF Calls India's Deployment of Cash Transfer Scheme a 'Logistical Marvel'

The International Monetary Fund (IMF) lauded India. It called

deployment of a direct cash transfer scheme and other similar social welfare programmes a 'logistical marvel'. "In fact, just because of the sheer size of the country, it is a logistical marvel how these programmes that seek to help people who are at low-income levels reach literally hundreds of millions of people," Paolo Mauro, Deputy Director of the Fiscal Affairs Department at the IMF, said.

There are programmes that target specifically women. There are programmes that target the elderly and farmers. Perhaps the interesting part is that in these examples, there is a lot of technological innovation, he said. "In the case of India, one thing that is striking is the use of the unique identification system, the Aadhaar," Mauro said.

India Up Six Places for Reducing Inequality, Ranks 123 Globally: CRII 2022

India has moved up six places to rank 123 out of 161 countries for reducing inequality but continues to be among the lowest performers in health spending, according to the latest **Commitment to Reducing Inequality Index (CRII), 2022**.

- The 2022 CRII looks at government policies and actions in 161 countries to fight inequality during the first two years of the COVID-19 pandemic.
- Norway leads the CRII followed by Germany and Australia.
- India's overall rank has improved by six points from 129 in 2020 to 123 in 2022.
- India has moved up 12 places to rank 129 for reducing inequality through progressive spending.
- India ranks 16 for progressive taxation, up by three.
- Under ranking for minimum wage, India has fallen 73 places due to the country being reclassified as not having a national minimum wage.
- Under the 'Impact of public spending on reducing inequality indicator', India has moved up 27 places and under 'Impact of tax on reducing inequality

indicator', India has moved up 33 places.

- India features among the lowest performers on health spending again. The index showed that it has dropped a further two places in the rankings, to 157th, the 5th lowest in the world.
- India's health spending is 3.64 per cent of total spending. This is the lowest out of all BRICS and neighbouring countries.
- While China and Russia are spending 10 per cent, Brazil is at 7.7 per cent and South Africa is highest at 12.9 per cent
- Even in neighbouring countries, Pakistan is at 4.3 per cent, Bangladesh at 5.19 per cent, Sri Lanka at 5.88 per cent and Nepal at 7.8 per cent
- The Index which is prepared by Oxfam International and Development Finance International (DFI) measures government's policies and actions in three areas proven to have a major impact on reducing inequality.
- The three areas are public services (health, education, and social protection), taxation and workers' rights.

15 States Among Achievers in Logistics Performance Index 2022: DPIIT Report

Andhra Pradesh, Assam and Gujarat are among the 15 states and UTs categorised as achievers in the logistics index chart 2022, according to a report released by the Commerce and Industry Ministry on October 14, 2022. The report ranks the states on the basis of their logistics ecosystem, highlights the key logistics-related challenges faced by the stakeholders and includes suggestive recommendations, according to the fourth LEADS (Logistics Ease Across Different States) 2022 report unveiled by the Commerce and Industry Minister Piyush Goyal.

- The index aims at enhancing the focus on improving logistics performance across states which is essential for improving the country's trade and reducing transaction cost.

- The first logistics report was released in 2018. No ranking was released last year due to the COVID-19 pandemic. Gujarat was at the first position in both 2018 and 2019 ranking lists.
- The index is an indicator of the efficiency of logistical services necessary for promoting exports and economic growth.
- Kerala, Madhya Pradesh, Rajasthan, Puducherry, Sikkim and Tripura are the other states categorised as fast movers in the ranking.
- The 15 states and UTs ranked in the aspirers category include Bihar, Chhattisgarh, Goa and Mizoram.

India Ranks 107th Out of 121 Countries on Global Hunger Index 2022

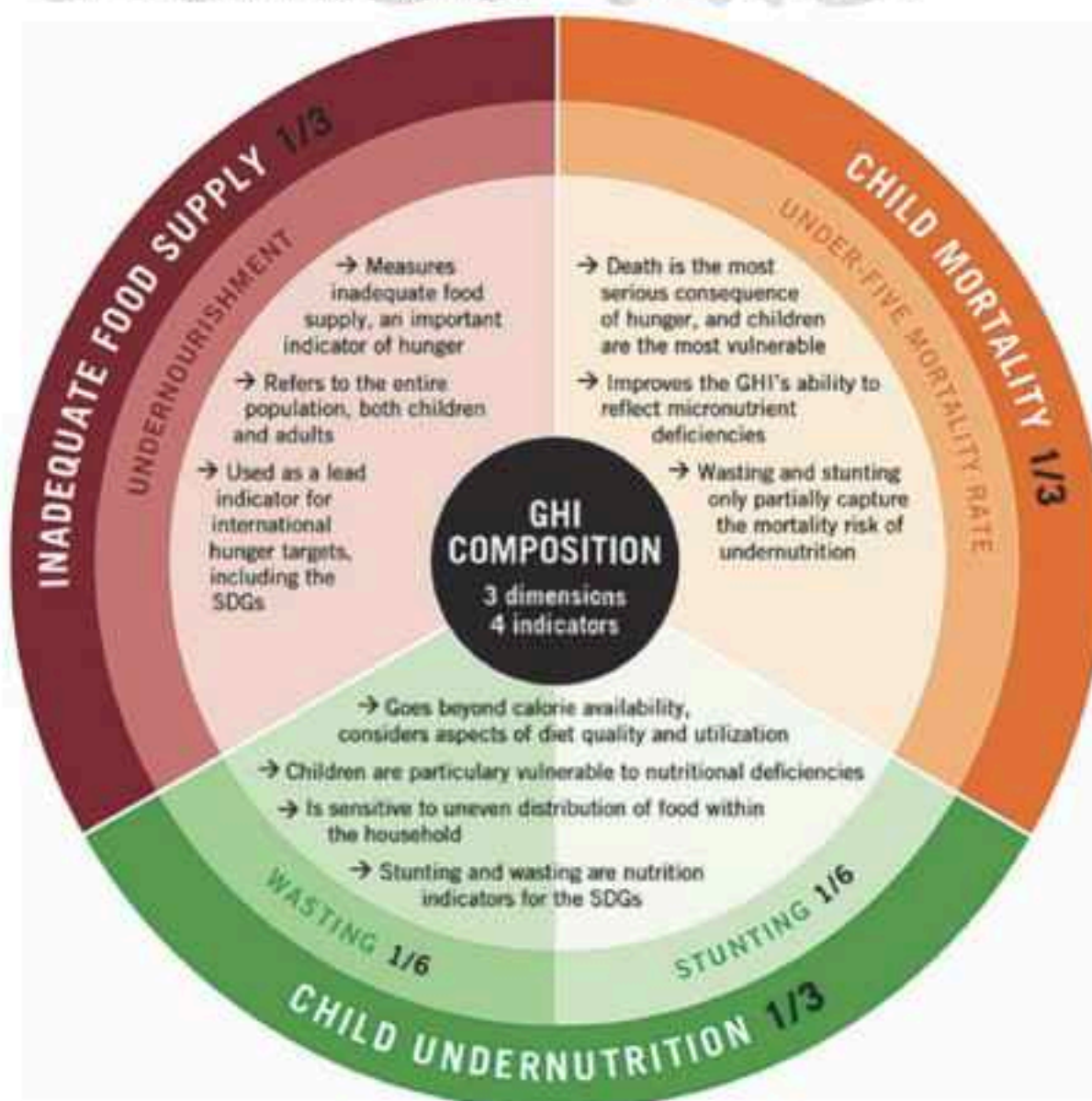
The Global Hunger Index (GHI) is a tool for comprehensively measuring and tracking hunger at global, regional, and national levels. GHI scores are based on the values of four component indicators—under-nourishment, child stunting, child wasting and child mortality. The GHI score is calculated on a 100-point scale reflecting the severity of hunger, where zero is the best score (no hunger) and 100 is the worst.

- Globally, progress against hunger has largely stagnated in recent years. The 2022 GHI score for the world is considered 'moderate', but 18.2 in 2022 is only a slight improvement from 19.1 in 2014. This is due to overlapping crises such as conflict, climate change, the economic fallout of the COVID-19 pandemic as well as the Ukraine war, which has increased global food, fuel, and fertiliser prices and is expected to "worsen hunger in 2023 and beyond."
- There are 44 countries that currently have 'serious' or 'alarming' hunger levels and without a major shift, neither the world as a whole nor approximately 46 countries are projected to achieve even low hunger as measured by the GHI by 2030.

- Seventeen countries, including China, Turkey, and Kuwait, shared the top rank with GHI score of less than five.
- The report, prepared jointly by Irish aid agency Concern Worldwide and German organisation Welt Hunger Hilfe, termed the level of hunger in India 'serious'.
- India ranks 107 out of 121 countries on the Global Hunger Index in which it fares worse than all countries in South Asia barring war-torn Afghanistan.
- In 2021, India was ranked 101 out of 116 countries. Now with 121 countries in the list, it has dropped to the 107th rank. India's GHI score has also decelerated from 38.8 in 2000 to the range of 28.2-29.1 between 2014 and 2022.
- India also ranks below Sri Lanka (64), Nepal (81), Bangladesh (84), and Pakistan (99). Afghanistan (109) is the only country in South Asia that performs worse than India on the index.
- India's child wasting rate (low weight for height), at 19.3%, is worse than the levels recorded in 2014 (15.1%) and even 2000 (17.15%), and is the highest for

any country in the world and drives up the region's average owing to India's large population.

- Prevalence of undernourishment, which is a measure of the proportion of the population facing chronic deficiency of dietary energy intake, has also risen in the country from 14.6% in 2018-2020 to 16.3% in 2019-2021. This translates into 224.3 million people in India considered undernourished out of the total 828 million people undernourished globally.
- India has shown improvement in the other two indicators - child stunting has declined from 38.7% to 35.5% between 2014 and 2022 and child mortality has also dropped from 4.6% to 3.3% in the same comparative period.
- On the whole, India has shown a slight worsening with its GHI score increasing from 28.2 in 2014 to 29.1 in 2022.
- Though the GHI is an annual report, the rankings are not comparable across different years. The GHI score for 2022 can only be compared with scores for 2000, 2007 and 2014.



- Countries ranked below India on the Global Hunger Index are - Zambia, Afghanistan, Timor-Leste, Guinea-Bissau, Sierra Leone, Lesotho, Liberia, Niger, Haiti, Chad, Dem. Rep. of the Congo, Madagascar, Central African Republic, Yemen. For 15 countries including Guinea, Mozambique, Uganda, Zimbabwe, Burundi, Somalia, South Sudan, and Syria ranks could not be determined owing to lack of data, the report said.

The GHI scores can't be compared with last year's scores because each set of GHI scores uses data from a 5-year period. The 2022 GHI scores are calculated using data from 2017 through 2021; the 2014 GHI scores are calculated using data from 2012 through 2016; the 2007 GHI scores are calculated using data from 2005 through 2009, and the 2000 scores are calculated using data from 1998 through 2002. In order to show progress over time, GHI team select past reference years such that the data used for the calculations do not come from overlapping years.

Gallup Law and Order Index for 2021

India ranked 60th of 121 countries in the Gallup Law and Order Index for 2021, scoring 80 on an index that ranges from 1 to 100, with a higher score indicating that more people in a country feel secure. The polls found that as many as seven in 10 people globally feel safe walking alone at night where they live and have confidence in their local police. The report said that overall, the security metrics have remained stable between 2020 and 2021.

The annual Gallup survey interviewed around 1,27,000 persons over 15 years of age, in more than 122 countries and areas in 2021 and early 2022. In each country, around 1,000 respondents participated via telephone or face-to-face.

As per the report, 71% of the respondents said they felt safe walking alone at night where they lived and 70% said they had confidence in their local police. Additionally, 11% said

Gallup Global Law and Order Rankings 2022

Rank	Country
96	Singapore
95	Tajikistan
93	Norway
92	Switzerland
92	Indonesia
92	United Arab Emirates
87	Canada
86	Japan
85	France
84	Australia
83	United States
83	Italy
83	Germany
82	Iran
82	Pakistan
82	New Zealand
80	Sri Lanka
80	India
80	Iraq
79	United Kingdom
79	Bangladesh
77	Russian Federation
71	Brazil
59	Sierra Leone
58	Republic of the Congo
55	Venezuela
54	Gabon
51	Afghanistan

they had property stolen from them or other household members in the past year, and 6% said they had been assaulted or mugged.

- Singapore ranked the highest with a score of 96.
- Tajikistan, Norway, Switzerland and Indonesia were ranked in the top five after Singapore.
- While Venezuela in South America and Sierra Leone, Congo, and Gabon in Africa were among the bottom five.
- Afghanistan was at the bottom of the list with 51.
- Pakistan ranked 48th in the list, recording a score of 82, on par with Laos, Serbia, Iran and New Zealand.
- The United States, Italy, and Germany all scored 83, while Australia scored 84, and Canada 87.

Union Cabinet Approves Development of Container Terminal at Tuna Tekra, Gujarat

The Union Cabinet on October 12, 2022 approved a proposal to develop a container terminal at Tuna-Tekra, Deendayal Port, in Gujarat, at an estimated cost of ₹ 4,500 crore (apprx). The development will be under the public-private partnership mode. Deendayal Port is one of the 12 major ports in India and located on the west coast in the Gulf of Kutch in Gujarat.

- The estimated cost of ₹ 4,243-64 crore will be on the part of the concessionaire while common user facilities of ₹ 296-20 crore will be on the part of the concessioning authority.
- The project consists of construction of an offshore berthing structure for handling three vessels at a time with allied facilities and handling capacity of 2.19 million TEUs per annum.
- Initially, it will cater 14-metre draught vessels of 6000 TEUs and the common access channel will be dredged & maintained at 15-50 m to navigate container vessels (of 14 m draught) all round the clock.
- During the concession period, the concessionaire can handle vessels up to 18 metre-draught by deepening or widening its approach channel, berth pocket and turning circle.

Multi-purpose Cargo Berth

The Cabinet on October 12, 2022 has also approved development of a multi-purpose cargo berth (other than Container/Liquid) off Tuna Tekra at Gulf of Kutch at Kandla on BOT basis under PPP mode.

The total estimated cost of ₹ 2,250-64 crore of which ₹ 1,719-22 crore will be borne by concessionaire for development of the berth (including dredging work) and ₹ 531-42 crore that will be borne by the Deendayal Port Authority towards capital dredging of common user-access channel and construction of common-user road.

The project involves construction of offshore berthing structure for handling four vessels and handling capacity of 18-33 million tonnes per annum. Initially, the project will cater 15-m draught vessels of 1,00,000 Deadweight Tonnage (DWT) and accordingly, the channel will be dredged and maintained with 15m draught.

The projected traffic gap by 2026 would be 2-85 mtpa and by 2030 it would be 27-49 mtpa, a statement by the Ministry said adding that the development of multipurpose cargo berth "will give strategic advantage" as it will be the closest container terminal serving the vast hinterland of northern India.

Pradhan Mantri Bharatiya Jan Urvarak Pariyojana (One Nation One Fertiliser) : PM Modi Launches Single Brand 'Bharat for Subsidised Fertilisers

The Central government has started a new scheme—Pradhan Mantri Bharatiya Jan Urvarak Pariyojana (One Nation One Fertiliser)—under which it is mandatory for companies to market all subsidised fertilisers under single brand 'Bharat' (i.e., Bharat Urea, Bharat DAP, Bharat MoP, Bharat NPK

The Prime Minister launched the single brand Bharat under the scheme

Mission DefSpace

With an aim to harness India's power in space to not just benefit the people of the country, but to the entire globe, Prime Minister Narendra Modi on October 19, 2022 launched 'DefSpace Mission' with 75 Challenges at DefExpo 2022 in Gandhinagar, Gujarat. The Mission DefSpace is an initiative of the government to enable the development of innovative solutions for the defence forces in the space domain through industry and startups.

The space programme aims to develop innovative solutions for the Defence Forces through industry & startups. Importantly, the initiative will prepare India for future possibilities in space domain and will also increase the country's preparation further.

The initiative to capitalise on space technology is an example of what security will mean for any strong nation in the future. The programme will focus on various challenges in this area that have been reviewed and identified by the three defence services.

Putting the global space economy in picture, which currently stands at \$ 447 billion, and in comparison to this, India's space economy is valued at ₹ 36,794 crore (approx. USD 5 billion only), which shows that India still needs to cover a big gap.

At present India accounts for only about 2% of the space economy, which puts the nation behind significant economies such as the US and China. To bridge the gap, India has been making giant strides in fulfilling its space ambitions by unlocking the Space Sector for domestic private firms, innovative Start-Ups to give them the chance to explore their untapped potential.

during the two-day event PM Kisan Samman Sammelan 2022 held on October 17, 2022. This is being done to prevent criss-cross movement of fertilisers and reduce high freight subsidy. All subsidised soil nutrients—urea, di-ammonium phosphate (DAP), Muriate of Potash (MoP) and NPK—will be marketed under the single brand Bharat across the nation.

Modi also inaugurated 600 PM Kisan Samraddhi Kendras (PM-KSK) that will act as a one-stop-shop for farmers who can buy products and avail multiple services related to

the agriculture sector. The Centre intends to convert more than 3.3 lakh fertiliser retail shops in the country into PM-KSK in a phased manner. The PM-KSK will supply agri-inputs like seeds, fertilisers and farm implements. It will also provide testing facilities for soil, seeds and fertilisers. Information about government schemes will also be provided.

Cabinet Approves Minimum Support Prices for All Rabi Crops for Marketing Season 2023-24

The Cabinet Committee on Economic Affairs on October 18, 2022, has approved the increase in the Minimum Support Prices (MSP) for all mandated Rabi Crops for Marketing Season 2023-24.

Government has increased the MSP of Rabi Crops for Marketing Season 2023-24, to ensure remunerative prices to the growers for their produce. The absolute highest increase in MSP has been approved for lentil (Masur) at ₹ 500 per quintal followed by rapeseed and mustard at ₹ 400 per quintal. For safflower, an increase of ₹ 209 per quintal has been approved. For wheat, gram and barley an increase of ₹ 110 per quintal, ₹ 100 per quintal respectively has been approved.

MSP for All Rabi Crops for Marketing Season 2023-24

(₹ Per quintal)

Crops	MSP		Cost* of Production Rabi Marketing Season 2023-24	Increase in MSP (Absolute)	Return over cost (in per cent)
	Rabi Marketing Season	Rabi Marketing Season			
	2022-23	2023-24			
Wheat	2015	2125	1065	110	100
Barley	1635	1735	1082	100	60
Gram	5230	5335	3206	105	66
Lentil (Masur)	5500	6000	3239	500	85
Rapeseed & Mustard	5050	5450	2670	400	104
Safflower	5441	5650	3765	209	50

*Refers to cost which includes all paid out costs such as those incurred on account of hired human labour, bullock labour/machine labour, rent paid for leased in land, expenses incurred on use of material inputs like seeds, fertilizers, manures, irrigations charges, depreciation on implements and farm buildings, interest on working capital, diesel/electricity for operation of pump sets etc., misc. expenses and imputed value of family labour.

3rd Advance Estimates of Area and Production of Horticultural Crops for the Year 2021-22

Ministry of Agriculture and Farmers Welfare, Government of India has released the 3rd Advance Estimates of the area and production of various horticultural crops for the year 2021-22 on October 27, 2022. According to this estimate, a record 342.33 million tonnes are estimated to be produced in an area of 28.08 million hectares.

The third advance estimates of the area and production of various horticultural crops for the year 2021-22 are as follows :

Year 2021-22 (3rd Advance Estimate)

- The total horticulture production is estimated to be 342.33 million tonnes in the year 2021-22, showing an increase of about 7.73 million tonnes (an increase of 2.3%) over the year 2020-21 (final).
- Production of fruits in 2020-21 is estimated to be 107.24 million tonnes as against 102.48 million tonnes.
- Production of vegetables in 2020-21 is estimated to be 204.84 million tonnes as against 200.45 million tonnes.
- Production of Onion in the year 2020-21 is estimated to be 31.27 Million Tonnes as against 26.64 Million Tonnes.
- Production of Potatoes in 2020-21 is estimated to be 53.39 million tonnes as against 56.17 million tonnes.
- Tomato production in 2020-21 is estimated to be 20.33 million tonnes as against 21.18 million tonnes.

Total Horticulture	2020-21 (Final)	2021-22	2021-22
		(Second Advance Estimate)	(3rd Advance Estimate)
Area (in million hectares)	27.48	27.74	28.08
Production (in million tonnes)	334.60	341.63	342.33

Competition Commission of India Imposed Penalty of ₹ 2,273 Crore on Google

The Competition Commission of India (CCI) on October 25, 2022 slapped a penalty of ₹ 936.44 crore—the second in a span of seven days on search engine giant Google for “abusing its dominant position with respect to its Play Store policies”. The regulator has issued a cease-and-desist order, suggesting eight corrective measures including providing access to third-party billing payment processing systems on its Play Store. This comes after the CCI imposed a ₹ 1,337-crore penalty on Google on October 20, 2022, citing a similar abuse of its dominant position “in multiple markets of the Android ecosystem”.

Accordingly, in terms of the provisions of Section 27 of the Act, the CCI hereby directs Google to cease and desist from indulging in anti-competitive practices that have been found to be in contravention of the provisions of Section 4 of the Act, as detailed in this order. Some of the measures, in this regard, are indicated below :

- Google shall allow, and not restrict app developers from using any third-party billing / payment processing services, either for in-app purchases or for purchasing apps. Google shall also not discriminate or otherwise take any adverse measures against such apps using third party billing/payment processing services, in any manner.
- Google shall not impose any Anti-steering Provisions on app developers and shall not restrict them from communicating with their users to promote their apps and offerings, in any manner.
- Google shall not restrict end users, in any manner, to access and use within apps, the features and services offered by app developers.

- Google shall set out a clear and transparent policy on data that is collected on its platform, use of such data by the platform and also the potential and actual sharing of such data with app developers or other entities, including related entities.
- The competitively relevant transaction/ consumer data of apps generated and acquired through GPBS, shall not be leveraged by Google to further its competitive advantage. Google shall also provide access to the app developer of the data that has been generated through the concerned app, subject to adequate safeguards, as highlighted in this order.
- Google shall not impose any condition (including price related condition) on app developers, which is unfair, unreasonable, discriminatory or disproportionate to the services provided to the app developers.
- Google shall ensure complete transparency in communicating to app developers, services provided, and corresponding fee charged. Google shall also publish in an unambiguous manner the payment policy and criteria for applicability of the fee(s).
- Google shall not discriminate against other apps facilitating payment through UPI in India *vis-à-vis* its own UPI app, in any manner.

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Environment, Ecology, Biodiversity and Climate Change Round-up

PM and UNSG Launch Mission LiFE at Gujarat

On 20 October, 2022, Prime Minister Narendra Modi launched Mission LiFE (Lifestyle for Environment), in the presence of the UN Secretary General António Guterres, at the Statue of Unity, Ekta Nagar, Gujarat. First proposed by the Prime Minister at COP 26, Mission LiFE is envisioned as an India-led global mass movement that will nudge individual and collective action to protect and preserve the environment. The Prime Minister and UNSG unveiled the LiFE logo and tagline, and released the Mission Document at the event.



Key Facts :

- The Mission LiFE emboldens the spirit of the P3 model, i.e., Pro Planet People. It functions on the basic principles of 'Lifestyle of the planet, for the planet and by the planet'.
- India had proposed the International Day of Yoga, which was supported by the UN. It is inspiring millions of people around the world to lead a healthy life.
- The International Year of Millets will be observed in 2023 and will become a global conversation.
- Mission LiFE aims at following a three-pronged strategy for changing our collective approach towards sustainability. First is by

nudging individuals to practise simple yet effective environment-friendly actions in their daily lives (demand); second is by enabling industries and markets to respond swiftly to the changing demand (supply) and; third is to influence government and industrial policy to support both sustainable consumption and production (policy).

Living Planet Report 2022

There has been a 69% decline in the wildlife populations of mammals, birds, amphibians, reptiles and fish, across the globe in the last 50 years, according to the Living Planet Report 2022 by World Wide Fund for Nature (WWF). The Living Planet Report 2022 is a comprehensive study of trends in global biodiversity and the health of the planet. This flagship WWF publication reveals an average decline of 69% in species populations since 1970. While conservation efforts are helping, urgent action is required if we are to reverse nature loss. The Living Planet Index (LPI) which tracks populations of mammals, birds, fish, reptiles and amphibians reveals an average 69% decrease in monitored wildlife populations since 1970. The 2022 LPI analysed almost 32,000 species populations. It provides the most comprehensive measure of how they are responding to pressures in their environment. Monitored freshwater populations have declined by an average of 83% since 1970, more than any other species groups. Habitat loss and barriers to migration routes account for around half the threats to these populations. Region-wise

Decline in Wildlife Populations: Freshwater Species populations globally reduced by 83%. Habitat loss and barriers to migration routes were responsible for about half of the threats to monitored migratory fish species. WWF identified six key threats to biodiversity to highlight 'threat hotspots' for terrestrial vertebrates :

- Agriculture
- Hunting
- Logging
- Pollution
- Invasive Species
- Climate Change



Biodiversity Loss by Different Geographical Region

North America

North America saw a downward trend from 1970 to 2000. After this time, the trend stabilized before increasing from 2014 to 2018. It is important to note that prior to the data being compiled, wildlife populations had already been affected by

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human activity for many decades. While it is too early to say that species numbers are significantly increasing there have been some recent positive signs among amphibian and reptile populations.

Latin America and the Caribbean

The decline across Latin America and the Caribbean is far greater than any other region, with a 94% decrease between 1970 and 2018. Declines are seen across all the species groups studied but are most profound in freshwater fish, reptiles and amphibians.

Africa

Africa shows a consistent decreasing population (a 66% fall in its wildlife populations) from 1970 to 2018, with mammals and freshwater fish seeing stronger declines on average than other animal groups. Some populations, however, are defying the global trend. For example, populations of mountain gorillas in Virunga Mountains have grown to 604 individuals—up from 480 in 2010.

Europe and Central Asia

Although Europe and Central Asia saw the smallest recorded regional decline, it should be recognized that many species were already in a depleted state when data started being compiled. While this year's Living Planet Index shows more positive trends among bird and mammal populations, amphibian, reptile, and freshwater fish populations are, on average, declining.

Asia-Pacific

The Asia Pacific region shows a near continuous decline between 1970 and 2018, with an average decline in monitored populations of 55%. Declines across all species groups in this region were observed. In South and West Australia for example, there was a 64% reduction in Australian sea lion pup numbers between 1977 and 2019, due to hunting, capture in fishing gear or other marine debris, and disease.

India's First Slender Loris (*Loris tardigradus*) Sanctuary in Tamil Nadu

The Tamil Nadu Government has notified India's first sanctuary for

the endangered Slender Loris. Slender Loris is a small, nocturnal primate, commonly found in the tropical scrub and deciduous forests of Southern India and Sri Lanka. The sanctuary, 'Kadavur Slender Loris Sanctuary' will come up in Karur and Dindigul districts under the Wild Life (Protection) Act, 1972. The sanctuary will cover Vedesandur, Dindigul East and Natham taluks in these districts. The sanctuary will cover an area of 11,806 hectares.



Slender Loris (*Loris tardigradus*)

These animals face a threat from poachers due to the misplaced belief that these animals have magical and medicinal powers. This hunting, along with destruction of their habitat, is their major threat.

About Slender Loris (*Loris tardigradus*)

Loris tardigradus is commonly found in the tropical scrub and deciduous forests of Southern India and Sri Lanka. It is nocturnal and belongs to the group of primate (including human beings). It is about 25 cm long and weighs around 275 grams. They have long, thin arms and a small vestigial tail. The most characteristic feature is the pair of two large, closely set, brown eyes which helps in the identification. They are arboreal (which mean they spend most of their life on the trees). They prefer to inhabit thick, thorny bushes and bamboo clumps where it can evade predators and also find insects, which is the main diet.

Their mating season is twice a year (from April to May and October to November). Gestation is 166-169 days. The females give birth to normally one and rarely two infants at one time. The mother carries the infants constantly during the first few weeks after birth. Their life span is about 12-15 years.

Key Facts :

- IUCN has listed them as 'Endangered'. Meanwhile, Schedule I of

the Wildlife (Protection) Act of India, 1972, accords them the highest level of legal protection. Further, the WWF-India is working to protect the habitats of the Slender Loris through its wider conservation work in the Western Ghats-Nilgiris Landscape.

- There are no confirmed numbers on how many Slender Lorises survive in the wild. They are one of the least studied of all primates in India.
- In April 2022, an announcement on the establishment of India's first wildlife sanctuary for Slender Loris in the State was made in the Legislative Assembly. Subsequently, the government notified 'Kadavur Slender Loris sanctuary' under Section 26 (A)(1)(b) of Wildlife (Protection) Act, 1972.
- In the year of 2022, the Tamil Nadu government had notified India's first Dugong Conservation Reserve in Palk Bay, Kazhuveli bird sanctuary in Villupuram and Nanjarayan Tank birds' sanctuary in Tiruppur and the State's fifth elephant reserve at Agasthyamalai in Tirunelveli.

Uttar Pradesh Cabinet Approves Fourth Tiger Reserve

On 27 September, 2022, the Uttar Pradesh (UP) Cabinet approved the notification of the state's fourth tiger reserve in the Ranipur Wildlife Sanctuary (RWS) in Chitrakoot district under Section 38(v) of the Wild life (Protection) Act of 1972. RWS has no tigers of its own but pugmarks of the animals are frequently seen there as tigers from nearby Panna. The two protected areas are just 150 km from each other. RWS is an important corridor for the movement of tigers, according to the Status of tigers, co-predators and prey in India report by the National Tiger Conservation Authority (NTCA). Camera trapping had been conducted by the forest department in RWS during the last estimation of tigers by the NTCA in 2018. The 12 tiger photo-captures showed that there were three tigers (one male and

two females) in Ranipur. The Ranipur Tiger Reserve will be the fourth in UP, after Dudhwa, Pilibhit and Amargarh (buffer of Corbett Tiger Reserve). It will also be the first in the state's portion of the Bundelkhand region, which it shares with neighbouring Madhya Pradesh.



Key Facts :

- The tiger reserve will span across 529.89 square kilometres (sq km), with a 299.58 sq. km buffer zone and 230 sq. km core area, which was already notified as the RWS in 1977.
- The Ranipur Tiger Reserve has tropical dry deciduous forests and is home to fauna such as tigers, leopards, sloth bears, spotted deer, sambhar, chinkara and a number of birds and reptiles.
- There are 50 Tiger Reserves in India spread across an area of 72,749 sq. km, which is 2.21 per cent of India's geographical area. There were 2,967 tigers in India according to the NTCA's estimation in 2018. Uttar Pradesh had 173 tigers, with 107 in Dudhwa National Park and 65 in Pilibhit.
- The Cabinet also approved the Uttar Pradesh State Bio-Energy Policy-2022 as per the directives of the National Green Tribunal. An investment of ₹ 5,500 crore will be made in the state.

Six New Spider Species Discovered from Across the Country

Arachnologists from the Centre for Animal Taxonomy and Ecology (CATE) have discovered six new species of spiders from across the country. The new species of spiders were found from the Garo hills in Meghalaya, the Thar Desert of Rajasthan, Wayanad Wildlife Sanctuary, Kottappara hills near Kothamangalam, Thumboormuzhi

butterfly garden near Athirappilly, and the University of Calicut campus.

Key Facts :

- Studies conducted on the Garo hills of Meghalaya resulted in the first spotting of the genus Siamspinops from India with a new species Siamspinops garoensis. This belongs to the family of flat spiders, Selenopidae. This spider lives in the crevices of rocks on hills and its flat body is suitable for this mode of life. The yellowish brown spider measures about 10 mm in length. There is a black circle around its eyes and black patches on the abdomen. After mating, females lay eggs and incubate them in an egg sac.
- Two new species of spiders coming under the family of jumping spiders (Salticidae) were discovered from the Thar desert of Rajasthan and the Kurichiyad forest ranges of the Wayanad Wildlife Sanctuary. *Afraflacilla miajlaensis*, the Thar species, is characterised by white fine hairs on a black head and black horizontal lines on the abdomen. This spider stays among dry leaf blades. *Afraflacilla kurichiadensis*, the Wayanad species, is characterised by red patches around the eyes and white hairs on the abdomen. The bulged first pair of legs are also a special feature of this species. This spider lives in the moist deciduous forest of Kurichiyad.
- Two new species of spiders belonging to the family of spiny-legged spiders (Oxyopidae) have been discovered from the Thumboormuzhi butterfly garden, near the Athirappilly waterfalls, and on the Calicut University campus. The former one is characterised by a yellowish body and is named as *Oxyopes peetham*. The latter one has been named as *Oxyopes thumboormuzhiensis*, to signify the locality where the spiders were spotted. The members of this family are commonly known as lynx spiders because of their lynx-like feeding behaviour.

Chandrayaan-2 Spectrometer Maps Sodium on Moon for First Time

The X-ray spectrometer CLASS' on the Chandrayaan-2 Orbiter has mapped an abundance of sodium on the moon for the first time, according to the Indian Space Research Organisation (ISRO). Chandrayaan-1 X-ray Fluorescence Spectrometer (CIXS) detected sodium from its characteristic line in X-rays which opened up the possibility of mapping the amount of sodium on the Moon. CLASS provides clean signatures of the sodium line thanks to its high sensitivity and performance.

This region, termed an 'exosphere', begins at the surface of the moon and extends several thousand kilometres merging into the interplanetary space.

Key Facts :

- In a recent work published in 'The Astrophysical Journal Letters', Chandrayaan-2 mapped the abundance of sodium on the Moon for the very first time using CLASS (Chandrayaan-2 Large Area Soft X-ray Spectrometer).
- The study finds that a part of the signal could be arising from a thin veneer of sodium atoms weakly bound to the lunar grains.
- These sodium atoms can be nudged out of the surface by solar wind or ultraviolet radiation more easily than if they were part of the lunar minerals. Also shown is a diurnal variation of the surface sodium that would explain the continuous supply of atoms to the exosphere, sustaining it.
- An interesting aspect that widens the interest in this alkali element is its presence in the wispy atmosphere of the moon, a region so thin that the atoms there rarely meet.
- The new findings from Chandrayaan-2, provide an avenue to study surface-exosphere interaction on the moon, which would aid development of similar models for mercury and other airless bodies in our solar system and beyond.

International Snow Leopard Day

Every year 23rd October is celebrated as International Snow Leopard Day. The day raises awareness about the snow leopards in our wildlife and the need to conserve them. The first International Snow Leopard Day was celebrated on the 23rd October in 2014. The day also emphasizes the importance of taking measures to stop poaching, as well as consolidating efforts in terms of an environmental organization in the countries of the snow leopard range. The day was initiated by the countries that encompass the snow leopard's range. They include Uzbekistan, Tajikistan, Russia, Pakistan, Mongolia, Kyrgyzstan, Kazakhstan, India, China, Bhutan, and Afghanistan. On the 23rd of October in 2013, these countries signed the Bishkek Declaration regarding the conservation of the snow leopard. This happened in the capital of Kyrgyzstan, Bishkek, at the very first Global Snow Leopard Forum.



India is a unique country to have 3 categories of leopard, including Snow Leopard. The other 2 are Common Leopard and Clouded Leopard. Hemis National Park (Ladakh) is the biggest national park of India and also has a good presence of Snow Leopard. HimalSanrakshak program was launched by Indian government which is a community volunteer programme, to protect snow leopards, launched on 23rd October, 2020. In 2019, First National Protocol was also launched on Snow Leopard Population Assessment which has been very useful for monitoring populations.

Key Facts :

- A study from the WWF has recorded snow leopards living at

5,859 m above sea level. This is the highest altitude that has ever been documented for big cats. This is about the same height as the highest mountain in Canada.

- Snow leopards are not able to roar. Instead, they mew, yowl, and growl. They also prusten, which is also known as chuffing. This is a non-threatening vocalization, which is made when they blow air through their nose.
- The fur on the stomach of a snow leopard is almost five inches thick. This is so that they can survive in the harsh and cold mountain climates.
- These animals are often referred to as 'ghosts of the mountain' because they spend most of their lives in solitude and they are rarely seen.
- Snow leopards are the only big cats that call Asia's cold deserts their home. These deserts are sometimes referred to as the third pole because they feature ice fields with the biggest reserves of freshwater outside of the southern and northern polar regions.
- These animals are distributed sparsely across 12 different countries in Central Asia. They tend to be found in rugged, high mountain landscapes, at elevations between 3,000 m and 4,500 m.

Wildlife Board of Madhya Pradesh Approves Durgavati Tiger Reserve

The Durgavati Tiger Reserve is a 2,339 sq km new tiger reserve that will spread across Narsinghpur, Damoh, and Sagar districts approved by Madhya Pradesh Wildlife Board. The Durgavati Tiger Reserve is a 2,339 sq km new tiger reserve that will spread across Narsinghpur, Damoh, and Sagar districts. Madhya Pradesh Wildlife Board has approved the making of a new tiger reserve of Panna Tiger Reserve (PTP), one-fourth of which will get submerged due to the Linkin of the Ken-Betwa Rivers. The Madhya Pradesh Wildlife

Board was chaired by Madhya Pradesh Chief Minister Shivraj Singh Chouhan. He approved a notified 1,414 sq km area as the core area and 925 sq km as a buffer in the new tiger reserve.



Key Facts :

- The new tiger reserve will be known as Durgavati Tiger Reserve and it will spread across Narsinghpur, Damoh, and Sagar districts.
- A green corridor linking PTR with Durgavati will be developed for the natural movement of the tiger to the new reserve.
- The new tiger reserves are a part of a wildlife management plan for Panna for the Ken-Betwa Rivers linking project.
- The two state governments with the center are implementing a 44,605 crore river-linking project to end the water crisis in the Bundelkhand region.
- In 2020, UNESCO included PTR in a global network of biospheres because of its unique landscape and management.

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NEWS

World's 1st space tourist signs up for moon.

Why this News is Important ?

The world's first space tourist has signed up to spin around the moon aboard Elon Musk's Starship. The world's first space tourist (Dennis Tito 82) wants to go back and he signed up for a spin around the moon aboard Elon Musk's Starship. Its date to be determined and years in the future will bring him within 125 miles (200 kilometers) of the lunar far side with also his wife, Akiko, and 10 others willing to shell out big bucks for the ride. His Russian station flight cost \$ 20 million.

Dennis Tito kicked off space tourism in 2001, becoming the first person to pay his own way to space and antagonizing NASA in the process. The US space agency didn't want a sightseer hanging around while the station was being built. But the Russian Space Agency needed the cash and, with the help of US-based Space Adventures, launched a string of wealthy clients to the station through the 2000s.

Starship has yet to launch atop a Super Heavy booster from the southern tip of Texas, near the Mexican border. At 394 feet (120 meters) and 17 million pounds (7.7 million kilograms) of lift-off thrust, it's the biggest and most powerful rocket ever built. NASA already has contracted for a Starship to land its astronauts on the moon in 2025 or so, in the first lunar touchdown since Apollo.

How is it Important for the Civil Service Examination Prelims as well as Mains ?

Headlines of Leading Newspaper :

- World's 1st space tourist signs up for flight around moon.
- World's 1st space tourist signs up for trip to moon.
Relevance with syllabus of civil service examination.

● **Prelims** : Science & Technology also called General Science by the UPSC is an important part of the syllabus for Prelims. Questions from Science and Technology in Civil Services Preliminary exam are either current affairs-driven or are basic in nature. Candidates should keep themselves updated on the latest developments in Science & Technology by reading the relevant sections of the "Pratiyogita Darpan Series".

● **Mains** : In the Mains exam, General Studies Paper III has Technology, Environment and Biodiversity as important parts of the CSE Syllabus. As it has consistently been an important area of focus for the UPSC Syllabus, candidates must study Science & Technology with interest.

NEWS

Russian launches rocket from US after 20 years.

Why this News is Important ?

On October 5, 2022, a Russian cosmonaut rocketed from the US, launching to the International Space Station alongside NASA and Japanese astronauts for the first time in 20 years. A SpaceX Falcon 9 rocket and the Dragon capsule, with a multinational crew of four astronauts, lifted off from Launch Complex 39-A, beginning a five-month mission to the International Space Station. She was among the three newcomers on the flight, alongside Marine Col. Nicole Mann, the first Native American woman to orbit the world, and Navy Capt. Josh Cassada. They were joined by Japan Space Agency's Koichi Wakata, who is making his fifth spaceflight.

The space agencies agreed over the summer to swap seats on their flights in order to ensure a continuous U.S. and Russian presence aboard the 260-mile-high (420-kilometer-high) outpost. The barter was authorized even as global hostilities mounted over Russia's invasion of Ukraine in late February 2022.

How is it Important for the Civil Service Examination Prelims as well as Mains ?

Headlines of Leading Newspaper :

- Russian launches to space from US, 1st time in 20 years.

Relevance with syllabus of civil service examination.

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NEWS

Rishi Sunak—The first British Asian PM.

Why this News is Important ?

- On 25 October, 2022, Rishi Sunak formally became Prime Minister of UK after Liz Truss resigned. He became the third Conser-

vative prime minister in less than two months in six years. He has also made history as the first practising Hindu to lead the country and, at the age of 42, the youngest prime minister in more than 200 years.

- Sunak takes on the role at a time of deep economic crisis, and is expected to make tough decisions on taxation and public spending that may prove unpopular. He emphasised a commitment to levelling up, to a net zero policy on the climate crisis and continued support for Ukraine.
- Rishi Sunak's first cabinet are as follows :
 1. Rishi Sunak Prime Minister
 2. Dominic Raab deputy Prime Minister.
 3. Jeremy Hunt as Chancellor of the Exchequer.
 4. James Cleverly as Foreign Secretary.
 5. Suella Braverman as Home Secretary.
 6. Ben Wallace as Defence Secretary.

How is it Important for the Civil Service Examination Prelims as well as Mains ?

Headlines of Leading News Paper :

- Rishi Sunak to become first British PM of colour and also first Hindu at No 10.
- Rishi Sunak becomes third British Prime Minister of the year.
- New PM Rishi Sunak pledges to lead Britain out of economic crisis.

Relevance with syllabus of civil service examination.

- **Prelims** : International relations is a very dynamic part of the UPSC syllabus which is crucial for multiple papers in Prelims and Mains. The IAS exam focuses on International Relations in multiple papers and the syllabus for this subject is vast.
- **Mains** : International Relations is an important topic in UPSC Mains GS 2 paper of the Civil Services Examination. The following subjects are covered in the Mains General Studies Paper-II :

1. Governance
2. Constitution
3. Polity
4. Social Justice
5. International relations

NEWS

Justice DY Chandrachud appointed as 50th CJI.

Why this News is Important ?

- On 17 October, 2022, in exercise of the power conferred by clause (2) of Article 124 of the Constitution of India, the President is pleased to appoint Dr. Justice Dhananjaya Yashwanth Chandrachud, Judge of the Supreme Court, as the Chief Justice of India, with effect from 9th November, 2022. Justice D.Y. Chandrachud will take oath as the 50th Chief Justice of India on November 9, 2022 a day after incumbent CJI Justice Uday Umesh Lalit demits office on attaining the age of 65.
- Justice Chandrachud served as the Chief Justice of Allahabad High Court from October 31, 2013. Justice Chandrachud, presently the seniormost Supreme Court judge after Justice Lalit, was elevated to the Supreme Court on May 13, 2016. Justice Chandrachud will serve as the CJI for two years. He will demit office on November 10, 2024.
- Justice Chandrachud has been part of a number of landmark judgments, including those on Ayodhya title dispute, decriminalisation of homosexuality, adultery, privacy, entry of women into Sabarimala etc. DY Chandrachud, a Ph.D. from Harvard Law School, did his BA (Honours) in economics from St. Stephen's College, New Delhi. Thereafter he went on to complete L.L.-B. from Delhi University's Campus Law Centre.

How is it Important for the Civil Service Examination Prelims as well as Mains ?

Headlines of Leading News Paper.

- Justice Chandrachud appointed next CJI, to take oath on November 9.

- Justice D.Y. Chandrachud appointed the 50th Chief Justice of India.

- President Appoints Justice DY Chandrachud As Next Chief Justice Of India.

Relevance with syllabus of civil service examination.

- **Prelims** : Questions in Polity try to check the in-depth understanding of a candidate when it comes to certain basic topics like the DPSP, Fundamental Rights, Fundamental Duties, Preamble etc.
- **Mains** : The constitution is an important topic in UPSC Mains GS 2 paper of the Civil Services Examination. Constitution of India, the Preamble and related topics are extremely important for the UPSC exam. This is an essential portion of polity. As IAS aspirants, you should be thorough with the constitution of India.

Previous Year's Questions

1. CSE 2014 (Pre.) : Starting from inventing the 'basic structure' doctrine, the judiciary has played a highly proactive role in ensuring that India develops into a thriving democracy. In light of the statement, evaluate the role played by judicial activism in achieving the ideals of democracy.

2. CSE 2013 (Mains) : Constitutional mechanisms to resolve the inter-state water disputes have failed to address and solve the problems. Is the failure due to structural or process inadequacy or both ? Discuss.

NEWS

IAF gets 1st home made LCH 'Prachanda'.

Why this News is Important ?

- On 3 October, 2022, Raksha Mantri Shri Rajnath Singh inducted Indigenously Designed and Developed Light Combat Helicopter (LCH - 5.5 tonne class)-'Prachanda' into Indian Air Force. LCH designed and developed by Hindustan Aeronautics Limited (HAL) in Jodhpur. The trust reposed and support extended by the IAF towards indigenous design & development is evident through

the examples such as Marut, Light Combat Aircraft, Akash missile system, Advanced Light Helicopter and the Light Combat Helicopter.

- The formal induction of the LCH comes after the Cabinet Committee on Security, chaired by the Prime Minister, approved in March 2022 the procurement of 15 LCH Limited Series Production (LSP) for ₹ 3,887 crore along with allied infrastructure sanctions worth ₹ 377 crore. Of the 15 helicopters being procured from the LSP, 10 are for the IAF and five for the Indian Army.
- The LCH is the first indigenous Multi-Role Combat Helicopter designed and manufactured by HAL. It has potent ground attack and aerial combat capability. Inducted in IAF's newly raised No. 143 Helicopter Unit. It is a testimony to India's growing prowess in indigenous design, development & manufacturing and a significant milestone in the path towards 'Atmanirbharta' in Defence.

How is it Important for the Civil Service Examination Prelims as well as Mains ?

Headlines of Leading Newspaper.

- Indian Air Force gets its first home-made light combat helicopter.
- Home-grown 'Prachanda' light combat helicopter joins Indian Air Force fleet.
- Prachanda, 1st indigenous light combat helicopter, inducted into Air Force.

Relevance with syllabus of civil service examination.

- **Prelims** : Science & Technology also called General Science by the UPSC is an important part of the syllabus for Prelims. Questions from Science and Technology in Civil Services Preliminary exam are either current affairs-driven or are basic in nature. Candidates should keep themselves updated on the latest developments in Science & Technology by reading the relevant sections of the "Pratiyogita Darpan Series".

- **Mains** : In the Mains exam, General Studies Paper III has Technology, Environment and Biodiversity as important parts of the CSE Syllabus. As it has consistently been an important area of focus for the UPSC Syllabus, candidates must study Science & Technology with interest.

Previous Year's Questions

1. CSE 2017 (Pre.) : What is the purpose of the 'evolved Laser Interferometer Space Antenna (eLISA)' project ?

- (A) To detect neutrinos
- (B) To detect gravitational waves
- (C) To detect the effectiveness of missile defence system
- (D) To study the effect of solar flares on our communication systems

2. CSE 2017 (Pre.) : Organic Light Emitting Diodes (OLEDs) are used to create digital displays in many devices. What are the advantages of OLED displays over Liquid Crystal displays ?

- (1) OLED displays can be fabricated on flexible plastic substrates.
- (2) Roll-up displays embedded in clothing can be made using OLEDs.
- (3) Transparent displays are possible using OLEDs.

Select the correct answer using the code given below—

- (A) Only 1 and 3
- (B) Only 2
- (C) All 1, 2 and 3
- (D) Only 2 and 3

NEWS

Adani Green Energy Ltd. launches world's largest wind-solar power plant.

Why this News is Important ?

- Adani Green Energy Ltd. has commissioned the world's largest wind-solar power plant of 600 MW capacities in Jaisalmer, Rajasthan. The project consists of 600 MW solar and 150 MW wind plants. Adani Green Energy Ltd. (AGEL) has commissioned the world's largest wind-solar power plant of 600 MW capacities in Jaisalmer, Rajasthan. The plant has a power purchase agreement with Solar Energy Corporation

of India (SECI) at ₹ 2.69/kWh for 25 years.

- Adani Green Energy Limited (AGEL) is an Indian renewable energy company headquartered in Ahmedabad, Gujarat. It is owned by Indian conglomerate Adani Group. The company operates the Kamuthi Solar Power Project which is one of the largest solar photovoltaic plants in the world.
- The project consists of 600 MW solar-wind plants. In May 2022, AGEL operationalized India's first hybrid power plant with a capacity of 390 MW in Jaisalmer.

How is it Important for the Civil Service Examination Prelims as well as Mains ?

Headlines of Leading Newspaper :

- Adani Green commissioned world's largest wind-solar power plant.
- Adani Green commissions largest 600 MW wind-solar plant in Rajasthan.

Relevance with syllabus of civil service examination.

- **Prelims** : Science and Technology also called General Science by the UPSC is an important part of the syllabus for Prelims. Questions from Science and Technology in Civil Services Preliminary exam are either current affairs-driven or are basic in nature. Candidates should keep themselves updated on the latest developments in Science and Technology by reading the relevant sections of the "Pratiyogita Darpan Series".

- **Mains** : In the Mains exam, General Studies Paper III has Environment and Biodiversity as important parts of the CSE Syllabus. As it has consistently been an important area of focus for the UPSC Syllabus, candidates must study Environment and Biodiversity with interest.

NEWS

PM Modi inaugurates 4th Vande Bharat Express.

Why this News is Important ?

- On 13 October, 2022, Prime Minister Shri Narendra Modi

flagged off the inaugural run of the new Vande Bharat Express from Amb Andaura, Una (Himachal Pradesh) to New Delhi. Train No. 22447/22448 New Delhi- Amb Andaura- New Delhi Vande Bharat Express shall commence its regular service from 19th October, 2022. This train will run six days a week (except Friday). Vande Bharat Express is a train set rake of 16 Coaches comprising of Executive Class and Chair Car coaches. The travelling time reduced by two hours from Una (Himachal Pradesh) to New Delhi.

- Vande Bharat Express will also be environmentally friendly as the ACs will be 15 per cent more energy efficient. With dust-free clean air cooling of the traction motor. A side recliner seat facility provided only to Executive Class passengers earlier will now be made available for all classes. Executive Coaches have the added feature of 180-degree rotating seats.
- In the new design of Vande Bharat Express, a photo-catalytic ultraviolet air purification system is installed in the Roof-Mounted Package Unit (RMPU) for air purification. As recommended by Central Scientific Instruments Organisation (CSIO), Chandigarh, this system is designed and installed on both ends of RMPU to filter and clean the air free from germs, bacteria, viruses etc. coming through fresh air and return air.

How is it Important for the Civil Service Examination Prelims as well as Mains ?

Headlines of Leading Newspaper :

- PM Modi to flag off fourth Vande Bharat train, inaugurate development projects in Himachal.
- PM Modi inaugurated 4th Vande Bharat Express in Himachal Pradesh.
- PM Narendra Modi flags off fourth Vande Bharat Express train, to run between Una-Delhi.

The following subjects are covered in the Mains General Studies Paper-II :

1. Governance
2. Constitution
3. Polity
4. Social Justice
5. International relations.

NEWS

Central government approves 1st suspension bridge in India.

Why this News is Important ?

- The central government has approved the construction of an iconic cable stayed-cum-suspension bridge across the Krishna River connecting Telangana and Andhra Pradesh and passing through the Nallamala forest range. The iconic bridge will have several unique features like the longest glass pedestrian walkway across a river, gopuram-like pylons, signature lighting and a large navigational span.
- The two-storeyed cable bridge with a four-lane carriageway across the Krishna river was approved last week by the standing committee on finance for the union ministry of road transport and national highways. The 3 km-long bridge will reduce the distance between Hyderabad and Tirupati by 80 km. The bridge begins at Somasila at Kollapur in Telangana's Nalgonda district and Atmakur in Andhra Pradesh's Kurnool district.
- After constant pursuit by the Telangana government, the Centre finally gave the approval for the project under the Bharatmala Pariyojana project.

How is it Important for the Civil Service Examination Prelims as well as Mains ?

Headlines of Leading Newspaper.

- Govt approved 1st suspension bridge across Krishna river.
- Centre approves India's 1st cable-cum-suspension bridge across Krishna river.

The following subjects are covered in the Mains General Studies Paper-II :

1. Governance
2. Constitution
3. Polity
4. Social Justice
5. International relations

NEWS

The Indo-US Tri-Services Amphibious HADR Exercise, 'Tiger Triumph 2022'.

Why this News is Important ?

- The second edition of the Indo-US Tri-Services Amphibious HADR Exercise, 'Tiger Triumph 2022' was conducted at Visakhapatnam from 18 to 20 October 2022. The Indian Navy is led by Rear Admiral Manish Sharma, CSO (Ops) HQENC, while Major General Chris Mc-Phillips, Director, INDOPACOM is leading US delegation. The exercise aims to consolidate interoperability and validate procedures for conducting amphibious HADR operations in the aftermath of a natural calamity. The Tiger Triumph exercise was the second collaboration between the Indian and US Militaries to coordinate disaster relief in the region.
- The first exercise took place over the course of nine days in November 2019 and featured more than 500 US Marines and sailors. The first exercise included 1200 Indian sailors, soldiers, and Airmen.
- Tiger Triumph marked the third time in 2022 that Indian and US militaries have worked together in Vishakhapatnam.

How is it Important for the Civil Service Examination Prelims as well as Mains ?

Headlines of Leading Newspaper :

- Indian, US militaries conduct 'Tiger Triumph' exercise.
- Indian, U.S. militaries conclude joint humanitarian aid exercise in Visakhapatnam.

Relevance with syllabus of civil service examination.

Defence is an important and dynamic section in the UPSC Prelims and Mains exam syllabus. It is a very significant topic for IAS aspirants.

Each year 2-3 questions are being asked directly or relatively from this topic.

- **Prelims** : This makes it important to be studied for the UPSC IAS Prelims as well as mains exams. To help the students revise all the information related to the topic.
- **Mains** : Security is an important topic in UPSC Mains GS 3 of the Civil Services Examination (CSE). The topic comprises Internal Security, Cyber Security, Terrorism among other security issues.

Previous Year's Questions

1. **CSE 2022 (Pre.)** : Which one of the following statements best reflects the idea behind the "Fractional Orbital Bombardment System" often talked about in media ?

(A) A hypersonic missile is launched into space to counter the asteroid approaching the Earth and explode it in space.

(B) A spacecraft lands on another planet after making several orbital motions.

(C) A missile is put into a stable orbit around the Earth and deorbits over a target on the Earth.

(D) A spacecraft moves along a comet with the same surface. Speed and places a probe on its.

2. **CSE 2014 (Mains)** : Economic ties between India and Japan while growing in recent years are still far below their potential. Elucidate the policy constraints which are inhibiting this growth.

NEWS

Xi Jinping begins 3rd term as Chinese President.

Why this News is Important ?

- On 23 October, 2022, Chinese President Xi Jinping was re-elected for a third term in power. He became the first leader of the ruling Communist Party to do so since party founder Mao Zedong. Xi Jinping was also re-elected as the Communist Party's General Secretary for a historic third five-year term. China's Communist Party Congress concluded elected Xi Jinping as the party's most powerful leader since Mao Zedong.

- The 'election' of Xi Jinping to a third term in power officially ends the three-decade tradition followed by his predecessors, with the exception of Mao, of retiring after a 10-year tenure. Xi was elected in 2012 and will finish his 10-year term this year. A seven-member Standing Committee, which was elected by the Political Bureau, elected Xi for a third, five-year term as General Secretary. No woman has been inducted into the line-up.
- The Congress also established a new anti-corruption department of the party called the Central Commission for Discipline Inspection (CCDI), which reports directly to Xi. According to official figures, the CCDI has sentenced about five million officials, including many high army generals, over the last ten years.

How is it Important for the Civil Service Examination Prelims as well as Mains ?

Headlines of Leading Newspaper :

- Chinese President Xi Jinping creates history, wins record third term in power.
- Xi Jinping secures historic third term in power—as it happened.
- China's Xi secures third term, stacks leadership team with allies.

Relevance with syllabus of civil service examination.

- **Prelims** : International relations is a very dynamic part of the UPSC syllabus which is crucial for multiple papers in Prelims and Mains. The IAS exam focuses on International Relations in multiple papers and the syllabus for this subject is vast.
- **Mains** : International Relations is an important topic in UPSC Mains GS 2 paper of the Civil Services Examination. The following subjects are covered in the Mains General Studies Paper-II :

NEWS

WHO alert over India-made cough syrups after deaths in The Gambia.

Why this News is Important ?

- A global alert has been issued over four cough syrups after the World Health Organization (WHO) warned they could be linked to the deaths of 66 children in The Gambia. The syrups have been 'potentially linked with acute kidney injuries and 66 deaths among children. The products were manufactured by an Indian company, Maiden Pharmaceuticals, which had failed to provide guarantees about their safety and the firm, has not yet commented. The WHO identified the 4 medicines as :

1. Promethazine Oral Solution
2. Kofexmalin Baby Cough Syrup
3. Makoff Baby Cough Syrup.
4. Magrip N Cold Syrup.

- The Gambian parliament has assigned its select committee on health, disaster and humanitarian relief to investigate the deaths of more than 80 children after taking Indian-manufactured cough syrup. This news came during an extraordinary session about the deaths. The committee is expected to come up with findings and present it to parliament on 30 November, 2022.

- The laboratory analysis of samples of the products "confirms that they contain unacceptable amounts of diethylene glycol and ethylene glycol as contaminants."

How is it Important for the Civil Service Examination Prelims as well as Mains ?

Headlines of Leading Newspaper :

- WHO alert over India-made cough syrups after deaths in The Gambia.
- WHO alert on 4 Indian cough syrups as 66 Gambian kids die.
- Indian firm's cough syrups may be tied to 66 deaths in Gambia: WHO

Relevance with syllabus of civil service examination :

- **Prelims** : International relations is a very dynamic part of the UPSC syllabus which is crucial

for multiple papers in Prelims and Mains. The IAS exam focuses on International Relations in multiple papers and the syllabus for this subject is vast.

- **Mains** : International Relations is an important topic in UPSC Mains GS 2 paper of the Civil Services Examination.

NEWS

PM inaugurates Second United Nations World Geospatial Information Congress in Hyderabad.

Why this News is Important ?

- On 11 October, 2022, the Second United Nations World Geospatial Information Congress (UNWGIC 2022) was held in Hyderabad. The five day conference was hosted by Department of Science & Technology, Ministry of Science and Technology and convened by the United Nations Committee of Experts on Global Geospatial Information Management. With the theme of 'Geo-Enabling the Global Village : No one should be left behind,' the Second UNWGIC 2022 will reflect on the importance of integrated geospatial information infrastructure and knowledge services to support implementation and monitoring of sustainable development goals.
- Nearly 2-6 lakh gram panchayats had been covered by the ministry under the scheme of mapping and digitization and evolving technologies in geospatial sector has brought about transformational changes whereby even an inch of a land in India can be mapped, thereby providing solid backups for Indian land reforms.
- The geospatial economy is expected to cross ₹ 63,000 crore by 2025 at a growth rate of 12-8% and to provide employment to more than 10 lakh people mainly through Geospatial start-ups.

How is it Important for the Civil Service Examination Prelims as well as Mains ?

Headlines of Leading Newspaper :

- PM Modi to inaugurate UN World Geospatial Information Congress on October 11.

- Second United Nations World Geospatial Information Congress inaugurated in Hyderabad today.

- Technology a tool for inclusion in India, says PM Modi.

Relevance with syllabus of civil service examination.

- **Prelims** : Science & Technology also called General Science by the UPSC is an important part of the syllabus for Prelims. Questions from Science and Technology in Civil Services Preliminary exam are either current affairs-driven or are basic in nature. Candidates should keep themselves updated on the latest developments in Science & Technology by reading the relevant sections of the 'Pratiyogita Darpan Series'.

- **Mains** : In the Mains exam, General Studies Paper III has Technology, Environment and Biodiversity as important parts of the CSE Syllabus. As it has consistently been an important area of focus for the UPSC Syllabus, candidates must study Science & Technology with interest.

NEWS

PM declares Modhera as India's first solar-powered villages.

Why this News is Important ?

- On 9 October, 2022, the Prime Minister also declared the village of Modhera as India's first 24 x 7 solar-powered villages. The Prime Minister Modi also laid the foundation stone and dedicated various projects worth over ₹ 3900 crore to the nation and the entire North Gujarat. The multiple projects ranging from electricity and water to railways and roadways, from dairy to skill development and health have been inaugurated or the foundation stone has been laid.
- The earlier Modhera was known for Surya Mandir but now Surya Mandir has inspired Saur Gram and that has made a place on the environment and energy map of the world.
- The Prime Minister recalled the success of Jyotigram Scheme that began in Unjha to provide

electricity to every village for twenty-four hours, and the government had allocated a thousand days to complete the work.

How is it Important for the Civil Service Examination Prelims as well as Mains ?

Headlines of Leading Newspaper :

- PM Modi declares Modhera as India's first 24x7 solar powered village.

- PM declares Modhera in Gujarat as India's first 24x7 solar-powered village.

Relevance with syllabus of civil service examination.

Indian culture and heritage is a hot topic for UPSC Civil Services Prelims as well as Mains In Paper-I of the Preliminary stage of the civil services examination and UPSC Mains GS-I, the subject 'Art and Culture' plays a very important role.

- **Prelims** : Science & Technology also called General Science by the UPSC is an important part of the syllabus for Prelims. Questions from environment and energy in Civil Services Preliminary exam are either current affairs-driven or are basic in nature. Candidates should keep themselves updated on the latest developments in environment by reading the relevant sections of the "extra issues Pratiyogita Darpan Series on environment".
- **Mains** : In the Mains exam, General Studies Paper III has Technology, Environment and Biodiversity as important parts of the CSE Syllabus. As it has consistently been an important area of focus for the UPSC Syllabus, candidates must study Science & Technology with interest.

NEWS

PM Modi visits Ujjain and inaugurates 'Mahakal Lok' Corridor Development Project.

Why this News is Important ?

- On 11 October, 2022, Prime Minister inaugurated the first phase of 856 crore Mahakaleshwar Temple Corridor Development Project which is situated

Continued on Page 66

“Secret of my success is a combination of persistent hard work, perseverance and strong support system.”

Dr. Ajey Singh Rathore

Topper—Civil Services Examination, 2021 (114th Rank)

‘Pratiyogita Darpan’ arranged an exclusive interview with Shri Ajey Singh Rathore who has been selected in Civil Services Exam., 2021. He deserves high appreciation and our heartiest congratulations on his shining achievement. This important, thought-provoking and highly inspiring interview is being presented here in its original form.

PD—Achieving top slot in the coveted Civil Services Examination is no small feat; accept our heartiest congratulations on your splendid success.

Shri Ajey—Thank you, Sir!

PD—‘Success is sweet’. Were you confident of your success with top rank and how did you react to this news?

Shri Ajey—In this attempt, I was result-oriented and had worked hard on my shortcomings; so, I was expecting a decent result. When I saw the result, it was quite good and that gave me a big relief.

PD—Today, IAS Toppers are icons and the top rankers are admired by all for their accomplishment. Before your success, what was your opinion about these toppers?

Shri Ajey—A big motivation comes from the toppers and their experiences give lots of insights to the future aspirants. I was fascinated by Dr. Samit Sharma IAS and his project ‘Access to Low-Cost Generic Medicines’; an inspiring story.

PD—Were you preparing for other career opportunities as well while preparing for your ultimate goal?

Shri Ajey—This had become my goal.

PD—In how many attempts have you achieved this success?

Shri Ajey—This was my second attempt.

PD—You achieved the desired success in this attempt; how do you visualize your previous attempts?

Shri Ajey—In my earlier attempt, my name was in reserve list and I was allotted Post of Assistant Security Commissioner in Railways Protection Force.

PD—What was your Optional Subject and give the basis of selecting the optional subject?

Shri Ajey—Medical Sciences. Being a doctor, I was sure that I would continue with my own subject, Medical Science, as optional subject. This is a subject that I love reading.



To climb steep hill requires slow pace at first.

—Dr. Ajey Singh Rathore

I was clear that even if, I would not score very high with Medical Science, I would continue to have faith in it. I believed that it would deliver.

PD—What preference in services have you opted for and any particular reason for that priority?

Shri Ajey—IAS, IPS.

PD—While the changing economic environment offers immense lucrative career opportunities in various sectors, still what kept you motivated towards Civil Services?

Shri Ajey—This service has something unique. It is better than other career opportunities available.

PD—Can you recall the exact moment when you realized the importance of Civil Services? Finally, at what point of time did you make up your mind to make career in ‘Civil Services’?

Shri Ajey—I am a doctor. For me, the motivation came from when I went to PSCS. I realized that if I work as a doctor I would serve as many as may be 100 patients by the evening and if I work in administration, I can serve the lives of lacs or more people. And this was the turning point.

PD—‘Time Management’ is a key factor; how did you manage things?

Shri Ajey—I found areas of deficiencies and specially, I covered these topics seriously. You have to have liking for the work you are doing. If you have interest, you may enjoy reading and writing as part of the preparation for hours. But, if you count hours and read accordingly, that is not going to be productive. That means you are not enjoying the process, you are reading under compulsion.

As UPSC, study is so diverse and interesting that if you are serious about the purpose, you will certainly enjoy what you do.

PD—The first step is the most difficult; from where did you get the right advice?

Shri Ajey—To begin with initial books which are easily available on internet or in any topper strategy and all basic books are easily available in the market.

The second part started with the finding optional subject and it was a major issue. In the process, I came in contact with one of my friends who told me that optional should not be decided easily. Always look for a

subject that you are familiar with and have interest in it.

PD—How did you plan your endeavor? Were you concerned about the Cut-offs at each stage of the examination?

Shri Ajey—Yes. In this attempt, I had my previous attempt's marks in front of me and based on these, I set targets for each paper.

I was able to improve my score in General Studies as well as optional subject; however, in interview my marks were less than what I had planned for.

I was sure about my improvement, but the quantum is relative. I acknowledge that people who are better than me have got ranks above me. I was sure that I would improve and that I achieved.

Bio-Data

Name—Dr. Ajey Singh Rathore

Father's Name—Shri Kailash Singh Rathore

Mother's Name—Smt. Asha Singh

Educational Qualifications—

MBBS—AIIMS, Jodhpur

Previous Selections—Earlier appointed ASC in IRPFS based on CSE 2020.

PD—Did you keep in mind some time-frame for the examination preparation and number of attempts?

Shri Ajey—No. I had a fair idea about the exam-plan and I knew my capabilities well. I was confident that I would be able to make it.

PD—What was your approach towards Preliminary Examination preparation?

Shri Ajey—No doubt, the examination is very unpredictable, but the destination is certain and this is the biggest motivation to face this grueling competition.

For me, the Prelims has been quite easy I scored 120+ each time I faced. I feel there is lot of unpredictabilities, but if you are focused on your goal, things would fall in place.

For GS PAPER II (Aptitude Test): Though, I cleared CSAT easily, but one needs to keep balance.

In my case, I and majority of my friends were comfortable with Mathematics, but I knew it well that English needed attention.

One should attempt 2-3 CSAT papers and undergo a sort of self-analysis, based on that, balance your study-plan for Prelims by giving sufficient time for CSAT.

One has to be strategic while solving the papers; no need for taking unnecessary risk as you have to just keep yourself in safe zone and for this you don't need to attempt all 100 and 80 questions in Paper 1 and 2. One should always be cautious.

PD—How did you manage to tackle the 'Negative Marking' in Prelims?

Shri Ajey—I had enough experience in handling aptitude-based tests, so it was not a major issue. But, there is a simple concept of negative marking that out of all the four given options, if you don't know the answer, better leave that question untouched.

You can take a chance with educated guess if you have confusion among two options only.

PD—What shift did you adopt in your strategy for Main Examination (Written)?

Shri Ajey—Approach was the same and there was no need for out-of-the-box thinking.

If you have done with basic books and have referred to standard text-books, most of the job is done. If someone says try out this book or that book, better stick to a standard book and read it thoroughly.

For preparing static part, read the books and have clear understanding. The other important thing is that to cultivate habit of reading the question correctly. Understand what is being asked and be precise while answering the question.

Answer-writing practice is the key. The more you write, more you express ideas. There are many compilations available in the market. Pratiyogita Darpan is one such resource that can be used for preparing dynamic part of the syllabus.

Read such magazines and orient your preparation towards the exam-requirements.

GS Paper 4 is a unique paper in itself. Most important thing about this paper is that you should be conversant with the syllabus given by UPSC and each keyword it contains.

When you understand, you will be adding value to answers with examples you pick from current developments and contemporary issues.

Newspapers are the best source for collecting examples and every successful candidate makes it a habit of noting down data, facts and figures to quote as per need.

Personal Qualities

Strong Points—Don't stop until I achieve.

Weak Points—I have a sort of phobia about English language.

Hobbies—Playing sports, Storytelling, debating.

PD—Was there any special effort for effective preparation for Essay Paper?

Shri Ajey—This year, it was a slightly different paper with all the abstract topics.

Everyone should understand that there is a proper format and how to structure your ideas in the format that shows connectivity and a clean flow in the essay you write.

We all have knowledge; all we need is to reorient the knowledge on the paper in a lucid presentation.

For this, you need to read more, write more and get these evaluated by a non-UPSC expert to understand if it is perfect and take the feedback/inputs into consideration so that you can improve upon when you attempt next time.

PD—How did you prepare yourself for Interview (Personality Test)?

Shri Ajey—For interview, I started reading two newspapers instead of one that I used in Prelims and Mains. Mock-Interviews are necessary for spotting the basic mistakes you make during interview.

It is almost a practice session just before the real one. My interview was on 10th May, 2022 in TCA Anant Sir's Board.

Continued on Page 63

"Having eagle eye on my goal, target-oriented hard work and my vision of future as a judge, are the secrets of my success."

Deepanshu Sarkar

Topper—Haryana Judicial Services Exam., 2021 (5th Rank)

'Pratiyogita Darpan' arranged an exclusive interview with Shri Deepanshu Sarkar who has been selected in Haryana Judicial Services Exam., 2021. He deserves high admiration and our heartiest congratulations on his glorious achievement. This important, thought-provoking and highly inspiring interview is being presented here in its original form.

PD—Achieving top slot in the Judicial Services Examination is no small feat, accept our heartiest congratulations on your splendid success.

Shri Deepanshu—Thank you so much. With the blessing of the Almighty and teachers, I have been able to achieve this feat.

PD—Can you recall the exact moment when you realized the importance of Judicial Services?

Shri Deepanshu—When I graduated in law in year 2020 from IIT Kharagpur, due to Covid, there was a dearth of work in litigation and during that limited period when Courts were functioning, I realised the authority and the power, a judge holds through which he can contribute for doing something good in the society.

PD—Finally, at what point of time did you make up your mind to make career in 'Judicial Services'?

Shri Deepanshu—As mentioned above, while actually visiting Court during this limited period, I made up my mind to become a judge.

PD—Was JSE your planned decision or your parents' wish? Did you keep in mind some time-frame for the examination preparation and number of attempts?

Shri Deepanshu—Judicial Service was my own decision and I had planned to clear the exam within a year. I only gave one exam, i.e., the Haryana Judicial Services and I have been able to clear the exam in my very first attempt.

PD—Describe the exact moment when you came to know about the importance of Judicial Services?

Shri Deepanshu—The exact moment was when I was in Court

and saw hon'ble judges dispensing their judicial functions.



The difference between failure and success is doing a work nearly right and doing it exactly right.

—Deepanshu Sarkar

PD—About Interview Boards, many candidates have set impressions. Do you consider such thoughts help or hinder one's performance in Interview?

Shri Deepanshu—A mindset will always hinder your performance in my opinion. It is better to keep an open mind and be updated with the current legal developments.

PD—What was your first step when you were really serious about making a career in Judicial Services?

Shri Deepanshu—The very first step was that I joined Ambition Law Institute's Online Foundation Course in October 2020 and attended all classes seriously and regularly.

PD—Were you confident of your success in this examination and how did you react to this news about your success?

Shri Deepanshu—Yes, I was confident about my selection, but I did not expect to achieve the 5th rank. Upon receiving the news, tears rolled down from my eyes as I saw my dream/aspiration finally turning into reality.

PD—In how many attempts have you achieved this success? How do you visualize your previous attempts?

Shri Deepanshu—I cleared this examination in my very first attempt and in very first Judicial Exam.

PD—Were you preparing for other career opportunities as well while preparing for your ultimate goal i.e., Career in Judicial Services?

Shri Deepanshu—No, I completely dedicated myself for this preparation and I only gave the Haryana Judicial Service Exam.

PD—While the changing economic environment offers immense lucrative career opportunities in various sectors, still what kept you motivated towards Judicial Services?

Shri Deepanshu—A judge enjoys an authority and respect which other lucrative career opportunities are not able to offer. Doing something good for the society and that too with an authority, kept me motivated towards Judicial Services.

PD—What's important and what's not? Share your thoughts and opinions.

Shri Deepanshu—Important is to have a razor sharp focus towards your goal and important is to turn a blind eye towards any distraction which could deviate you from your goal.

Bio-Data

Name—Deepanshu Sarkar

Father's Name—Shri Sandeep Sarkar

Mother's Name—Mrs. Rajni Sarkar

Date of Birth—30-09-1993

Educational Qualifications—

10th—2009, CBSE, Lancer's Convent (82.4%)

12th—2011, CBSE, Lancer's Convent (87%)

B.Tech.—2016, GGSIPU (MAIT), MAIT, Delhi (74.3%)

LL.B.—2020, IIT Kharagpur (79%)

PD—'Time-Management' is a key factor while making preparations as well as in writing examination papers. Did you come across such a problem during this period? If yes, then how did you manage things?

Shri Deepanshu—No, I had a fixed time table and I was fortunate enough that during my preparation phase, my teachers used to guide me regularly on how to manage time.

PD—List some of the Magazines, Newspapers, Books etc. which you read for 'General Studies' preparation.

Shri Deepanshu—I read Pratiyogita Darpan, Indian Express and The Hindu.

PD—How did you prepare yourself for Interview? When and which Board did you face? How did your interview go on, how much time did it last and what were the questions asked during the Interview?

Shri Deepanshu—I gave several mock tests & interviews. My Interview Board comprised of High Court Judges, Chief Secretary of Haryana State and Advocate General of Haryana. My interview lasted for approximately 12 minutes and questions revolved around my life journey and law.

PD—You must have read Toppers' interviews in newspapers/magazines; what inspired you the most? Any particular success story which influenced your journey to this result?

Shri Deepanshu—I read the success story of Mr. Bharat Chugh, a topper in Delhi Judicial Services, who

had also cleared the exam in his first attempt.

PD—What is the importance of medium of examination for exams like JSE?

Shri Deepanshu—My medium of examination was English. Having a command over language is a very important aspect for clearing the examination.

PD—Does the educational, financial and demographic status of the family of an aspirant have any impact on the preparation?

Shri Deepanshu—Having an educationally, financially and demographically resourceful family matters only to the extent of motivations, but having an effective family support is a driving factor towards your success. I consider myself fortunate in this regard.

PD—What is your opinion about the largest read Career & Competition magazine, Pratiyogita Darpan?

Shri Deepanshu—I agree that Pratiyogita Darpan is a very helpful magazine which endeavours us towards preparing and achieving our goals.

PD—What is the secret of your success?

Shri Deepanshu—The secret of my success is having an eye of a tiger and unwavering dedication and devotion towards my goal.

Personal Qualities

Favourite Person—My favourite person is my father who always motivated me.

Strong Points—Having a razor sharp focus.

Weak Points—Overthinking.

Hobbies—Reading, fitness.

PD—To whom would you like to give the credit for your success?

Shri Deepanshu—I would like to thank my parents, the providence, my teacher Alok Kr. Ranjan Sir for my success.

PD—Any suggestion/advice you would like to give to the future aspirants.

Shri Deepanshu—Have faith in yourself and God. Hard work will surely pay off.

PD—Thank you very much and wishing you all the best for your future endeavours.

Pratiyogita

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Most of the questions revolved around Medical Science and my research project. I am an ICMR research scholar. The interview Board asked me about my research. There were few questions related to my home state Rajasthan like Child-Mortality Ratio, etc.

PD—How do you find Pratiyogita Darpan?

Shri Ajey—Yes, in the beginning I was a reader of Pratiyogita Darpan. When I started preparation, I inquired about the resource to begin with and My Mama Ji told me about Pratiyogita Darpan. Earlier, he was also preparing for Civil Services Exam and was a regular reader of PD. So, my parents arranged Pratiyogita Darpan and thus is how my preparation began.

PD—What is the secret of your success?

Shri Ajey—Unconditional support from my family. I wouldn't have done this in case this support was missing.

PD—To whom would you like to give the credit for your success?

Shri Ajey—I give the credit of my success to my parents and my sister for their dedicated support.

PD—Any suggestion/advice you would like to give to the future aspirants.

Shri Ajey—Try to understand the demands of this examination. Be clear about the requirements at each stage of the examination.

In Prelims, you have just one aim - to cross the hurdle. For Mains, you have to prepare exceptionally well. Not only content, but in expression as well.

Similarly, Interview; it is a personality test, not a knowledge test.

PD—Thank you very much and wishing you all the best for your future endeavours.

Pratiyogita

“Dedication and sincerity in preparation and staying positive and motivated are the secrets of my success.”

Surabhi Sethi

Topper—Madhya Pradesh Judicial Services Examination, 2021-22 (8th Rank)

‘Pratiyogita Darpan’ arranged an exclusive interview with Ms. Surabhi Sethi who has been selected in Madhya Pradesh Judicial Services Exam., 2021-22. She deserves high appreciation and our heartiest congratulations on her shining achievement. This important, thought-provoking and highly inspiring inter-view is being presented here in its original form.

PD—Achieving top slot in the Judicial Services Examination is no small feat; accept our heartiest congratulations on your splendid success.

Ms. Surabhi—Thank you so much, It really means a lot.

PD—Were you confident of your success in this examination and how did you react to this news of your success?

Ms. Surabhi—I was confident and very hopeful about being successful in this examination. However, when I first saw my name in the final list, I did feel very sure and the fact that I was finally a judicial officer took a while to sink in. The feeling is incomparable!

PD—In how many attempts have you achieved this success? How do you visualize your preparation/previous attempts?

Ms. Surabhi—This was my second attempt in Madhya Pradesh judiciary exam. I had missed my final selection last time by 5 marks. I had also missed my final selection in Delhi Judicial Services by 1 mark last time.

Being so close to getting selected and not making it is undoubtedly, disheartening. However, I feel it's extremely important to stay motivated and focused on your goal. My failures were always a source of motivation for me and never an excuse to give up. And that's exactly how I look at my previous attempts. They only helped me to identify my weaknesses and work upon them and made my preparation better. Today, those very failed attempts also make me to value my success all the more!

PD—Can you recall the exact moment when you realized the importance of Judicial Services?

Ms. Surabhi—Ever since I started pursuing law, I was determined to try for the Judicial Services. I feel the desire for the same became stronger in the initial one year after I graduated, which is also the time when I started my preparation wholeheartedly.



There is no virtue so truly great and godlike as justice.

—Surabhi Sethi

PD—Finally, at what point of time did you make up your mind to make career in ‘Judicial Services’?

Ms. Surabhi—It was in the year 2018, when I decided to make a career in the Judicial Services and started my preparation for the same and also began appearing for various exams.

PD—You must have read Toppers’ interviews in newspapers/magazines; what inspired you the most?

Ms. Surabhi—I truly believe that everyone’s journey to success is unique and equally inspiring, so there is no one particular individual I could name. However, the ones that have always truly inspired me are

those who fought against all odds and overcame every adverse situation they faced to achieve their success. I always asked myself that if they could do it, what excuse did I have not to do?

PD—Was JSE your planned decision or your parents’ wish?

Ms. Surabhi—Pursuing a career in the Judicial Services was a decision I made for myself, something that also became my parents’ dream. I always received their full support throughout my journey to success.

PD—Did you keep in mind some time-frame, for the examination preparation and number of attempts?

Ms. Surabhi—I did initially want to clear the exam within the first year of my preparation and in my first attempt. But, God had other plans for me and today, I couldn’t be happier about it. I really feel it’s more important to enjoy the journey and keep learning throughout the process than just to rush through it because of any pre-planned timelines. Being a little flexible always helps!

PD—What was your first step when you were really serious about making a career in Judicial Services?

Ms. Surabhi—I started my research about the Examination pattern and process of various states. I tried to acquaint myself with the syllabus of the exams for different states, to begin my preparation with clarity.

PD—What was your approach towards Preliminary Examination preparation?

Ms. Surabhi—For the Preliminary Examination, there is no better approach than reading the bare Acts thoroughly, as many times as one can.

I did the same. It really helped me to remember the important terms of various provisions. Along with that, practicing objective questions regularly was also something I did. It not only helped me in my preparation, but also in managing my time well.

PD—How did you manage to tackle the 'Negative Marking' in Prelims?

Ms. Surabhi—In an exam with negative marking like the DJS prelims, I realized that trying to attempt all questions and making vague guesses, makes the chances of clearing the exam very bleak. I, therefore, focused on the questions, the answers to which I was sure of. I also realized that it's important to make only intelligent guesses.

Bio-Data

Name—Surabhi Sethi

Father's Name—Shri Yashvir Sethi

Mother's Name—Smt. Sonia Sethi

Educational Qualifications—

10th—2010, CBSE, DPS Noida, (CGPA 10)

12th—2012, CBSE, DPS Noida (95.8%)

L.L.B.—2012-2017, Guru Gobind Singh Indraprastha University, Delhi, (72.15%)

L.L.M. (Criminal Law and Personal Laws)—2019-2021, Mewar University, Rajasthan (69.5%)

PD—What shift did you adopt in your strategy for Main Examination (Written)?

Ms. Surabhi—Mains Examination requires a lot of conceptual clarity. Besides focusing on the bare Acts, I also practiced answer writing, which not only helped me in improving the quality of my answers, but also my writing speed and time management skills. I also made it a point to read the latest judgements, as case laws also make an important part of a good quality answer.

PD—Was there any special effort for effective preparation for Language Paper (Essay, Translation and Précis Writing)?

Ms. Surabhi—The Language paper in the mains examination is one of the most scoring papers, and often the most ignored one by most candidates too. To prepare for essay

writing, I read newspapers to keep myself abreast of all the latest developments in the country as well as internationally. For the translation, I prepared my own glossary of important legal terms and their translation into Hindi and revised the same regularly. Reading Diglot Bare Acts also helped me practice for translation.

PD—Were you preparing for other career opportunities as well while preparing for your ultimate goal *i.e.*, Career in Judicial Services?

Ms. Surabhi—No, I was completely focused on my preparation for the Judicial Services and did not have any alternate career options in mind.

PD—While the changing economic environment offers immense lucrative career opportunities in various sectors, still what kept you motivated towards Judicial Services?

Ms. Surabhi—I always wanted to pursue law. Alongwith that, I also had the strong desire to serve people and to be able to make a meaningful contribution to the society through my work. Judicial Services provide the opportunity to do exactly that, while also allowing me to stay connected to the field of law on a very ground level. The immense dignity and pride that this service brings alongwith it is extremely rewarding for me, which is why looking for a lucrative career opportunity is something that never crossed my mind.

PD—What's important that needs attention and what's not? Share your thoughts and opinions.

Ms. Surabhi—Anyone who is preparing or wishes to start preparing for the Judicial Services Exams needs to know that consistency is key. Being consistent with one's preparation certainly gives a candidate an edge over others. Staying positive and motivated is also extremely important. Remind yourself daily why you wanted to do this in the first place.

Something that I have seen various candidates fuss over is the need for remembering and writing case laws. I have come to realise that it's not as important as it's made out to be. So if one can remember them easily, it's good. If not, that shouldn't be such a cause of worry.

PD—'Time-Management' is a key factor. How did you manage things?

Ms. Surabhi—Time management was one of my weak areas when it came to finish my exams, which is exactly what made me miss my final selections earlier. So, I could not stress enough on the importance of time management, both, during preparation as well as while writing Mains exams. I never waited for an exam to be notified and continued with my preparation on a regular basis. I also prepared for the prelims and the mains simultaneously, so as not to lose out on time.

I practiced answer writing regularly. It is important to write concise answers with clarity. I also realized that as much as it is important to know what to write in an answer, it is equally important to know what not to write! This helped me in writing good quality answers and also in completing my papers in time.

PD—How did you prepare for General Knowledge/Current Affairs Paper?

Ms. Surabhi—The Hindu, Times of India, Pratiyogita Darpan and Lucent's GK is some of the material I referred to for General knowledge / Current Affairs preparation.

PD—How did you prepare yourself for Interview?

Ms. Surabhi—Interview is a test of a candidate's personality more than his knowledge, since that is done during the first two stages of the exams. Having said that, it is extremely important to have conceptual clarity on various important legal topics. So, I read extensively about the same, focusing more on landmark judgements. During the interview, I made sure I was just being myself.

I was interviewed by the Board comprising of Hon'ble Justice Nandita Dubey, Hon'ble Justice R.K. Dubey and Hon'ble Justice Vivek Agrawal of the MP High Court. My interview went on for about 15-20 minutes.

It started with some basic personal questions regarding my educational background, whether there are any members of my family in the legal profession and why I wanted to be a part of the judiciary. There were then certain questions from law,

particularly from CPC, such as Amendment of pleadings under O. 6, R. 17 and also from law of Evidence.

Personal Qualities

Strong Points—The sincerity and dedication with which I like to complete any task at hand is something I believe to be my strength. My positivity and never-say-die attitude are also my strong points.

Weak Points—I often find it difficult to delegate work, even when I can and I should, which makes me end up with too much work for myself.

Hobbies—I like to sketch in my free time. I also enjoy playing badminton.

PD—About Interview Boards, many candidates have set impressions. Do you consider such thoughts help or hinder one's performance in Interview?

Ms. Surabhi—It is extremely important to stay calm and composed during the interview at all times. It is also important for a candidate to think on his feet during the interview. Going for the interview with set impressions about the interview Board can sometimes be a hindrance to the same.

PD—What is the importance of medium of examination for exams like JSE?

Ms. Surabhi—I believe that it is very important for a candidate to convey his thoughts with clarity in these exams. The medium he chooses does not seem to be of much importance to me. The content and its quality matter more than the medium it is conveyed in.

PD—Does the educational, financial and demographic status of the family of an aspirant have any impact on the preparation?

Ms. Surabhi—While I cannot completely deny that the candidate from a sound financial, educational and demographic status surely has an advantage. It is undeniable that the privileges that one has certainly make one's preparation journey slightly smooth. I also believe it's all about mind over matter. If one is determined to achieve a goal, the educational, financial and demographic status of an aspirant's family will not be able to deter him from giving his absolute best.

PD—Pratiyogita Darpan, the largest read Career & Competition

magazine has been the top choice of aspirants; what is your opinion about it?

Ms. Surabhi—Pratiyogita Darpan is a good magazine for revising all important news in a brief manner. It played a crucial role in my preparation journey.

PD—What is the secret of your success?

Ms. Surabhi—My dedication and honesty towards my preparation is what I consider to be the secret to my success. I prepared with a lot of sincerity and did not give up despite my past failures, which ultimately helped me achieve this success.

PD—To whom would you like to give the credit for your success?

Ms. Surabhi—There are a few people I have to thank. I'd like to give the credit for my success to my family, especially my mother, My parents and my brother who had been my pillars of strength throughout my journey. Their unflinching faith in me is something that kept me going. This is more of their success than mine.

I'm also extremely grateful to my teachers and mentors, especially Rahul sir and everyone else at Rahul's IAS for their constant support and motivation. I'm also thankful to the Almighty. He has blessed me abundantly!

PD—Any suggestion/advice you would like to give to the future aspirants.

Ms. Surabhi—Stay positive and stay focused. Know that you can do this and do not believe any excuse you give to yourself why you can't... Success will be yours! Good luck to all the judiciary aspirants.

PD—Thank you very much and wishing you all the best for your future endeavours.

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in Ujjain city of Madhya Pradesh and organised by the state government. The development of the project has been planned under two phases. Prime Minister unveiled the 'Shivaling' to symbolically mark the opening of the mega corridor.

- A large-size 'Shivaling' covered in strands of 'moli' has been placed below the grand gateway

or Nandi Dwar of the 'Mahakal Lok'. 'Mahakal Lok' development also includes a mid-way zone, a park, a multi-storied parking lot for cars and buses, a florist and other shops, solar lighting, a facility centre for pilgrims, a water pipeline and a sewer line, among others.

- The project aims to decongest the entire area and also put special emphasis on the conservation and restoration of heritage structures. Under the project, the temple precinct will be expanded nearly seven times. The existing footfall of the temple, which is currently around 1.5 crore per annum, is expected to be doubled.

How is it Important for the Civil Service Examination Prelims as well as Mains?

Headlines of Leading Newspaper:

- PM Modi inaugurates Mahakal Lok corridor at Mahakaleshwar temple in Ujjain.
- PM Modi inaugurates Ujjain's Mahakal Lok corridor.
- PM Modi inaugurates Mahakal Lok corridor at Mahakaleshwar temple.

Relevance with syllabus of civil service examination.

Indian culture and heritage is a hot topic for UPSC Civil Services Prelims as well as Mains In Paper-I of the Preliminary stage of the civil services examination and UPSC Mains GS-I, the subject 'Art, heritage and Culture plays a very important role.

- **Prelims** : Art and Culture' by the UPSC is an important part of the syllabus for Prelims. Questions from Art, heritage and Culture or' in Civil Services Preliminary exam are either modern or ancient in nature. Candidates should keep themselves updated with Art and Culture' by reading the relevant sections of the 'Pratiyogita Darpan Series'.
- **Mains** : In the Mains exam, General Studies Paper I has Art, heritage and Culture as important parts of the CSE Syllabus. As it has consistently been an important area of focus for the UPSC Syllabus, candidates must study Art, heritage and Culture with interest.

“Perseverance, focused hard work and learning from my mistakes are the keys of my success.”

Prabhat Kumar

Topper—66th Bihar Civil Services Examination (129th Rank)

‘Pratiyogita Darpan’ arranged an exclusive interview with Shri Prabhat Kumar who has been selected in Bihar Civil Services Exam. He deserves high appreciation and our heartiest congratulations on his shining achievement. This important, thought-provoking and highly inspiring interview is being presented here in its original form.

PD—Achieving top slot in the Bihar CS Examination is no small feat; accept our heartiest congratulations on your splendid success.

Shri Prabhat—Thanks. Special thanks for releasing PD monthly which is lifeline for many students in preparation.

PD—Can you recall the exact moment when you realized the importance of Civil Services?

Shri Prabhat—It was the final year of my college when I realized the importance of Civil Services. I consulted seniors, watched the session of toppers’ on YouTube and then started preparation.

PD—Finally, at what point of time did you make up your mind to make career in ‘Civil Services’?

Shri Prabhat—After completing my graduation, I firmly decided to prepare for Civil Services alongwith continuing my master degree.

PD—You must have read IAS Toppers’ interviews in newspapers/magazines; what inspired you the most? Any particular success story which influenced your journey to this result?

Shri Prabhat—Most inspiring things about the toppers are their hardwork and consistency which enabled them to be one among lakhs.

PD—Was CSE your planned decision or your parents’ wish? Did you keep in mind some time-frame, for the examination preparation and number of attempts?

Shri Prabhat—CSE was my planned decision after observing the syllabus meticulously. Though, it was supported by my parents whole heartedly.

PD—The first step is the most difficult; how to prepare? Which optionals? What to read? How much to read? Many such questions come to your mind when you really get serious about Civil Services Examination? From where did you get the right advice?

Shri Prabhat—I had been in close contact with the seniors who had qualified this exam. Seniors had been the main guide throughout the preparation.



Either attempt it not or succeed,
—Prabhat Kumar

PD—Were you confident of your success in this examination and how did you react to the news of your success?

Shri Prabhat—Before examination, I was sure that if efforts were put in right direction, there was high chance of success. After appearing in mains and interview. I was sure that I would make into the final list but getting a fairly good rank was a matter of overwhelming joy.

PD—In how many attempts have you achieved this success? How

do you visualize your previous attempts?

Shri Prabhat—This was my first attempt. The whole process is a lengthy one.

PD—Were you preparing for other career opportunities as well while preparing for your career in Civil Services?

Shri Prabhat—I was totally focussed on Civil Services during my preparation.

PD—While the changing economic environment offers immense lucrative career opportunities in various sectors, still what kept you motivated towards Civil Services?

Shri Prabhat—The interest to serve the society, the widespread respect for Civil Servants in people, ambition to do something for the society and last but not least good career prospect kept motivated towards Civil Services.

PD—While making final choice for optional subjects, what’s important and what’s not? Share your opinions.

Shri Prabhat—For this, most important thing is interest for that particular subject. My (Hons.) subject was my optional subject because I was comfortable with it.

PD—What were your optional subjects? Give the basis of selecting them. Prelims/Mains.

Shri Prabhat—My optional was Economics. After 12th I chose subject of social science which was a bit logical Economics suited me during my college days and during the Civil Services preparation.

PD—Did you keep the same optional subjects in all your attempts?

Shri Prabhat—It was my first attempt.

PD—What was your approach towards General Studies and optional Subject during Prelims preparation? How much time and effort did you divide for each?

Shri Prabhat—My main focus was sticking to the syllabus and solving the previous years' questions both in GS and optional subject. My main focus was on completing syllabus irrespective of taking time.

Bio-Data

Name—Prabhat Kumar

Father's Name—Shri Ramayan Kushwaha

Mother's Name—Smt. Umrawati Devi

Date of Birth—05-08-1998

Educational Qualifications—

10th—2014, CBSE, Sainik School Gopalganj (10 CGPA)

12th—2014-16, CBSE, Sainik School Gopalganj (85%)

BA (Eco.)—2016-19, BHU (74.7%).

PD—How did you manage to tackle the 'Negative Marking' in Prelims?

Shri Prabhat—In BPSC, there is no negative marking.

PD—What shift did you adopt in your strategy for Mains (Written)?

Shri Prabhat—Exhaustive answer writing practice with peer review can be boon for the mains exam. Analysing the answers written again and again and improving it is like adding value to the answers.

PD—List some of the Magazines, Newspapers, Books etc. which you read for 'General Studies' preparation.

Shri Prabhat—*Prelims* : Pratiyogita Darpan Magazine, Hindu Newspaper etc.

Mains : Vision IAS monthly magazine and PD for factual points.

PD—How did you prepare yourself for Interview? When and which Board did you face? How did your interview go on, how much time did it last and what were the questions asked during the Interview?

Shri Prabhat—We had group of 5 candidates during interview preparation. Each one was assigned a separate topic everyday to prepare

and the same was discussed during grouping. We were organizing mock interviews of each other everyday with peer review. Then I joined institutes for mocks.

My interview lasted for about 20 minutes and the interview was focussed mainly on economics and current issues with some situation based questions.

PD—In your opinion at which Educational Level should one start preparing for Civil Services and what should be the minimum period of time required to prepare for Civil Services Examinations?

Shri Prabhat—Generally, I should start preparation after one graduation and one year of dedicated preparation is good enough for this exam.

PD—What is your opinion regarding the general view that Science subjects have better chances to score than Humanities?

Shri Prabhat—In BPSC, there is no provision of scaling as it is done in UPSC. Therefore, science subjects have an advantage but with better preparation, the humanities subjects have also excelled in the past.

PD—What is the importance of medium of examination in exams like CSE?

Shri Prabhat—Medium of examination is just the medium of expression. So, Hindi/English-medium students can equally excel in such type of examination.

PD—Does the educational, financial and demographic status of the family of an aspirant have any impact on the preparation?

Shri Prabhat—Today, it is the era of Information Technology. Every material is easily accessible by everyone. There are many toppers talk on social media. Hence, educational and demographic status do not create much problem however if one is determined, the financial hurdles can also be dealt with.

PD—In your opinion what role do the Competition Magazines play when you are preparing for an examination like Civil Services?

Shri Prabhat—These kinds of magazines provide all relevant material at one place. Students don't have to deviate here and there during preparation. Overall, it saves time.

Personal Qualities

Favourite Person—APJ Abdul Kalam.

Strong Points—Motivated, Hard-working, Punctual, Consistent.

Weak Points—Feeling low during preparation, hyper sensitive or excited.

Hobbies—Writing diaries, playing outdoor games like basketball, football.

PD—According to a recent report published by a reputed survey agency, Pratiyogita Darpan (Hindi) is the largest read and the only Career & Competition magazine in top four magazines in India. How do you find Pratiyogita Darpan?

Shri Prabhat—PD covers all the relevant news. It also covers the recent events very comprehensively. It covers some essay topics. Besides there is top guidance which adds feathers to the magazine.

List of Books

Prelims

Optional :

- **Indian Economy**—Mishra and Puri
- **Bihar Economy**—Crown book (Economy Section)
- **International Economics**—L. Salvatore
- **Public Finance**—H.L. Bhatia (Only selected topics)

Mains

Optional :

GS-I :

- **For Statistics**—B.P. Agrawal
- **For Current**—Vision IAS monthly + PD monthly magazine.

GS-II :

- **For Polity**—M. Laxmikant
- **For Geography**—NCERT 9th and 10th
- **For History**—Rajiv Ahir (Spectrum) facts focussed
- **For Science**—NCERT Class 9th and 10th, Lucent GK Science portion etc.

PD—Did you refer to Pratiyogita Darpan-Year Book? What is your opinion about the contents, size and the time of publishing?

Shri Prabhat—Yes, the contents are good, size is as per requirement and covering all points and time of publishing is such that it benefits students in preparation.

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140 Million Pulled Out of Poverty in India Since 2015-16 : UNDP

—Dr. Manish Dev

The number of people living below the poverty line in India decreased by 415 million between 2005-06 and 2019-21, according to a new Multidimensional Poverty Index (MPI) released on October 17, 2022 jointly by the United Nations Development Programme (UNDP) and the Oxford Poverty and Human Development Initiative (OPHI) at the University of Oxford. However, the index has stated that India still has the world's highest number of poor at 228.9 million, followed by Nigeria (96.7 million projected in 2020).

Global Multidimensional Poverty Index

The global Multidimensional Poverty Index (MPI) is a key international resource that measures acute multidimensional poverty across more than 100 developing countries. First launched in 2010 by the Oxford Poverty and Human Development Initiative at the University of Oxford and the Human Development Report Office of the United Nations Development Programme, the global MPI advances Sustainable Development Goal 1, holding the world accountable to its resolution to end poverty in all its forms everywhere.

The global MPI begins by constructing a deprivation profile for each household and person in it that monitors deprivations in 10 indicators spanning health, education and standard of living. For example, a household and all people living in it are deprived if any child is stunted or any child or adult for whom data are available is underweight; if at least one child died in the past five years; if any school-aged child is not attending school up to the age at which he or she would complete class 8 or no household member has completed six years of schooling; or if the household lacks access to electricity, an improved source of drinking water within a 30 minute walk round trip, an improved sanitation facility that is not shared, nonsolid cooking fuel,

durable housing materials, and basic assets such as a radio, animal cart, phone, television or bicycle. A person's deprivation score is the sum of the weighted deprivations she or he experiences. All indicators are equally weighted within each dimension, so the health and education indicators are weighted 1/6 each, and the standard of living indicators are weighted 1/18 each. The global MPI identifies people as multidimensionally poor if their deprivation score is 1/3 or higher.

MPI values are the product of the incidence of poverty (proportion of people who live in multidimensional poverty) and the intensity of poverty (average deprivation score among multidimensionally poor people). The MPI is therefore sensitive to changes in both components. The MPI ranges from 0 to 1, and higher values imply higher poverty. By identifying who is poor, the nature of their poverty (their deprivation profile) and how poor they are (deprivation score), the global MPI complements the international \$ 1.90 a day poverty rate.

Structure of Multi-dimensional Poverty	
Three Dimensions of Poverty	Indicators
Health	Nutrition
	Child Mortality
Education	Years of Schooling
	School Attaindance
Standard of Living	Cooking Fuel
	Sanitation
	Drinking Water
	Electricity
	Housing
	Assets

Thus, the Global Multidimensional Poverty Index (MPI) looks beyond income as a measurement of poverty to understand how people experience poverty in different aspects of their daily lives through three parameters—health, education,

and standard of living—which are further divided into 10 indicators.

- Across 111 countries, 1.2 billion people—19.1 per cent—live in acute multidimensional poverty (referred to as 'poverty' throughout). Half of these people (593 million) are children under age 18.
- The developing region where the largest number of poor people live is Sub-Saharan Africa (nearly 579 million), followed by South Asia (385 million).
- Simulations in 2020 suggested that the COVID19 pandemic had set progress in reducing Multidimensional Poverty Index (MPI) values back by 3-10 years. Updated data indicate that the setback at the global level is likely to be on the high end of those projections.
- In India 415 million people exited poverty between 2005-06 and 2019-21, demonstrating that the Sustainable Development Goal target 1, of reducing at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions by 2030 is possible to achieve—and at scale. The poorest states and groups (children, lower castes and those living in rural areas) reduced poverty the fastest in absolute terms.
- Of the 81 countries with trend data, covering roughly 5 billion people, 72 experienced a statistically significant reduction in absolute terms in MPI value during at least one of the periods analysed.

Inter-linkages

- Identifying the overlaps between poverty indicators—that is, when deprivations affect the same person or household simultaneously—can make the MPI a more precise policy tool.

- Almost half of poor people (470.1 million) are deprived in both nutrition and sanitation, potentially making them more vulnerable to infectious diseases. In addition, over half of poor people (593.3 million) are simultaneously deprived in both cooking fuel and electricity.
- The magnitude of existing deprivation bundles reveals the fragility of poverty in the current context. The existing structure of deprivations is likely to amplify the shocks of rising food prices (affecting nutrition and living standards) and rising energy prices (affecting access to clean cooking fuel) and to limit the effectiveness of development strategies centred on closing digital gaps (impossible without affordable electricity).
- Deprivation profiles vary by developing region. A poor person in South Asia is more likely to be deprived in nutrition, cooking fuel, sanitation and housing, while a poor person in Sub-Saharan Africa is more likely to have those deprivations and to be deprived in drinking water and electricity as well.

Multidimensional Poverty in India

The latest poverty estimates : The 2019-21 data show that about 16.4 per cent of India's population live in poverty, with an average intensity of 42.0 per cent. About 4.2 per cent of the population live in severe poverty (meaning their deprivation score is 50 per cent or higher). About 18.7 per cent of people, roughly the same proportion as in 2015-16, are vulnerable to poverty because their deprivation score ranges from 20 per cent to 33 per cent. Two-thirds of these people live in a household in which at least one person is deprived in nutrition—a worrying statistic. Based on 2020 population data for India, it has by far the largest number of poor people worldwide (228.9 million), followed by Nigeria (96.7 million projected in 2020).

According to recent estimates by the World Bank, around 56 million Indians might have plunged into extreme poverty in 2020 as a result of

the Covid-19 pandemic, contributing to the 71 million increase in the global tally. **To be sure, the World Bank doesn't measure multidimensional poverty and its poverty estimates are based on an income of \$ 2.15 per day at purchasing power parity (PPP).**

Key findings of the UNDP's report (2022) are following :

- Rural-urban disparities are stark in multidimensional poverty reduction: The percentage of people who are poor is 21.2 per cent in rural areas against 5.5 per cent in urban areas. Rural areas account for nearly 90 per cent of poor people : 205 million of the nearly 229 million poor people live in rural areas—making them a clear priority.
- Among poor people, deprivations in cooking fuel and housing are the most common, followed by nutrition and sanitation.
- More than one in five children are poor (21.8 per cent) compared with around one in seven adults (13.9 per cent). This translates to 97 million poor children.
- Bihar, the poorest state in 2015-2016, saw the fastest reduction in the incidence of poverty, from 77.4 per cent in 2005-06 to 52.4 per cent in 2015-16, to 34.7 per cent in 2019-21.
- Across states and Union Territories, the fastest reduction in relative terms was in Goa, followed by Jammu & Kashmir, Andhra Pradesh, Chhattisgarh, and Rajasthan. In relative terms, the poorest states have not caught up.
- Of the 10 poorest states in 2015-16, only one (West Bengal) was not among the 10 poorest in 2019-21. The rest—Bihar, Jharkhand, Meghalaya, Madhya Pradesh, Uttar Pradesh, Assam, Odisha, Chhattisgarh, and Rajasthan—remain among the 10 poorest
- India had 97 million poor children in 2019-21. This translates into more than one in five children (21.8 per cent), more than the total number of poor people in any other country covered by MPI.
- India is the only country in South Asia where female-headed

households are poorer than male-headed households.

- India is the only country in South Asia in which poverty is significantly more prevalent among female-headed households than among male-headed households. About 19.7 per cent of people living in female-headed households live in poverty compared with 15.9 per cent in male-headed households.
- The percentage of people who are poor is 21.2 per cent in rural areas compared with 5.5 per cent in urban areas. Rural areas account for nearly 90 per cent of poor people : 205 million of the nearly 229 million poor people live in rural areas—making them a clear priority. Only 23 countries covered have a higher proportion of poor people living in rural areas.
- Bihar continues to be the poorest state in the country. Others among the top 10 poorest states were Jharkhand, Meghalaya, Madhya Pradesh, Uttar Pradesh, Assam, Odisha, Chhattisgarh, Arunachal Pradesh and Rajasthan. West Bengal was the only state among the top-10 poorest in India in 2015-16, and not in 2019-21.
- The poor in India remain vulnerable amid rising food and fuel prices.
- About 18.7 per cent of people in India were found to be vulnerable to poverty because their deprivation score ranges from 20 per cent to 33 per cent. A person with a deprivation score of 50 is considered to be poor.
- Two-thirds of these people live in a household in which at least one person is deprived of nutrition—a worrying statistic.
- The population groups which were impacted by poverty higher saw a more rapid fall in the MPI score. Children from the age group of 0 to 17 years, saw the fastest reduction in their MPI scores. They are the poorest population group in India. Similarly, Bihar, which is the poorest state in the country saw the fastest decline in its MPI score from 77.4 per cent in 2005-

06 to 52.4 per cent in 2015-16. This further reduced to 34.7 per cent in 2019-21.

- India is an important case study for the Sustainable Development Goals, the first of which is to end poverty in all its forms and to reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions by 2030, all while leaving no one behind.
- Two-thirds of these people live in a household in which at least one person is deprived of nutrition—a worrying statistic.

Trends in Poverty Reduction

Of the nearly 415 million people who exited poverty in the 15 years prior to the COVID-19 pandemic, roughly 275 million did so between 2005-06 and 2015-16 and 140 million did so between 2015-16 and 2019-21. Deprivations in all 10 MPI indicators saw statistically significant reductions in both periods.

The MPI value for India fell from 0.283 in 2005-06 to 0.122 in 2015-16, then further to 0.069 in 2019-21, in sync with the decline in the incidence of poverty from 55.1 per cent to 27.7 per cent to 16.4 per cent. In roughly 15 years..... the MPI value, the incidence of poverty, and deprivations among poor people in the 10 MPI indicators were each more than halved.

India's reduction in MPI value continued to be pro-poor in absolute terms, as it was from 2005-06 to 2015-16. Rural areas were the poorest and saw the fastest reduction in MPI value. The incidence of poverty fell from 36.6 per cent in 2015-16 to 21.2 per cent in 2019-21 in rural areas and from 9.0 per cent to 5.5 per cent in

urban areas. Children, the poorest age group, saw the fastest reduction in MPI value. The incidence of poverty fell from 34.7 per cent among children and from 24.0 per cent to 13.9 per cent among adults. Similarly, the poorest caste and religious groups saw the fastest absolute reduction in the recent period. This general pattern continues across the states and union territories.

It is also essential to scrutinize changes using the relative reduction in poverty—the percentage of the distance to zero poverty covered. Nationally, the relative reduction from 2015-16 to 2019-21 was faster: 11.9 per cent a year compared with 8.1 per cent from 2005-06 to 2015-16. This is unsurprising because relative poverty reduction is easier to achieve when starting levels of poverty are lower. In relative terms adults covered more distance to zero poverty than children did. Across states and union territories the fastest reduction in relative terms was in Goa, followed by Jammu & Kashmir, Andhra Pradesh, Chhattisgarh and Rajasthan. In relative terms the poorest states have not caught up.

Deprivations in sanitation, cooking fuel and housing fell the most from 2015-16 to 2019-21. The share of the population who were poor and deprived in sanitation dropped from 24.4 per cent in 2015-16 to 11.3 per cent in 2019-21. The share of the population who were poor and cooked primarily with wood, dung, charcoal or another solid fuel was nearly halved—from 26.0 per cent in 2015-16 to 13.9 per cent in 2019-21—accompanied by a large reduction in the share of the population who were poor and deprived in electricity—from 8.6 per cent to 2.1 per cent.

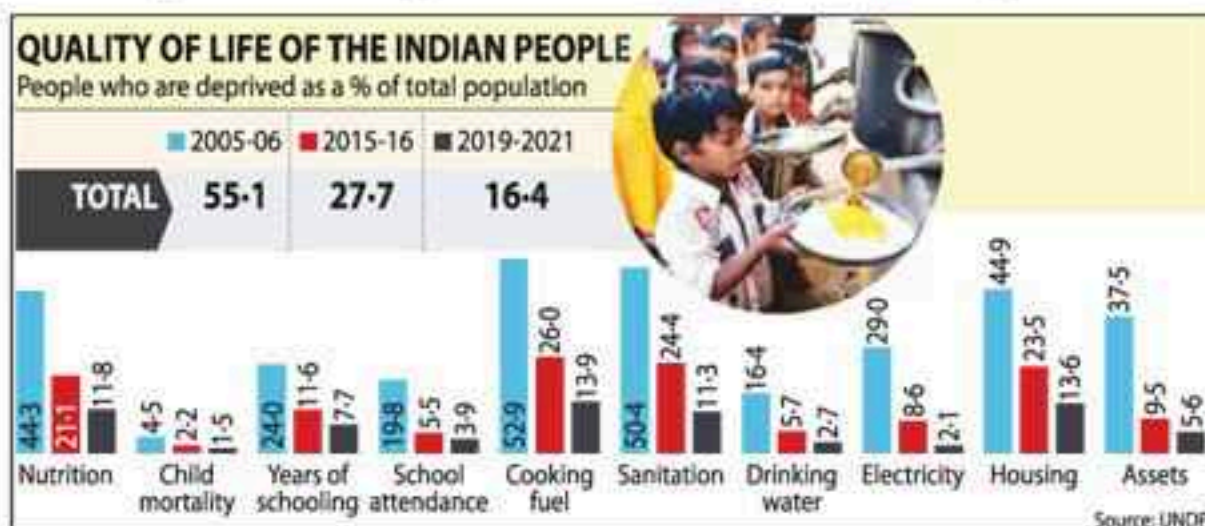
The most common deprivation profile in India is the same as the most common profile across 111 developing countries : one where people are deprived in nutrition, cooking fuel, sanitation and housing. The UNDP report commended India's performance in lifting the poor out of poverty. In the last 15 years, it lifted over 41.5 crore people out of poverty.

Poverty Reduction Policies

The pace and patterns of MPI reduction in India vary across states and union territories. While additional analysis is needed to clarify the drivers of change in each context, it is clear that multiple policy actions and schemes underpin these results. There have been visible investments in boosting access to sanitation, cooking fuel and electricity—indicators that have seen large improvements. A policy emphasis on universal coverage—for example, in education, nutrition, water, sanitation, employment and housing—likely contributed to these results. Schemes such as 'Samagra Shiksha Abhiyan' (universal education), 'Pradhan Mantri Ayushman-Jan Aarogy Yojana' (Universal Health Coverage), 'Pradhan Mantri Ujjawala Yojana' (Clean cooking energy), 'Swachha Bharat Abhiyan' (Improved sanitation), 'Har Ghar Nal se Jal (Improved drinking water supply), 'Pradhan Mantri Awaas Yojana-Rural /Urban'(Housing for all), 'Saubhagya Yojana (Sahaj Bijali Har Ghar Yojana)', 'Pradhan Mantri Jan Dhan Yojana' (Financial inclusion), 'Pradhan Mantri Garib Kalyan Anna Yojana (Free distribution of foodgrains)' etc. did a remarkable job to reduce the poverty and deprivation. But questions remain as to how spending patterns, performance incentives, institutions, non-state actions, integrated policy packages and local dynamics in each setting drove change.

India is an important case study for the Sustainable Development Goals, the first of which is to end poverty in all its forms and to reduce at least by half the proportion of men, women and children of all ages living in poverty in all its dimensions according to national definitions by 2030, all while leaving no one behind.

Continued on Page 93



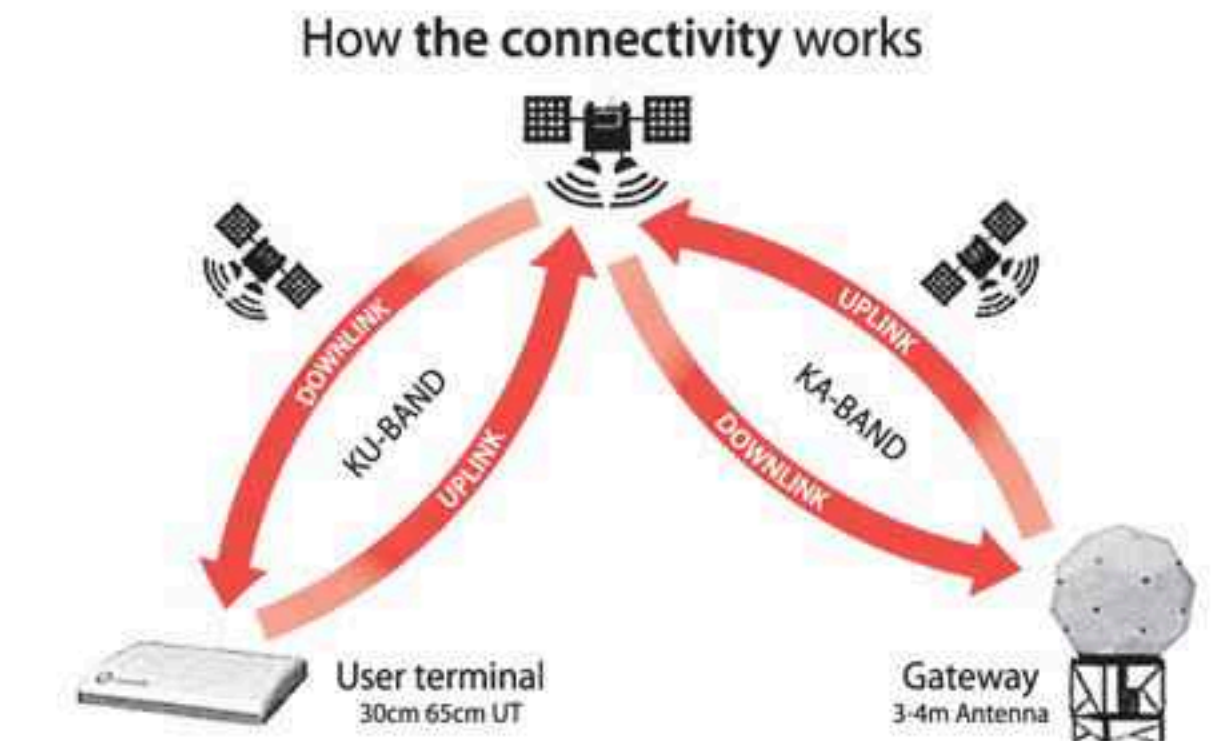
OneWeb India-1 Mission : Another Feather in ISRO's Cap

—Dr. S.S.S. Chauhan

Indian Space Research Organisation (ISRO) has created history on October 23, 2022 by launching 36 communication satellites from its launching pad Sriharikota off the coast of the Bay of Bengal. The launch was done on a 43.5 metre tall Geosynchronous Satellite Launch Vehicle Mark III (GSLV Mk III) rocket.

The 36 communication satellites were placed on the low-earth orbit as part of the OneWeb India-1 mission, or the LVM3 (Launch Vehicle Mk III) M2 mission. This marked the maiden commercial launch of LVM3, India's heaviest launch vehicle, also known as GSLV Mk III. It was also New Space India's (NSIL's) first launch with the vehicle (NSIL is the commercial arm of ISRO). It also became the first Indian rocket with a payload of 5,796 kilograms.

OneWeb, formally known as Network Access Associates, is the UK-based customer of NSIL, ISRO's commercial arm, and a global communication network powered from space, enabling internet connectivity for governments and businesses. OneWeb is a private satellite com-



Constellation

- Low Earth Orbit (LEO) at 1-200km
- Low mass satellites positioned on 12 planes
- 49 satellites per plane with in-orbit spares
- Connectivity pole to pole

Ground

- Low mass satellite production line
- Gateway earth stations located around the world
- User terminals designed for target markets
- Better look angles for signal strength

munications company, in which India's Bharti Enterprises is a major investor and shareholder.

- ISRO scientists have rechristened the launch vehicle its present name from GSLV-MKK III as the newest rocket is capable of launching 4,000 kilogram class of satellites into GTO and 8,000 kg of payloads into LEO.
- LVM3-M2 is a three-stage launch vehicle consisting of two solid propellant S200 strap-ons on its sides and core stage comprising L110 liquid stage and C25 cryogenic stage.
- OneWeb Ltd. is a global communication network powered from space, enabling internet connectivity for governments and businesses.
- OneWeb satellites are arranged in 12 orbital planes with 49 satellites in each plane on a 1,200-kilometre circular orbit.
- The company is implementing a constellation of low-earth orbit satellites and will have 648 satellites.

- These satellites have been targeted for 'connecting the unconnected', providing satellite-based internet in remote and rural parts.
- In its second operational flight, LVM3 launch vehicle placed 36 satellites of OneWeb to their intended orbits taking off at 0007 Hrs. on October 23, 2022, from the second launch pad at Satish Dhawan Space Centre, Sriharikota, Andhra Pradesh.
- This was the fifth flight of LVM3. This was a dedicated commercial mission for a foreign customer through NSIL. A total of 36 OneWeb Gen-1 satellites of about 150 kg each totaling about 5,796 kg were launched to a circular low-earth orbit of about 601 km with a 87.4 degree inclination. The separation of satellites involved a unique maneuver of the cryogenic stage to orientation and re-orientation covering 9 phases spanning 75 minutes. OneWeb confirmed the acquisition of signals from the satellites.

Continued on Page 80

Salient Features of the Mission

The LVM3-M2 mission is a dedicated commercial mission for a foreign customer OneWeb, through NSIL. It is the first multi-satellite mission with 36 OneWeb Satellites to the LEO as the heaviest Payload mass of 5,796 kg of LVM3 till date.

- First commercial mission of Geosynchronous Satellite Launch Vehicle Mark III (GSLV Mk III).
- First multi-satellite mission (36 OneWeb Satellites) for GSLV Mk III.
- First launch of GSLV Mk III to low-earth orbit.
- First Indian rocket with 6-tonne payload.
- First NewSpace India (NSIL) mission with GSLV Mk III.
- First OneWeb Mission with NSIL/ Indian Space Research Organisation.

75 Digital Banking Units : A Big Step Towards 'Ease of Living'

—Dr. Vikram Singh

Prime Minister Narendra Modi on October 16, 2022 started the 75 digital banking units (DBUs) in 75 districts virtually. According to the PM, it is a big step towards 'ease of living' for common citizens and will open up a whole new world of possibilities by combining financial partnerships with digital partnerships.

- The special banking system shall work to provide maximum services from minimum digital infrastructure.
- It will also simplify the banking procedure while providing a robust & secure banking system.
- In a village, in a small town, when a person takes the services of a digital banking unit, everything from sending money to taking loans will become easy, online.
- In her FY23 Budget speech, Finance Minister Nirmala Sitharaman announced that 75 DBUs would be set up to ensure that the benefits of digital banking reach every nook and corner of the country in the 75th year of Independence.
- As many as 11 public sector banks, 12 private sector banks, and one small finance bank have established brick-and-mortar DBU outlets across the country.
- DBU outlets will operate round the clock. DBUs will provide a variety of digital banking facilities to people, such as opening savings accounts through eKYC/video KYC, balance-check, printing passbooks, transfer of funds, investment in fixed deposits, loan applications, stop-payment instructions for cheques issued, applying for credit/debit cards, viewing statement of account, paying taxes, paying bills, and making nominations.
- The specific financial services to be extended by the DBUs

include, savings, credit, investment and insurance.

- On the credit delivery front, to start with, the DBUs will provide end-to-end digital processing of small ticket retail and MSME loans, starting from online applications to disbursals.
- DBUs will also provide services related to certain identified government sponsored schemes.
- The products and services in these Units will be provided in two modes – self-service and assisted modes, with self-service mode being available round the clock, on all days.
- The DBUs will help banks that are now looking to reduce their physical footprint with fewer brick-and-mortar branches, with a 'light' banking approach. The

move may open up the rural market for service providers, besides providing a boost to credit flow.

- DBUs will enable people who don't have a personal computer, laptop, or even a smartphone to be able to access banking services.
- The government's credit-linked schemes through the Jan Samarth portal will also be available for ordinary users.
- State Bank of India, the country's largest lender, has opened 12 of the 75 DBUs, in places like Port Blair in Andaman & Nicobar Islands, Balod in Chhattisgarh, and East, North and West Sikkim, among others. Bank of Baroda has opened 8 DBUs, which are in Varanasi, Kota, Vadodara, among others.

Banks that have Opened Maximum DBUs

- | | |
|-----------------------------|--------------------------|
| ● State Bank of India-12 | ● Bank of Baroda- 8 |
| ● Union Bank of India- 6 | ● Canara Bank- 5 |
| ● Punjab National Bank- 4 | ● HDFC Bank- 4 |
| ● ICICI Bank- 4 | ● AXIS Bank- 3 |
| ● Indian Bank- 3 | ● IDFC First Bank -2 |
| ● Punjab and Sindh Bank-2 | ● UCO Bank-2 |
| ● Kotak Mahindra Bank-2 | ● Indian Overseas Bank-2 |
| ● Karnataka Bank-2 | ● Bank of Maharashtra-2 |
| ● Indusind Bank-1 | ● City Union Bank-1 |
| ● Federal Bank-1 | ● Bank of India-1 |
| ● South Indian Bank-1 | ● YES Bank -1 |
| ● Jana Small Finance Bank-2 | |

DBUs : Taking the lead

4 DBUs in each of these states : Karnataka, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh

3 DBUs in each of these states : Gujarat, Kerala, Madhya Pradesh, Maharashtra, Punjab, Sikkim, Telangana

2 DBUs in each of these states : Andhra Pradesh, Assam, Chhattisgarh, Jammu & Kashmir, Jharkhand, Nagaland, Puducherry, Tripura, Uttarakhand, West Bengal

1 DBU in each of these States : Andaman & Nicobar ,Arunachal Pradesh, Bihar, Chandigarh, Dadra Nagar Haveli Daman and Diu, Goa, Haryana, Himachal Pradesh, Ladakh, Lakshadweep, Manipur, Meghalaya, Mizoram, NCT of Delhi,

Services offered : Financial services to be provided by the DBUs include savings, credit, investment and insurance. On the credit delivery front, the DBUs will provide end-to-end digital processing of small ticket retail, and MSME loans, starting from online applications to disbursals. They will also provide services related to certain government-sponsored schemes.

Two Modes of Services

- Self-service (24X7 and 365 days basis)
- Assisted

List of Digital Banking Units (DBUs) : States/UT Wise

S. No.	State/UT	Name of District/DBU	Bank Allocated DBU
1.	Andaman & Nicobar (UT)	Port Blair	State Bank of India
2.	Andhra Pradesh	East Godavari	Union Bank of India
3.	Andhra Pradesh	Machilipatam	Union Bank of India
4.	Arunachal Pradesh	Papum Pare	YES Bank
5.	Assam	Bongaigaon	Punjab National Bank
6.	Assam	Baksa	State Bank of India
7.	Bihar	Patna (Danapur)	Jana Small Finance Bank
8.	Chandigarh (UT)	Chandigarh (Rural)	HDFC Bank
9.	Chhattisgarh	Balod	State Bank of India
10.	Chhattisgarh	Mahasammand	State Bank of India
11.	Dadra Nagar Haveli Daman and Diu (UT)	Silvassa	Bank of Baroda
12.	Goa	South Goa	State Bank of India
13.	Gujarat	Vadodara	Bank of Baroda
14.	Gujarat	Mehsana	Kotak Mahindra Bank
15.	Gujarat	Surat	Kotak Mahindra Bank
16.	Haryana	Faridabad	HDFC Bank
17.	Himachal Pradesh	Solan	Indian Overseas Bank
18.	Jammu & Kashmir (UT)	Jammu	Jammu & Kashmir Bank
19.	Jammu & Kashmir (UT)	Srinagar	Jammu & Kashmir Bank
20.	Jharkhand	East Singhbhum	Bank of India
21.	Jharkhand	Ranchi	Jana Small Finance Bank
22.	Karnataka	Bangaluru Rural	Canara Bank
23.	Karnataka	Raichur	Canara Bank
24.	Karnataka	Mangaluru	Karnataka Bank
25.	Karnataka	Mysuru	Karnataka Bank
26.	Kerala	Ernakulam	Canara Bank
27.	Kerala	Thrissur	South Indian Bank
28.	Kerala	Palakkad	Union Bank of India
29.	Ladakh (UT)	Leh	Bank of Baroda
30.	Lakshadweep (UT)	Kawarati	Canara Bank
31.	Madhya Pradesh	Itarsi (Hoshangabad)	AXIS Bank
32.	Madhya Pradesh	Indore	Bank of Baroda
33.	Madhya Pradesh	Sagar	Union Bank of India
34.	Maharashtra	Aurangabad	Bank of Maharashtra
35.	Maharashtra	Satara	Bank of Maharashtra
36.	Maharashtra	Nagpur	Union Bank of India
37.	Manipur	Kakching	State Bank of India
38.	Meghalaya	Ri Bhoi (Aspirational)	State Bank of India
39.	Mizoram	Aizawl	Punjab National Bank
40.	Nagaland	Kohima	ICICI Bank
41.	Nagaland	Dimapur	IDFC First Bank
42.	NCT of Delhi (UT)	South Delhi	Indian Bank
43.	Odisha	Puri	UCO Bank
44.	Odisha	Khurda	Bank of India
45.	Odisha	Keonjhar	IDFC First Bank
46.	Odisha	Cuttack	UCO Bank
47.	Puducherry (UT)	Puducherry	ICICI Bank
48.	Puducherry (UT)	Karaikal	Indian Bank
49.	Punjab	Faridkot	Punjab & Sind Bank
50.	Punjab	Ludhiana	Punjab & Sind Bank
51.	Punjab	Janlandhar	Indusland Bank
52.	Rajasthan	Bundi	AXIS Bank
53.	Rajasthan	Vijaynagar, Bhilwara	AXIS Bank
54.	Rajasthan	Kota	Bank of Baroda
55.	Rajasthan	Karauli	Bank of Baroda
56.	Sikkim	East Sikkim	State Bank of India
57.	Sikkim	North Sikkim	State Bank of India
58.	Sikkim	West Sikkim	State Bank of India
59.	Tamil Nadu	Karur	ICICI Bank

60.	Tamil Nadu	Thanjavur	Indian Overseas Bank
61.	Tamil Nadu	Chengalpattu	IndusInd Bank
62.	Tamil Nadu	Virudhnagar	Canara Bank
63.	Telangana	Khammam	City Union Bank
64.	Telangana	Jangaon	State Bank of India
65.	Telangana	Rajanna	State Bank of India
66.	Tripura	Gomati	Punjab National Bank
67.	Tripura	West Tripura	Union Bank of India
68.	Uttar Pradesh	Varanasi	Bank of Baroda
69.	Uttar Pradesh	Kanpur Dehat Rural	Bank of Baroda
70.	Uttar Pradesh	Lucknow	Indian Bank
71.	Uttar Pradesh	Jhansi	Punjab National Bank
72.	Uttarakhand	Dehradun	ICICI Bank
73.	Uttarakhand	Haridwar	HDFC Bank
74.	West Bengal	North 24 Paraganas	Federal Bank
75.	West Bengal	South 24 Paraganas	HDFC Bank

- HDFC Bank – the country's largest private sector bank has opened 4 DBUs in Haridwar, Chandigarh, Faridabad (Haryana), and South 24 Parganas (WB). ICICI Bank – the second largest private sector bank has also opened 4 DBUs, in Dehradun, Karur (TN), Kohima, and Puducherry.
- The setting up of DBUs is a joint initiative of the Centre, RBI, the Indian Banks Association and the participating banks.

- DBUs will be different from traditional branch in following aspects :**
- They will provide banking services including cash deposit & withdrawal 24 x 7.
 - Services shall be provided digitally.
 - People not having connectivity or computing devices can do banking transactions from DBU in a paperless mode.
 - Bank staff will be available to help and guide users for banking transactions in assisted mode
 - Will help in providing digital financial literacy and create awareness for adopting digital banking.

- The banks are also free to engage the services of digital business facilitators and business correspondents to expand the footprint of the DBUs.

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World Panorama

Pakistan Factor in Indo-US Relations

—Arunoday Bajpai

Pakistan has always been a major factor in shaping India's relations with other countries. The simple reason is that India and Pakistan have been living in persistent tense relationship for last seven decades. But now the US as well as the West is using Pakistan as a tool to pressurize India to change her policy in certain issues mainly its position on Ukraine war. The Ukraine war started on 24 February 2022 with the launch of special military operations against Ukraine. The entire West led by the US has criticized Russian actions in strongest terms. They have caused passing of many resolutions in the UN Security Council and General Assembly against Russia since February, 2022. But, India has consistently maintained a neutral stand on Ukraine war. India has abstained from all US led resolution in the UN body; which are critical to the Russian military actions in Ukraine. India has its own national interest in not criticizing Russia in view of its long strategic partnership and dependence for the supply of defence items. India also justifies its stand on the ground of principle of 'strategic autonomy', which allows India to take independent foreign policy stand on the matters of core national interests. However, India's stand on Ukraine war is not gone well with the US as well as her European allies like Britain and Germany. Initially, the US and the European countries tried to persuade India to modify her stand on Ukraine war to go against Russian actions. But, they have not succeeded so far, as India has reiterated that it would make foreign policy choices as dictated by her own interests. For example, in spite of Western sanctions against Russia, India has continued to purchase cheap crude oil from Russian.

When the US did not succeed in persuading India to change its stand on Ukraine war, it has started other tactics to pressurize India. This tactics include promotion of their ties with Pakistan and raising the Kashmir issue in a manner which is not suitable for India.

US Attempts to Revive Strategic Ties with Pakistan

In recent months, the US has been at the forefront of promoting ties with Pakistan. The following moves by the US indicate fundamental change in US policy towards Pakistan :

(1) In September 2022, the US has sanctioned a defence grant of \$ 450 million to Pakistan to maintain and update F-16 Fighter jets supplied by the US to Pakistan since 1980s. The US argues that this financial assistance will strengthen Pakistan's capability to fight against terrorist groups. But this is very thin argument in view of Pakistan's past record.

(2) Again, the US ambassador placed in Islamabad has visited Muzaffarabad in Pakistan Occupied Jammu and Kashmir (POJK) in October 2022 to promote development work. The US ambassador termed this region as 'Azad Kashmir', which is fundamental change in US stand on Kashmir issue. The Azad Kashmir narrative is in tune with Pakistan narrative in Kashmir. The idea of Azad Kashmir signifies that a part of Kashmir has been liberated from India, whereas the remaining parts of Kashmir under India's control would be liberated in future. America's changing position in Kashmir goes against India long held position.

(3) Not only that, the US has issued Advisory to US citizens in October 2011 for not visiting India

held J&K due to high fears of terrorism there. This indirectly indicates that India has failed to tame terrorism in Jammu & Kashmir, in spite of alteration of its constitutional status in 2019. The US advisory gives credence to the Pakistan narrative on Jammu & Kashmir.

The above US moves prove that the US is bent upon pressuring India by cultivating ties with Pakistan on the one hand and raising the Kashmir issue on the other.

More than that, the European allies of the US are also in the process of launching diplomatic tirade against India in a coordinated manner. Germany and UK have followed American lead in this respect. Pakistan's Foreign Minister Bilawal Bhutto visited Germany on 7 October, 2022. The German Foreign Minister Analena Baerbock in a joint press briefing with Bhutto remarked that 'Germany has role and responsibility with respect to the situation in Kashmir. Therefore we (Germany) support intensively the engagement of the United Nations to find peaceful solution in the region' (Jammu and Kashmir). So far, Germany has treated Jammu and Kashmir as a bilateral issue between India and Pakistan. Now they are talking about the role of the United Nations. Why is this change in German stand ? India and Germany do not have any bilateral issue of tension. Indian Foreign Ministry spokesperson, Arindam Bagchi has launched strong protest over German Foreign Minister's above statement. India has maintained that German role in Kashmir is injustice to the terror victims in Kashmir.

The UK has also joined diplomatic tirade against India. Britain has been traditionally the stronghold of Kashmiri separatists for long time. Even the Plebiscite Front of Kashmir was located in the UK. Now a UK minister has alleged that Indians are the largest groups who over stay in Britain. India has countered the UK claim and has stated that India has taken prompt action in every case of

overstay reported by the UK. It is also reported that Pakistan, through UK aircraft, has been supplying weapons to Ukraine from its Rawalpindi military base. These weapons were supplied during 6-15 August, 2022. These developments indicate change of attitude of the US and its allies towards Pakistan *viz-a-viz* India.

Why the US Stand is not Justified ?

Biden administration's attempt to revive strategic ties with Pakistan and change its position in Kashmir is unjustified, thin and lacks long term perspective. It is just transactional in nature to swerve their short term interests in the Ukraine war.

(1) During Trump regime, the US shunned Pakistan and stopped all defence grants to Pakistan as the latter was accused of supporting Taliban and harbouring terrorist groups in its territory; which were inimical to the US interests in the region. During this period, Pakistan's assistance to Taliban fighters frustrated US objectives in Afghanistan. The dreaded terrorist and Al Qaeda Chief Osama bin Laden was found hiding in Pakistan in 2011. Pakistan's track record in harbouring terrorist groups is well known to the US. It is because of this reason that the US supported the move to blacklist Pakistan by the Financial Action Task Force (FATF) for not disrupting terror finance network in Pakistan. Pakistan continues to be placed in the blacklist of FATF even today. But now the US may bail out Pakistan from this blacklist as it has resumed defence ties with Pakistan. Thus, the US decision to extend defence grant to Pakistan goes against its own strategy of war against global terror.

(2) The US argues that by extending \$ 450 billion defence assistance to upgrade F-16 fighter jets is meant to strengthen Pakistan's terror fighting capabilities. This argument is not only thin veil but also goes against the previous facts. In fact Pakistan has never used F-16 fighters against terrorist groups. In 2019 Balakot operation, F-16 was involved in air dogfight against Indian air force and was also damaged in this fight. India has been maintaining for long time that the weapons supplied by the US to Pakistan will be used against India. The US was convinced earlier, but

Background of the US-Pak Relations

During Cold War era (1945-1991), the US and Pakistan came to develop close strategic ties as India was following the policy of Non-Alignment which was not suitable to western and US hegemony in the world. Pakistan joined US led Military alliances like SEATO and CENTO, which were designed against Soviet Union during Cold War politics. Gradually Pakistan emerged a tool to serve American strategic interests in the region. It was Pakistan which facilitated normalization of relations between China and the US in 1971 as it managed secrete visit of US Secretary of State to Beijing from Islamabad. This deepened rift between to communist allies China and Soviet Union.

During 1980s, Pakistan came as a useful for the US and her allies to counter the presence of Soviet forces in Afghanistan. It was in Pakistan that Taliban and Mujahideens were trained and raise with the assistance of the US and certain Arab countries. Taliban and Mujahideens fought against Soviet forces during 1980s. In 1983, the US supplied its most advanced F-16 Jets to Pakistan to fight against the Soviet forces in Afghanistan. But Pakistan never fails to threaten India with the help of US supplies weapons. Also the US turned a blind eye to the nuclear activities of Pakistan including the illegal trade of nuclear material and technology by its scientist Abdul Qadir, who is known as the father of Pakistani nuclear bomb. Thus, America's deliberate policy of ignoring Pakistan's nuclear activities finally led to the development of nuclear weapons by Pakistan.

During the post Cold War era, the US and Pakistan forged another alliance to fight global terror when Al Qaeda launched a 9/11 terror attack in the US. However, Pakistan's deeper involvement with Terror groups and its help to Taliban during the presence of US forces in Afghanistan was not appreciated by the US and her allies. Al Qaeda Chief was found hiding in Pakistan. It led to strain in US-Pak relations. Pakistan was placed in the black list of the Financial Action Task Force (FATF) in 2018 and in the same year American President Trump stopped all defence aid to Pakistan.

But, Now Biden is trying to revive this strategic partnership with Pakistan to put undue pressure on India, so that India follows US strategic line on Ukraine war.

Now Biden is changing the US strategy. It is anybody's guess that the upgraded version of F-16 will be used by Pakistan against India as and when it gets this opportunity.

(3) The US diplomacy is also displaying volte-face on Kashmir issue. In the post-cold war era, the US has consistently maintained that Kashmir is bilateral issue between India and Pakistan and both need to resolve it through bilateral negotiations. This was the US and its European allies maintained stand during the discussion on Kashmir in Security Council in 2019 following the abrogation of special status of Jammu & Kashmir under Article 370. This helped India to ward off undue pressure from China and Pakistan, which were trying to internationalize this issue through the UN Security Council. But now the US ambassador is terming POK as Azad Kashmir, which underlined fundamental change in US stand on Kashmir.

In view of these factors, the changing US stand cannot be justified on any aground.

Implications of Changing Position Towards Pakistan

The apparent change in US position on Kashmir and its emerging

closeness with Pakistan has many implications for India as well as India's relations with the US and its European allies.

First, The US and India have developed strong strategic partnership in the post-Cold War era. India is a member of US led QUAD strategic forum in the Indo-Pacific, both have signed logistic support agreement and the US has declared India as a major defence partner. This strategic partnership to check the Chinese hegemony in the Indo-Pacific will experience strain, if the US continues with policy of developing close strategic and defence ties with Pakistan.

Second, the US Indo-Pacific strategy will also face challenges with India becoming reluctant in extending its full cooperation to US strategy against China in this region.

Third, it will embolden Pakistan to be more assertive towards India in General and on Kashmir in particular. India has succeeded in last few years to isolate Pakistan on terrorism issue. But the change in US stand will lead to greater acceptability of Pakistan in global affairs. This would be an added challenge for India, as far as Pakistan and Kashmir issues are concerned.

Conclusion

The net outcome of this diplomatic tirade is to put diplomatic pressure on India so that it changes her stand on Ukraine war. The US and its European allies are appreciating India's specific position and relations with Russia. They are moving with the premise that if you are not with us you are against us. India's position on Ukraine is well explained and known to the US. India is following the policy of balancing her relationship with both the US on the one hand and with Russia on the other hand. In fact, India needs both US partnership to serve her interests in the Indo-Pacific and Russia for the defence supply and energy security. In addition Russia has been India's reliable strategic partner during Cold War and also in the post cold war

times. It is also important to note that India has never supported Russian military action against Ukraine at any point of time since the conflict began in February 2022. India has called for negotiated settlement of the dispute and cessation all military actions. Even during SCO Summit in Samarkand in September 2022, Indian Prime Minister Modi has conveyed to its Russian counterpart that this is not the time of war. However, the US and her European allies are not appreciating India's diplomatic choices and compulsions. Yet if the US continues to develop strategic ties with Pakistan, change its stand on Kashmir or turn a blind eye to Pakistan's terror activities, the Indo-US relations may experience strains in coming months. India has already protested America's pro-Pakistan diplomatic moves in recent months.

India and the SCO : Samarkand Declaration

The Shanghai Cooperation Organization or SCO is a regional security and economic cooperation group of Central Asia. The SCO is led by Russia and China. India joined the SCO in 2017 along with Pakistan. India joined this group in order to protect her strategic and economic interests in Central Asia and larger Eurasian region. India's membership was pushed by Russia and China in bargain which also pushed Pakistan's membership. This is how India and Pakistan both became members of SCO together in same year. Due to its focus on security issues in the region and participation of China and Russia, the SCO is sometimes referred to as the counter of NATO in Central Asia.

SCO Summit and Samarkand Declaration : The 22nd Summit of SCO was held on 16 September, 2022 at Samarkand in Uzbekistan. It was an important summit after the Covid pandemic as it was held amidst ongoing Russia-Ukraine war, heightened tension between the US and China over the issue of Taiwan and ongoing military stand-off between India and China in the Ladakh border since May 2020. The Heads of government of all eight member states, including Russia's President

Vladimir Putin, Chinese President, Xi Jinping, and India's Prime Minister Narendra Modi among others took part in the meeting.

Indian PM Modi and Chinese President Xi came face to face during summit but there was no official or unofficial meeting between the two. However, the Indian PM Modi held bilateral meeting at the sidelines of summit with the four leaders—Russian President Vladimir Putin, Iranian President Ebrahim Raisi, Uzbek President Shavkat Mirziyoyev and Turkish President Recep Tayyip Erdogan. While meeting with Russian President Putin, Modi remarked that it is not the time of war. Modi's statement was well received in the global capitals. Putin also assured India to end the conflict as soon as possible.

India's Focus in the Summit

The Indian Prime Minister, in his address to the Summit, highlighted the importance of connectivity, threat of terrorism, food security crisis and cultural exchanges. Modi supported the expansion of connectivity in the region. He emphasized the need for giving connectivity access by each member to other members, which will help in strengthening supply chains

in the region. It was indirect hint at Pakistan's refusal to grant road access to humanitarian aid by India to Afghanistan. The Indian Prime Minister also raised the issue of impending food crisis due to Ukraine war. It should be noted that Russia and Ukraine supply 30 per cent of the global Wheat requirements. But due to the ongoing war, this supply has been affected. He also emphasized the role of Millets in the food security in the region. India is the leading producer of millets and the FAO has declared 2023 as the International Year of Millets. India appreciated the report of SCO Working Group on traditional medicine; pleading for its promotion in the region. It should be noted that the WHO has opened its only Global Centre of Traditional Medicine in Gujarat in April 2022. India is ahead of other members in the promotion of traditional medicine at global level. India also underlined the age old civilizational links among the members of the SCO. Modi pleaded for the promotion of cultural exchange and tourism in the region. At India's proposal, Varanasi was declared as the SCO Tourism and Cultural Capital for the Year 2022-23, which will promote tourism in India. Under the framework of this major cultural outreach program, a number of events will be hosted in Varanasi during 2022-23. India is going to host next year SCO summit in 2023.

Samarkand Declaration

At the end of the summit the leaders issued a joint declaration highlighting the status of activities of SCO and its future plan. This Declaration is known as Samarkand Declaration. The Declaration is very long. Some of the important points of this Declaration are mentioned below :

(1) The Samarkand declaration reiterates the commitment of members states to 'peaceful settlement of differences and disputes between countries through dialogue and consultation'. The leader also stressed on the principles of mutual respect for sovereignty, independence, territorial integrity of States, equality, mutual benefit, non-interference in internal affairs, and non-use or threat of use of force are the basis for sustainable development of international relations.

Shanghai Cooperation Organization (SCO) : A Background

The SCO is an inter-governmental regional organization of Central Asia or Eurasia. It was established in 2001 in the present form. Its primary objective is to promote cooperation among members for the peace stability and prosperity in the region. At present, it has eight members. Iran has joined as its 9th member; which will be admitted as full member in 2023.

The SCO was originally formed in 1996 as **Shanghai Five** by five countries—Kazakhstan, China, Kyrgyzstan, Russia and Tajikistan. Shanghai Five (1996) emerged from a series of border demarcation and demilitarization talks which the four former Soviet republics held with China to ensure stability along the borders. With the joining of Uzbekistan in 2001, it was renamed as SCO. India and Pakistan joined in 2017. India's membership was supported by Russia, which China supported Pakistan's membership as a counterbalance to India's accession.

The SCO Charter was adopted in 2022 and came into force in 2003. Its Headquarter is located in Beijing, China. RATS or Regional Anti-Terrorism Structure is the permanent body of the SCO. The RATS is located in Tashkent, Uzbekistan and works a permanent organ for addressing the challenge of terrorism and extremism in the region.

India joined first as an Observer in 2005 and elevated to the position of permanent membership in 2017. The Chairmanship of SCO is rotated among members in alphabetical order. Thus, India has become the Chair of SCO for the year 2023. It means the next summit of the SCO will be held in India in 2023. The Summit is the highest decision-making body of the SCO.

trafficking and their precursors, and noted—the importance of implementing the international drug control conventions and other relevant legal regulatory instruments. However, the member states will refrain from interference in the states' internal affairs under the pretext of countering terrorism and extremism.

They also expressed concern over the proliferation of chemical and biological weapons and threat to cyber security. They decided to further strengthen cooperation in defense and security. They emphasized the importance of regular joint military anti-terrorist command and staff exercises "Peace Mission" to increase the level of interaction in the fight against terrorism.

(6) The members laid emphasis on the openness of SCO to admit new members if they subscribe to the charter and principles of SCO. Accordingly the summit decided to admit Republic of Iran as the 9th member of the SCO. They also decided to start the procedure for admission of Belarus as the 10th member of the organization.

(7) The leaders called for greater efficiency in the WTO as a key platform for discussing the international trade agenda and adopting the multi-lateral trading system regulations.

They called for greater reforms in global economic architecture including the reforms in WTO to make it more inclusive and effective. They opposed protectionist measures by some countries to undermine rule based trade regime. They agreed to encourage regional economic cooperation in various forms, promoting the creation of favorable conditions for trade and investment in order to gradually implement the free movement of goods, capital, services and technologies in this region. Except India all other members reaffirmed their support for China Belt and Road Initiatives (BRI) and resolved for faster implementation of projects under the BRI.

(8) In order to promote co-operation among themselves, the leaders decided to establish Special Working Group on Startups and Innovation, Special Working Group on Combating Poverty and Expert Working Group on Traditional Medicine. They

(2) The leaders decided to develop common principles and approaches to form a unified list of terrorists, separatist and extremist organizations whose activities are prohibited on the territories of the SCO member states. India has been at the forefront for raising the issue of terrorism. The region of Afghanistan and Central Asia is prone to proliferation of terrorism.

(3) China has been protesting the US strategy of forming blocks and alliances in the Indo-Pacific region. Accordingly, the Declaration notes that member States adhere to a line that excludes block, ideological and confrontational approaches to solving the problems of international and regional development, countering traditional and non-traditional security challenges and threats. They reaffirmed the relevance of initiatives to promote cooperation in construction of the new-type international relations in the spirit of mutual respect, justice, equality and mutually beneficial cooperation, as well as formation of a common vision of the idea of creating a community of the common destiny of humanity.

(4) The member states emphasized the significance of the 15th anniversary of signing the Treaty on Long-term Good Neighbourliness, Friendship and Cooperation by the SCO. The Summit approved the Comprehensive Plan for its implementa-

tion for 2023-2027. The Member States will further increase the SCO's involvement in peace and security efforts in the region. The Member States consider Central Asia to be a core of the SCO and support the efforts of the countries in the region aimed at ensuring prosperity and peace, sustainable **development and formation of a space of good neighborliness, trust and friendship.**

(5) The leaders also discussed various security threats in the region including terrorism, illicit drug trade and illegal arm trade. The leaders reaffirmed their strong commitment to fighting terrorism, separatism and extremism. The Member States are determined to continue taking active measures to eliminate the conditions conducive to the spread of terrorism, to disrupt the terrorism funding channels, to suppress recruitment activities and cross-border movement of terrorists, to counter extremism, radicalization of youth, the spread of terrorist ideology, as well as to eliminate 'sleeper cells' and places used as terrorist safe havens. The Member States have expressed their concern about the growing threats posed by increased production, trafficking and abuse of narcotic drugs and using the proceeds of illicit drug trafficking as a source of funding for terrorism. They stressed the need for a joint and balanced approach to countering illicit drug

also decided to strengthen a potential of technoparks, joining efforts to develop an innovation ecosystem, conducting joint research and development, launching new digital projects within the SCO.

(9) In order to strengthen cooperation and develop a service sector and trade in services within the SCO, increase regional and global competitiveness, the concerned Member States approved the Framework for Cooperation between Authorized Bodies of the Shanghai Cooperation Organization Member States in Trade in Services and Joint Action Plan for the Intra-Regional Trade Development within the Shanghai Cooperation Organization.

(10) The other areas of cooperation identified during the summit are: encouragement to the use of digital technology, cooperation in the field of energy particularly renewable energy, transport, connectivity and logistic development, environment protection, climate change, health cultural cooperation and people to people exchanges and tourism.

Conclusion

The SCO has primarily established a security mechanism in the Central Asian region which is beset with extremism, illegal drug and arms trade and political instability. The Regional Anti-Terrorism Structure or RATS is the main organ of SCO dedicated for this purpose. However, later the SCO expanded its scope and included economic cooperation as another major objective. The SCO summit focused on these two broad objectives. Trade among SCO members had risen to \$ 6 trillion in 2020 from US \$ 667 billion when the group was founded in 2001. Since many transport routes through Russia are affected by sanctions due to the war in Ukraine, the countries are looking for new ways to trade with the world. Thus, the SCO Summit in the historic town of Samarkand in Uzbekistan is significant for at least two important reasons: first, from a security and political perspective, and second, due to the potential to impact the region's economies and through cooperation and trade.

India has vital stakes in Central Asia. First, its security concerns mainly terrorism has roots in the

region. Taliban government in Afghanistan has further heightened its strategic importance for India. India is interested that the SCO take the lead in ensuring peace and stability in the Afghanistan-Central Asia region. This is a part of India's regional strategy to address the challenges of terrorism and extremism. Second, India needs connectivity to Central Asia. Pakistan has been reluctant to provide direct access to India to reach Central Asia and Afghanistan through its territory. Hence India has been stressing the role of SCO in promoting regional connectivity. Third, India has economic and energy security interests in the region. Though, at present, India's trade with Central Asia is meager, but it has immense potential for economic and development cooperation. As Kazakhstan is rich in oil resources, Turkmenistan is rich in natural gas. Because of these interests, India has been strengthening her bilateral cooperation with Central Asian Republics since 1991 when they became independent nations after separation from Soviet Union. Now the membership of SCO to India since 2017 gives another mechanism to promote her vital interests in the region. However, the problem is that China is not only playing leading role in the SCO but also promoting the interest of Pakistan, This is perhaps the main hurdle in success of Indian diplomacy in SCO. India will get opportunity in 2023 to organize the 23rd Summit of SCO in New Delhi. This would enable India to have greater say in Central Asian affairs.

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- OneWeb Gen-1 satellites utilize a bent-pipe technology approach to offer communication in Ku-band and Ku-bands.
- Calling the launch of LVM3 M2 a historic event, Shri S. Somanath, Chairman, ISRO lauded the synergetic efforts between ISRO, NSIL, OneWeb in realizing the mission in a record time. He specifically acknowledged the design and development of an inertial navigation system at LPSC for C25 operations.
- This was one of the biggest commercial orders executed by

ISRO. With this launch, the LVM3 enters into global market in a grand manner.

- This is historic. In the second operational mission only, LVM3 is going commercial.
- LVM's next mission will be for OneWeb only, the next Chandrayaan-3, and after that the Gaganyaan unmanned mission.
- The Chandrayaan-3 mission is India's third space venture targeting the moon. Although it was supposed to launch in late 2020 or early 2021, it was reportedly delayed due to the pandemic.

Technical Highlights

- Handling of multiple satellite separation events.
- Increased nominal mission duration.
- Ensuring safe separation distance through C25 stage re-orientation and velocity addition.
- Ensuring data availability for entire mission duration.
- Realization of New payload adaptor and interface ring for the satellites dispenser.

OneWeb Summary

Constellation

- OneWeb Constellation operates in a LEO Polar Orbit.
- Satellites are arranged in 12 rings (Orbital planes) with 49 satellites in each plane.
- The orbital planes are inclined to be near polar (87.9 Deg.)
- The orbital planes are 1200 km above the Earth.
- Each satellite completes a full trip around the earth every 109 minutes.
- The earth is rotating underneath satellites, so they will always be flying over new locations on the ground.
- In full service, each plane will have 49 satellites = 588 Satellites.

As per reports, the OneWeb India-1 Mission handles multiple satellite separation events, boost nominal mission duration and ensure safe separation distance through C25 stage reorientation and velocity addition. This mission ensures data availability for the entire mission duration and realises a new payload adapter and interface ring for the satellite dispenser.

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Food Processing Industry in India : An Analysis

S. K. Singh

Introduction

Food processing is the process of transforming raw crops or clean animal products into food. The process of transformation makes them suitable for long shelf life that are highly marketable. Food processing and nutrition have remained separate scientific endeavours. Food processing industry is categorized as a sunrise sector in the second decade of 21st century.

As of 2022, the food processing industry in India is in its infancy. In developed countries, around 80 per cent of the harvest is processed into value-added and increased shelf life products. In India farmers, by and large, produce crops meant for fresh consumption rather than processing. However, in recent years, with some awakening farmers in different regions of the country have begun to produce crop varieties suited for food processing. There is need to have an environment for evolving innovative processed products and convenience foods. The food processing sector in India has dualistic structure, organized and unorganized.

Concept and Nature of Food Processing

Food Processing means any raw product of agriculture, dairy, animal husbandry, meat, poultry or fishing is transformed through a process with a view to preserve food substances in an effective manner, which adds to shelf life and quality suitable for human consumption and also enhances commercial value of the product.

According to United Nations Industrial Development Organisation (UNIDO), the term agro-industry signifies those industries which use raw materials from agriculture as main material and from that manufactured goods are produced on commercial scale.

Agro-processing industries, especially food manufacturing,

tobacco and textile processing dominate the commercial industrial sector. Agro-food is a subset of agribusiness that refers to industries involved in the production, processing and inspection of solely food products made from agricultural commodities. It cuts across various industries and constitutes the aggregation of many commodity sub-sectors such as grain, dairy, coffee, fruit, vegetables, cotton, etc. In short, food processing includes :

1. Manufactured Processes.
2. Other Value-Added Processes.
3. From an analytical perspective, food processing can be viewed as different levels of processing—primary, secondary and tertiary.

Methods of Food Processing Industry

The method of processing enhances the shelf life of the product by one or a combination of various methods of processing, such as :

1. washing,
2. chopping,
3. pasteurising,
4. freezing,
5. fermenting,
6. packaging,
7. cooking, and
8. many others

Method of food processing may be categorized into traditional and modern. Traditional methods include heat treatment, fermentation, pickling, smoking, drying, and curing. Whereas modern methods relate to pasteurisation, ultra-heat treatment, high pressure processing, or modified atmosphere packaging. Slaughtering, fermenting and preserving foods with salt were the common methods used. Modern food processing emerged with the method of canning, freeze, drying, artificial sweeteners and preservatives in the late nineteenth century. In the twentieth century, convenience foods like frozen foods became popular. With the growth of the industry, "new and emerging food technologies have initiated a paradigm shift away from conventional process methodologies to gentler, non-thermal processing".

Characteristics of Food Processing Industry

For understanding characteristics of food processing industry, it is essential to know the following :

1. **Makes food edible** : Food crops like wheat, rice corn, etc. vegetables are not edible in their natural state. Processing techniques, such as milling and grinding, turn them into flour, after which they can be made into breads, cereals, pasta and other edible grain-based products.
2. **Safety and preservation** : Processing improves or even ensures food safety by removing harmful microorganisms. This is done through pasteurisation, airtight packaging, and the use of preservatives.
3. **Nutritional quality** : This is attained by enhancing the quality in terms of adding components that were not present, like vitamin D (through 'fortification'), or by lowering fat, salt or sugar. It can also cause some fibre and vitamins and minerals to be lost, for example, through excessive refining, heating or freezing.
4. **Convenience** : In the contemporary world, food processing industry answers modern day time-constraints by providing a range of convenient foods: ready meals, bagged salads, sliced and canned fruits and vegetables that take little time to prepare and can be consumed 'on the go'.
5. **Increases shelf life of food items** : Food processing increases the shelf life of food, and decreases the amount of waste.
6. **Considered healthy diet** : A healthy diet means eating a variety of nutritious foods from different food groups, including fresh fruits and vegetables, grains and cereals, proteins, dairy and

healthy fats. If chosen carefully, processed foods can be incorporated into a healthy and balanced diet.

7. Some processed foods that contain less fibre, and higher levels of (saturated) fat, added sugar and salt, are best consumed occasionally. If carefully taken, foods like biscuits, chocolate bars, burgers, pizzas and alike, and make them an occasional addition to, rather than a basis of regular diet.

It is important for food processing industry to ensure safety and hygiene of products. This sector follows different methods to make the food suitable for consumption. The objective of processing food is to provide a safe and nutritional food supply.

Growth and Importance of Food Processing Industry in India

The importance of a well-developed food processing sector with higher level of processing lies in the following :

1. the reduction of wastage,
2. improves value addition,
3. promotes crop diversification,
4. ensures better return to the farmers,
5. promotes employment,
6. increases exports earnings,
7. addresses critical issues of food security,
8. reduces food inflation,
9. provides wholesome, nutritious food to the people.

India's food processing industry comprises the following :

1. Milk and milk products,
2. Meat and meat products,
3. Fish and marine products,
4. Poultry, eggs & products,
5. Cereals,
6. Grains and oilseeds,
7. Fruits and vegetables,
8. Confectioneries (bread, biscuits & other bakery products),
9. Beverages (non-alcoholic like coffee, tea, cocoa and aerated waters/soft drinks)
10. Alcoholic beverages (beer, wine and liquor),
11. Packaged food.

The Indian industry grew by 10 per cent over the last 5 years (2016-20) led by meat and marine, dairy and packaged foods segments. According to Annual Report of MoFPI (2021-22) "in India during the five-year period ending 2019-20, food processing sector has been growing at an average annual growth rate of around 11.18 per cent as compared to around 4.19 per cent in agriculture. Food processing sector has also emerged as an important segment of the Indian economy in terms of its contribution to GDP, employment and investment. The sector constituted as much as 9.87 per cent and 11.38 per cent of gross value added (GVA) in manufacturing and agriculture sector respectively in 2019-20."

Food products industry has the largest number of factories and engages largest number of persons as well. The industry also figures among the top five sectors with respect to fixed capital, gross value added and output. Food products industry employs largest number of persons while generating the second highest output level as in other industries. According to the latest Annual Survey of Industries (ASI) for 2018-19, the total number of persons engaged in registered food processing sector was 20.05 lakhs. Unregistered food processing sector supported employment to 51.11 lakh worker as per the NSSO 73rd Round, 2015-16 and constituted 14.18 per cent of employment in the unregistered manufacturing sector.

This industry plays an exemplary role in linking farmers to consumers in both domestic and international markets. It lies at the heart of *Make in India* initiative and resonates with '*vocal for local*'. The food processing industry has been characterized as *engine of growth for the Indian economy*. This industry accounts for 32 per cent of the country's total food market and is ranked fifth in terms of production, consumption, export, and expected growth.

The food processing industry forms a major part of India's economy owing to the variety of food products that the country harvests and further processes for consumption. India is the largest producer of

milk, bananas, mangoes, guavas, papaya, ginger, okra; second-largest producer of wheat, rice, fruits, vegetables, tea, sugarcane and cashew nuts and the third-largest producer of cereals, coconut, lettuce, chicory, nutmeg, mace, cardamom and pepper worldwide.

Rising incomes and a growing demand for healthy, packaged food ensure that this industry is likely to sustain all seasons and never fear a recession. Food processing reduces post-harvest losses. There has been substantial marketing importance of food processing.

The Indian food processing market is expected to double from US \$ 263 billion (2019-20) to US \$ 535 billion (2025). India is the world's fourteen largest exporter of food products with a 2.6 per cent share in global exports (2010) and growing at a CAGR of 2.6 per cent during 2015-2019 (KPMG, 2021). As per Agricultural and Processed Food Products Export Development Authority (APEDA), India's exports of Agri & Processed Food stood at US\$ 32.5 billion in 2019 and contributing 10 per cent to overall exports which is growing at a compound annual growth rate (CAGR) of 5.9 per cent (2015-2019).

As per DPIIT-FDI Statistics, it is the 13th largest recipient of foreign direct investment (FDI) in India attracting over US \$ 9.98 billion during 20 years period (2000-2020). While the flow of FDI to this sector has increased over the years, its share was still low at less than 2 per cent in 2018-19. The countries from which large amount of FDI is invested in this industry are EU countries such as Netherlands, Germany, Italy and France. Some of the successful ventures from EU countries are Perfetti, Cadbury, Godrej-Pillsbury, Nutricia International, Manjini Comaco, etc.

In the organized sector of food processing industry, few brands have gained popularity, some of them are noted below :

International : Coca-Cola, Pepsi, Unilever, Mars, Mondelez (Kraft Foods), Kellogg's, Del Monte, Cargill, Ferrero, Nestle, Danone, McCain, Hershey and Perfetti Van Melle.

National : Kissan, Amul, Godrej Industries, Parle Agro, ITC Ltd., Agro Tech Foods, Dabur India Ltd., Britannia Industries Ltd., Sunfeast and Haldiram's.

To recapitulate, food processing industry is important for Indian economy as it provides employment, increases farmers' income, crop diversification, preserves nutritive quality of food and prolongs the shelf life, helps in reducing malnutrition, food wastage, increases exports earnings. Food processing could strengthen the link between agriculture and industry and help in generating farm income and employment as also in reducing wastage of agricultural products. In India, there has been diversification from food grains to high value products like milk, meat products, vegetables and fruits.

Exports of Food Processing Industry

As of 2022, India is ranked number 14 in the list of global exporters. Exports of food processing industry both in terms of composition and direction is increasing. Countries which are importing India's products are: China, Iran, Bangladesh, UAE, Vietnam, Nepal, USA, China, Germany, Netherlands, Japan, UK, France, Italy, Spain and Canada. There is scope for increasing exports in global markets for processed foods. Globally top 5 exporting nations account for 34 per cent share in export of food products. India is 14th largest exporter in the world with only 2 per cent share in global export of food products and is significantly behind leaders such as Brazil, Mexico, Netherlands and Germany.

India exports agricultural / horticultural products and processed foods to more than 100 countries/ regions with major exports to the Middle East, Southeast Asia, SAARC countries, the European Union (EU) and the US. As per Annual Report of MoFPI (2021-22), the value of agri-food exports including processed food exports during 2020-21 was of the order of US \$ 38.32 billion accounting for about 13.2 per cent of India's total exports (total exports US \$ 291.17 billion).

There has been a steady improvement in the infrastructure available to establish Agri Export

Zones (AEZ) in the country. An apex organisation, Agricultural and Processed Food Products Export Development Authority (APEDA) under the Ministry of Commerce and Industry has been set up for the promotion of exports.

Geographical/Regional Spread

Up to 2017-18, the food processing industry were concentrated in five states (Maharashtra, Madhya Pradesh, Uttar Pradesh, Punjab and Haryana) which contributed nearly 50 per cent of gross value added (GVA). Newer addition of states are Tamil Nadu, Karnataka, Gujarat, Himachal Pradesh. There is ample scope for diversification of products and spread to new geographies. Manufacturers are also trying to shift their focus towards adopting regional cuisines and flavours in processed food.

There is need to develop clusters in different geographical locations. The dependence on right kind of inputs at a local level where agro climatic conditions typically favour the produce which is conducive to that particular region and therefore building infrastructure which is relevant to each of these different locations across the country. The state governments need to cooperate with the central government and build certain value chain areas where each state would specialize. Therefore, formation of clusters becomes important.

Government Policy and Food Safety Management

The Ministry of Food Processing Industries (MoFPI) is responsible for formulation of policies, schemes & administration of regulations relating to the food processing sector in India. Several policy initiatives have been taken from time to time to promote growth of the food processing sector in the country.

One of the important policy steps was taken in the form of liberal financial assistance which proved very conducive for the growth of the industry. Besides this, many other kinds of hand-holding by the government has helped this industry to outpace other labor-intensive sectors in terms of growth. The government policy in terms of

provision of quality infrastructure for modern food processing is an important step. The infrastructure has expanded significantly led by MoFPI. Under *Pradhan Mantri Kisan Sampada Yojana (PMKSY)*, infrastructure has got a big push across the country with grant from the central government.

The nature of industry is such that a number of government ministries and agencies are involved for the growth of food processing industries. The important ministries and agencies are - Agriculture, Food Processing Industries, Health, Commerce & Industry, Animal Husbandry & Dairying, Fisheries, State Ministries, National Dairy Development Board, Spice / Tea Board, Agriculture and Processed Foods Export Development Authority (APEDA), Marine Products Export Development Authority (MPEDA), Food Safety and Standards Authority of India (FSSAI), Indian Institute of Food Processing Technology (IIFPT), The Indian Council of Agricultural Research (ICAR), Central Food Technological Research Institute (CFTRI), Central Marine Fisheries Research Institute (CMFRI), etc.

All these agencies are important stakeholders and are involved in various ways in promotion of food processing industry.

This industry is getting priority as it has scope for value addition in agro-processing sector. This sector has been made part of ambitious '*Make in India*' initiative. The industry receives growing support from the government. The government's policy of '*Atmanirbhar Bharat*' has assigned clarity to food processing industry.

As a measure towards improving Ease of Doing Business, a transparent selection process and working completely on an online scheme management system has been implemented. The sector's policy measures have shifted the focus from livelihood to processing, distribution, and marketing.

Pointing out the disjointed policies of the government, KPMG (2021) in its study has observed that "several schemes have been rolled out by various ministries for the development of food processing and

allied industries. However, most schemes are standalone schemes with little reference to other schemes even though the beneficiary sub-segments are common. This has resulted in a fragmented approach where the advantages of one scheme are not captured by another scheme. Integrating various schemes considering the common components involved and to avoid overlaps may be considered going forward."

The food processing industry is a sunrise sector and needs a comprehensive policy. The focus of such a policy should be to smoothen the supply chain by creating infrastructure, promoting exports, improving quality standards, expanding supply of formal credit, particularly to small and medium enterprises, and broadening skilled labour pool in the economy (Dhanya, et al, 2020).

Food Safety Management

Covid-19 pandemic has accentuated the critical importance of food safety and the management of food surpluses in the country. Under Food Safety and Standards Act (2006), FSSAI was established which consolidates various Acts & Orders. As regards food safety, the regulations require the display of a 'Nutritional Facts' panel on processed foods along with the breakdown of nutritional content including calories. Elements such as total and saturated fats, cholesterol, and sodium must always be shown. Front-of-pack labels (FoPL) can warn consumers of unhealthy levels of sugar, salt, and fat in highly processed food items. An effective FoPL regime can help consumers.

The challenge in India is how to provide incentives for the effective expansion of small units so that they adapt better technologies to ensure food safety and quality. Governments often support these small units as they provide employment and generate income for their operators. There is a question of reliability and timely delivery of safe and quality raw materials. Raw materials generally come from small farmers who lack infrastructure for their conservation and preservation, resulting in variability in the quality and safety of the raw materials. This necessitates security and safety at industrial level, which must be taken care of.

Agri Supply Chains Needs Recalibration

In this industry, the value chain involves many stages which start from farm inputs and ends at food retail and food services. Agri-food supply chain is very complex as it involves perishable goods and a number of small stakeholders and intermediaries. The supply chain is highly fragmented, weak and inefficient because it is not well coordinated right from raw material from field/market to processing units leading to significant post-harvest losses. The high level of losses reveals the inability of infrastructure to support the growing industry.

In short, supply chain in food processing industries involves following stages :

Input → production → primary processing → secondary processing → procurement → storage → retailing

Problems of Food Processing Industry

The problems can be expressed in following ways :

1. **Farm level problems** : Low yield and low returns; primitive methods of farming; poor quality of inputs; supply of sub-standard quality and quantity of farm produce; uncertain weather conditions; unsuitable storage facilities;

2. **Distributional problems** : Lack of proper cold storage facilities, inadequate handling and transport system;

3. **Financing and marketing problems** : Inadequate finance; higher level of import duties, taxation; unavailability of proper supply chain system (cold storage, refrigerated containers, etc.); high cost of packaging and advertisement;

4. **Other problems** : Consumers' grievance (low quality, unaffordable prices, etc.); policy uncertainties, etc.

The MoFPI has identified six key problems (Government of India, 2018) faced by the food processing industry. They are :

1. gaps in supply chain infrastructure (*i.e.*, lack of primary processing, storage and distribution facilities);
2. inadequate link between production and processing;

3. seasonality of operations and low capacity utilisations;
4. institutional gaps in supply chain, *viz.*, dependence on APMC markets, etc.;
5. inadequate focus on quality and safety standards; and
6. lack of product development and innovation.

It is important to keep in mind that one of the problems of this industry is that it is highly capital intensive and also, there is a significant gap between food production and processing. Besides, there is a lack of coordination between policy changes at the central government into action at a local level and to that extent, the linkages with the state government and also the farmer producer organisations (FPOs). FPOs need to modernise and bring in technology for agriculture and agri-business. This industry has the preponderance of small farmers, small scale and tiny processors, out dated technology, poor infrastructure and a large number of middle men.

Potential of Food Processing Industry

The food processing industry has emerged as a high-growth and high-profit sector due to its immense potential for value addition. This sector has a huge potential in both the organized and unorganized sector. The country can achieve the processing level to 25 per cent by 2025, if some of the major constraints besetting this sector could be suitably addressed. This requires suitable environment across all sub-segments of food processing sector (KPMG, 2021). Adopting an integrated approach is the need of the hour.

For exploiting the potential of this industry, it is essential to upgrade and strengthen infrastructure in line with industry requirements. In this context, government partnerships with private players through appropriate PPP models should be considered (KPMG, 2021). Potential for production has the support from the demand side which is largely influenced by :

1. increasing urbanization – lifestyle and aspirations,

2. increasing spending on food products and change in consumption diet,
3. changing demographics – rise in disposable incomes,
4. increasing nuclear families and working women,
5. demand for functional foods / nutraceuticals food,
6. growth of organized retail and private label penetration.

India has the potential to emerge as a major exporter of processed food by adhering to the quality standards. The Government initiatives for strengthening quality standards can provide impetus to the sector.

Food processing industry needs creation and strengthening of infrastructure which individual farmers and processors will not be in a position to create and sustain. For improving the farmers' income, they must add value to their produce. This is possible only when they meet standards demanded by the market. It is essential to build sustainable supply chains, which will link the farmers to the processing and marketing enters seamlessly.

Way Ahead

Considerable investments are required in rural infrastructure and components of the supply chain. Given the state of FPI, such investment should come from public sector because private sector may not come forward. Public investment will enable private sector to come forward and invest in commercially viable components of the supply chain.

India has the potential to be the food export hub. But, this will be possible only with the right kind of interventions. India has ample growth potential. However, having growth potential is not enough. A proper strategy to exploit the growth potential, policy makers should take into account the following (KPMG, 2021):

1. Domestic demand : Health foods, snacks and RTE segment are likely to drive demand. The industry is expected to move towards an organised structure.

2. Exports : There is a need to develop scale, quality and cost-

effective export capabilities meeting global certification requirements so that the industry is competitive. To enhance competitiveness and meet the hygiene needs at a scale, the players especially MSMEs will require high quality testing and certification infrastructure.

3. Technology : There is a direct need to increase cold storage capacity in the absence of which scalability of perishable products is not possible. A sound paradigm shift is needed for R&D to tackle the challenges of food processing with nutrition. Imports of food processing equipment should be replaced by the policy of *Atmanirbharta* or self-sufficiency.

4. Institutional structure : The industry needs well-coordinated institutional structure of all segments of the food processing industry taking into account opportunities in regional preference, exports, quality management systems and measures to enhance competitiveness of Indian products. Inter-Ministerial Body led by MOFPI should be strengthened.

Conclusion

With higher income, urbanisation, demographic shifts, improved transportation and changed consumer perceptions regarding quality and safety, food consumption patterns have changed over the years. Further, advertising through mass media/social media is also found to have led to higher demand for processed foods. There is an increase in awareness for wellness and health, high protein, low fat, wholegrain, traditional foods and organic food products leading to increasing demand of Indian nutraceuticals products.

This sector needs sound policy environment and increasing interest of corporate in agro food processing sector. The rate of taxation on processed packed food requires proper clarification. With the growth of this industry, there is high incentive to double farmer's income. It would not be out of place to mention that there is a need for a sound database for pursuing a policy towards this industry.

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UPKAR PRAKASHAN, AGRA-5

Paradiplomacy in India : New Trends in Foreign Policy

A. Bajpai

In the present era of globalization and information technology, all political process including the formation and conduct of foreign policy are in state of flux. *Paradiplomacy*, also known as *state diplomacy* and *constituent diplomacy*, is another name for the role of states (provinces) or constituent units in the foreign policy. Paradiplomacy has assumed a special significance in the post-globalized world, which facilitates the participation of states or constituent units of a nation in the formulation and implementation of foreign affairs. This underlines the changing nature of Foreign Policy process as well its environment. The Foreign Policy of nation is neither conceived nor functions in a vacuum. It functions in a given environment consisting of both domestic and external factors. Though, it may seem farfetched, but among the domestic factors, the form of government has deep bearing on the formulation and implementation of Foreign Policy. In India this fact has become more pronounced in recent years, in spite of the contrary land and Constitution. India is federal polity with heavy unitary tilt. Under the Indian Constitution, all powers related to foreign affairs are assigned to the Union Government. The Seventh Schedule of the Indian Constitution (Entry 10-21 of the Union List) places all matters related to foreign affairs including diplomatic relations, UN, war and peace, treaties etc. under the jurisdiction of the Union Government. Not only that, Article 253 of the Constitution further empowers the Union Legislature to frame a law in a subject included in the State List to give effect to any international treaty and agreement. Thus, legally, the states of the Indian Union have no scope to play any role in the formulation and implementation of the India foreign policy.

Yet India's cooperative federalism has cast its deep shadow on

the formulation and implementation of Indian policy. The role of states (Constituent Units) and even local bodies like Municipal corporations have gradually become more pronounced in the conduct of foreign affairs of the nation. Two recent examples are cited to highlight this point in the Indian context. Since 2011, the Union government of India has been trying to sign Teesta River water sharing agreement with Bangladesh, but, this was repeatedly opposed by the Chief Minister of West Bengal Mamata Banerjee on the ground that this agreement would deprive states farmers of water for irrigation. Consequently for last one decade this agreement could not be signed between the two countries, which has become a bilateral irritant also. The Union Government is legally competent to sign this agreement but, it could not afford to do so. More recently, many people from Myanmar have fled to border areas of Indian state of Mizoram, due to military crackdown in Myanmar. The Union government of India adopted the policy of treating all such persons as illegal migrants and turning them back to Myanmar. The people of Mizoram share ethnic ties with the Chin refugees of Myanmar. Nearly 1000 such Chin refugees have crossed over to Indian state of Mizoram since February, 2021 to escape military crackdown. In spite of Union government's contrary direction, the state government provided them with food shelter and medicines. Later on the request of state government, the Union government relented to provide them medicine and shelter. This example shows how state government prevailed over the Union government over policy matter of foreign affairs. These examples are not exhaustive. The debate on the role of states or constituent units of a nation in the conduct of foreign affairs involves two fundamental questions.

First, why the role of constituent in foreign affairs has been increasing ? **Second** what forms the role of states take into foreign affairs in India ?

The Reasons for States Role in Foreign Policy

If we analyze the nature of formulation and conduct of foreign relations, the role of constituent units cannot be discounted. However, the increasing role of states or constituent units has been a global trend in last few decades. Some of the factors which create scope for states role in foreign relations are:

First, the formulation of foreign policy of a nation cannot be dissociated from its domestic concerns : security of the nation including coastal and border areas, development of the economy including trade and investment, protection and welfare of the Indian citizens living abroad etc. Though, nation's policy may be decided by the central department, the states and constituent units have vital stakes in these issues, because any policy measures with respect to these issues affects them at the ground level. After all coastal regions, border areas or people are based in some state. In a way foreign policy is nothing but, just the continuation of domestic policy in external sphere.

Second, the implementation of foreign policy decisions including treaties investment proposal, joint defence ventures will take place in some state territories. Without the active cooperation of the states, implementation of such foreign policy decisions would not succeed. Many aspects of such implementation, like law and order, infrastructure facilities and lands use and control falls within the states jurisdiction.

Third, in the South Asian context, the Indian states have special interests in India's policy towards her neighbours due to certain special factors

like cross border social, ethnic, cultural, social and economic ties running for centuries. For example, the people of Tamil Nadu will have concerns for the welfare of Tamils settled in Sri Lanka, or people of Mizoram would have special interests in the welfare of Chin community in Myanmar as they share ethnic ties with them. Similarly, the Sikhs, and Hindus settled in Pakistan and Bangladesh, or Madhesis of Terai in Nepal share close ethnic, religious and cultural ties with people in the Indian States.

Like socio-cultural ties, the natural resources of India like rivers, mountains, forests, sea waters, Islands etc. also have cross-border dimensions. The concerned states have vital stakes in the conservation and use of natural resources. This is how the Indian state of West Bengal is involved in the water sharing agreement over Teesta River between India and Bangladesh. The cross border trade between India and neighbouring countries passes through India's Border States and hence they have interests in the trade and economic interaction. The tradition cross-border trade between India and her neighbouring countries like Pakistan, Bangladesh Nepal and China contributes to the development of Border States. Hence, they would have stakes in the orderly transaction of such economic exchanges. In short, India's Border States face both challenges and opportunities in the context of the country's relations with their neighbors. This is what prompts them to play a role in India's foreign policy toward their neighbours, and most of the time, legitimately so.

Fourth, In the Indian context, political factors also facilitate states role in the conduct of foreign relations. India has adopted a federal and democratic form of government. Federal system grants certain powers to states and imparts them a separate political identity, which enables them to influence the foreign affairs also. The states, as a distinct political identity, are expected to safeguard the interests of the people of the state. For example, a large number of people from Kerala work in the gulf

countries. If they face any problem in those countries, the government of Kerala may raise the issue with the Union government. The democratic polity at both the Union and State level also makes the Union government sensitive to the demands and concerns of the people of a state, because ultimately any ruling party at the Centre also needs the support of the people of states. The growth and powerful position of regional parties in India and their increasing say in the national government in recent decades have also encouraged states larger role in the foreign affairs. **Fifth,** the process of globalization and the new seamless means of information and communication technology have also created conducive environment for the greater role to states, constituent units, and local governments in the foreign affairs. Globalization involves increasing exchange of goods, services, technology, capital, ideas and people across the national boundaries. The modern means of communication have facilitated this exchange and blurred the jurisdictional boundaries not only among nations but also among the constituent units of a nation. Nations go for greater cross border investment, trade, technology transfer and other joint projects. The constituent units and states automatically get involved in such joint projects. Many of the state governments of India have made efforts to attract foreign capital in their states. The government of Uttar Pradesh sent a high level delegation led by the Chief Minister to Russia to finalize the project for the participation of state in the skill development and economic development programs in the Eastern parts of Russia. Now countries are not confined in their interaction at the national and state level, but have moved down to the level of local government. India has signed MoU with many countries including China to launch sister city projects, where the Municipal bodies of the two cities of the two countries share their experience but also cooperate in the development programmes. The modern ICT facilitates continuous coordination at different levels of government (national state and local) for better management of foreign oriented programmes and projects.

Paradiplomacy is a Global Trend

Because of globalization process, the increasing involvement of constituent units, states, and local bodies in the conduct of foreign affairs has become a global trend. The states' role in foreign affairs has come to assume various nomenclatures such as 'state diplomacy', 'constituent diplomacy', 'regional diplomacy', and 'sub-national diplomacy' or paradiplomacy. The trend has invited the attention of international scholars like John Kincaid who, in 1990, coined the term 'constituent diplomacy', which means the 'international activities of a foreign-policy character undertaken by the constituent governments and local governments (mostly municipalities) of federal countries and decentralized unitary states, as well as by citizen organizations and non-governmental organizations. As opposed to conventional diplomatic relations that fall under the exclusive domain of sovereign nation states exercised by central governments, paradiplomacy makes space for external relations of sub-national or federal units that might indulge themselves in international activism in order to promote their own interests. Stefan Wolff describes paradiplomacy as the "foreign policy capacity of sub-state entities, their participation, independent of their metropolitan state, in the international arena in pursuit of their own specific international interests." In Wolff's writings, paradiplomacy as an emerging policy capacity of sub-state entities can be enjoyed by both the states (or provinces and regions) of federations and the autonomous entities of otherwise unitary states.

The practice of constituent diplomacy has been observed in all parts of the including Europe and North America, Asia. Even China, which is highly centralized polity and has no democratic accountability, also displays the involvement of constituent provinces in the conduct of foreign affairs. During the contemporary globalized world, the constituent units of China are playing active role in foreign affairs, particularly in economic diplomacy. Many Chinese provinces have their own foreign affairs offices (FAOs) and foreign

trade and economic cooperation commissions (FTECCs) to deal with international partners. Many Chinese cities have opened overseas offices to attract investments and promote trade. Provincial governments play a big part in setting the agenda of the sub-regional initiatives undertaken by China. The role played by the border province of Yunnan, for instance, has been highly instrumental in the success of the Greater Mekong Sub-region (GMS), which includes Cambodia, Laos, Myanmar, Thailand and Vietnam. Even China's other sub-regional initiatives like the GMS, Tumen River Area Development Programme, Central Asia Regional Economic Cooperation, and Pan-Beibu Gulf Economic Cooperation have not been successful without the active participation of the concerned provincial government. It offers a lesson for India as she has taken many sub-regional integration and connectivity initiatives like Mekong Ganga Cooperation (2000), BIMSTEC, BBIN, BCIM and Kaladan Multimodal Transport Project. While analyzing the evolution of Constituent diplomacy in India, noted scholar Jenkins Robs finds that India's economic policy stance (liberalization), and in the (diluted) nature of economic sovereignty in the contemporary world, are combining to enhance the role of state governments in the making of India's foreign economic policy. Because of states' high-profile investment-promotion activities, it is tempting to classify India as a case of what has been called 'constituent diplomacy,' the increasingly direct engagement of sub-national units in international affairs.

Participation of States in the Foreign Affairs in India

In India, legally, the formulation and implementation of foreign policy is the exclusive power of the Union. But, in actual practice, the states have been playing important role in the conduct of foreign affairs as they have vital stakes in the conduct of these affairs. Apart from traditional concerns like protection of interests of people of state arising from ethnic ties (Tamil Issue in Sri Lanka) or economic interests (Teesta River Water sharing with Bangladesh), the

economic liberalization policy of India, close integration with global economy, and focus on new programme like sub-regional integration and connectivity etc. have given avenues for new role of states and local governments in the implementation of foreign policy. Economic liberalization and the emergence of coalition governments in New Delhi have created an environment conducive for states to proactively engage the central government on foreign policy issues that affect their interests.

Some the forms of state's role in foreign policy may be identified as below :

1. Protection of the Interests of People of the State : The states in India have been playing important role both in formulation of foreign policy choices of India and its implementation. The interests may be ethnic ties or economic concerns of the people of the state. Sometimes, this role of the state becomes problematic for the Union government as it has to take decision in the larger national interest. India's policy towards Sri Lanka has been largely affected by the concerns of people and parties of Tamil Nadu. The Tamil problem of Sri Lanka has been a bone of contention between the two countries. India wants that discrimination against Sri Lankan Tamil should end and they should be given larger autonomy in the northern region within the framework of united Sri Lanka. Tamil issue has affected the relations between India and Sri Lanka in other areas. India does not have any refugee policy, but Tamils who fled Sri Lanka were refugee status in India. India's grant to Sri Lanka is largely directed to the development of Tamil region in Sri Lanka. For the people and political parties of Tamil Nadu, the Tamil problem of Sri Lanka is very emotive issue. They persuaded the Manmohan Singh government at the Centre to adopt hard policies towards Sri Lanka at a time when China was courting Sri Lanka with many investment projects. Consequently India voted against Sri Lanka at the UN Human Rights Council on the issue of violation of human rights of Tamil during the last phase of LTTE war in

2009. Not only that, the Indian Prime Minister did not go to Colombo to participate in the Commonwealth summit in 2013. Even now, the Central government has to be careful to the concerns of Tamil parties on this issue.

Another notable example of State governments' larger role in foreign policy against the wishes of Central government is the issue of sharing of Teesta water with Bangladesh. This river originates in India, flows in West Bengal and enters north Bangladesh. Teesta is crucial for irrigation in north Bangladesh region, which is considered granary of Bangladesh. In 2011 when the Indian Prime Minister Manmohan Singh visited Bangladesh, the agreement was to be signed between the two countries. The Indian Prime Minister invited as part of delegation all the Chief Ministers of Indian States which have boundary with Bangladesh. But, Bangladesh Chief Minister Mamata Banerjee not only opposed the Teesta water sharing agreement, but refused to go to Dhaka as part of the Prime Minister's delegation. She argued that the Teesta agreement would compromise with the irrigation needs of the farmers of West Bengal. Till now she has maintained this opposition to the agreement. Consequently this agreement has not been signed. As a result Bangladesh, which was willing to give maximum access to India to North-Eastern States through Bangladesh, has now become reluctant to India's connectivity projects through her territory. To offset the loss of water through this agreement, Bangladesh has invited China to fund a huge reservoir on the Teesta in North Bangladesh which would cater the irrigation needs of farmers during lean season. China has agreed to finance this project. The delay in signing Teesta water sharing agreement has become a major irritant in bilateral relations between India and Bangladesh. If we recall the issue of sharing of Farakka Dam water was resolved in 1996 when the then Chief Minister of West Bengal Jyoti Basu visited Bangladesh in 1996. This episode also highlights the confrontational role of the states in foreign policy implementation.

A notable example of states role in foreign affairs is the land transfer agreement with Bangladesh. The state governments played a major role in negotiating and signing the agreement Land Boundary Agreement with Bangladesh in 2015 as it involved the exchange of enclaves and 'adverse possessions' from the Indian states of Assam, Meghalaya, Tripura, and West Bengal. Though, land transfer was approved through the constitutional amendment, it became law only after the consent of at least half of the state legislatures.

Yet another example of State fighting for the interests of its residents is the case of killing two fishermen (residents of Kerala) off the Kerala coast in 2012 by the two Italian marines. The government of Kerala strongly argued for an India-hosted trial of two Italian marines. The State government did not agree to Italy's move not to send back one of the accused to India to face trial. The state government demanded from the Union government of India to take bold action to bring back Italian accused to face trial in India. Italy did not like Indian bold posture and in retaliation exercised its veto power to block India's entry into the Missile Technology Control Regime. Though, India paid heavy diplomatic price, but relented to the demand of Kerala government in foreign affairs.

2. Economic Cooperation and Development : The role of states is not always confrontational with the Union government. During the age of globalization, the states have been playing very constructive role in the success of India's economic diplomacy. Many of the state governments have made successful efforts to create conducive environment for investment and trade and attracted foreign investments and promote external tourism. In the era of globalization, states have been important players in improving India's economic ties with other countries in the implementing India's economic diplomacy; the states of the western and south India have played a key role. States like Gujarat and Maharashtra, Tamil Nadu, Andhra Pradesh and Karnataka have shown great promise in trade contributing as much as 70 per cent of India's total exports. These

states have utilized global economic opportunities for rapid economic growth. These states have struck deals with major players in the international market, like Maharashtra's deal with Enron in 1996, or Andhra Pradesh's efforts to get state-level World Bank development loan in 2002. These initiatives and other similar efforts have proved instrumental in the success of India's economic diplomacy. In post liberalization era, a paradigm shift in the Central government's policy became clearly visible when the Centre encouraged border-states to establish border *haats* to market local produce to accessible markets across the borders. The aim was to encourage transborder trade along the traditional trade routes and such *haats* went a long way in encouraging local prosperity and cultural exchange. The Central government facilitated such trade interactions both on the western and eastern borders. From 1990 onwards, the World Bank started extending loans to select states of India like Andhra Pradesh, Tamil Nadu and Karnataka for the promotion of trade. The Government of India played the role of a facilitator by extending sovereign guarantees in those loans.

Many development schemes of the UN and its agencies are being successfully implemented by the Indian states in the field of education, health and skill development. Of late the local government institutions have also been involved in the bilateral cooperation programmes of the foreign countries. The NDA government has taken special steps in last five years to promote the role of state governments in foreign affairs at least in field of economic cooperation and development. During Prime Minister Modi's visit to China in 2015, four agreements were signed on sister-state and sister city relations between Karnataka and Sichuan province; Chennai and Chongqing; Hyderabad and Qingdao; and Aurangabad and Dunhuang. This trend continues further. Now the role of states in foreign trade, investment and external tourism has been institutionalized by the Union government by setting up the States Division for this purpose under the Ministry of External Affairs.

3. States as Connectivity Nodes : For last one decade or so the Indian government has been focusing on the development of regional and sub-regional connectivity as it has been found as the crucial element in economic growth and cooperation and integration. All regional organizations like SAARC, BIMSTEC (Bay of Bengal Initiative for Multi-sectoral Technological and Economic Cooperation) have declared development of connectivity as one of their priority area. Besides, the Union government has also initiated some specific programmes of regional or sub-regional connectivity like BBIN (Bhutan, Bangladesh India and Nepal Highway), Kaladan Multi-modal Highway Project to improve connectivity to India's North-Eastern States through Myanmar, BCIM (Bangladesh, China, India and Myanmar highway project; India-Thailand, Myanmar trilateral highway Project, Sagar Mala project (2015) for promoting port-led development of the country through exploiting the potential of India inland and international waterways. These all projects pass through different states located at the border areas. No project of connectivity can succeed if the concerned state government does not actively cooperate in the connectivity projects. The land and other infrastructure facilities for these projects are to be facilitated by the state government. The concerned states also have direct developmental interest in the success of these programmes.

Conclusion

The Indian Constitution assigns the power of foreign policy formulation and implementation to the Union government. But, the Indian states have always played some role in the conduct of foreign affairs. Gradually this role has become more pronounced and diversified due to various factors such rise of regional parties, federal structure, democratic process, economic liberalization and India's integration with global economy, new focus on regional and sub-regional connectivity etc. Though, in some case the regional voices have undermined Union government's autonomy in foreign affairs, but in

Continued on Page 99

Why is Taiwan so Important to the World

Vijan Kumar Pandey

The Speaker of the House of Representatives, Nancy Pelosi, landed in Taiwan on August 2, 2022 evening, ignoring Chinese threats and a warning by President Xi Jinping, delivered to President Joe Biden last week, to “not play with fire” (by provoking China). Nancy Pelosi’s visit to Taiwan comes at a time when tensions between China and the US are at their peak. China has tried many times to put pressure on Taiwan by using its navy and air force and due to this the situation becomes worrying for it.

The situation in Taiwan is so critical that whatever happens in its fate, it is bound to have an impact on the world’s politics and economy. Pelosi’s visit to Taiwan is the highest-level visit by an American official to the island in a quarter century. The senior US politician has been critical of China on multiple fronts over the decades. The US has maintained a ‘One China’ policy since the 1970s, under which it recognises Taiwan as a part of China. But, it has unofficial ties with Taiwan as well—a strategy that is known as strategic or deliberate ambiguity. Beijing considers Taiwan a part of China, threatens it frequently, and has not ruled out taking the island by military force at any time.

Why does China have a Problem with Pelosi Visiting Taiwan ?

For China, the presence of a senior American figure in Taiwan would indicate some kind of US support for Taiwan’s independence. Chinese Foreign Ministry spokesperson Zhao Lijiang has said China would take “resolute and strong measures” if the visit takes place. Pelosi going to Taiwan would “severely undermine China’s sovereignty and territorial integrity, gravely impact the foundation of China-US relations and send a

seriously wrong signal to Taiwan independence forces”, he has said.

Taiwan is an island about 160 km off the coast of southeastern China, opposite the Chinese cities of Fuzhou, Quanzhou, and Xiamen. It was administered by the imperial Qing dynasty, but its control passed to the Japanese in 1895. After the defeat of Japan in World War II, the island passed back into Chinese hands.

After the communists led by Mao Zedong won the civil war in mainland China, Chiang Kai-shek, the leader of the nationalist Kuomintang party, fled to Taiwan in 1949. Chiang Kai-shek set up the government of the Republic of China on the island, and remained President until 1975. Beijing has never recognised the existence of Taiwan as an independent political entity, arguing that it was always a Chinese province. Taiwan says that the modern Chinese state was only formed after the revolution of 1911, and it was not a part of that state or of the People’s Republic of China that was established after the communist revolution. While the political tensions have continued, China and Taiwan have had economic ties. Many migrants from Taiwan work in China, and China has investments in Taiwan.

How does the World, and US, View Taiwan ?

The United Nations does not recognise Taiwan as a separate country; in fact, only 13 countries around the world—mainly in South America, the Caribbean, Oceania, and the Vatican—do. The American strategic ambiguity is just that—ambiguous. In June, President Biden said that the US would defend Taiwan if it was invaded, but it was clarified soon afterward that America does not support Taiwan’s independence. While the US has no formal ties with Taipei, it remains Taiwan’s most important international backer and arms supplier.

Back in 1997, then House Speaker Newt Gingrich of the Republican Party visited Taiwan, and appeared to caution China against precipitate action. Referring to his meetings with China’s leaders, Gingrich said : “We want you to understand, we will defend Taiwan. Period.” The New York Times reported at the time.

But since then the situation has changed. China is a very strong force in world politics today. The Chinese government passed a law in 2005 giving Beijing a legal basis for military action if it judges Taiwan to be seceded. In recent years, Taiwan’s government has said only the island’s 23 million people have the right to decide their future and that it will defend itself when attacked. Since 2016, Taiwan has elected a party that leans towards independence.

What is Pelosi’s View on China ?

Nancy Pelosi, as the Speaker of the House of Representatives (the lower house of the US Congress), is second in line for the post of US President after the Vice President. In her career as a politician, she has frequently criticised China, mainly on grounds of human rights violations. On Speaker Pelosi’s website, a section called “A Powerful Voice for Human Rights in China” lists her stance over the years. “For more than three decades, Speaker Nancy Pelosi has been one of the fiercest and strongest champions in the Congress for human rights in China : leading the fight for dignity and freedom for the oppressed, while holding the Chinese Communist Party accountable for its crimes,” the document reads.

Importance of Taiwan to the World Economy

Taiwan is also very important on the economy front. The chips use everyday in the electronic devices are made from Taiwan only. Whether it is a smartphone or a laptop or a

smartwatch or a gaming console, chips are used in all these instruments, most of them are made in Taiwan. Taiwan controls nearly two-thirds of the world's chip market:

- The 'Taiwan Semiconductor Manufacturing Company', abbreviated as TSMC, alone controls more than half of the world's chip market. Between January and December 2021, TSMC generated revenue of about \$ 53 billion. If Taiwan is controlled by China, then China will have control over this important industry of the world.
- Many experts believe that China lags behind Western countries in making chips and semiconductors. It is estimated that it will take about 20 years for China to capture the West. If China takes this industry from Taiwan, then western countries will have to bear the brunt of it immediately.
- China and America are competing with each other in developing these technologies. If this industry goes to China, then western countries' access to chips and semiconductors will be hampered. This will increase their prices significantly. The same may be the case with other industries as well. It may not be easy for Western countries to try to deal with it.

Why is the Situation in Taiwan so Complicated ?

According to historical sources, Taiwan came under the control of China in the 17th century during the Qing dynasty. After losing the first battle with Japan, China ceded Taiwan to Japan in 1895. After that, Taiwan remained under Japanese occupation for the next 50 years. After Japan's defeat in 1945 during World War II, China regained its control over Taiwan. But at the same time civil war broke out in the mainland of China. This civil war was taking place between the Communist Party led by Mao Zedong and the Nationalist Party 'Kuomintang'. After that, in 1949 the Communist Party took control of China.

To avoid him, the Kuomintang government took refuge in Taiwan. However, due to not being very

strong at sea, China then had to abandon the Kuomintang government of Taiwan. Chiang Kai-shek became the first President of Taiwan after Provisional President Sun Yat Sen. He remained in this position till 1975 as a dictatorial ruler. Three years after his death, Chiang Ching Kuo, son of Chiang Kai-shek, became the President of Taiwan. He allowed efforts to move Taiwan's governance system from dictatorship to democracy. China uses history to claim that Taiwan was originally a province.

However, many believe that Taiwan has never been part of modern China's rule since the 1911 or 1949 revolution led by Mao Zedong. Many Western countries recognize Taiwan's 'Republic of China', established by Chiang Kai-shek, as the sole legitimate government of China. But in 1971, the United Nations derecognised Taiwan and recognized Communist China as China.

Since then, the number of countries that recognize Taiwan has come down to just 15. Taiwan has received the most support from Latin America and Caribbean countries. Due to the vast difference in status of China and Taiwan, most countries have maintained this type of dichotomy. Due to this, despite its legal status not being clear, Taiwan has maintained the status of an independent country.

By the way, the current population of people who migrated from mainland China to Taiwan is 1.5 million, which is 14 per cent of Taiwan's population. However, Taiwan's politics have been dominated by this group for many years.

Why the Controversy Over Taiwan ?

China considers Taiwan a separate province and feels that it will eventually come under Chinese control. Chinese President Xi Jinping has said that Taiwan's "unification" will be complete. He has also not ruled out the use of force to achieve this. But, Taiwan considers itself an independent country with its own constitution and a government of its own elected leaders. It is counted among the islands called 'First Island Chain' or 'First Island Chain', which

includes areas close to America that are considered important for US foreign policy.

All these islands are very important for America's foreign policy. If China takes over Taiwan, it will be free to assert its dominance in the western Pacific Ocean, according to many Western experts. After that, the US military base on Guam and the Hawaiian Islands may also be at risk. However, China claims that its intentions are completely peaceful.

Can Taiwan Defend Itself ?

If there is a fight between the two countries, then the military power of Taiwan will prove to be dwarf in front of China. China's annual expenditure on its military is the highest in the world except America. Whether we look at missile technology, the Navy or the Air Force, its military power is quite diverse and vast. Competing with China in carrying out cyber attacks is a matter of only a few countries.

According to the International Institute of Strategic Studies (IISS), China has 20-35 lakh active soldiers, including all types of soldiers. At the same time, there are only 1-63 lakh active soldiers in Taiwan. In this way, the power of China in this matter was about 12 times more than that of Taiwan. If we talk about the army, then there are 9-65 lakh army soldiers in China, while in Taiwan only 88 thousand which are 11 times less. At the same time, China has 2-60 lakh personnel in the Navy and only 40 thousand in Taiwan.

There are about 400,000 people in China's air force, but only 35,000 personnel in Taiwan. Apart from all this, China has another 4-15 lakh soldiers. And this is not the case with Taiwan. Many experts in the West predict that if there is a face-to-face confrontation between the two countries, then Taiwan can try very hard to slow down China's attack. It can get help from America, which sells arms to Taiwan. However, America's formal policy has been one of 'diplomatic ambiguity'. In other words, the US deliberately does not clarify its policy about what and how it will help Taiwan in the event of an attack.

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Umbrella of Complete Justice

By Justice Bhanwar Singh and Prof. (Dr.) N.K. Bahl

Aspirants of competitive examinations for judicial and administrative services must note the difference between the scope of Article 141 and 142 of Constitution of India and consequently the emerging ratio decidendi out of these two articles and their binding nature on subordinate courts.

In Navjot Singh Sidhu's case [2022 Live Law (SC) 498] Supreme Court had found Mr. Sidhu guilty u/s 323 I.P.C., and initially punished him with a fine of ₹ 1000 only. The complainant party filed a review application before the Supreme Court. There is no provision of review in Cr.P.C., 1973. The Supreme Court exercising its plenary powers under Article 142 of Constitution of India reviewed the sentencing part of the judgment and on review changed the sentence of Mr. Sidhu to one year rigorous imprisonment and a fine of ₹ 1000 under section 323 of I.P.C., 1860 on 19th of May, 2022. Mr. Sidhu surrendered before the court in Patiala for serving out the sentence. He was sent to jail. According to ratio decidendi of this judgment of Supreme Court, can lower courts including High Courts review their own judgments on criminal side now?

Recently, in CAT (Principal Bench) Bar Association Vs. Union of India, on 13th May, 2022 Supreme Court gave directions under Article 142 of Constitution that members of Central Administrative Tribunal will keep working even beyond their date of superannuation till remaining vacancies are filled by the Government. This appears to be most unprecedented step wherein Supreme Court ordered that existing judicial and administrative members of CAT should keep working even after their tenure in order to keep CAT functional. At present there are vacancies to the extent of 60 per cent in CAT. The Supreme Court observed that centre's lethargy in filling the vacan-

cies has brought a very important tribunal to the brink of collapse, whereas the pendency of cases in CAT has crossed the figure of 50,000. The court also observed that the vacancies impinge upon the citizen's right to access to justice. According to order of Supreme Court, can lower courts including High Courts pass such orders extending the date of superannuation of judges and their staff?

In Rajeev Gandhi assassination case [2022 Live Law (SC) 494] Supreme Court has released the convict A.G. Perarivalan exercising their special powers under article 142 of Constitution. The main ground of release was that the Governor of T. N. was yet to take a call on the recommendation by the state Government dated 8-9-2018 to grant him remission and release him forthwith.

In January, 1998 the trial court had awarded death penalty to A. G. Perarivalan amongst others under section 302, 120-B, I.P.C., 1860. In February 2014, Supreme Court commuted this death penalty into life imprisonment. On 18-5-2022, Supreme Court passed the order and directed that in exercise of their powers under Article 142 of the Constitution, the appellant A. G. Perarivalan is deemed to have served the sentence in connection with crime of assassination of Mr. Rajeev Gandhi. The appellant/convict who was already on bail vide order dated 9-3-2022 was ordered to be set at liberty forth with. His bail bonds were cancelled.

The Supreme Court disapproved the action of Governor of T. N. who had sent to the President the recommendation of the state cabinet to remit the remaining part of convict's sentence. The action of the Governor was held contrary to the constitutional scheme. The order of release of A.G. Perarivalan was passed on the basis of good conduct in jail, medical condition and

educational qualifications acquired in custody and the pendency of his mercy plea before the Governor of Tamil Nadu since 2015. Now can High Courts follow the judgment of Supreme Court and pass orders for the release of remaining convicts like Nalini, Murugan and Santhan?

In Union Carbide Corporation v. Union of India, (AIR 1992 SC 317), popularly known as Bhopal gas leakage case, Supreme Court upheld the settlement between Union of India and UCC which, amongst others terminated all civil and criminal proceedings against UCC pending in any court. The court held that it was competent to do so under Article 142 of the Constitution in order to do complete justice between the parties.

Around 4000 lives were lost overnight and around seven lacs were injured and many more thereafter by inhaling Methyle-Iso-Cynide gas leakage on 2/3 December, 1984. More than 3,500 cases were pending in the District Court of Bhopal in M.P. These cases were withdrawn by the Supreme Court and all the cases were decided by a common order awarding a meagre amount of 470 million dollars compensation to the victims of gas upholding the tortious liability of the UCC. It was a case of absolute liability of the tort feorsors in the opinion of Supreme Court.

What is more significant to mention here is that the Supreme Court can exercise these unusual powers under Article 142 of the Constitution of India even on its own motion. In this context reference can be made to suo moto writ petition (civil) number 284 of 2012, titled as Court On Its Motion Vs. U.I.O., and others, wherein the apex court took cognizance of deaths of pilgrims and also the plight of pilgrims going to Amaranth and issued various instructions to the shrine board and chief secretary of the J and K Government to improve the walking

tracks for the pilgrims, raise shelters, affix grills and 100% transparent fibre sheets for clear darshan of the ice Shivlingam and provide necessary medicines with a team of Doctors. The Hon'ble court observed that it had to address the issues under the constitutional obligation, which are not resolved by the executive powers and where there is no law to tackle such problems.

In a socially and historically path breaking order, the Supreme Court, on 19th May, 2022, exercising these peculiar powers also mandated the Governmental authorities not to harass or victimise the sex workers who are willingly and voluntarily a consenting party to an act between a female and male, rather provide medical help to such workers. The media was also directed not to publish the pictures of sex workers or reveal their identity while reporting rescue operations, although running of a brothel was held unlawful. These directions were issued under article 142 of Constitution of India since the union Government is yet to come up with legislation on this matter.

Taking a relook at Navjot Singh Sidhu's case, it may require an academic debate as to whether it is desirable to reopen and review a case already decided by the Supreme Court and pass a different judgment under Article 142 of Constitution of India? Even if this question is answered in affirmative, it may open a Pandora box of further litigations as persons aggrieved of its earlier judgment may approach the Supreme Court and plead that complete justice was not done in their case earlier. All said and done, the wisdom behind the powers and provisions of Article 142 is commendable as the solitary and ultimate goal of the judiciary is to do complete justice between the parties.

The question which arises from the illustrations referred above is whether High Courts and subordinate Courts can pass such orders in future, following the ratio decidendi of such cases? What is the value of ratio decidendi of such judgments delivered by the Supreme Court under Article 142 of the Constitution? Can it be a source of judicial precedent?

The law declared by the Supreme Court shall be binding upon

all the courts within the territory of India are the mandate of Article 141 of our Constitution. However, such a law should not tamper with basic structure of the Constitution. The word courts do not include the Supreme Court itself; otherwise Supreme Court could not have overruled its own earlier decisions. Article 142 of the Constitution gives unlimited powers to Supreme Court to do complete justice between the parties where the litigants have suffered injustices during the proceedings.

The Supreme Court in exercise of its jurisdiction under article 142 can pass such decrees or make such orders as are necessary for doing complete justice in any cause or matter pending before it, and any decree so passed or orders so made shall be enforceable throughout the territory of India in such manner as may be prescribed by or under law made by the Parliament. Normally, the Supreme Court while pronouncing a judgment under umbrella of Article 142 mentions in the order that the same is being passed while invoking the powers under Article 142. But if there is no mention of Article 142 in the order of the Supreme Court, then the test to be applied would be whether the order was passed 'for doing complete justice between the parties.' The term 'complete justice' is nowhere defined, but it appears that Article 142 authorises the Supreme Court to give preference to equity over law in such matters while exercising these sweeping powers.

It is further submitted that since these omnibus and plenary powers are given to the Supreme Court only under Article 142 by our constitution framers, no other court, including High Courts have powers to pass such orders. Hence, as opposed to the judgments passed by the Supreme court under Article 141, the orders passed under Article 142 will not have any precedential value for any future references and they shall not be a source of law, because they cannot be followed by others courts in India. Accordingly, the doctrines of ratio decidendi, stare decisis and judicial precedent, as propounded by Benzamin Cordozo will not apply to the orders of the Supreme Court

passed under Article 142 of our Constitution. There are other examples of such orders passed by the Supreme Court like ban on sale of alcohol within stipulated distance of 500 metres from the outer edge of the national and state highways. In Ayodhya dispute also such powers and jurisdiction were exercised by the Hon'ble Supreme Court. But the fact remains that sword of complete justice will not apply to future cases as judicial precedent. Pillay

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In roughly 15 years, from 2005-06 to 2019-21, the MPI value, the incidence of poverty and deprivations among poor people in the 10 MPI indicators were each more than halved. In terms of leaving no one behind, the poorest groups—states, rural areas and children—saw the fastest progress in absolute terms. Despite tremendous gains, the ongoing task of ending poverty for the 228.9 million poor people in 2019-21 is daunting—especially as the number has nearly certainly risen since the outbreak of Covid-19 pandemic. There were still 97 million poor children in India in 2019-21—more than the total number of poor people, children and adults combined, in any other country covered by the global MPI. Yet, these multipronged policy approaches show that integrated interventions can improve the lives of millions of people. Pillay

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Conclusion

Many people of Taiwan now have no doubt that a big neighbour can attack their small neighbor. Many of them believe that China can ever attack Taiwan and in such a situation that it is to fight for its existence, it will be better that preparations should be started. Keeping this in mind, many people have already admitted to gun training.

Whatever it is, it is certain that the Pellosy has taken it from the Taiwan tour that it will stand with Taiwan in dealing with China. But it has become clear from China's activities that it will not be easy. China will not bring a situation like Ukraine by running Russia but its attempt to teach Taiwan will also be strong. Pillay

India's New Tryst with Destiny : Developed Nation by 2047

Santhosh Mathew

On the completion of India's 75 years of independence, Prime Minister Narendra Modi in his Independence address pledges to make India developed country by 2047. The pledge has been interpreted differently by various researchers, academicians and experts. This makes us to think whether India will really pick up the ladder and become a developed nation in the next 25 years of 'Amrit Kaal'. Another issue that is raised is that the attainment of developed nation status can also fulfill India's long-standing aspiration to become a superpower? According to United Nations' World Population Prospects, 2022, India will replace China to become the most populous country in the world by 2023 but can this population become a driving force or burden for India's ambitious goal of becoming a developed nation in the next 25 years? Sanjeev Ahluwalia in his article, "Can India be a developed nation before it gets rich?" mentioned four characteristics which a developed economy should have: competitiveness, human capital, respect for human rights, the principle of equity (including gender equity), security deterrence and institutional participation in international forums and affairs. He emphasizes that being rich does not mean being developed. Citing the example of oil and gas exporting countries, he backs up his argument. As a result of oil exports, they could be a wealthy country today, but their economy is not stable, with low human capital and a poor human rights record.

Why if a state wants to reach the status of developed nation always seen through the prism of 'economics'. There is no denying the importance of the economy but as per my view, there are many factors that contribute to the development of a nation, especially social factors such as the elimination of social inequalities such as casteism, the reduction of

the gender gap, etc. The bottom line is that a good society reflects the economic growth of a country. For example : if citizens gradually cease to follow the practice of corruption, there will be positive economic growth and in some way reduce unequal society. The distribution of wealth, to some extent, will be fair and beneficial to the poor and disadvantaged in society.

Before we go any further, first understand what the idea of a developed country entails? There is no clear and consensual definition of what constitutes a developed country. There have been debates on the criteria to be used to rank a country as developed one. The "World Economic Situation and Prospects" of the United Nations classifies countries into three broad categories : (1) Developed economies, (2) Economies in transition, (3) Developing economies. To classify countries by economic conditions, the United Nations uses the categorisation of World Bank, based on Gross National Income (GNI) per capita (US \$). But where does India stand? India currently lags far behind developed countries, as well as a number of developing countries. Simply measuring performance in terms of GDP, PPPs, per capita income is not going to determine whether a country has become a developed country. In 2018, a diagnostic report on India by the World Bank said that : "Even though India is world's third-largest economy in Purchasing Power Parity (PPP) terms, most Indians are still relatively poor compared to people in other middle income or rich countries".

Determining factors and India's position : A developed country is usually characterized by the use of multiple metrics.

- First, the Gross Domestic Product which typically defines

what a high income country or developed country is. At the time of independence, India was considered as the "third world country". But during the last seven decades, India's GDP has increased from just 2.7 lakh crore to 150 lakh crore. Currently, India is the 5th largest economy in the world and according to the report published by the Centre for Economics and Business Research (CEBR), India will become the world's third largest economy by the year 2031. But India needs to adopt reforms in the different sectors especially in the financial sector, banking reforms, boosting small-scale manufacturing and have to reduce its imports.

- Second, GDP per capita, which is an average person's annual income. According to the IMF (2021), a country can be ranked among developed countries with a GDP per capita of US \$ 20,000. India's GDP per capita was \$ 2,277.4 in 2021, but compared to China, it reached that threshold in 2007. Even Bangladesh has a higher GDP per capita compared to India.
- Third, the degree of poverty affects the development of a country. According to official figures, 26.93 million people in India live below the poverty line. In 2019, the Global Multi-dimensional Poverty Index highlights that between 2006 and 2016, India lifted 271 million citizens out of poverty. In contrast, a report by Azim Premji University indicates that the Covid-19 pandemic has pushed around 23 million Indians into poverty.
- Fourth, focus on the Human Development Index (HDI). HDI helps to better understand the economic and social progress of

a country. In the HDI, a developed country ranks high, but in the case of India it ranks 132 (2021) while developed countries like Norway, Ireland and Switzerland rank higher. To belong to the group of developed countries, a country must have an HDI greater than or equal to 0.800 (very high HDI).

- Fifth, the country's malnourished and undernourished population. India has the highest number of malnourished children and almost 200 million people suffer from undernourishment. Approximately 15% of the Indian population is undernourished in comparison to the United States where it is 3%. Thus, India has a long way to go to ensure that its population is better nourished.
- Sixth, the status of women in India where emphasis should be placed on dignity, security and empowerment (social, economic and political) where India is at the back of the pack. India's female labour force participation rate declined in the past 25 years, whereas it has increased in the Organisation for Economic Co-operation and Development (OECD) countries, where female labour force participation rate is 2.7 times of India. Can India achieve its ambition of becoming developed nation by 2047? India must adopt a realistic, holistic approach in order to become a developed nation.

The World Bank's 2018 report had made mention of what India could achieve by 2047: "By 2047 on the centenary of its independence at least half its citizens could join the rank of the global middle class. By most definitions mean that households have access to better education and health care, clean water, improved sanitation, reliable electricity, a safe environment, affordable housing and enough discretionary income to spend on leisure pursuits". It also laid down some preconditions to make it happen: "Fulfilling these aspirations requires income well above the extreme poverty line, as well as vastly improved public service delivery". India should focus on better governance, efficient socio-

economic welfare policies, infrastructure, employment, scientific and research advancement, military and diplomatic modernisation. Social and religious inequalities are becoming more pronounced in Indian society. The lower castes live an indignant life and among them women face difficult challenges. Until and unless we the people of India are able to eradicate these superficial hierarchies, which are becoming more and more real and pertinent with time, development and freedom will not be achieved. As Nehru said: "We cannot encourage communalism or narrow-mindedness, for no nation can be great whose people are narrow in thought or in action." Will there be a development of the marginal, the backward and the persons belonging to the lower strata of society or only a development of the elites? Without a doubt, India will be the third largest country in the world. But based on the economic parameter and flexing its GDP growth will not determine solely whether India will be a developed country. Compared to developed countries, it shows that India has a long way to go in order to reach the goal of a developed nation in the next 25 years. In 2021, India had a per capita income of \$ 7,333, less than half that of China in 2021. Over the next 25 years, India's per capita income will have to grow steadily at the rate of 12.4% to match that of OECD countries. In addition, India will need to catch up on social indicators. The infant mortality rate *i.e.*, infant deaths per 1000 live births has reduced from 76 in 1996 to 27 in 2020 but it was still four times the OECD level of six. For two consecutive years, India has been regarded as 'partly free' by the Freedom House. In the Gender Gap report, India's position is 140 out of 156 nations. The overall labour force participation rate (LRP) fell from 46% to 40% between 2017 and 2022. Female force labour participation rates have declined sharply. Only 9% of women are working, in employment, or looking for work. According to the 2022 World Inequality Report, India ranks among the most unequal nations in the world. The top 1% in India owns 22% of national income and the top 10% owns 57% of national income. On Global Hunger Index, India ranks 101

out of 116 countries and dropped to 150th position in World Press Freedom Index, 2022. As the ancient saying goes: "Action speaks louder than words".

India must work instead of working on words. The emphasis should be on socio-economic development, not just economic development. The development must be citizen-centred and where everyone can live and express himself or herself freely and live a dignified life. India should focus on the achievement of its objective rather than the exaggeration of its achievements. As a developing country with rich natural resources, human capital and demographic dividends, India is still unable to manage things in a timely manner because India doesn't have a well-framed strategy. In addition, government must use the demographic dividend that India has and provide employment for millions of unemployed young Indians because if not used properly, then in the fraction of time advantage can turn into greater disadvantage and impede the dream of India. India also needs to improve its HDI score because at present India's HDI score is 0.645 which put India into the category of medium human development category. Experts believe that even if Indian economy will grow with a rapid pace but the problem of poverty will make India regress because of the enormous wealth gap that exists in India. So, the government will have to work relentlessly to lift people out of poverty and ensure that in the future they will not fall back into the poverty trap. Furthermore, India needs to be more competitive globally. Beyond imports, India must concentrate on exports and strengthen its manufacturing sector. There needs to be a lot of emphasis on the agricultural sector, because agricultural exports can be a phenomenal opportunity that India can tap into. There must be financial refocusing such as the deepening of capital markets, the creation of solid corporate bonds, the adoption of fintech services, the creation of interconnections between industry 4.0 and the banking sector 4.0. The private sector should be given more space because

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Global Warming at Record High in 2022

Dr. Deepa Rawat

Warming of earth continues despite several efforts of the governments across the world. Governments' plans to reduce greenhouse gas emissions aren't enough to avoid catastrophic global warming, with the planet on track to heat up between 2.1 and 2.9 degrees Celsius by the end of the century compared to pre-industrial times, according to a new report from the United Nations Framework Convention on Climate Change (UNFCCC). Although, some progress was visible in the year 2021, the current wave of temperature rising is a matter of concern. Governments need to do more by 2030 to ensure that the global temperature increase is below 2°C and ideally closer to 1.5°C—the goal set in the Paris Agreement (2015). The UNFCCC reached its conclusions by analyzing all national climate plans, also known as nationally-determined contributions or NDCs, submitted since 2015.

According to the report, the combined climate pledges of 193 Parties under the Paris Agreement could put the world on track for around 2.5 degrees Celsius of warming by the end of the century. 2022's report also shows current commitments will increase emissions by 10.6% by 2030, compared to 2010 levels. This is an improvement over last year's assessment, which found countries were on a path to increase emissions by 13.7% by 2030, compared to 2010 levels.

The UN's Intergovernmental Panel on Climate Change's 2018 report indicated that CO₂ emissions needed to be cut 45% by 2030, compared to 2010 levels. The latest science from the IPCC released earlier this year uses 2019 as a baseline, indicating that GHG emissions need to be cut 43% by 2030. This is critical to meeting the Paris Agreement goal of limiting temperature rise to 1.5 degrees Celsius by the end of this century and avoiding the worst impacts of climate change, including

more frequent and severe droughts, heatwaves and rainfall.

The UNFCCC report finds some silver lining under the dark clouds, as UN climate change executive secretary Simon Stiell observed. "The good news—projections show emissions won't be increasing after the year 2030," UN climate change executive secretary Simon Stiell told reporters on October 26, 2022. "The bad news they're still not demonstrating the rapid downward trend scientists say is necessary this decade."

Climate scientists estimate that human-caused greenhouse gas emissions need to halve by the end of this decade (*i.e.*, by the year 2030), and to be eliminated by mid-century in order to keep warming below 2°C by 2100. While the consequences of planetary heating above that threshold are deemed to be catastrophic, today's warming of 1.1°C above pre-industrial times has already resulted in irreversible changes.

Extreme weather events have resulted into:

- Exposer of millions of people to food insecurity and malnutrition
- Increase in heat-related deaths
- Rise in climate migration
- Sever losses in agriculture, tourism and fisheries sectors.

Rich countries that are most responsible for historical CO₂ emissions also have the most resources to adapt, while poorer countries that have contributed little to climate change face the brunt of the shocks.

UNFCCC report is optimistic about the good results of greenhouse gas emissions reduction. If all plans to cut greenhouse gas emissions are fulfilled, global emissions will total 52.4 billion metric tons of carbon dioxide equivalent in 2030, down 0.3% from 2019 levels, indicating that emissions could peak before the end of this decade. Last year, the UNFCCC estimated emissions would continue rising and reach 54.9 billion metric tons of CO₂ by 2030.

Signatory countries to the Paris Agreement (2015) are increasing their ambitions, but not fast enough. Even if all country promises are fulfilled, there would still be an excess of 16 billion metric tons of CO₂ above the threshold required to keep global warming at 2°C.

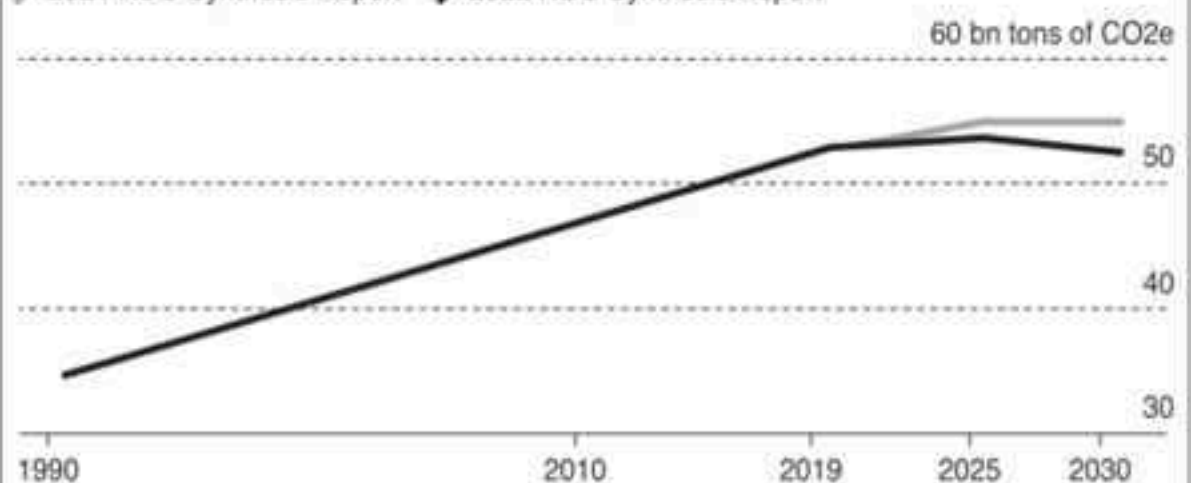
The wide range in the warming estimates—between 2.1°C and 2.9°C is due to uncertainty over whether countries can implement their plans.

If emissions are not reduced sufficiently by 2030, cuts will need to be much sharper after that date to

Global Emissions Peak before 2030

Climate plans slightly improve global emissions trajectory

2021 NDC Synthesis Report 2022 NDC Synthesis Report



Source: UNFCCC NDC Synthesis Report 2022

Note: Emissions levels for 2025 and 2030 are estimates taking into account full implementation of all NDCs (without conditional elements).

compensate for the slow start on the path to net zero, the requisite for halting global warming.

"We're bending the curve on emissions downwards, they are projected to go in the right direction," Stiell said. "But they are not going down enough fast enough, far enough—this is nowhere near the scale of emissions reductions required to put us on track toward a 1.5°C world."

A second report by the UNFCCC concluded that emissions could be roughly 68% lower in 2050—compared to 2019 levels if all plans were implemented. The research, which focused on countries' long-term climate goals, warned that some net zero plans postpone climate action that should take place this decade.

"Nations must strengthen their plans now and implement them in the next eight years," Stiell said. "We're moving forward but moving forward far too slowly—every year is a critical year in this process."

Emissions from the European Union rose 4.8% in 2021, from an exceptionally low level in 2020 due to the lockdowns prompted by the Covid-19 pandemic. Still, EU emissions last year are down 4% from 2019. That puts the EU on track to achieve its target of cutting emissions 55% by the end of this decade, from 1990 levels, according to the report.

Increasingly ambitious climate promises contrast with the present emissions reality. Atmospheric levels of the three main greenhouse gases—

carbon dioxide, methane and nitrous oxide—all reached record highs in 2021, according to a report by the World Meteorological Organization released on October 26, 2022.

Alarm Wells are Ringing

- Human-caused greenhouse gas emissions need to halve by 2030-end.
- Today's warming of 1.1°C above pre-industrial times has already resulted in irreversible changes.
- Extreme weather events have exposed millions to food insecurity and malnutrition.
- Heat-related deaths have increased; and climate migration has risen.

From 2020 to 2021, the increase in levels of CO₂, the main greenhouse gas emitted through human activities and the primary driver of climate change, was larger than the average annual growth rate over the past decade. Levels continue to rise this year. Methane concentrations in 2021 saw the biggest year-on-year jump since measurements began four decades ago.

"The continuing rise in concentrations of the main heat-trapping gases, including the record acceleration in methane levels, shows that we are heading in the wrong direction," WMO Secretary-General Petteri Taalas said in a statement. "There are cost-effective strategies available to tackle methane emissions, especially from the fossil fuel sector, and we

should implement these without delay."

While methane has 28 times greater warming potential than CO₂, it dissolves in the atmosphere in less than a decade, meaning its impact on climate is reversible if methane emissions are slashed fast, Taalas said. In contrast, CO₂ remains in the atmosphere for centuries, so gases emitted today will continue warming the planet in the future, even if humanity manages to eliminate net emissions within coming decades.

UNFCCC analyzed the climate action plans known as nationally determined contributions (NDCs) of 193 Parties to the Paris Agreement, including 24 updated or new NDCs submitted after the UN Climate Change Conference in Glasgow (COP 26) up until 23 September, 2022. Taken together, the plans cover 94.9% of total global greenhouse gas emissions in 2019.

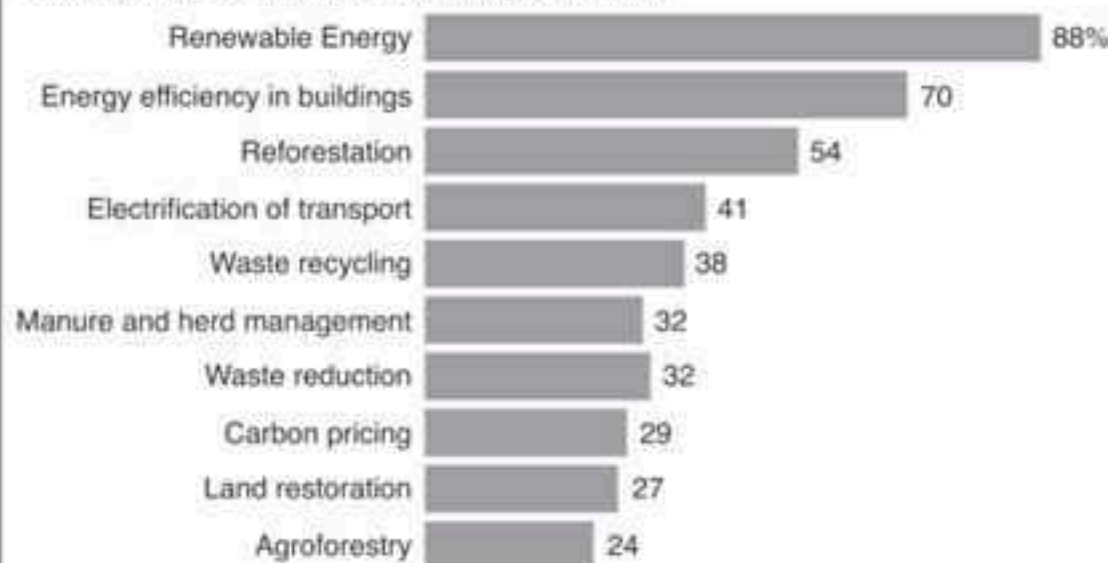
"At the UN Climate Change Conference in Glasgow last year, all countries agreed to revisit and strengthen their climate plans," said Stiell. "The fact that only 24 new or updated climate plans were submitted since COP 26 is disappointing. Government decisions and actions must reflect the level of urgency, the gravity of the threats we are facing, and the shortness of the time we have remaining to avoid the devastating consequences of runaway climate change."

Edurpan

Popular Mitigation Strategies

Climate plans listed ways to cut emissions

■ Share of NDCs referring to each mitigation option



Source: UNFCCC NDC Synthesis Report 2022

Note: Share of countries referring to specific priority areas and frequently indicated mitigation options in NDCs

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for India to become a developed country, private sectors can play a major role. Finally, there is a need for partnership among the centre, the state, the private sector and the citizens of India and to build a strong set of national and democratic institutions. Seven decades ago India made a tryst with destiny and now the time has come when India needs to redeem its commitment. The pledge has been made but still the question remains : Can India really become "We the people of Developed India", 25 years from now ?

Edurpan

Scenario of Indian Health Care System from Independence to COVID-19

Zeba Khanam

Article 14-18 of the Indian constitutional guarantees the right to equality to each and every citizen, which is embedded in the preamble of the Constitution of India. Any law or Constitution Amendment that is offending the right to equality would be declared invalid. Thus, the state should provide equal facilities to their civilians and it should be dependent on individual need, not on one's financial status. In India, how health care system works, can be traced back to the development committee report, generally known as Bhore Committee (1938) which stressed the importance of preventive care in addition to curative care. The recommendation of this report was not accepted but it triggered the reforms that were needed for a long time.

After Independence, new programmes and policies were initiated in India and one of them was the Community Development Programme (1950) with the agenda of rural development. This programme was initiated to change the life of rural people, a comprehensive programme that would improve health condition in rural areas and to bring democratic decentralization in health care system. In the words of Jawaharlal Nehru "the programme is of vital importance and would bring reliance on self-help which will replace by self-help". But, the programme was not much success; it could not bring change in health care system that it has promised. However, after Independence, health care system has emerged as an independent activity for public health in India. With the launch of five years plans India has shifted its focus towards all-round balanced development and emphasis on the system of mixed economy with the greater role of public sector. Later on, these plans were criticized for being urban centric. Srivastava Committee (1967) criticized the health

care delivery system and reported that health care system in India is mainly based on the western model and urban centric.

First National Family Planning Programme (NFPP) was initiated in 1952 with the objective of reducing birth rate for the welfare of family health and national economy. However, Family Planning efforts began in 1970; India witnessed a dark period of state sponsored population control. During Emergency, civil liberties were suspended and compulsory sterilization was masked in the name of family planning. Citizens were forced to sterilize. According to the science journalist Ms. Hvistendal, two thousand man died due to the botched operation, which was the fifteen times in number than of people sterilized by Nazis. After emergency, many institutional reforms have taken place in India, research institute and medical colleges with tertiary hospitals and public health were setup.

Alma Ata Declaration (on Health for All) for primary health care has emphasized on the importance of Primary health cares. It mainly focused on Multi-dimensional, inter-sectoral health care which involves community in planning and implementation, mainly Panchayati Raj Institutions was involved as the leader of primary health care. However, in India, what was introduced in the name of primary health care centres (PHCs) of varying degree primary level services, across the states, secondary and tertiary level was also envisioned as the hub of this system. The traditional health volunteers like Dai were delegitimized, a new addition ASHA, ANM and MPW were introduced, which became clerical keeper of records. The purpose of forming cadre of primary health volunteer at village and community level could not brought

decentralization and community participation in health care delivery system.

When analysing the improvement, India has achieved a good deal since Independence, one cannot turn a blind eye to the future in public health. In fact, fundamental right of life and liberty has been given in Indian Constitution, including the right to health, applying state obligation to protect from medical negligence. State has been given the authority of subject's likes public health, sanitation, hospitals and dispensaries. Since Independence, we have achieved a great deal whether it be human resource with infrastructural facilities or the financial and planned investment. Although, these are not up to the desired/target level. For instance, from 1951-61 to 2010-11 the crude birth rate has decreased from 39.9 in to 21.8, Crude death rate has decreased from 27.4 to 7.1 and Infant mortality rate has declined from 160 to 44. The Fertility rate has declined from 6 to 2.3 while the life expectancy at birth has increased from 32 to 66.9. However, it should be kept in mind that there are inter and intra state variation and differences among communities, caste and creed, rich and poor and so on.

In 1990, Neo-Liberal policies were introduced in India which fostered the economic growth and worked as a push factor for the private sector to flourish. Private health care market in India is booming at a very alarming rate. Indian health care has become a very complicated, pricy and urban concentrated system of public private partnership. Drug prices have risen suddenly and due to that poor have affected adversely. Inequalities in access and utilization of health care have widened. India has a low per capita expenditure on health care to date; In 2015 India spent approximately 4.8 per cent of GDP on health

care, now it has reduced to 3 per cent of total GDP. Private health sector is the main provider for health care services, which is estimated to be a part of 70 per cent of the total health care sector.

After the liberalization, the health care has become almost unaffordable and has given rise to serious equity issue. Due to that an Indian on an average bears 85 per cent of the health care cost out of pocket of total expenditure. Public healthcare insurance and coverage are very limited and under developed, resulting in a low accessibility of health care for the majority of low income. In 2016, National Sample Survey Office (NSSO) has released the report "Key Indicator of Social Consumption in India", which highlighted the fact that 80 per cent of the population is not covered under any form of health insurance, only 18 per cent of urban population and 14 per cent of rural population is covered under such schemes. The increasing involvement of the private sector became the issue of debate across the world, for instance, the Obama Care or Affordable care Act in USA has become the robust issue of debate amongst the opponent. The insurance schemes are more beneficial for urban and wealthy population. It is because Indian states lack a powerful regulatory authority to control unregulated private sector.

With the surge of second wave the foundation of India's health care system have naturally also been shaken. Pandemic not only restricted to the tier I and tier II cities alone but it further spread to far more remote regions. BBC India, 2021 reports that the most precising issue with second wave surge was the lack of oxygen and beds in India. One tragic example of this haphazard system is the shortage of equipment's and supply system and it did become the cause of death for thousands of people. Low allocation to health care and weak political will has created II wave more catastrophic. For several years, Indian health care system has not received the respect and resource they deserve. Recently, government of India has proposed an amount of INR 2,23,846 crore, an increase of 137 per cent for healthcare from the previous years, with INR 35,000 crore allocated for COVID-19 vaccine in next economic year (MoHFW, 2021). Several other schemes were also

launched to improve primary, secondary and tertiary health care. The regulatory and institutional changes have been proposed, and it is believed that the proposed changes will bring better health outcome. According to NYT, COVID-19 crisis is wakeup call for India and it has brought forth the already existing structural weakness in India's public health care system. On March 25, 2020 when national lockdown was imposed by Central government of India it showed positive consequences by controlling COVID infection rates throughout the country and this implementation was appreciated globally. During the second wave Indian politics took control over the pandemic complexities by allowing religious and political rallies. Also, the lack of coordination between government and different health care agencies made pandemic response more complex and vulnerable.

Today, Indian health care system is urban-centric. There is an urgent need to reform the system through the growth of medical infrastructure and professionals. Around 70 per cent population in India resides in rural areas with no or limited access to health care infrastructure such as hospitals and clinics. Consequently, people residing in rural areas almost rely on alternative medicine. In rural area, absenteeism of doctor is ranging from 28 per cent to 68 per cent and is in dire need of improvement. Additionally, there is a wide gap between urban and rural healthcare system which need to be addressed. The problem could be solved by adopting standardised regulatory method in health care sector. The efforts to decentralise system seems not to be achieved as we are still ignoring secondary and tertiary services. More than that, in spite of controlling private sector, NITI Aayog, has come up with the idea of proving the private healthcare sector a greater role in the Indian healthcare sector. Though government expenditure on healthcare is steadily increasing in absolute number and as per capita basis, GDP did not see a significant change over the years. Our health care financing is very low, only 1 per cent, as a result we are among the worst for out of pocket expenditure.

The private healthcare sector remains one of the major sectors in the terms of employment and revenue generation. We are at the verge of juncture, where debate regarding whether the appropriate solution in a PPP (Private Public Partnership) or in enhancing the role of government to ensure accessibility and equity for the people of low income and rural area.

Florian

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the present age of globalization and economic diplomacy, the Union government has also positively viewed the increasing role states in foreign affairs. While underlining these needs, the Government of India has created in 2014 a separate **States Division** within the Ministry of Foreign Affairs to coordinate with States for further facilitation of their efforts to promote their exports and tourism and attract more overseas investments and expertise. Some of the states have also appointed nodal officers to coordinate with the States Division and foreign entities. The State government should also institutionalize their role in foreign affairs. The mandate of the States Division has to be further enhanced to include other relevant areas of cooperation like climate change, development partnership and cyber security and other relevant areas. The institutional machinery at both levels should adopt a holistic, proactive and professional approach to promote States positive role in foreign affairs. Yet, it is a matter of satisfaction that the Union government has positive approach towards the increasing role of state governments in foreign affairs. However, the road to constituent diplomacy is not smooth as it appears. The sincere efforts and holistic approach is required to make meaningful involvement of states in foreign policy. While the Union government may adopt a firmer stand on matters of core national interest, it also needs to give the state governments' greater freedom to pursue cross-border economic partnerships. It also goes well with the spirit of cooperative federalism. As the trends in India and global are visible, the role of states and other local bodies in foreign affairs is likely to increase in coming decades.

Florian

New Terms Explained for Competitive Examinations

Mimansa Solanki

Prachand

Prachand is the twin-engine helicopter which has been designed and developed by Hindustan Aeronautics Limited (HAL). It is a 5.8 tonne class dedicated combat helicopter. Notably, LCH is the only attack helicopter in the world which can land and take off at an altitude of 5,000 m (16,400 ft.) with a considerable load of weapons and fuel. In a watershed moment in the country's military ecosystem, Defence Minister Rajnath Singh formally inducted the first batch of indigenously-developed Light Combat Helicopter (LCH) into the Indian Air Force.

NaVIC

NaVIC-Navigation with Indian Constellation is India's own satellite navigation system, like the Global Positioning System (GPS), which is of the US. The heart of the system is seven satellites—the 8th will join them soon—positioned above India. These satellites form 'Indian Regional Navigation Satellite System' (IRNSS).

NaVIC has been in operation since 2018 (after a seven-year delay from the original target date). But, it is in the news now because the Indian government is asking for all smartphones sold in India to feature the NaVIC app (like Google Maps). As this entails a little tweaking of some phone hardware, particularly the chipsets, which will make the phones a little costlier. Smartphone manufacturers such as Apple, Samsung, Xiaomi and Redmi are not happy, but will comply.

NaVIC as good as GPS : In some respects, better, GPS can take you within 20 meters of your target, while NaVIC is more precise—it will take you within five meters of the target. This may not be a big deal for individual users, but for military stuff, like guided missiles, it is very important. On the other hand, while GPS is global you can use it any-

where in the world—NaVIC regional and can be used in India and up to 1,500 km from India's borders. However, India desires to make NaVIC global, which will happen if more satellites, say around 30, are sent up for this purpose. For now, NaVIC is regional.

NaVIC is more precise than GPS : That's a bit technical, but it is essentially because NaVIC uses two frequencies instead of one—the L5 (1176-45 MHz) and S band (2492-028 MHz). This improves its accuracy by enabling the receivers on the satellites to correct any atmospheric errors through simultaneous use of the two frequencies. Further, the uptime of the system is better than GPS because either frequency can serve the positioning requirement equally well.

The Collegium System

The collegium system is the way by which judges of the Supreme Court and High Courts are appointed and transferred. **The collegium system is neither rooted in the Constitution nor a specific law enacted by Parliament; it has evolved through judgements of the Supreme Court.**

The Supreme Court Collegium is a five-member body, which is headed by the incumbent Chief Justice of India (CJI) and comprises the four other senior most judges of the Supreme Court at that time. A High Court collegium is led by the incumbent Chief Justice and four other senior most judges of that court. By its very nature, the composition of the collegium keeps changing.

Judges of the higher judiciary are appointed only through the collegium system, and the government has a role only after names have been decided by the collegium. Names recommended for appointment by a High Court collegium reach the government only after approval by

the CJI and the Supreme Court collegium.

The role of the government in this entire process is limited to getting an inquiry conducted by the Intelligence Bureau (IB) if a lawyer is to be elevated as a judge in a High Court or the Supreme Court. The government can also raise objections and seek clarifications regarding the collegium's choices, but if the collegium reiterates the same names, the government is bound to appoint them.

Sometimes the government delays making the appointments, especially in cases where the government is perceived to be unhappy with one or more judges recommended for appointment by the collegium. The collegium system evolved out of a series of judgements of the Supreme Court that are called the "Judges Cases". The collegium came into being through the interpretations of the relevant provisions of the Constitution that the Supreme Court made in these Judges Cases.

The Collegium system is often criticized on the following grounds :

- The system is non-transparent, since it does not involve any official mechanism or secretariat.
- It is seen as a closed-door affair with no prescribed norms regarding eligibility criteria, or even the selection procedure.
- There is no public knowledge of how and when a collegium meets, and how it takes its decisions.
- There are no official minutes of collegium proceedings.

Digital Services Act

The Digital Services Act and the Digital Markets Act aim to create a safer digital space where the fundamental rights of users are protected and to establish a level playing field for businesses.

The European Commission proposed two legislative initiatives to upgrade rules governing digital services in the European Union: the Digital Services Act (DSA) and the Digital Markets Act (DMA). The Commission made the proposals in December 2020 and on 25 March, 2022 a political agreement was reached on the Digital Markets Act, and on 23 April 2022 on the Digital Services Act. Together they form a single set of new rules that will be applicable across the whole EU to create a safer and more open digital space.

The DSA and DMA have two main goals:

1. to create a safer digital space in which the fundamental rights of all users of digital services are protected;
2. to establish a level playing field to foster innovation, growth, and competitiveness, both in the European Single Market and globally.

Digital Services: Digital services include a large category of online services, from simple websites to internet infrastructure services and online platforms—such as Google, Meta, Twitter, and YouTube, function in terms of moderating user content.

The rules specified in the DSA primarily concern online intermediaries and platforms. For example, online marketplaces, social networks, content-sharing platforms, app stores, and online travel and accommodation platforms.

The Digital Markets Act includes rules that govern gatekeeper online platforms which are digital platforms with a systemic role in the internal market that function as bottlenecks between businesses and consumers for important digital services. Some of these services are also covered in the Digital Services Act, but for different reasons and with different types of provisions.

Silverleaf Whitefly

The silverleaf whitefly is a major crop pest in the tropics and subtropics. After studying its genome, an Institut national de la recherche agronomique (INRAE) researcher and a French National Center for Scientific Research (CNRS) researcher

identified 49 plant genes transferred to the insect's own genome. Such a large number of genes transferred between plants and an insect had never before been detected. These findings open the door to new research on relationships between plants and insects that could lead to innovative pest control methods and reduce pesticide use.

By undertaking a bioinformatics analysis, the researchers identified 49 plant genes in the whitefly genome deriving from 24 independent horizontal gene transfer events. Most of these genes show features of functionality, meaning they are expressed in insects and have sequences with signs of evolutionary pressure, and so play a potential role in insects. The researchers' results also show that most of the identified genes, such as those that are involved in producing enzymes that break down plant cell walls, play a known role in relationships between plants and their parasites. This likely reflects the result of a process of natural selection of plant genes in insects, which may have allowed the whitefly to adapt to a large range of plant species. The origin and mechanism behind these transfers is still unknown, but they all go back several million years.

This is the first time that so many gene transfers between plants and insects have been identified. This study opens the door to new research on plant-pest relationships as well as crop pest control methods. Understanding the role of transferred genes for plants and insects could lead to innovative pest control methods based on plant breeding (varietal selection) that could reduce pesticide use.

Click Chemistry

Click chemistry, for which three scientists—Carolyn Bertozzi, Morten Meldal and Barry Sharpless—got the Nobel Prize in chemistry for 2022, is a method of linking molecules in a practicable way.

After Sharpless and Meldal, working separately, developed click chemistry in 2001, the field has grown, with applications in pharmaceuticals and material science, but has remained a phenomenon involving liquids.

The Indian Institute of Science Education and Research (IISER), Thiruvananthapuram has done some noteworthy work in click chemistry involving solids, which could give rise to a variety of new industrial applications. But first, how exactly does 'click chemistry' work? Suppose we want to link molecules A and B to make a larger molecule AB, and we find that A and B won't link easily, we have a problem. But, if we find two 'complementary reactive groups' (CRGs), say, x and y , which can be linked to A and B, our problem is solved. You link A to x and B to y and make them react, so that you have AzB, with the linker 'z' in the middle.

In click chemistry, x and y are usually azide and alkyne. To put it simply, an azide is a functional group (molecule) of three nitrogen atoms, linked with double bonds; an alkyne is a functional group of two carbon atoms, hooked to each other with a triple bond. So, if A is linked to an azide and B to an alkyne, you can link A and B together using a triazole, the product of a reaction between azides and alkynes (examples of other CRGs that click with each other include thiol-alkene, diene-dienophile, and tetrazine-alkene).

Carbon Dating

Carbon dating is a widely-used method to establish the age of organic materials, things that were once living. Living things have carbon in them in various forms. The dating method is based on the fact that Carbon-14 (C-14), an isotope of carbon with an atomic mass of 14, is radioactive, and decays at a well known rate.

C-12 is the most abundant isotope of carbon in the atmosphere. A very small amount of C-14 is also present in the atmosphere. The ratio of C-12 to C-14 in the atmosphere is almost static, and is known.

Plants get their carbon through photosynthesis; animals get it mainly through food. Because plants and animals get their carbon from the atmosphere, they too acquire C-12 and C-14 in roughly the same proportion as is available in the atmosphere.

When they die, their interactions with the atmosphere stop. While C-12 is stable, the radioactive C-14 reduces

to one half of itself in about 5,730 years—known as its ‘half-life’. The changing ratio of C-12 to C-14 in the remains of a plant or animal after it dies can be measured, and can be used to deduce the approximate time when the organism died.

Though extremely effective, carbon dating cannot be applied in all circumstances. It cannot be used to determine the age of non-living things like rocks, for example.

Also, the age of things that are more than 40,000-50,000 years old cannot be arrived at through carbon dating. This is because after 8-10 cycles of half-lives, the amount of C-14 becomes almost very small and is almost undetectable.

But, there are other methods to calculate the age of inanimate things, many of which are based on the same principle as carbon dating. So, instead of carbon, decays of other radioactive elements that might be present in the material become the basis for the dating method.

These are known as radiometric dating methods. Many of these involve elements with half-lives of billions of years, which enable scientists to reliably estimate the age of very old objects.

Two commonly employed methods for dating rocks are potassium-argon dating and uranium-thorium-lead dating. The radioactive isotope of potassium decays into argon, and their ratios can give a clue about the age of rocks. Uranium and thorium have several radioactive isotopes, and all of them decay into the stable lead atom. The ratios of these elements present in the material can be measured and used to make estimates about age.

There are also methods to determine how long an object has remained exposed to sunlight. These apply different techniques, but are again based on radioactive decays and are particularly useful in studying buried objects or changes in topology. The most common of these is called cosmogenic nuclide dating, or CRN, and is regularly applied to study the age of ice cores in polar regions. In some situations, carbon dating can be used indirectly as well.

For example, a way in which the age of ice cores in glaciers and polar

regions is determined by studying carbon dioxide molecules trapped inside large ice sheets. The trapped molecules have no interaction with the outside atmosphere, and are found in the same state as when they were trapped. Determining their age gives a rough estimate of the time when the ice sheets were formed.

How long a rock has been at a particular place can also be determined similarly—organic materials like dead plants or insects trapped underneath can give an indication of when that rock reached that place.

Conversational Artificial Intelligence

Conversational AI is a type of artificial intelligence that enables consumers to interact with computer applications the way they would with other humans. Conversational AI has primarily taken the form of advanced chatbots, or AI chatbots that contrast with conventional chatbots. The technology can also enhance traditional voice assistants and virtual agents. The technologies behind conversational AI are nascent, yet rapidly improving and expanding.

Conversational AI typically entails a combination of natural language processing (NLP) and machine learning (ML) processes with conventional, static forms of interactive technology, such as chatbots. This combination is used to respond to users through humanlike interactions. Static chatbots are rules-based and only provide a set of predefined answers to the user. A conversational AI model, on the other hand, uses NLP to analyze and interpret human speech for meaning and ML to learn new information for future interactions.

NLP processes large amounts of unstructured human language data and creates a structured data format so machines can understand the information to make decisions and produce responses. To further understand NLP, consider its two subtopics that play a crucial role in conversational AI : Natural Language Understanding (NLU) and Natural Language Generation (NLG).

- NLU is what enables a machine or application to understand the language data in terms of context, intent, syntax and seman-

tics, and ultimately determine the intended meaning.

- NLG is the process by which the machine generates text in human-readable languages, also called natural languages, based on all the input it was given. The goal is to explain the structured data for humans to understand.

Conversational AI is expanding and offering following advantages to many industries :

- **Healthcare** : Conversational AI can help patients describe their conditions online through a series of questions meant to circumvent wait times.

- **Retail** : When traditional customer service representatives aren't available, AI-powered chatbots are able to meet customers' demands on a 24X7 basis, even during holidays. Historically, call centers and in-person visits were the only way to conduct customer interactions. Now, customer support is no longer limited to office hours, because AI chatbots are available through various mediums and channels, including email and websites.

- **Banking** : Bank personnel can alleviate the pressure put on them by having AI chatbots handle complex requests in a manner that conventional chatbots would struggle with.

- **Internet of Things (IoT)** : Common household devices, such as Amazon Echo and Apple's Siri, have conversational AI capabilities. Conversational AI agents can even be interacted with through smart home devices.

- **Human Resources** : Conversational AI can automate the time-consuming process of sifting through candidate credentials manually. As is the case in banking, conversational AI alleviates much of the burden human workers face.

Wolf Warrior Diplomacy

Wolf Warrior diplomacy, which takes the name from a popular Chinese war movie, symbolises an aggressive and confrontational, even hostile, type of diplomacy on a public

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Mission Life (Lifestyle for Environment)

Madhulika Singh

Prime Minister Shri Narendra Modi On October 20, 2022 launched Mission LiFE (Lifestyle for Environment), in the presence of the UN Secretary General António Guterres, at the Statue of Unity, Ekta Nagar, Gujarat. Mission LiFE seeks to translate the vision of LiFE into measurable impact. It is designed with the objective to mobilise at least one billion Indians and other global citizens to take individual and collective action for protecting and conserving the environment in the period 2022–28. Within India, at least 80 per cent of all villages and urban local bodies are aimed to become environment-friendly by 2028.

As many as 10 heads of states, including France President Emmanuel Macron, UK Prime Minister (former) Mary Truss, Guyana President Irfan Ali, Argentina President Alberto Fernandez, Mauritius Prime Minister Pravind Jugnauth, Madagascar President Andry Rajoelina, Nepal Prime Minister Sher Bahadure Deuba, Maldives President Ibrahim Mohamed Solih, Georgia Prime Minister Irakli Garibashvili and Estonia Prime Minister Kaja Kallas extended support to the LiFE movement.

The LiFE Mission was introduced by PM Modi during the 26th United Nations Climate Change Conference of the Parties (COP26) in Glasgow in 2021. It is also a part of India's updated list of nationally determined contributions (NDC), which was officially submitted to the UNFCCC.

Mission LiFE aims to promote an environment-conscious lifestyle that focuses on 'mindful and deliberate utilization' instead of 'mindless and destructive consumption'. It also envisages a circular economy through people's participation. It also plans to nurture a global network of individuals, namely 'pro-planet people' or P3, who will have a shared commitment to adopt and promote environment-friendly lifestyles.

The first of India's eight point-Nationally Determined Contributions (NDC) are aimed 'to put forward and further propagate a healthy and sustainable way of living based on traditions and values of conservation and moderation, including through a mass movement for 'LiFE' as a key to combating climate change'. It is for the first time now that the tenets of the LiFE mission are known.

The Mission LiFE will look at following a three-pronged strategy at demand, supply and policy levels for changing our collective approach towards sustainability.

1. First is by nudging individuals to practice simple yet effective environment-friendly actions in their daily lives (demand).
2. Second is by enabling industries and markets to respond swiftly to the changing demand (supply).

3. Third is to influence government and industrial policy to support both sustainable consumption and production (policy).

Mission LiFE will be India's signature initiative at the UN and other international platforms for showcasing climate action and early achievement of the Sustainable Development Goals, including upcoming COP27 in November 2022. During India's presidency of the G20, sustaining and promoting LiFE will be among key focus areas for deliberations.

The mission will be incubated, curated and piloted by NITI Aayog and subsequently implemented by the Union Ministry of Environment, Forest and Climate Change, in a non-linear and non-sequential manner. While a proceeding phase will organically feed into the next phase of Mission LiFE, all phases are equally simultaneous in nature

Mission LiFE 2022-23

In 2022-23, Mission LiFE will focus on Phase I, Change in Demand, by nudging individuals, communities and institutions to practice simple environment-friendly actions (LiFE actions) in their daily lives. In view of Mission LiFE being launched in the 75th year of India's independence, a comprehensive and non-exhaustive list of 75 individual LiFE actions across 7 categories is identified such that most actions are : (i) Specific and measurable, (ii) Easy to practice by individuals, communities and institutions, with minimal supply-side dependencies, (iii) Non-disruptive to ongoing economic activity, and in fact, promoting economic activity in the foreseeable future

75 Points Action Agenda Under Mission LiFE

The Union government on October 26, 2022 published a list of 75 lifestyle practices that can be taken up as climate-friendly behaviour under the Mission LiFE (Lifestyle for Environment).

- 75 actions have been categorized under the seven categories—energy, water saving, single-use plastic, sustainable food systems, waste reduction (swachhata actions), healthy lifestyle, and e-waste.
- In 2022-23, Mission LiFE will focus on 'Change in Demand' by nudging individuals, communities, and institutions to practise simple environment-friendly actions in their daily lives.
- Nineteen actions have been published under the **energy saving** agenda, ranging from preference for CNG/EV vehicles to installing earthen pots for cooling water :
 1. Use LED bulbs/ tube-lights.
 2. Use public transport wherever possible.

3. Take the stairs instead of an elevator wherever possible.
4. Switch off vehicle engines at red lights and railway crossings.
5. Use bicycles for local or short commute.
6. Switch off irrigation pumps after use.
7. Prefer CNG/EV vehicle over petrol/diesel vehicles.
8. Use carpooling with friends & colleagues.
9. Drive in the correct gear. Keep your foot off the clutch when not changing gears.
10. Install a solar water or solar cooker heater on rooftops.
11. Switch off appliances from plug points when not in use.
12. Use biogas for cooking and electricity needs.
13. Keep temperature of Air Conditioners to 24 degrees.
14. Prefer pressure cookers over other cookware.
15. Keep your electronic devices in energy-saving mode.
16. Use smart switches for appliances which are used frequently.
17. Install community earthen pots for cooling water.
18. Defrost fridge or freezer regularly.
19. Run outdoors instead of on a treadmill.

● For **water saving**, 15 actions can be taken from adaptation of cultivation of less water-intensive crops to creating rainwater harvesting infrastructure in home, schools/offices :

1. Adopt cultivation of less water intensive crops like millets.
2. Participate in recharge of rural water bodies through Amrit Sarovar Scheme.
3. Practice crop diversification. Move from rice & wheat cultivation to pulse & oil seed cropping system.
4. Use efficient water saving technologies (like micro-irrigation, bunding, farm ponds, zero tillage, direct seeded rice, alternate wetting and drying and others).
5. Create rainwater harvesting infrastructure in home/schools/offices.
6. Use drip irrigation systems created with waste materials, wherever possible.
7. Reuse water from washed vegetables to water plants and other purpose.
8. Pre-soak heavy pots and pans before washing them.
9. Do not discard unused stored water every time there is fresh water coming in taps.
10. Use buckets instead of hose pipes to water plants/floors/vehicles.
11. Fix leaks in flushes, taps and waterpipes.
12. Use water-efficient fixtures for taps, and shower-heads, and toilet flush units.
13. Invest in a water meter for your house to measure water consumption regularly.

14. Reuse water drained out from AC/RO for cleaning utensils, watering plants and others.
15. Prefer a water purification system that wastes less water

● For **reducing single use plastic**, 11 actions were highlighted, from using recycled plastic to use of steel lunch boxes.

1. Use cloth bag for shopping instead of plastic bags.
2. Carry your own water bottle wherever possible.
3. Reuse glass containers/ packaging plastic items as storage boxes.
4. Participate in and mobilize participation for clean-up drives of cities and water bodies.
5. Prefer using non-plastic eco-friendly cutlery during gatherings and events.
6. Turn off running taps when not in active use.
7. Use menstrual cups instead of sanitary napkins.
8. Use recycled plastic over virgin plastic, wherever possible.
9. Use steel/recyclable plastic lunch boxes and water bottles.
10. Cut the packaging bags used for milk, buttermilk, etc. only partially to avoid plastic bits from mixing into biodegradable waste.
11. Opt for bamboo toothbrushes and neem combs.

● For **sustainable food system adoption** six actions can be taken, from creating a kitchen garden to preferring locally available and seasonal food :

1. Include millets in diets through Anganwadi, Mid-Day meal and PD scheme.
2. Compost food waste at home.
3. Create kitchen gardens/terrace gardens at homes/schools/offices.
4. Prepare organic manure from cow dungs and apply to farms.
5. Prefer locally available and seasonal foods.
6. Use smaller plates for daily meals to save food wastage.

● Under **the waste reduction (swachhata actions)** 11 actions have been suggested to take :

1. Contribute cattle waste, food waste, and agricultural waste to biogas plant (provided under GOBARDHAN).
2. Practice segregation of dry and wet waste at homes.
3. Use agricultural residue, animal waste for composting, manuring and mulching.
4. Recycle and reuse old newspapers, magazines.
5. Feed unused and uncooked vegetables leftovers to cattle.
6. Set printer default to double-side printing.
7. Repair, reuse and recycle old furniture.
8. Buy paper products made from recycled paper.
9. Donate old clothes and books.
10. Do not discard waste in water bodies and in public spaces.
11. Do not let pets defecate in the public places.

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Breeding Gives You Satisfaction of Knowing You are Making a Difference in the Lives of Farmers

Shahid Ali Siddiqui and V.N. Kulkarni

Ten Greatest Contributors Making a Difference in the Lives of Farmers

The Father of Green Revolution

Who : Dr. Norman E. Borlaug.

Innovation : Developed successive generations of wheat varieties with broad and stable disease resistance.

Impact : The new wheat varieties, alongside improved crop management practices, transformed agricultural production in Mexico during the 1940s and 1950s and later in Asia and Latin America. The increased production helped combat hunger and famine, crediting Borlaug with saving “more lives than any other person who has ever lived.”

Recognition : Borlaug received the Nobel Peace Prize for a lifetime of work to feed a hungry world.

India's Breadbasket Hero

Who : Dr. Monkombu Sambasivan Swaminathan.

Innovation : He worked with Borlaug to develop higher yielding wheat varieties with stalk structures strong enough to support their increased biomass. Swaminathan also taught Indian farmers how to effectively increase production.

Impact : Swaminathan efforts transformed India from a ‘begging bowl’ to a ‘breadbasket’ almost overnight, bringing the total wheat crop from 12 million to 23 million tons in four crop seasons and ending India’s reliance on imports.

Recognition : Swaminathan received the first World Food Prize in 1987.

Integrated Pest Management Pioneers

Who : Drs. Ray F. Smith and Perry L. Adkisson.

Innovation : Developed and popularized Integrated Pest Manage-

ment (IPM)—the best combination of cultural, biological and chemical measures to manage diseases, insects, weeds and other crop pests.

Impact : US government statistics estimate that American farmers’ need for insecticides dropped by 50 per cent as they adopted an IPM approach to managing pests. Over 75 per cent of US farmers use IPM systems today.

Recognition : Smith and Adkisson shared the 1997 World Food Prize for developing and popularizing IPM.

Two Incredible Rice Breeders

Who : Dr. Monty Jones Dr. Yuan Longping.

Innovation : These two rice scientists independently made breakthroughs in breeding rice. Longping is known as the “father of hybrid rice,” the first scientist to successfully alter the self-pollinating characteristics of rice to allow for large-scale hybrid rice production.

Impact : Jones’ rice stands to benefit 20 million farmers and 240 million consumers in West Africa alone. Longping’s discovery increased rice yields by 20 per cent, feeding about 70 million more people annually.

Recognition : Jones and Longping won the 2004 World Food Prize during the International Year of Rice declared by the Food and Agriculture Organization of the United Nations.

Plant Biotech's Three Founders

Who : Dr. Marc Van Montagu, Drs. Mary-Dell Chilton and Robert T. Fraley.

Innovation : They independently pioneered research on the successful transfer of bacterial genes into plants, creating the world’s first biotech crops with improved yields, resistance to insects and diseases, and

tolerance to herbicides and extreme climatic conditions.

Impact : Since biotech crops were introduced in 1996, 18 million farmers in 26 countries have planted 185 million hectares, generating \$150 billion USD in additional farm income.

Recognition : Van Montagu, Chilton and Fraley shared the 2013 World Food Prize.

The Anti-Poverty Leader

Who : Sir Fazle Hasan Abed.

Innovation : Developed BRAC (formerly the Bangladesh Rural Advancement Committee), which many claim to be the most effective anti-poverty organization in the world. The objectives of BRAC’s agriculture and food security program have been to increase crop and livestock production while ensuring environmental sustainability, adaptability to climate change, and affordability for marginal and small farmers.

Impact : BRAC has helped nearly 150 million people worldwide, especially women, improve their lives, enhance food security and move out of poverty. It has also helped more than 500,000 farmers gain access to efficient farming techniques, technologies, training and financial support services, significantly increasing yields.

Recognition : Abed was honored as the 2015 World Food Prize laureate for developing BRAC.

Current Challenges in Crop Breeding

Humans around the world have an increasing appetite for diverse and nutritious foods. Feeding the world is no easy task! The answer lies in using the croplands we have in the most sustainable ways. Crop breeders work to develop crop varieties that

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Short Notes for Forthcoming Competitive Examinations

Cloudbursts

A cloudburst is a localised but intense rainfall activity. Short spells of very heavy rainfall over a small geographical area can cause widespread destruction, especially in hilly regions where this phenomenon is the most common.

Not all instances of very heavy rainfall, however, are cloudbursts. A cloudburst has a very specific definition: Rainfall of 10 cm or more in an hour over a roughly 10 km x 10-km area is classified as a cloudburst event. By this definition, 5 cm of rainfall in a half-hour period over the same area would also be categorized as a cloudburst.

To put this in perspective, in a normal year, India, as a whole, receives about 116 cm of rainfall over the entire year. This means if the entire rainfall everywhere in India during a year was spread evenly over its area, the total accumulated water would be 116 cm high. There are, of course, huge geographical variations in rainfall within the country, and some areas receive over 10 times more than that amount in a year. But on average, any place in India can be expected to receive about 116 cm of rain in a year.

During a cloudburst event, a place receives about 10% of this annual rainfall within an hour. It is a worse situation than what Mumbai had experienced on July 26, 2005, which is one of the most extreme instances of rainfall in India in recent years. At that time, Mumbai had received 94 cm of rain over a 24-hour period, resulting in deaths of over 400 people and more than USD 1 billion in economic losses.

Forever Chemicals

Forever chemicals are "per- and polyfluoroalkyl substances," (PFAs). According to the US Centre for Disease Control and Prevention (CDC), PFAs are man-made chemicals used to make nonstick cook-

ware, water-repellent clothing, stain-resistant fabrics, cosmetics, fire-fighting forms and many other products that resist grease, water and oil. PFAs can migrate to the soil, water and air during their production and use. Since most PFAs do not break down, they remain in the environment for long periods of time. Some of these PFAs can build up in people and animals if they are repeatedly exposed to the chemicals.

The United States Environmental Protection Agency (EPA) lists a variety of health risks that are attributed to PFA exposure, including decreased fertility, developmental effects in children, interference with body hormones, increased cholesterol levels and increased risk of some cancers. Recent research has also revealed that long-term low-level exposure to certain PFAs can make it difficult for humans to build antibodies after being vaccinated against various diseases.

A recent study published in *Environment Science and Technology* has found that rainwater from many places across the globe is contaminated with "per- and polyfluoroalkyl substances," (PFAs), which are called "forever chemicals" because of their tendency to stick around in the atmosphere, rainwater and soil for long periods of time.

National Automated Fingerprints Identification System (NAFIS)

Conceptualized and managed by the NCRB at the Central Fingerprint Bureau (CFPB) in New Delhi, the National Automated Fingerprints Identification System (NAFIS) project is a country-wide searchable database of crime and criminal related fingerprints. The web-based application functions as a central information repository by consolidating fingerprint data from all states and Union Territories.

NAFIS assigns a unique 10-digit National Fingerprint Number (NFN) to each person arrested for a crime. This unique ID will be used for the person's lifetime, and different crimes registered under different FIRs will be linked to the same NFN. The 2020 report states that the ID's first two digits will be that of the state code in which the person arrested for a crime is registered, followed by a sequence number.

By automating the collection, storage, and matching of fingerprints, along with digitizing the records of fingerprint data, NAFIS will "provide the much-needed unique identifier for every arrested person in the CCTNS (Crime and Criminal Tracking Network & Systems) database as both are connected at the backend

DNA Fingerprinting

DNA fingerprinting is a laboratory technique used to determine the probable identity of a person based on the nucleotide sequences of certain regions of human DNA that are unique to individuals. DNA fingerprinting is used in a variety of situations, such as criminal investigations, other forensic purposes and paternity testing. In these situations, one aims to 'match' two DNA fingerprints with one another, such as a DNA sample from a known person and one from an unknown person.

There are various methods for analyzing DNA to establish if two samples are the same or different. This is sometimes referred to as DNA fingerprinting. For example, two cloned pieces of DNA can be studied in the laboratory to determine if they have portions in common, and thus overlap with one another. In a different setting, such as a crime scene, DNA samples can be collected and analyzed to determine if they match DNA samples obtained from suspects of that crime. If two DNA samples have the same fingerprint,

then there is a very high statistical likelihood that they came from the same person. Such an approach can also be used to establish paternity.

Antioxidants

'Anti' means against and 'oxidant' means molecules that form free radicals. Simply put, **antioxidants** are natural or man-made compounds which help neutralise the harmful free radicals and oxides in human bodies. Free radicals are highly reactive atoms or molecules with unpaired electrons and are formed when oxygen interacts with certain stressors. These radicals are harmful to our body. Human body produces waste products called **free radicals** or reactive oxygen species (ROS) in response to factors such as pollution, exposure to ultraviolet rays, cigarette smoke, inflammation in the body, and consumption of highly processed foods. Free radicals are very damaging by their very nature, they are an inescapable part of our lives. Free radicals are also a natural by-product of normal processes in cells. When the **immune system** musters to fight intruders, for example, the oxygen it uses spins off an army of free radicals that destroy viruses, bacteria and damaged body cells in an oxidative burst.

Antioxidants work by decreasing the oxidative damage, directly, by reacting with them or, indirectly, by enhancing the activity of intracellular antioxidant enzymes, experts said. Antioxidants are also involved in DNA repair mechanism and maintain the health of cells.

Klebsiella Pneumonia

Researchers at the Indian Institute of Technology, Jodhpur (IIT Jodhpur) and All India Institute of Medical Sciences (AIIMS) have been studying this bacteria and have found that this dangerous bacteria called *Klebsiella pneumoniae*, a major cause of hospital-acquired infection. They discovered that it develops a viscous protective covering around itself, which is one of the major factors behind its high virulence and antibiotic resistance.

Klebsiella pneumoniae is one of the pathogens on the World Health Organization's priority list. It is a

significant cause of hospital-acquired diseases such as pneumonia, bloodstream infections and infections among ICU patients and newborns.

Because of the bacteria's high virulence and antibiotic resistance, the management and treatment of *Klebsiella pneumoniae* has challenged the medical and scientific community worldwide.

ASHA (Alliance for Sustainable and Holistic Agriculture)

ASHA is a large, nation-wide informal network of more than 400 organisations drawn from 20 states of India, that have come together in 2010 to organise a Kisan Swaraj Yatra, a nation-wide mobilisation to draw attention to issues pertaining to our **FOOD, FARMERS, FREEDOM**. The network consists of farmers' organisations, consumer groups, women's organisations, environmental organisations, individual citizens and experts who are committed to the cause of sustainable and viable farm livelihoods in rural India including by ensuring that productive resources are in the control of farming communities and thereby, safe, nutritious, diverse and adequate food for all Indians. From the dialogues that emerged during the Kisan Swaraj Yatra and subsequent work, ASHA articulates a 4-pillared Kisan Swaraj Neeti and calls on governments to adopt the same. This policy articulation provides a framework for a forward-looking agricultural policy approach for India. The four pillars of Kisan Swaraj are : (1) income security for farm households; (2) ecological sustainability of agriculture; (3) people's control over agricultural resources like land, water and seed; and (4) access to safe, healthy, nutritious and sufficient food for all. The work of ASHA is centred around (1) setting up ecological farming alternatives, building related capacities, working on marketing avenues for organic produce and campaigning for replicating support to ecological farming on a large scale, (2) to ensure seed diversity revival and secure seed self reliance and campaign for large scale scaling up of the efforts including through consumer awareness and

empowerment, (3) watching out for any negative unsustainable approaches in Government of India's BGREI programme (Bringing Green Revolution to Eastern India) related to corporatisation of seed resources, chemicalisation of eastern Indian agriculture, water use intensification etc., (4) making a clear case for ensuring minimum living incomes for farm households and campaigning to achieve the same, (5) understanding and advocating a different dispensation to adivasi agriculture and food security, and (6) campaigning against hazardous agri-chemicals including pesticides and fertilisers through the India For Safe Food platform. A recent initiative has been to join hands with other like-minded groups to ensure women's rights and visibility as farmers.

Fortified Rice

The Food Safety and Standards Authority of India (FSSAI) defines fortification as "deliberately increasing the content of essential micronutrients in a food so as to improve the nutritional quality of food and to provide public health benefit with minimal risk to health". Fortification of food is considered to be one of the most suitable methods to combat malnutrition. Rice is one of India's staple foods, consumed by about two-thirds of the population. Per capita rice consumption in India is 6.8 kg per month. Therefore, fortifying rice with micronutrients is an option to supplement the diet of the poor. Various technologies are available to add micronutrients to regular rice, such as coating, dusting, and 'extrusion'. The last mentioned involves the production of fortified rice kernels (FRKs) from a mixture using an 'extruder' machine. It is considered to be the best technology for India. The fortified rice kernels are blended with regular rice to produce fortified rice. Dry rice flour is mixed with a premix of micronutrients, and water is added to this mixture. The mixture is passed through a twin-screw extruder with heating zones, which produces kernels similar in shape and size to rice. These kernels are dried, cooled, and packaged for use. FRK has a shelf life of at least 12 months.

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Compendium

Indian Polity and Constitution

- * Who was appointed the Constitutional Advisor of the Constituent Assembly? —Sir B.N. Rau
- * The removal process of Supreme Court and High Courts judges is mainly inspired in the Indian Constitution from —The US Constitution
- * Which Article of the Indian Constitution deals with the power of President to consult the Supreme Court? —Article 143
- * Which writ in the literal sense means 'By what authority or warrant'? —Quo-Warranto
- * Who described 'the Directive Principles and the Fundamental Rights' as the Conscience of the Constitution' of India? —Granville Austin
- * The feature of the 'Advisory jurisdiction of the Supreme Court' has been borrowed in the Constitution of India' from —The Canadian Constitution
- * Which Article of the Indian Constitution promotes 'International Peace and Security'? —Article 51
- * In India, the voting age was reduced from 21 to 18 years by —61st Constitutional Amendment Act
- * Who has the final authority to ascertain "a Bill is a Money Bill in India"? —Speaker of Lok Sabha
- * The Joint sitting of both Houses of Parliament in India can be summoned by The President under —Article 108

Indian National Movement

- * Who was the Governor General of British India at the time of the first Round Table Conference? —Lord Irwin
- * Two great Indian leaders were born in May, 1861. They were —Motilal Nehru and Rabindranath Tagore
- * Parallel governments in Tamulak, Satara, Balia and Telchar was the main feature of —The Quit India Movement
- * Resolutions on 'Self-government, boycott, swadeshi and national education were approved in the Indian National Congress session at Calcutta in —1906
- * Who was the President of the INC session at Calcutta in 1906AD? —Dadabhai Naoroji

- * Who compared Mahatma Gandhi's Dandi March to Lord Rama's historic march to Lanka? —Motilal Nehru
- * Which great Indian leader wrote 'Essays in Indian Economics' highlighting Indian plight under British rule? —M.G. Ranade
- * 'Sardar' title was given to Vallabhbhai Patel by —Women of Bardoli
- * Who termed the Government of India Act 1935 as the 'New Charter of Slavery'? —Pandit Jawaharlal Nehru
- * When did Batukeshwar Dutt and Sardar Bhagat Singh throw bombs in the Central Legislative Assembly? —April 8, 1929

History and Culture of India

- * The Rock Edict 5 of emperor Ashoka mentions the role and importance of —Dhamma mahamatras
- * The famous rock cut temple of Kailash at Ellora was built by —Rashtrakuta King Krishna first
- * In Mauryan administration, Sannidhata was the head of —Treasury
- * Buddhism got divided into two religious sects named Hinayana and Mahayana after —Fourth Buddhist Council
- * Chinese traveller Hiuen-Tsang mentions two great assemblies in Harshavardhan's reign at —Kannauj and Prayaga
- * Al-Beruni, a great historian and scholar, was contemporary of —Sultan Mahmud of Ghazni
- * Which Sultan of Delhi is also referred to as 'Sikander-e-Sani' (Second Alexander)? —Sultan Alauddin Khilji
- * In ancient India, the founder of Haryanka dynasty was —Bimbisara
- * The battle of Plassey took place on —June 23, 1757
- * Who was the ruler of Bengal when the 'Black Hole' event took place? —Nawab Siraj-ud-Daula

Economic Affairs of India

- * Which bank became the first bank in India to issue an Electronic Bank Guarantee (e-BG)? —HDFC Bank
- * The Central government constituted a five-member Committee to review marketing practices of Pharma Firms. The Committee will be chaired by —Dr. V.K. Paul

- * What is India's rank on the UNDP Human Development Index 2021? —132nd rank
- * Which five year plan in India is also referred to as P.C Mahalanobis Plan? —Second Five Plan
- * National Institute of Rural Development and Panchayati Raj is located in —Hyderabad
- * Who is the author of the book "Development as Freedom"? —Amartya Sen
- * What is the tertiary sector of economic development? —Service sector
- * Statutory Liquidity Ratio (SLR) in India is determined and maintained by —RBI
- * The fiscal deficit devoid of 'Interest payments' is referred to as —Primary deficit
- * World Youth Skills Day (WYSD) is celebrated every year on —15 July

Geography (India and the World)

- * In which continent is the Atacama desert located? —South America
- * 'Marble', 'Slate', 'Schist' and 'Diamond' are examples of —Metamorphic rocks
- * 'Limestone', 'Sandstone', 'Shale' and 'Coal' are examples of —Sedimentary rocks
- * The Shan and the Kayah plateaus are located in —Myanmar
- * Movements of tides are mostly determined by —Rotation of the earth
- * Dodabetta peak is located in the —Nilgiri mountain range
- * Manjra, Wardha and Wainganga are the tributaries of —Godavari
- * In India, Hare island is located in —Tamil Nadu
- * The Patkoi Bum range makes the boundary line between —India & Myanmar
- * Thorium and Monazite are chiefly found in the —Kerala Coast

Science & Technology

- * There are three secondary colours. They are —Yellow, Magenta and Cyan
- * Angstrom is the unit for measuring the wavelength of —Light
- * Deficiency of Vitamin B₁ (Thiamine) causes —Beri-Beri
- * Polymerisation of ethylene chloride and sodium polysulphide produces —Thiokol
- * The atoms/molecules containing the same number of electrons are called —Isoelectronic
- * A liquid disturbed by stirring comes to rest due to —Viscosity
- * The end product of natural radioactive element after emission of radioactive rays is —Lead

- * Green colour in fireworks is caused due to —Barium
- * Calamine and Sphalerite are the ores of —Zinc
- * Fans, bulbs and tubelight are fitted in —Parallel order

Agriculture

- * UP 308 is a variety of —Wheat
- * Karan-3 is the huskless variety of —Barley
- * Which equipment is used to measure the soil moisture stress? —Tensiometer
- * Roots of maize and sugarcane are examples of —Stilt roots
- * 'Prakash' is the variety of —Pea
- * Central Food Technology Research Institute is located in —Mysuru
- * Guava 'Hybrid-45' is the cross of —Allahabadi Safeda and L-45
- * Yellow colour in turmeric is caused due to the presence of —Curcumin
- * National Plant Protection Training Institute is located in —Hyderabad
- * Tikka disease in groundnut is caused due to —Fungus

Environment, Biodiversity, Climate Change etc.

- * India's first bio-village has been set up at —Daspara in Tripura
- * A Beijing-based gene firm successfully cloned the world's first wild arctic wolf named —Maya
- * The Song of the Dodo is a book on environment and ecology written by —David Quammen
- * Which is the basic input of energy in an ecosystem? —Solar radiation
- * Kuno National Park is located in —Madhya Pradesh
- * Tip of ecological pyramid is occupied by —Carnivores
- * The term 'Homeostasis' in an ecosystem refers to —Influence of production
- * The ecological equilibrium in mined areas can be achieved by —Developing a vegetational cover
- * An international convention related to conservation of wetlands is known as —Ramsar convention
- * Which award is referred to as the 'Green Oscar'? —Whitley award

Communication

- * In a market-oriented media environment, audiences are considered as —Consumers
- * Signs that possess a resemblance to their referent are considered —Iconic

- * Oral communication is better than written communication for —Saving time
- * The initial efforts for internet based communication was for —Military purposes
- * An example of asynchronous medium is —Newspaper
- * Chatting on internet is an example of —Parallel communication
- * In societal corporation, the government and society collaborate through —Symmetrical communication
- * The main problem of simulation in communication research is —Validity
- * In communication, myths have power but are —Imprecise
- * Culture, Emotions and Experiences in a communication process act as —Filters

Sports and Games

- * Who emerged champion of the US Open 2022 Men's Singles title? —Carlos Alcaraz Garfia from Spain
- * Who emerged champion of the US Open 2022 Women's Singles title? —Poland's Iga Swiatek
- * Which team clinched the Asia Cup 2022 title? —Sri Lanka
- * Who became the first Indian athlete to win the Diamond League title? —Neeraj Chopra
- * Which team clinched the Duleep Trophy 2022? —West Zone
- * Who has been elected the new President of the Hockey India? —Dilip Tirkey
- * The term pugilist is generally used for a player of —Boxing
- * Ryder Cup is associated with the game of —Golf
- * Wembley Stadium is located in —London
- * Magnus Carlsen is a famous chess player from —Norway

Miscellany

- * Who has been appointed as the next Chief of Defence Staff (CDS)? —Lt. General Anil Chauhan (Retired)
- * Which film has been declared India's official entry for the 95th Academy Awards in 2023? —Gujarati film 'Chhello Show'
- * Which state became the first state in India to start an encyclopedia on tribal communities? —Odisha
- * Who has been appointed the new UN High Commissioner for Human Rights? —Volker Turk
- * Who became the first European woman to take over the command of the International Space Station(ISS)? —Samantha Cristoforetti from Italy
- * Who is the author of the book 'The Brief History of Time'? —Stephen Hawking

- * World Tsunami Awareness Day is observed on —November 5
- * 'Your Best Day is Today' is a book by —Anupam Kher
- * The smallest and the fastest memory in computer is —Cache
- * Who has been decorated with the 52nd Dadasaheb Phalke Award this year? —Asha Parekh

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- Nine Actions has been identified under **healthy lifestyle adaptation** :
 1. Encourage use of millets in food and indigenous herbs and medicinal plants for nutrition and well being.
 2. Prefer consuming natural or organic products.
 3. Start biodiversity conservation at community level.
 4. Plant medicinal plants such as neem, tulsi, giloy, mint, curry leaves, ashwagandha, curry leaves etc. within household premises.
 5. Practice natural or organic farming.
 6. Plant trees to reduce the impact of pollution.
 7. Avoid purchasing products/souvenirs made from skin, tuskers and fur of wild animals.
 8. Create and volunteer at community food and cloth banks, and at animal shelters.
 9. Initiate and/or join green clubs in your residential area/school/office.
- Four actions have been envisaged under **e-waste reduction** :
 1. Repair and use electronic devices over discarding the devices.
 2. Discard gadgets in nearest e-recycling units.
 3. Use rechargeable lithium cells.
 4. Prefer cloud storage over a pen drive/hard drive.

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- PD—What is the secret of your success?
Shri Prabhat—Hardwork, punctuality, consistency and improving over the mistakes, are the secrets of my of success.
- PD—What preference in services have you opted for?
Shri Prabhat—I had opted for BPS > BTS > BRS.
- PD—To whom would you like to give the credit for your success?
Shri Prabhat—I would like to give credit to my parents, friends, seniors and most importantly to teachers.
- PD—Any suggestion/advice you would like to give to the future aspirants.
Shri Prabhat—CS/State PCS exam. requires planning and its proper execution. Planning can be done according to one's ability, guidance from seniors and by toppers talk session. Execute it according to one's prevailing situations.
- PD—Thank you very much and wishing you all the best for your future endeavours.

P.Dargan



Important Concepts in News



Art and Culture

Jayprakash Narayan

Reason for Discussion

Prime Minister Shri Narendra Modi paid tribute to Lok Nayak Jayprakash Narayan on 11 October on his birth anniversary.

Key Facts :

- Jayprakash Narayan, popularly referred to as JP or Lok Nayak ('People's leader'), was an Indian independence activist, theorist, socialist and political leader.
- Jayprakash Narayan was born on 11 October, 1902 in the village of Sitabdiara, Ballia district, United Provinces, British India (present-day Saran district, Bihar, India).
- He was the fourth child of Harsu Dayal and Phul Rani Devi. His father Harsu Dayal was a junior official in the Canal Department of the State government.
- When Narayan was 9 years old, he left his village to enroll in the seventh class of the collegiate school at Patna. This was his first break from village life. JP stayed at a student hostel—Saraswati Bhawan—in which most of the boys were a bit older. Among them were some of Bihar's future leaders including its first Chief Minister, Krishna Singh, his deputy Anugrah Narayan Sinha and several others who were to widely become known in politics and academic world.
- In October 1918, Narayan married Braj Kishore Prasad's elder daughter Prabhavati Devi, a freedom fighter in her own right.
- After their wedding, since Narayan was working in Patna and it was difficult for his wife to stay with him, on the invitation of Gandhi, Prabhavati became an inmate at Sabarmati Ashram (Ahmedabad).
- He moved to the United States in 1922 to study political science

and economics at universities in California, Iowa, Wisconsin, and Ohio.

- JP was not religious, but he started reading the Bhagavad Gita, one of the most fundamental Hindu scriptures, on a regular basis, drawing heroic inspiration from the Mahabharata's great war.

Role in Pre-Independence Jayprakash Narayan

- In 1929, he joined the Indian National Congress.
- He was sentenced to a year in prison in 1932 for his role in the civil disobedience movement against British rule in India, and he was again imprisoned in 1939 for his opposition to Indian involvement in World War II on Britain's side, but he managed to flee and attempted to organise armed resistance to the government before being recaptured in 1943.
- He sought to convince Congress representatives to pursue a more aggressive stance against British rule after his release in 1946.

Post-Independence Role

- In 1948, he left the Congress Party and initiated an anti-Congress Campaign.
- In 1952, he formed the Praja Socialist Party (PSP).
- In 1954, he devoted his life exclusively to the Bhoodan Yajana Movement, of Vinoba Bhave, which demanded land redistribution to the landless.
- In 1959 he argued for a "reconstruction of Indian polity" by means of a four-tier hierarchy of village, district, state, and union councils (Chaukhamba Raj).
- Against Indira Gandhi Regime as she was found guilty of violating electoral laws by the Allahabad High Court he advocated a program of social transformation which he termed 'Sampoorna

Kranti' (total revolution) in 1974 against corruption in public life.

- On October 8, 1979, Narayan passed away in Patna, Bihar, from complications of diabetes and heart disease.

Total Revolution (Sampoorna Kranti)

In 1974, JP called for a 'Sampoorna kranti,' or absolute revolution, to combat rampant corruption, unemployment, and the systemic undermining of democratic institutions, and the events that followed led to the infamous Emergency. Total Revolution has seven component revolutions, namely-political, social, economic, cultural, ideological or intellectual, educational and spiritual. The objective was to bring in a change in the existing society that is in tune with the ideals of the Sarvodaya (Gandhian philosophy- progress for all). It paved the way for a realignment of political powers in the world and gave the country's politics a new direction, with far-reaching implications.

He was a true believer in putting youth at the forefront of systemic change. Those in control would naturally oppose any change, but he was convinced that only the passion and force of youth could bring about revolutionary change and that is exactly what happened in the 1970s.

JP mobilised students in Bihar to combat authoritarianism and corruption after blessing the Nav Nirman Andolan in Gujarat, where people rose up against a corrupt state government. He had such a hypnotic effect on the political scene that, under his tutelage, a slew of Congress splinter parties, including Congress (O), Jana Sangh, and Swatantra Party, as well as other socialists, merged to form the Janata Party. During the Janata regime, he could have easily risen to the top. Despite public demand for his leadership, he stated that power was not his goal.

Awards

- Bharat Ratna, 1999 (Posthumous) for Public Affairs.
- Rashtrabhushan Award of FIE Foundation, Ichalkaranj.
- Ramon Magsaysay Award, 1965 for Public Service.

Nanaji Deshmukh

Reason for Discussion

Prime Minister Shri Narendra Modi paid tribute to Nanaji Deshmukh on 11 October on his birth anniversary.

Key Facts :

- Chandikadas Amritrao Deshmukh, better known as Nanaji Deshmukh, was a social reformer and politician from India. He worked in the fields of education, health, and rural self-reliance.
- Nanaji was born on 11 October, 1916 into a Marathi-speaking Deshastha Brahmin family at Kadoli, which is a small town in the Hingoli district. He worked as a vegetable seller to raise money for his education.
- He went to high school in Sikar, where the Raoraja of Sikar gave him a scholarship. He studied in Birla college (Now BITS Pilani). In the same year, he also joined the Rashtriya Swayamsevak Sangh (RSS).
- Though born in Maharashtra, the fields of his activities were Rajasthan and Uttar Pradesh. The then RSS chief M. S. Golwalkar sent him to Gorakhpur (U.P) as 'pracharak' (full-time functionary). He rose to be the Saha Prant Pracharak of the whole of Uttar Pradesh (which has now become the eighth prant of RSS).
- He is believed to have established Saraswati Shishu Mandir (SSM), which runs a chain of private schools in India and is said to be the educational wing of the RSS.
- He started the country's first SSM at Gorakhpur in 1950 and was the founder of Deendayal Research Institute (DRI) situated at Chitrakoot.
- He was also responsible for starting India's first rural university, Chitrakoot Gramodya Vishwavidyalaya.
- He played a key role in the Jaya Prakash (JP) movement against the Emergency in 1974. Deshmukh was the main force behind social activist Jayaprakash Narayan's agitation for total revolution.

- Deshmukh, through Deendayal Research Institute (DRI), set up alternative rural development models based on traditional knowledge in the remote areas of Uttar Pradesh and Madhya Pradesh (MP).
- Deshmukh actively participated in the Bhoodan Movement started by Vinoba Bhave.
- Nanaji played an important role in carrying out a social restructuring programme in over 500 villages of UP and MP.
- He carried out the reformation of agriculture and cottage industry, rural health and rural education.
- Deshmukh died on 27 February, 2010 in the premises of Chitrakoot Gramoday Vishwavidyalaya that he established. He was unwell for some time due to geriatric problems and had refused to be taken to Delhi for treatment. He bequeathed his body to Dadhichi Dehdan Sanstha of New Delhi which was accepted, and his body was sent to All India Institute of Medical Sciences for Medical Research.

Environment and Biodiversity

Green Steel

Reason for Discussion

A clean steel sector in Eastern India can become essential for the country's transition to 'Green Steel'. To move towards 'Green Steel', the Petroleum and Natural Gas Ministry launched Pradhan Mantri Urja Ganga Project in Eastern India in 2019 to provide gas to all steel plants located in the area.

Key Facts :

- The term 'Green Steel' refers to a steelmaking process that lowers greenhouse gas emissions, cuts costs and improves the quality of steel. This can be done through usage of gas in place of coal, recycling steel etc.
- Green Steel is the manufacturing of steel without the use of fossil fuels. This can be done by using low-carbon energy sources such as hydrogen, coal gasification, or electricity instead of the traditional carbon-intensive manufacturing route of coal-fired plants.

- It eventually lowers greenhouse gas emissions, cuts costs and improves the quality of steel.
- Low-carbon hydrogen (blue hydrogen and green hydrogen) can help reduce the steel industry's carbon footprint.
- National Hydrogen Energy Mission (NHM) capitalizes on hydrogen for a cleaner alternative fuel option.

Types of Hydrogen

Green hydrogen : Green hydrogen is produced by electrolysis of water using renewable energy (like Solar, Wind) and has a lower carbon footprint.

Brown hydrogen : Brown hydrogen is produced using coal where the emissions are released to the air.

Grey hydrogen : Grey hydrogen is produced from natural gas where the associated emissions are released to the air.

Blue hydrogen : Blue hydrogen is produced from natural gas, where the emissions are captured using carbon capture and storage.

Ways of Production

- Carbon capture, utilization and storage (CCUS).
- Replacing conventional sources of energy with low-carbon hydrogen.
- Direct electrification through electrolysis of iron ore.

Significance

- The steel industry is the largest industrial sector in terms of intensive energy and resource use. It is one of the biggest emitters of carbon dioxide (CO₂).
- In view of commitments made at the Conference of the Parties (COP26) climate change conference, the Indian steel industry needs to reduce its emissions substantially by 2030 and hit net-zero carbon emissions by 2070.

Challenge

- At present, the country's iron and steel sector is financially weak. However, Green Steel manufacturing is an expensive process involving high cost.

Status of Steel Production in India

- India is currently the world's 2nd largest producer of crude

steel, producing 120 million tonnes crude steel during financial year 2021-22.

- More than 80 per cent of the country's reserves are in the states of Odisha, Jharkhand, West Bengal, Chhattisgarh and the northern regions of Andhra Pradesh.
- Important steel-producing centers in India are Bhilai (Chhattisgarh), Durgapur (West Bengal), Burnpur (West Bengal), Jamshedpur (Jharkhand), Rourkela (Odisha), Bokaro (Jharkhand).
- India is the 2nd largest consumer of finished steel in 2021 (106.23 million tonnes), preceded by China as the largest steel consumer as per World Steel Association.

Economy/Finance

LEADS Report 2022

Reason for Discussion

Recently, the Logistics Division of DPIIT, Ministry of Commerce & Industry completed the Survey for LEADS 2022 (Logistics Ease Across Different States).

Key Facts :

- The first Logistics Ease Across Different States (LEAD) report was released in 2018.
- LEADS 2020 ranking was not released due to the COVID-19 pandemic.
- The LEADS survey assesses the views of various users and stakeholders involved in the value chain of logistics sector. This survey is conducted to recognize the enablers, hindrances and gaps within the logistics eco-system.
- This annual survey ranks logistics ecosystem of each state and union territory across India using data received from stakeholders (perception data) and states and union territories (objective data).
- The LEAD 2022, unlike the former versions, adopted the classification-based grading, with states and union territories classified under four broad categories—coastal states, hinterland/

landlocked states, northeastern states and union territories.

- This indigenous data-backed index assesses the logistics infrastructure, services, and human resources across 36 states and union territories.
- It provides three performance categories – Achievers (states and UTs achieving 90 per cent or more), Fast Movers (states and UTs scoring between 80 and 90 per cent), and aspirers (states and UTs with percentage scoring below 80 per cent).
- The 15 states and UTs that have been categorized as achievers in the logistics index chart 2022 are Andhra Pradesh, Assam, Chandigarh, Delhi, Gujarat, Haryana, Himachal Pradesh, Karnataka, Maharashtra, Odisha, Punjab, Tamil Nadu, Telangana, Uttar Pradesh and Uttarakhand.
- The fast movers in the latest report are Kerala, Madhya Pradesh, Rajasthan, Puducherry, Sikkim and Tripura.
- 15 states and UTs categorized as aspirers are Bihar, Chhattisgarh, Goa, Mizoram, Andaman and Nicobar Islands, Lakshadweep, Ladakh, Nagaland, Jammu and Kashmir, and Arunachal Pradesh.
- The index aims to boost the logistics performance across

India, which is critical for reducing the cost of transactions and boosting international and domestic trade.

- The LEADS 2022 will assist in the implementation of the PM Gati Shakti National Master Plan (PMGS-NMP) and the National Logistics Policy (NLP) by identifying gaps in the existing logistics services, infrastructure and regulatory environment.

LEADS Survey Assessment and Ranking Process

- The LEADS survey assesses viewpoints of various users and stakeholders across value chain to understand the 'enabler' and 'impediments' to logistics ecosystem in the country.
- Various Stakeholders across logistics value chain are Shippers, Terminal Infrastructure Service Providers, Logistics Service Providers, Transporters and Government agencies.
- The annual LEADS survey, processes the data received from stakeholders (perception data) and States/UTs (objective data) and ranks logistics ecosystem of each State/ UT using a statistical model.

Logistics Performance Index

- The Logistics Performance Index (LPI), developed by the World Bank Group, is an interactive benchmarking tool created to help countries identify the challenges and opportunities they face in their performance on trade logistics and what they can do to improve their performance.
- LPI is the weighted average of the country's scores on the six key dimensions :
 1. Efficiency of the clearance process (*i.e.*, speed, simplicity and predictability of formalities) by border control agencies, including customs.
 2. Quality of trade and transport related infrastructure (*e.g.*, ports, railroads, roads, information technology).
 3. Ease of arranging competitively priced shipments.
 4. Competence and quality of logistics services (*e.g.*, transport operators, customs brokers).
 5. Ability to track and trace consignments.
 6. Timeliness of shipments in reaching destinations within the scheduled or expected delivery time.
- India ranked 44th on the LPI in 2018. As of 2022 no new data has been published.

Initiatives Related to Logistics

- Multimodal Transportation of Goods Act, 1993.
- PM Gati Shakti Scheme
- Multi Modal Logistics Parks
- LEADS Report
- Dedicated Freight Corridor
- Sagarmala Projects

Significance of LEADS Survey 2022

- The LEADS 2022 survey, along with PM GatiShakti's transformative approach, is to break the silos and improve the logistics efficiency of the country. The LEADS 2022 survey further propels the transformative approach by of PM-Gati Shakti.
- This will also reflect positively on international indices, such as Logistics Performance Index (LPI) conducted biennially by the World Bank.
- LEADS Survey identifies issues and bottlenecks which need immediate action and can help synergize supply chain.

E-Rupee

Reason for Discussion

The Reserve Bank of India (RBI) will soon launch the e-rupee, or Central Bank Digital Currency (CBDC) or digital rupee, in a broader sense for specific uses. It has indicated two broad categories of usage of e-rupee for various transactions as retail and wholesale.

Key Facts :

- RBI defines the CBDC as the digital form of currency notes issued by a Central Bank. It is a sovereign or entirely independent currency issued by the Central Bank (in this case, RBI), in accordance with the country's monetary policy.
- Once officially issued, CBDC will be considered as a medium of payment and legal tender by all three parties - citizens, government bodies, and enterprises. Being government-recognised, it can be freely converted to any commercial bank's money or notes. RBI is not in favour of e-rupee with interest. Because people might withdraw money from banks and convert it to digital rupee - causing banks to fail.
- As of July 2022, 105 countries were exploring CBDC. Ten countries have launched CBDC, the first of which was the Bahamian Sand Dollar in 2020 and the latest was Jamaica's JAM-DEX.

Difference Between Central Bank Digital Currency (CBDC) and Cryptocurrencies

The underlying technology of cryptocurrency (distributed ledger) can underpin parts of the digital rupee system, but the RBI has not decided on this, yet. However, **cryptocurrencies like bitcoin or ethereum are 'private' in nature. Digital rupee on the other hand, will be issued and controlled by the RBI.**

RBI's Plan for CBDC

- On the basis of usage and the functions performed by the digital rupee and considering the different levels of accessibility, CBDC can be demarcated into two broad categories—general purpose (retail) (CBDC-R) and wholesale (CBDC-W).
- Retail CBDC is an electronic version of cash primarily meant for retail transactions. It will be used by all—private sector, non-financial consumers and businesses. However, the RBI has not explained how e-rupee can be used in merchant transactions in the retail trade.
- Wholesale CBDC is designed for restricted access to select financial institutions. It has the potential to transform the settlement systems for financial transactions undertaken by banks into government securities (G-Sec) segment, inter-bank market and capital market more efficiently and securely in terms of operational costs, use of collateral and liquidity management.

Structure

- A token based CBDC would be a bearer instrument like bank-notes, the person receiving a token will verify that his ownership of the token is genuine. A token-based CBDC is viewed as a preferred mode for CBDC-R as it would be closer to physical cash.
- An account-based system would require maintenance of records of balances and transactions of all holders of the CBDC and indicate the ownership of the monetary balances. In this case, an intermediary will verify the

identity of an account holder. This system can be considered for CBDC-W.

- **Available in online and offline mode :** The offline functionality as an option will allow CBDC to be transacted without the internet and thus enable access in regions with poor or no internet connectivity.
- However, the RBI feels in the offline mode, the risk of 'double-spending' will exist because it will be technically possible to use a CBDC unit more than once without updating the common ledger of CBDC.

How will e-RUPI Work ?

e-RUPI is a cashless and contactless digital payments medium, which will be delivered to mobile phones of beneficiaries in form of an SMS-string or a QR code. This will essentially be like a prepaid gift-voucher that will be redeemable at specific accepting centres without any credit or debit card, a mobile app or internet banking. e-RUPI will connect the sponsors of the services with the beneficiaries and service providers in a digital manner without any physical interface.

Model for Issuance

- In the direct model, the central bank will be responsible for managing all aspects of the digital rupee system such as issuance, account-keeping and transaction verification.
- An indirect model would be one where the central bank and other intermediaries (banks and any other service providers), each play their respective role. The central bank will issue CBDC to consumers indirectly through intermediaries and any claim by consumers will be managed by the intermediary.

Advantages of e-rupee

- Reduction in operational costs involved in physical cash management, fostering financial inclusion, bringing resilience, efficiency and innovation in the payments system.
- Provide the public with uses that any private virtual currencies can provide, without the associated risks.

Issues Related to CBDC in India

- CBDC ecosystems may be at a similar risk of cyber-attacks that the current payment systems are exposed to.
- The CBDC is expected to generate huge sets of data in real time. Privacy of the Data, concerns related to its anonymity and its effective use will be a challenge.
- The NFHS-5 also provides data segregation based on the rural-urban divide. Only 48.7% of rural males and 24.6% of the rural females have ever used the internet. So, CBDC may wide gender-based hurdle in financial inclusion along with digital divide.

Science and Technology

Web 3.0

Reason for Discussion

In the context of information technology, Web 3.0, the third edition of the Internet based on blockchain technology, is being discussed all over the world. Web 3.0 is the third generation of development of web technologies. It is still evolving. Thus, its universally accepted definition is still unclear.

Key Facts :

- Web 3 or Web 3.0 refers to the next generation of the worldwide web, which is supposed to take over from Web 2.0.
- Web 3.0 may be a more decentralised web than the Web 2.0 and it may challenge the dominance of the tech giants.

How Web 2.0 Works ?

- Web 2.0 is more centralised and focused on user-created content.
- Here few corporations hold the power of data. we don't own or control that data, and this concept gets changed on Web 3.
- In Web 2.0 we provide our personal data over and over again on each platform we sign up for.

Difference Between Web 3.0 and Web 2.0

- Web 3 is supposed to be a more decentralised web.

- It challenges the dominance of the tech giants by concentrating the power and data in the hands of the users.
- This means that data is distributed across networks and no single entity owns the information.
- Instead of providing your personal data over and over again on each platform you sign up for, you will instead simply authorise the platforms to use your data.

Different Versions of Web

Web 1.0 : It is considered the first phase, where most of the web accessible to people was 'Read-only', allowing users to simply read content and not really interact with it. This included content like news sites, portals and search engines.

Web 2.0 : With Web 2.0, the major new aspect that came into play is **interaction**. The trend of 'liking' something on social media, 'commenting' on videos, and sharing interesting content became increasingly popular. This also became a phase where ads started popping on pages, again based on these data bits, and monetisation of content started growing.

Web 3.0 : Web 3.0 represents a new phase in the Internet's evolution i.e., a visually dynamic, semantic and spatial Web with concept of decentralisation, openness, and greater user utility. It combines a bouquet of disruptive technologies such as blockchain, Augmented Reality, Virtual Reality, Cloud, Edge, IoT, cryptocurrency and runs on an AI-based analytics layer for data-driven insights.

Pros of Web 3.0

- **Open and Transparent Network :** Web 3.0 is the open network, all applications and programs are developed using open-source software. Essentially the code for development, which is a virtual resource, is public for the community and the development process is also kept transparent.
- **Seamless Ecosystem :** The centralised control over data by platform companies moves into the hands of the individuals with Web 3.0, using smart protocols on blockchain that eliminate the need for third parties.
 - Therefore, pushing a trustless, permissionless and seamless ecosystem.

- **Direct Relationship Between Sellers and Customers :** Web 3 technology can also eliminate middlemen, allowing sellers and customers to interact directly.
 - Non-fungible tokens are already enabling much of this, largely in static digital art, but the arrangement could easily be replicated in music, films, and other mediums.
- **Personalised Experience :** It has the potential to blur the lines between the physical and digital world. For instance, in the case of e-commerce using AI-powered Web 3.0, sellers would be able to better understand the buying needs.
 - They will show those products and services to buyers that they are interested in buying. Also, buyers will see more useful and relatable advertisements.
- **Independent Monetization :** In centralised content management, user-generated content typically belongs to the platform it is published but Web 3.0 can empower creators by giving them a better opportunity to monetize.
 - About 2 million professional content creators in India can benefit from this.

Cons of Web 3.0

- **Rise in Cyber Crimes :** According to some experts, regulating Web 3 would be difficult. They further claim that decentralisation can bring new types of cyber-crime in the picture. It might lead to an increase in cyber-crime and online abuse, among other things.
 - Cryptocurrency-based crime remains a significant issue to address, especially given that rising overall transaction volumes mean the value of illicit transactions is increasing.
- **Lack of Grievance Redressal Mechanism :** Due to its decentralised nature, it raises a question about whom to approach in case of grievances and who is accountable for data breach.
- **Lack of Censorship Mechanism:** Web 3.0 remains silent on

censorship. It might give birth to obscene and provocative things.

- Also, removal of obscene or defamatory information, photos or videos will be challenging for national and international authorities.

- **Scalability Concern** : Scalability of Web 3.0 remains a major concern, since it is based on blockchain technology. Due to blockchain technology's append-only data storage mechanism, it cannot be modified, and since demand is increasing, storage capacity is limited.
- **Regulatory Vacuum** : The Web3 industries are still navigating the regulatory space in India which is not cemented as of yet. Additionally, many countries have not yet embraced space and defined clear protocols for its use.

Some Recent Applications of Web3.0 :

- The applications are much larger and wilder. It is growing beyond its financial origins such as cryptocurrency.
- Web 3 will power the new financial world order on metaverse. Metaverse is as a combination of virtual and augmented reality and video where people can live in a virtually programmed and developed world (like a pokemon game).
- It is different from reality but is built by taking inspiration from the real environment around us.
- It will unleash innovation in online gaming, tokenisation of assets in virtual spaces.
- Some of the use cases of Web3 are Decentralised Autonomous Organisations (DAOs), Decentralised Finance (DeFi), Stablecoins and Central Bank Digital Currencies (CBDCs), private and digital infrastructure, and creator economy enablers like NFTs and blockchain-based games.

Challenges

- The classic challenge of decentralised networks is that they are public goods. Without a central entity to control decisions and capture profits, it is hard to incentivise their maintenance and development.

- Crypto helps solve this problem through decentralised coordination and providing economic incentives for development.
- A lot of work has to be done to lay the foundation for Web 3—meaning that users, developers, tech companies, and others would have to come in on agreements around how the Web3 protocols would work.
- Only when this work gets going, and when financial incentives align behind it, will Web 3 start to get real.

Double Asteroid Redirection Test (DART)

Reason for Discussion

Recently, NASA's Double Asteroid Redirection Test (DART) successfully crashed into Dimorphous.

Key Facts :

- DART is the world's first planetary defence technology demonstration – that aims to protect the planets from any possible collision with alien particles. This mission was carried out by NASA. It was launched on a SpaceX Falcon 9 rocket.
- The DART craft carried a high-resolution DRACO (Didymos Reconnaissance and Asteroid Camera for Optical navigation)

Dimorphos

Dimorphos is a smaller asteroid that revolves around a larger asteroid called Didymos. The DART mission has changed the orbital period of Dimorphos to ensure that they remain in their tight orbit. The European space agency will send the Hera probe to Dimorphos in 2024 in order to ensure that the moonlet is following its intended path.

Reason for Choosing Dimorphos ?

- The goal of the mission is to determine how much DART's impact alters the moonlet's velocity in space by measuring the change in its orbit around Didymos.
- Scientists think the collision will change the speed of Dimorphos by a fraction of one percent.
- It should alter the moonlet's orbital period around the larger asteroid by several minutes – enough to be observed and measured by telescopes on Earth.

camera to observe the collision and its consequences. DRACO will be used for sending the image to the earth on a real-time basis. It will help in studying the object with precision.

- DART's impact with the asteroid Dimorphos demonstrates a viable mitigation technique for protecting the planet from an Earth-bound asteroid or comet.
- Telescopes placed on the earth's surface will track the success made by this mission in changing the course of the asteroid.
- It will be a low-cost spacecraft. It has a two solar array which uses hydrazine propellant for channelling spacecraft.
- Apart from DRACO, it will also carry a small satellite, CUBESAT called LICIAcube, it will capture the image of a crater and an impact crater formed as a result of the collision.

Asteroids

Asteroids are the belt of rocky particles that revolve around the sun, like planets. Though, they revolve around the sun like planets, they are much smaller than the planets. There are a large number of asteroids found in our solar system but a large number of such asteroids are concentrated in a region between Mars and Jupiter, called the Asteroid Belt. Sometimes these asteroids leave their path and come within the gravitational force of the earth and thus could become potential threats to the people on the earth.

Objectives

- The mission is to test the new technology to be prepared in case an asteroid heads towards Earth in the future.
- The aim is to test the newly developed technology that would allow a spacecraft to crash into an asteroid and change its course.
- The target of the spacecraft is a small moonlet called Dimorphos (Greek for 'two forms').
- Dimorphos orbits a larger asteroid named Didymos (Greek for 'twin').
- It is a suicide mission and the spacecraft will be completely destroyed.

Prominent Historical Personalities of India



Samudragupta

Samudragupta, one of the greatest emperors of ancient India, was a monarch of the great Gupta dynasty. He is best remembered for his pan-India conquests, bringing large part of India under his rule or political sway. Prayaga Prasasti, also referred to as Allahabad pillar inscription, gives basic and authentic source of history of his rule. The Prayaga Prasasti was penned by his court poet and minister Harisena partly in verse and partly in prose form. There is no dearth of reliable historical sources about the age and rule of emperor Samudragupta. Some coins of the emperor and the Eran Inscription in Madhya Pradesh also provided reliable historical account of his age and rule.

Samudragupta became the King in 340 AD, succeeding his father Chandragupta as the Gupta monarch. After taking the royal crown of the Gupta empire, he first consolidated the Gupta kingdom by eliminating threats to his rule and moreover he gave a massive territorial expansion to the Gupta empire by many successful military campaigns in all directions. First of all he subdued the rulers of the Ganga-Yamuna doab, a region largely identical with the Aryavarta of ancient India. Then he conquered the rulers of Bengal. He also vanquished the nine kings of North India and annexed their territories in the Gupta empire. Samudragupta continued his victory march to South India as he brought 12 kings of South India under the political authority and suzerainty of the Guptas after military expedition as per the historic account of the Prayaga prasasti. The notable vanquished rulers were Mahendra of Kosala, Vyaghraja of Mahakantara, Mahendragiri of Pishtapura, Hastivarman of Vengi, Ugrasena of Palakka, Pallav king Vishnugopa and Damana of Erandapulla.

Samudragupta also brought territories between the districts of Ghazipur in modern day Uttar Pradesh and Jabalpur of Central India under his political sway. Samudragupta led successful campaigns against two kingdoms of Assam—Kamrupa and Devalsa. The Kingdoms of Kartipura, kumaon region and Nepal also accepted his suzerainty. Samudragupta brought nine states in the north-west region under his control. Samudragupta also defeated the Malavas, the Yaudheyas, the Madrakas, the Arjunayanas, the Sanakanikas, the Abhiras, the Prarjunas, the kakas. However he did not annex these kingdoms and brought them under his indirect control. In brief he brought a large part of India under his control through his relentless military efforts.

He assumed the titles of Maharajadhiraja and Vikramanka denoting his unchallenging and supreme ruler position at pan-India level. After 40 years of powerful rule he died in about 380 AD.

- Great historian Dr. V.A. Smith described Samudragupta as Indian Napoleon for his great military

successes as an emperor. However in reality Samudragupta was much superior to Napoleon in terms of military successes as Samudragupta never witnessed a debacle on war front while Napoleon did.

- Samudragupta has been called the Kaviraja (king of poets) in the Prayaga Prasasti.
- He was good at music as he has been shown playing Veena (lute) in his coins. Being a patron of art and literature, he appointed many learned men like Harisena to his royal court.
- He also performed Ashvamedhayajna (horse sacrifice ritual) to claim his unchallenged political authority.

Tansen

Tansen was the royal musician of emperor Akbar's court and one of the nine jewels (Navratnas) of emperor Akbar. Tansen was born in a Hindu family in 1506 AD in Gwalior, Madhya Pradesh. He inherited interest in poetry and music from his father Mukund Mishra. Tansen's actual and childhood name was Ramtanu. Being a talented boy blessed with melodious throat, Tansen could mimic birds and animals sounds perfectly. Swami Haridas who himself was a great musician of that time, recognized the immense musical talent in Tansen and took him as his disciple to further hone his musical talent. Tansen spent 10 years with Swami Haridas as his disciple and turned out to be a great musician. Tansen's fame as a good musician earned him a place as a royal singer and musician in the court of King Ram Chand of Rewa. Soon he emerged one of the greatest singers of his age with the fabulous musical skills. Emperor Akbar invited Tansen to his court. Soon he became the royal musician of the Mughal court of Akbar. Riding high on his god-gifted musical talent and sweet voice, he became one of the most prominent members of the Mughal court.



Miyan Tansen

It is widely-believed that Tansen successfully played 'Raag Deepak' (meant for lighting lamps) and 'Raag Megh Malhar' (meant for bringing rains) in presence of emperor Akbar. He retained a highly-esteemed position in the Mughal court till his last day. In later years of his life he embraced Islam under the spiritual influence of Sufi Muhammed Ghaus. Tansen passed away in 1586 AD. His tomb is located near the tomb of his Sufi guru Muhammed Ghaus in Gwalior. Tansen is deservedly credited with creating and nurturing Hindustani classical music.

- Emperor Akbar decorated Tansen with the title of 'Miyan' for his musical excellence. Akbar also accorded him the title of 'Kanthabharan Vanivilas'.
- It is believed that the Dhrupad style of singing was started and developed by Swami Haridas and his disciple Tansen.

- Tansen was the composer of many ragas such as 'Miyan ki Todi', 'Miyan ki Malhar', 'Miyan ki Sarang' and 'Bhairav' etc.
- 'Sangeeta Sara' and 'Rajmala' were two treatises on music by Tansen.

C. Rajagopalachari

Chakravarthi Rajagopalachari was a luminary figure of Indian freedom movement. He played a pivotal role in India's freedom from cruel British rule. He was born on December 10, 1878 in Thorapalli in Madras Presidency of British India (Presently in Tamil Nadu) in an Iyengar family. Chakravarthi Venkatarayan was his father. After completion of his early education, Rajagopalachari attained his Graduation degree in 1894 from the Central College, Bengaluru. He received a degree in Law from the Presidency College, Madras in 1897 AD. He remained very disappointed due to the miserable conditions of his fellow countrymen under the cruel British rule. He started taking interest in the nationalist movement. He became active in politics and later he was elected as the chairman of Salem Municipality in 1917. After joining the Indian National Congress, he took an active part in the Anti-Rowlatt movement. Mahatma Gandhi's philosophy and political ideas immensely inspired Rajagopalachari and he became his follower. He gave complete support to Gandhiji's Non-Cooperation Movement. Soon Rajagopalachari emerged a leading figure in the INC. He was elected to the Congress Working Committee in 1921. In 1922, he emerged as the main leader of the 'No Changers' group in the Congress. This Group rejected the idea of contesting elections for the Imperial Legislative Council set up under the Government of India Act, 1919. He was also a social reformer as he vehemently opposed the evil of untouchability in the Indian society. He led campaigns for it. He was the main leader of the Vaikom Satyagraha against the untouchability during 1924-25. He was sent behind bars for taking active part in the Salt Satyagraha in Tamil Nadu.



C. Rajagopalachari

He became the Chief Minister of Madras in 1937 after his party got success in elections held under the Government of India Act 1935. He quit the Congress Party in 1942 for not accepting the Cripps formula. He also proposed the famous C.R Formula for Congress-Muslim League Cooperation. He became the Governor of West Bengal after independence. He also served as the first and only Indian Governor-General of India from 1948 to 1950. After Sardar Patel's death, he became the Union Home Minister for 10 months. He again became the Chief Minister of Madras in 1952. He quit the Congress in 1957 again and formed the Swatantra Party in 1959 as Murari Vaidya and Minoo Masani were the other prominent leaders of the Party. C. Rajagopalachari was one of those freedom fighters who witnessed the historic dawn of India's freedom. He passed away on December 25, 1972.

- Rajagopalachari was generally referred to as Rajaji.
- He also served as the Minister for Industry, Supply, Education and Finance in the Interim Government led by Jawaharlal Nehru in 1946.

- He got Bharat Ratna, the top civilian honour of India in 1954.
- He also wrote a Tamil version of the Ramayan which came out in a series form in the Tamil magazine 'Kalki'.

Pandit Govind Ballabh Pant

Pandit Govind Ballabh Pant was a great freedom fighter and a nationalist leader. He was born on September 10, 1887 AD at Khoont near Almora in Uttarakhand in a Brahmin family. His father Manorath Pant was a government officer. After completing his early education, he joined the Muir College, Allahabad (Now Prayagraj) and completed his graduation with Mathematics, Politics and English. He earned a degree in Law in 1909 AD with the Lumsden gold medal for his top academic performance as a law student.



Pandit Govind Ballabh Pant

Pandit Govind Ballabh Pant was deeply and immensely inspired and influenced by the ideas and principles of Gokhale, Dadabhai Naoroji and Bankim Chandra. He started his practice as a lawyer in Kashipur and soon earned good fame in the legal field. He was very disappointed with the cruel and oppressive policies of the British rulers. Hence, he plunged into the active politics to serve his fellow countrymen. He was elected to the Legislative Assembly of the United Provinces of Agra and Oudh. He suffered the atrocities by the British Police for his active participation in the anti-Simon movement in Lucknow. He was sent to jail for his active participation in the Salt Satyagraha.

In 1935 Pandit Govind Ballabh Pant was elected to the Central Legislative Assembly. He remained very active among common people and unveiled the cruel and colonial face of the British rule in India and highlighted the miseries of his fellow Indians. He instilled the spirit of nationalism and patriotism among Indian youth. Moreover being a proficient parliamentarian and debator, he successfully drew the government's attention towards misery and plight of Indians under the British rule.

The Congress Party under his leadership registered a great success in the 1937 elections in the United Provinces. He became the Chief Minister of the United Provinces under the Government of India Act 1935. He was again put behind bars during the Quit India Movement, 1942. In March 1945, he was released from jail after Pandit J.L. Nehru pleaded his release due to his deteriorating health in jail. He again became the Chief Minister of the United Provinces in 1946. After independence in 1947 he became the first Chief Minister of Uttar Pradesh. Later he was inducted into the Union Cabinet as a member in 1955 and remained its part till his death in 1961 AD. He died on March 7, 1961.

- Pandit Govind Ballabh Pant was decorated with the Bharat Ratna, India's highest civilian honour.
- His son Krishna Chandra Pant was also a seasoned parliamentarian. He served as the Defence Minister and the Deputy Chairman of the Planning Commission (now defunct).



Trade And Industry

- Which of the following Central Public Sector Enterprise (CPSE) accorded 'Maharatna' status on September 21, 2022 ?
(A) Rural Electrification Corporation Ltd.
(B) Bharat Electronics Ltd.
(C) Container Corporation of India Ltd.
(D) Hindustan Aeronautics Ltd.
- Consider the Assertion (A) and Reason (R) and choose the correct code given below—
Assertion (A) : Commercial banks have resorted to borrow from RBI in the third week of September 2022 via the marginal standing facility window @ rate of 5-65 per cent.
Reason (R) : Liquidity in the banking system has slipped into a deficit mode for the first time in over three years
(A) Assertion (A) and Reason (R) both are correct and Reason (R) is the correct explanation of Assertion (A)
(B) Assertion (A) and Reason (R) both are correct but Reason (R) is not the correct explanation of Assertion (A)
(C) Assertion (A) is correct and Reason (R) is incorrect
(D) Assertion (A) is incorrect and Reason (R) is correct
- Union Cabinet has approved the redevelopment plan of the railway stations at—
I. New Delhi
II. Ahmedabad
III. Bhubneswar
IV. Chhatrapati Shivaji Maharaj Terminus, Mumbai
Correct code is—
(A) Only I, II and III
(B) Only II, III and IV
(C) Only I, III and IV
(D) Only I, II and IV
- Which of the following countries are the part of 'Chip 4' ?
I. China
II. Germany
III. Japan
IV. South Korea
V. The US
VI. Taiwan
Correct code is—
(A) Only I, II, III and V
(B) Only III, IV, V and VI
(C) Only I, III, V and VI
(D) Only II, III, IV and V
- Largest Sugar producing Country in the world is—
(A) Brazil (B) India
(C) China (D) The US
- The terms-Amber Box, Blue Box and Green Box are often in news. These are related to under 'agreement on agriculture' of WTO.
(A) Domestic support in agriculture
(B) Use of chemical fertilizers
(C) Use of pesticides for plant protection
(D) Marketing reforms
- Consider the following statements with regard to Atal Pension Yojana (APY)—
I. From 1st October, 2022, any citizen who is or has been an income-tax payer, is not eligible to join APY.
II. APY was introduced from June 1, 2015.
III. APY is being administered by the Pension Fund Regulatory and Development Authority (PFRDA).
IV. APY is open to all citizens of India who have a savings bank account.
V. The minimum age of joining APY is 18 years and maximum age is 40 years.
Correct code is—
(A) All I, II, III, IV and V
(B) Only I, II, III and V
(C) Only II, III, IV and V
(D) Only II and III
- Which of the following State has highest per capita net state domestic product in the FY 2019-20 ?
(A) Goa (B) Delhi
(C) Haryana (D) Telangana
- Among the BIMARU state the highest per capita net state domestic product in FY 2019-20 was in—
(A) Rajasthan
(B) Madhya Pradesh
(C) Uttar Pradesh
(D) Bihar
- Who among the following has/have been awarded 2022 Nobel Prize in economic sciences ?
I. Ben S Bernanke, the former chair of the U.S. Federal Reserve.
II. Douglas W Diamond, US-based economist.
III. Philip H Dybvig, US-based economist.
Correct code is—
(A) Only I
(B) Only II and III
(C) Only III
(D) All I, II and III
- Consider the following statements—
I. Domestic LPG prices in India are based on Saudi Contract Price (CP).
II. Saudi Contract Price (CP) is the benchmark for international prices of LPG.
Which of the above statements is/are correct ?
(A) Only I
(B) Only II
(C) Both I and II
(D) Neither I nor II
- Government of India provides LPG subsidy through—
I. Direct Benefit Transfer for LPG (DBTL).
II. Pradhan Mantri Ujjwala Yojana (PMUY).
III. Pradhan Mantri Garib Kalyan Package (PMGKP).
Correct code—
(A) Only I
(B) Only II and III
(C) Only I and III
(D) All I, II and III

13. As on October 1, 2022 total beneficiaries under the Pradhan Mantri Ujjwala Yojana (PMUY) scheme were about—
 (A) 9.34 crore (B) 9.00 crore
 (C) 8.50 crore (D) 8.25 crore
14. Which of the following statements are correct?
 I. The US dollar was at its highest level in mid October 2022 since 2000, having appreciated 22 per cent against the yen, 13 per cent against the euro and 6 per cent against emerging market currencies, since the start of 2022.
 II. The US dollar against the Indian rupee has appreciated around 8 per cent during the first nine months of 2022.
 Correct code is—
 (A) Only I
 (B) Only II
 (C) Both I and II
 (D) Neither I nor II
15. Consider the following statements—
 I. The PM Gati Shakti National Master Plan will provide integrated and seamless connectivity for movement of human capital, goods, and services from one mode of transport to another.
 II. It will facilitate the last-mile connectivity of infrastructure and also reduce travel time.
 III. PM Gati Shakti is a digital platform to bring 16 Ministries, including Railways and Roadways together for integrated planning and coordinated implementation of infrastructure connectivity projects.
 Which of the above statements are correct?
 (A) All I, II and III
 (B) Only I and II
 (C) Only II and III
 (D) Only I
16. Just Energy Transition Partnership (JETP) is an initiative of—
 (A) The rich nations of G-7
 (B) The rich nations of G-20
 (C) BRICS countries
 (D) ASEAN+ countries
17. According to India's updated Nationally Determined Contributions (NDC), it stands committed—
 I. To reduce emission intensity of its GDP by 45 per cent by 2030, from 2005 level.
 II. To achieve about 50 per cent cumulative electric power installed capacity from non-fossil fuel-based energy resources by 2030.
 Correct code is—
 (A) Only I
 (B) Only II
 (C) Both I and II
 (D) Neither I nor II
18. Consider the following statements—
 I. NSDL and CDSL hold financial securities—shares and bonds—in dematerialised form and facilitate trading in stock exchanges.
 II. NSDL Database Management Ltd. (NDML) and CDSL Ventures Ltd. (CVL) hold academic awards of students in dematerialized form and facilitate online verification.
 Which of the above statements is/are correct?
 (A) Only I
 (B) Only II
 (C) Both I and II
 (D) Neither I nor II
19. Which of the followings is/are instruments of Open Market Operations of the RBI?
 I. Government Securities.
 II. Treasury Bills.
 III. Foreign Currencies.
 IV. Shares of listed public sector undertakings.
 Correct code is—
 (A) Only I and II
 (B) Only I, II and III
 (C) Only III
 (D) All I, II, III and IV
20. Which among the following results into rise in fiscal deficit?
 I. Borrowing from domestic market.
 II. Borrowing from external sources.
 III. Large scale reduction in taxes.
 Correct code is—
 (A) Only I
 (B) Only I and II
 (C) I, II and III
 (D) Only III
21. Which of the following results into an expansionary fiscal policy?
 I. Reduction in tax rates.
 II. Increase in transfer payments.
 III. Higher public expenditure on projects such as infrastructure development.
 Correct code is—
 (A) Only I
 (B) Only I and III
 (C) Only II and III
 (D) All I, II and III
22. Which of the following is/are example of expansionary monetary policy?
 I. Lowering the Bank rate.
 III. Buying government securities by the RBI.
 III. Lowering the reserve ratio.
 Correct code is—
 (A) Only I and II
 (B) All I, II and III
 (C) Only III
 (D) Only II
23. Central bank of a developing country like India allows the domestic currency to devalue to—
 I. Boost exports
 II. Shrink trade deficits
 III. Reduce Sovereign debt burdens
 Correct code is—
 (A) Only I
 (B) Only I and II
 (C) Only II
 (D) All I, II and III
24. The big decline in the exchange rate of the Indian Rupee against the US Dollar is helping—
 (A) Indian investors who have invested abroad
 (B) Indian exporters
 (C) Indian lenders to residents of foreign countries
 (D) All of the above
25. Which of the following statements is/are correct?
 I. Electoral Bond is a bearer instrument in the nature of a

Promissory Note and an interest free banking instrument.

- II. A citizen of India or a body incorporated in India is eligible to purchase the bond.
 - III. Electoral Bonds are issued/purchased for any value, in multiples of ₹ 1,000, ₹ 10,000, ₹ 1,00,000, ₹ 10,00,000 and ₹ 1,00,00,000 from the Specified Branches of the State Bank of India (SBI).
 - IV. The Electoral Bond(s) can be encashed by an eligible political party only through a designated bank account with the authorised bank.
 - V. Electoral Bonds have a life of only 6 months.
- Correct code is—
- (A) Only I, II, III and IV
 - (B) Only III, IV and V
 - (C) Only I and V
 - (D) I, III and IV

26. Which of the following is/are not a transfer payment ?

- (A) Payments under PM-KISAN
- (B) Pensions to civil servants
- (C) Payments under MGNREGA
- (D) Export subsidies to farmers

27. The Global Hunger Index score is computed using certain indicators—

- I. Undernourishment (measure of the proportion of the population facing chronic deficiency of dietary energy intake).
- II. Child stunting (low height for age).
- III. Child wasting (low weight for height).
- IV. Child mortality (death of a child under the age of five).

Correct code is—

- (A) Only I, II and III
- (B) Only II, III and IV
- (C) Only I, III and IV
- (D) All Only I, II, III and IV

28. Consider the Assertion (A) and Reason (R) and choose the correct code given below—

Assertion (A) : Globally foreign currency reserves are falling at a record pace as central banks across the globe intervene to support their currencies.

Reason (R) : According to the IMF's COFER (Currency Composition of Official Foreign Exchange Reserves), 22 reserves have declined by around \$ 884 billion during the first half of 2022.

Correct code is—

- (A) Assertion and Reason both are correct and Reason is the correct explanation of Assertion
- (B) Assertion and Reason both are correct but Reason is not the correct explanation of Assertion.
- (C) Assertion is correct and Reason is not correct
- (D) Assertion incorrect and Reason is correct

29. Which of the following statements is incorrect about India's foreign exchange reserves ?

(A) India's foreign exchange reserves at \$ 532.9 billion as on October 7, 2022 were equivalent to 8.7 months of imports projected for 2022-23

(B) At the end of December 2021, foreign exchange reserves cover of imports (on balance of payments basis) declined to 13.1 months from 14.6 months at end-September 2021

(C) In 2022-23 (April-September), the reserves have been depleted by \$ 74.4 billion

(D) Most of the depletion was on account of large scale withdrawal of capital from share market by the Foreign Institutional Investors

30. As per a report of the United Nations Development Programme, released on October 18, 2022 how many people have been pulled out from the multi-dimensional poverty in India during 2015-16 to 2020-21 ?

- (A) 120 million
- (B) 140 million
- (C) 160 million
- (D) 180 million

31. Pradhan Mantri Bharatiya Jan Urvarak Pariyojana (One Nation One Fertiliser) was launched by PM Narendra Modi on—

- (A) September 25, 2022
- (B) October 2, 2022
- (C) October 10, 2022
- (D) October 17, 2022

32. Consider the following statements with regards to Commitment to Reducing Inequality Index (CRII), 2022.

I. The 2022 CRII looks at government policies and actions in 161 countries to fight inequality during the first two years of the COVID-19 pandemic.

II. Norway leads the CRII followed by Germany and Australia.

III. India's overall rank has improved by six points from 129 in 2020 to 123 in 2022.

Which of the above statements is/are correct ?

- (A) Only I
- (B) Only I and III
- (C) Only II and III
- (D) All I, II and III

33. 'Daksh' was in the news in October 2022. Which of the following statements is correct about the 'Daksh' ?

(A) It is an evaluation portal launched by the School Education department of the Ministry of Education

(B) 'दक्ष (DAKSH)' is a web-based end-to-end workflow application through which RBI shall monitor compliance requirements in a more focused manner with the objective of further improving the compliance culture in Supervised Entities (SEs) like Banks, NBFCs, etc.

(C) 'Daksh' is a training manual developed by the NCERT to train the teachers/ Head masters of the primary schools.

(D) 'Daksh' is an online tool to evaluate students of online classes

34. Consider the Assertion (A) and Reason (R) and choose the correct code given below—

Assertion (A) : According to the UNDP's Multidimensional Poverty Index 2022, released on October 18, 2022, 415 million exited poverty between 2005-06 and 2019-21

Reason (R) : According to the UNDP's Multidimensional Poverty Index 2022, the largest

number of poor in the world, 228.9 million, were in India in 2020.

Correct code is—

- (A) Assertion (A) and Reason (R) both are correct and Reason (R) is the correct explanation of Assertion (A)
- (B) Assertion (A) and Reason (R) both are correct and Reason (R) is the correct explanation of Assertion (A)
- (C) Assertion (A) is are correct but the Reason (R) is not the correct
- (D) Assertion (A) is incorrect but Reason (R) is correct

35. Consider the following statements with reference to 'Digital Banking Units (DBUs)'—

- I. Commercial banks (other than regional rural banks, payment banks and local area banks) with past digital banking experience are permitted to open DBUs.
- II. DBUs can be established in tier 1 to tier 6 centres, unless otherwise specifically restricted, without having the need to take permission from the RBI in each case.
- III. Each DBU must offer certain minimum digital banking products and services on both liabilities and assets side of the balance sheet of the digital banking segment.

Which of the above statements is/are correct ?

- (A) Only I and II
- (B) Only I and III
- (C) All I, II and III
- (D) Only III

36. The Competition Commission of India (CCI) on October 19, 2022 fined online hotel booking sites for anti-competitive conduct in hotel room listings—

- I. MakeMyTrip
- II. Goibibo
- III. OYO

Correct code is—

- (A) Only I
- (B) Only I and II
- (C) Only II and III
- (D) All I, II and III

37. Government of which country has proposed the 'burp and fart' tax ?

- (A) Denmark
- (B) Russia
- (C) New Zealand
- (D) Australia

38. In one of its very significant intervention in digital markets, the Competition Commission of India (CCI) on October 20, 2022 sanctioned..... for its anticompetitive practices in multiple markets in the android mobile device ecosystem.

- (A) Google (B) Apple
- (C) Microsoft (D) Adobe

39. As on October 31, 2022 which of the following state government has/have restored old pension scheme for state government employees ?

- I. Rajasthan
- II. Chhattisgarh
- III. Jharkhand
- IV. Punjab

Correct code is—

- (A) Only I
- (B) Only I and II
- (C) Only I, II and III
- (D) All I, II, III and IV

40. The provisions of priority sector lending do not apply to—

- (A) Regional Rural Bank (RRB)
- (B) Small Finance Bank (SFB)
- (C) Payments Bank (PB)
- (D) Primary (Urban) Cooperative Bank (UCB) other than Salary Earners' Bank

Answers with Hints

1. (A) With this inclusion, total number of Maharatna companies has become 12 : 1. BHEL; 2. BPCL; 3. CIL; 4. GAIL; 5. HPCL; 6. IOCL; 7. NTPC Limited; 8. ONGC Limited; 9. PFC Ltd.; 10. PGCIL Ltd.; 11. REC Ltd.; 12. SAIL.
2. (A) Liquidity in the banking system—as gauged by the Reserve Bank of India's (RBI's) daily operations—has slipped into a deficit mode for the first time in over three years, signalling a structural shift away from loose financial conditions in the economy. According to the RBI's daily data on money market operations, the central bank infused net liquidity worth

₹ 21,873.43 crore into the banking system on September 20, 2022 most since May 2019. Current liquidity deficit in the banking system is around ₹ 20,000 crore.

3. (D) These stations will be redeveloped at an outlay of ₹ 10,000 crore, using Green Building Techniques with solar energy, water conservation/ recycling and improved tree cover. They will be integrated with other modes of transportation like metro and bus, among other things. The design will also include a spacious roof plaza with all passenger amenities at one place along with spaces for retail, cafeterias, and recreational facilities.
4. (B) Chip 4 is the US led group of world's leading chip manufacturing countries—The US, Japan, South Korea and Taiwan.
5. (B) According to PIB release dated October 3, 2022, India emerges as the world's largest producer and consumer of sugar and world's 2nd largest exporter of sugar.
6. (A) Nearly all domestic support measures considered to distort production and trade (with some exceptions) fall into the amber box. Any support that would normally be in the amber box, is placed in the blue box if the support also requires farmers to limit production ; green box subsidies must not distort trade, or at most cause minimal distortion. They have to be government-funded (not by charging consumers higher prices) and must not involve price support.
7. (B) APY is open to all citizens of India, except the income tax payer, who has a savings bank account.
8. (A) According to the RBI, per capita net state domestic product in the FY 2019-20 was ₹ 4,35,959 in Goa; ₹ 3,76,221 in Delhi; ₹ 2,47,628 in Haryana; and ₹ 2,33,325 in Telangana.
9. (B) Per capita net state domestic product in the FY 2019-20 was ₹ 2,02,130 in Madhya Pradesh; ₹ 1,15,492 in Rajasthan; ₹ 65,704 in Uttar Pradesh and ₹ 45,071 in Bihar.

10. (D) Unlike the other Nobel prizes, the economics award wasn't established in Alfred Nobel's will of 1895 but by the Swedish central bank in his memory. The first winner was selected in 1969. 2022's Nobel Prize in economic sciences has been awarded to the former chair of the U.S. Federal Reserve, Ben S. Bernanke, and two US-based economists, Douglas W Diamond and Philip H. Dybvig, "for research on banks and financial crises." Ben Bernanke analysed the Great Depression of the 1930s, the worst economic crisis in modern history. Douglas Diamond and Philip Dybvig developed theoretical models that explain why banks exist, how their role in society makes them vulnerable to rumours about their impending collapse and how society can lessen this vulnerability.
11. (C) 12. (D) 13. (A) 14. (C) 15. (A)
16. (A) The G7 nations' plan of persuading India to start negotiations on a Just Energy Transition Partnership (JETP), an initiative of the rich nations to accelerate phasing out of coal and reducing emissions. JETP makes various funding options available for this purpose in identified developing countries.
17. (C) 18. (C)
19. (A) Open Market Operations are the simultaneous sale and purchase of government securities and treasury bills by the RBI. The objective is to regulate the money supply in the market (economy).
20. (C) 21. (D) 22. (B) 23. (D) 24. (D)
25. (A)
26. (C) Generally, the phrase 'transfer payment' is used to describe government payments to individuals through social programs such as welfare, student grants, and even Social Security.
27. (D) The GHI, is a peer-reviewed annual report that endeavours to "comprehensively measure and track hunger at the global, regional, and country levels". It is jointly-produced by the Germany-based not-for-profit organisation Welthungerhilfe and Ireland-based Concern Worldwide. The inaugural report was first published in 2006. The 2022 report is its 17th edition.
28. (A)
29. (D) In 2022-23, the reserves have been depleted by \$ 74.4 billion; however, most of the depletion was on account of valuation loss due to the appreciation of the US dollar against major currencies.
30. (B) India's multidimensional poverty fell by 140 million between 2015-16 and 2019-21 compared to a decline of 275 million between 2005-06 and 2015-16, according to the latest assessment by the United Nations Development Programme (UNDP).
31. (D) The Prime Minister on October 17, 2022 launched the single brand Bharat under the scheme Pradhan Mantri Bharatiya Jan Urvarak Pariyojana (One Nation One Fertiliser)—under which it is mandatory for companies to market all subsidised fertilisers under single brand 'Bharat'. This was done to prevent criss-cross movement of fertilisers and reduce high freight subsidy. All subsidised soil nutrients—urea, di-ammonium phosphate (DAP), Muriate of Potash (MoP) and NPK—will be marketed under the single brand Bharat across the nation.
32. (D) 33. (B) 34. (B) 35. (C)
36. (D) The Competition Commission of India (CCI) on October 19, 2022 fined online hotel booking sites Make My Trip and Goibibo, and IPO-bound budget hotel chain OYO for a total of over 392 crore (\$ 47 million) for anti-competitive conduct in hotel room listings. While Make My Trip-Goibibo (MMT-Go) faces a fine of 223.48 crore (\$ 27 million), OYO has been ordered to pay ₹ 168.88 crore (\$ 20 million).
37. (C) Earlier in October 2022, New Zealand's Prime Minister Jacinda Ardern touted a 'world first' 'burp and fart' tax on emissions of methane and nitrous oxide produced by the nation's six million cows and 26 million sheep as a step to tackling climate change. Farmers of the New Zealand staged a protest in all major cities against a plan of the government to impose the 'burp and fart' tax.
38. (A) Apart from imposing a provisional monetary penalty of ₹ 1,337.76 crore on Google for violating Section 4 of the Competition Act, CCI also issued a series of directions to the tech giant to bring its conduct in accordance with the antitrust law. Google has been given 30 days' time to provide requisite financial details and supporting documents.
39. (D) Old pension scheme to government employees was discontinued in the year 2004 during the rule of United Progressive Alliance. All the state governments fell in line. Since then all the government employees brought under national pension scheme which is contributory in nature. 10 per cent of the salary (Pay+DA) is contributed by the employee, while the equal share is credited by the government. Rajasthan is the first state to restore the old pension scheme followed by Chhattisgarh, Jharkhand and now the Punjab.
40. (C) The provisions of these Directions shall apply to every Commercial Bank [including Regional Rural Bank (RRB), Small Finance Bank (SFB), Local Area Bank] and Primary (Urban) Co-operative Bank (UCB) other than Salary Earners' Bank.

FDupan

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The Union Cabinet on (April 8, 2022) approved a scheme to distribute fortified rice under government programmes. Food Corporation of India and state agencies have already procured 88.65 LMT (lakh million tonnes) of fortified rice for supply and distribution.

In last year's Independence Day speech, Prime Minister Narendra Modi had announced the fortification of rice distributed under various government schemes, including the public distribution system (PDS) and midday meals in schools, by 2024.

FDupan

Current Questionnaire

- Which country won the Asia Cup 2022 ?
(A) India
(B) Pakistan
(C) Sri Lanka
(D) Bangladesh
- Consider the following statements—
I. Carlos Alcaraz of Spain won his maiden Grand Slam title at US Open 2022.
II. Carlos Alcaraz defeated Casper Ruud in 4 sets in the men's singles final.
III. Alcaraz also became the youngest man to win US Open crown since Sampras in 1990.
IV. Alcaraz, playing only in his second full season on the tour, scripted history as he became the youngest World No. 1 in men's singles tennis.
Correct code is—
(A) Only I and II
(B) Only I, II and III
(C) Only I
(D) All I, II, III and IV
- How many pairs, given below, are correctly matched in relation to 'Emmy Awards' ?
I. Outstanding drama series—Succession
II. Outstanding comedy series—Ted Lasso
III. Lead actor in a drama series—Lee Jung-jae (Squid Game)
IV. Lead actress in a drama series—Zendaya (Euphoria).
(A) 1 (B) 2
(C) 3 (D) 4
- 22nd Summit (2022) of the Shanghai Cooperation Organisation (SCO) was held in—
(A) Samarkand (Uzbekistan)
(B) Dushanbe (Tajikistan)
(C) Shanghai (China)
(D) Saint Petersburg (Russia)
- Consider the following statements in relation to 'Project Cheetahs'—
I. India in the past was home to Asiatic Cheetahs, but the species was declared extinct domestically by 1952.
II. Cheetah is the fastest land animal in the world.
III. Eight Cheetahs have been translocated from Namibia in Kuno National Park in Shivpuri district of Madhya Pradesh in September 2022.
IV. Cheetahs remain the first and only predator to die out since India's independence in 1947.
Which of the above statements is/are correct ?
(A) Only III
(B) Only I and III
(C) Only II and IV
(D) All I, II, III and IV
- Which of the following film is India's official entry to the Oscar 2023 awards ?
(A) Chhello Show (Last Film Show)
(B) RRR
(C) The Kashmir Files
(D) Shyam Sing Ray
- Chief Minister of which state moved trust motion in the Assembly despite having the majority in the House ?
I. Arvind Kejariwal, Chief Minister of Delhi.
II. Hemant Soren, Chief Minister of Jharkhand.
III. Bhagvant Man, Chief Minister of Punjab.
Correct code is—
(A) Only I
(B) Only II
(C) Only I and II
(D) All I, II and III
- Which of the following statements is /are correct about Zonal Councils ?
I. Zonal Councils are statutory bodies established under the provisions of State Reorganisation Act, 1955.
II. Union Home Minister is the common chairperson of all the zonal councils.
III. At present there are six zonal councils-Northern, Eastern, Western, Southern, Central and North-Eastern.
(A) Only I
(B) Only I and II
(C) Only II and III
(D) All I, II and III
- Mehar Baba Competition is related to—
(A) Developing technology for a "Swarm Drone Based System to Detect Foreign Objects on Aircraft Operating Surfaces."
(B) Creating a logo for G-20 Summit 2023
(C) National Shooting Championship
(D) Designing a 10 km long bridge
- Chandigarh airport has been named after—
(A) Lala Lajpat Rai
(B) Shaheed Bhagat Singh
(C) Guru Nanak Dev
(D) French architect Le Corbusier
- Bathukamma is a state festival of—
(A) Karnataka
(B) Tamil Nadu
(C) Telangana
(D) Maharashtra
- According to UAPA an organisation is deemed to be involved in terrorism if it—
I. commits or participates in acts of terrorism
II. prepares for terrorism
III. promotes or encourages terrorism
IV. is otherwise involved in terrorism.
Correct code is—
(A) Only I and II
(B) Only I and III
(C) Only I and IV
(D) All I, II, III and IV

13. Which of the following pairs is/are not correctly matched with respect to Ambedkar circuit ?
 (A) Deeksha Bhoomi—Nagpur
 (B) Janma Bhoomi—Mhow
 (C) Shiksha Bhoomi—Mumbai
 (D) Mahaparinirvan Bhoomi—Delhi
14. Hand axes, scrapers, cleavers and choppers as old as 12,000 years have been found in Archaeological Survey of India Excavation at—
 (A) Natham Medu (Tamil Nadu)
 (B) Atranjikhada (Uttar Pradesh)
 (C) Kalibangan (Rajasthan)
 (D) Dholavira (Gujarat)
15. Who among the following has been honoured with the 'Dada Saheb Falke' Life Time Achievement Award 2020 ?
 (A) Asha Parekh
 (B) Hema Malini
 (C) Kiran Kher
 (D) Kamal Hasan
16. Who among the following has been appointed as the New Chief of Defence Staff ?
 (A) Lt. General Anil Chauhan (Retired)
 (B) Air Chief Marshal Rakesh Kumar Singh Bhadauria (Retired)
 (C) General Manoj Mukund Naravane (Retired)
 (D) Admiral Karambir Singh
17. Fédération Internationale de Football Association (FIFA) has honoured India's talismanic footballer.....by launching a documentary series on him.
 (A) Baichung Bhutia
 (B) Gurpreet Singh Sandhu
 (C) Sunil Chhetri
 (D) Sandesh Jhingan
18. Who among the following has been appointed India's New Attorney General ?
 (A) Harish Salve
 (B) R. Venkataramani
 (C) S. Ganesh
 (D) K.V. Vishwanathan
19. As per the provisions of the National Medical Commission Act the National Exit Test Exam (NExT) will serve as—
 I. a common qualifying final year MBBS exam.
 II. a licentiate exam to practise modern medicine.
 III. for merit-based admission to postgraduate courses.
 IV. a screening exam for foreign medical graduates who want to practise in India.
 Which of the above statements is/are correct ?
 (A) Only III
 (B) Only III and IV
 (C) Only II, III and IV
 (D) All I, II, III and IV
20. Consider the following statements in relation to a recent judgement of the Supreme Court of India on the issue and legality of abortion—
 I. It is the woman alone who has the right over her body and is the ultimate decision-maker on the question of whether she wants to undergo an abortion.
 II. All women are entitled to a safe and legal abortion process and making any distinction between a married and an unmarried woman in this regard is unconstitutional.
 III. It is only the woman's consent (or her guardian's consent if she is a minor or mentally ill) which is material.
 Which of the above statements is/are correct ?
 (A) Only I and II
 (B) Only I and III
 (C) Only II and III
 (D) All I, II and III
21. Which of the following regions of war torn Ukraine has/have been annexed on September 30, 2022 by Russia ?
 I. Donetsk
 II. Luhansk
 III. Kherson
 IV. Zaporizhzhia
 Correct code is—
 (A) Only I and II
 (B) Only III and IV
 (C) Only IV
 (D) All I, II, III and IV
22. As on October 15, 2022 Vande Bharat Express trains are running on the following routes—
 I. New Delhi and Varanasi
 II. New Delhi and Shri Mata Vaishno Devi Katra
 III. Gandhi Nagar and Mumbai
 IV. Amb Andaura (Himachal Pradesh) and New Delhi
 Correct code is—
 (A) Only III
 (B) Only I and III
 (C) Only II
 (D) All I, II and III
23. Prachand is a name given to—
 (A) Indigenously developed Light Combat pilot less fighter inducted into India Airforce.
 (B) Indigenously developed Light Combat Helicopters inducted into India Airforce
 (C) Indigenously developed tank inducted into India Army Artillery
 (D) Indigenously developed air-to surface missile into India Airforce
24. Consider the following statements about Indore (MP) in relation to Swachh Survekshan 2022—
 I. Indore won the Cleanest City title for the sixth consecutive year, in the 'more than 1 lakh population' category.
 II. Indore emerged as India's first 7-star Garbage Free city.
 Which of the above statements is/are correct ?
 (A) Only I
 (B) Only II
 (C) Both I and II
 (D) Neither I nor II
25. Which of the following city has received the best city award in Safai Mitra Suraksha ?
 (A) Vishakhapatnam
 (B) Tirupati
 (C) Hyderabad
 (D) Gandhinagar
26. Which of the following city received the fast mover city award ?
 (A) Gurugram (Haryana)
 (B) Bareilly (UP)
 (C) Shivamogga (Karnataka)
 (D) Guntur (AP)
27. Which state emerged as the 'Cleanest State' in the category of "more than 100 Urban Local Bodies" in Swachh Survekshan 2022 ?
 (A) Maharashtra
 (B) Uttar Pradesh

- (C) Madhya Pradesh
(D) West Bengal
28. The Supreme Court of India, in its latest judgement on the applicability of MRTP Act, removed the restrictive interpretation of the MRTP Act in the Rules that effectively prohibited single unmarried women from accessing abortion while allowing married women to access them. Which of the following statements is/are correct in this regard?
- The provision violates the right to equality under Article 14 of the Constitution of India.
 - The Rights of reproductive autonomy, privacy and dignity under Article 21 of the Constitution of India give an unmarried woman the right of choice on whether or not to bear a child on a similar footing of a married woman.
- (A) Only I
(B) Only II
(C) Both I and II
(D) Neither I nor II
29. Svante Paabo won 2022 Nobel Prize in Medicine for the discoveries—
- Concerning the genomes of extinct hominins and human evolution
 - Concerning new vaccine against cervical cancer
 - Leading to the radiological investigation of Alzheimer's disease
 - Of a new drug for the treatment of tuberculosis
30. Which of the following has/have been awarded The Nobel Prize for Physics 2022....., for their work on quantum mechanics?
- Alain Aspect, Professor at Université Paris-Saclay and École Polytechnique, Palaiseau, France.
 - John F. Clauser, Research Physicist at JF Clauser & Assoc., USA.
 - Anton Zeilinger, Professor at the University of Vienna, Austria.
- (A) Only I
(B) Only II
(C) Only II and III
(D) All I, II and III
31. Telangana Chief Minister K. Chandrasekhar Rao rechristened his party Telangana Rashtra Samithi as—
- Bhartiya Rashtriya Samiti
 - Bharat Rashtra Samithi
 - Bharat Rashtriya Samithi
 - Bhartitya Rashtra Samithi
32. 2022's Nobel Prize in Chemistry has been awarded to for developing a way of "snapping molecules together" that can be used to design medicines.
- Carolyn R. Bertozzi, Stanford University in California
 - Morten Meldal, University of Copenhagen, Denmark
 - K. Barry Sharpless, Scripps Research, California.
- Correct code is—
- Only I and II
 - Only II and III
 - Only I and III
 - All I, II and III
33. The Nobel prize in Literature for the year 2022 was awarded toon October 6, 2022.
- Annie Ernaux, French Writer
 - Abdulrazak Gurnah, Tanzanian-born UK based writer
 - Louise Glück, US poet
 - Bob Dylan
34. Which of the following pairs is/are matched correctly?
- Operation Octopus-Country-wide raids of NIA on the members and organizations of Popular Front of India.
 - Operation Chakra-Nation-wide crackdown of CBI on cyber criminals.
- (A) Only I is correct
(B) Only II is correct
(C) Both I and II are correct
(D) Neither I nor II is correct
35. Justice K.G. Balakrishnan Commission has been appointed by the Central Government to examine—
- The Matter of giving Scheduled Caste status to new people who claim to historically
- have belonged to the SCs, but have converted to a religion other than those mentioned in the Presidential orders.
(B) The matter related to two child norms universally in India
(C) The issue of Universal Civil Code
(D) The demands for creation of new states
36. Consider the following statements with regards to 'Air Force Day 2022'—
- This is the 90th Air Force Day.
 - The Indian Air Force has celebrated its 90th anniversary on October 8, 2022 by taking the event outside Delhi for the first time.
 - The government has approved the creation of a Weapon System Branch for the officers in the IAF, which is the first time since independence that a new operational branch is being created.
 - The focus of IAF Day this year is on *atmanirbharta*, or indigenisation.
- Which of the above statements is/are correct?
- All I, II, III and IV
 - Only I and II
 - Only I and III
 - Only III
37. The Nobel Peace Prize 2022 has been awarded to—
- Jailed Belarusian human rights activist Ales Byalyatski.
 - Russian human rights organisation Memorial
 - Ukrainian human rights organisation Center for Civil Liberties.
- Correct code is—
- Only I
 - Only II and III
 - Both I, II and III
 - None of the above
38. Which of the following has been declared as India's first 24 × 7 Solar Powered village?
- Modhera (Gujarat)
 - Bhadla (Rajasthan)
 - Kamuthi (Tamil Nadu)
 - Veli (Kerala)

39. What is 'Kalyani M4' ?
 (A) Kalyani M4 is a Quick Reaction Fighting Vehicle (Heavy)
 (B) An Indian Remote Sensing Satellite
 (C) A surface-to-surface short range missile
 (D) A submarine
40. Consider the following statements in relation to a historical deal between Israel and Lebanon finalized in October 2022—
- The agreement resolved a territorial dispute in the eastern Mediterranean sea, in an area that Lebanon wants to explore for natural gas.
 - Israel and Lebanon do not have official diplomatic relations and the two countries remain technically at war.
 - It sets a border between the maritime waters of Lebanon and Israel for the first time.
 - This agreement would allow both countries to get royalties from the gas generated in the eastern Mediterranean sea.
- Correct code is—
 (A) Only I
 (B) Only I and IV
 (C) Only II and III
 (D) All I, II, III and IV

Answers with Hints

- (C) Sri Lanka registered a rather comfortable win over Pakistan to lift their sixth Asia Cup title. Sri Lanka bowled Pakistan out for 147 to win the match by 23 runs. The final match was played on September 11, 2022 in United Arab Emirates (UAE).
- (D) With the US Open triumph (September 11, 2022), Carlos Alcaraz became the youngest since Rafael Nadal in 2005 (French Open) to win a Grand Slam title and the youngest since Pete Sampras in 1990 to win a Grand Slam title in men's tennis.
- (D)
- (A) Launched in Shanghai in June 2001, the SCO has eight full members, including its six founding members, China, Kazakhstan, Kyrgyzstan, Russia, Tajikistan and Uzbekistan. India and Pakistan joined as full members in 2017. 22nd Summit (2022) of the Shanghai Cooperation Organisation (SCO) was held in Samarkand (Uzbekistan) On 16-18 September, 2022.
- (D)
- (A) It's official ! Gujarati film Last Film Show (Chhello Show) is India's official entry to the Best International Feature Film category of the 95th Academy Awards (2023). The coming-of-age film has been directed by Pan Nalin. It features Bhavin Rabari, Bhavesh Shrimali, Richa Meena, Dipen Raval and Paresh Mehta in pivotal roles. The films for Oscar Awards are nominated by the Film Federation of India.
- (D) Arvind Kejariwal proved his government's majority in the Assembly on September 1, 2022; Heman Soren, CM of Jharkhand proved his government's majority in Assembly on September 5, 2022; while Bhagwant Man, Chief Minister of Punjab proved his government's majority on. All these governments have enough number of MLAs in their support, but these Chief Ministers fear that BJP is trying to topple their governments through horse trading.
- (D)
- (A) To provide a boost to the growing indigenous drone industry, Hon'ble Raksha Mantri had launched the "MEHAR BABA COMPETITION-II" on 6 April, 2022 at Air Headquarters (Vayu Bhawan). The competition is aimed at developing technology for a "Swarm Drone Based System to Detect Foreign Objects on Aircraft Operating Surfaces". The competition is named after the legendary Air Commodore Mehar Singh, MVC, DSO - affectionately also known as Mehar Baba. The first edition of the competition was launched in October 2018 and had culminated in October 2021.
- (B)
- (C) Bathukamma means 'Goddess of Life' and is celebrated during Dussehra. Women decorate a special pot with seasonal flowers, fill the pot with offerings to the goddess, go in a procession, and later immerse the pot in a local pond. The state festival is celebrated in a grand manner across Telangana from September 25 to October 3, 2022.
- (D)
- (C) The government had first proposed the Ambedkar Circuit, or Panchteerth, in 2016. Prime Minister Narendra Modi had said the Panchteerth would include Janma Bhoomi, Ambedkar's birthplace in Madhya Pradesh's Mhow; Shiksha Bhoomi, the place in London where he stayed while studying in the UK; Deeksha Bhoomi in Nagpur where he embraced Buddhism; Mahaparinirvan Bhoomi or the place of his demise in Delhi; and Chaitya Bhoomi, the place of his cremation, in Mumbai.
- (A) Hand axes, scrapers, cleavers and choppers as old as 12,000 years to rouletted ware (from the Sangam era - 2,000 years ago), Roman amphora sherds and glass beads indicating active trade with Rome were some of the artefacts found by the most recent Archeological Survey of India (ASI) excavation near Chennai. While scholars see it as a crucial chapter in bridging the gap in Tamil history, ASI officials said it was significant as they had discovered some Sangam age artefacts from Natham Medu too, 40 km north west of Chennai city.
- (A) The Dadasaheb Phalke Award is the country's highest award in the field of cinema. Its previous recipients include actors Rajinikanth, Amitabh Bachchan and Vinod Khanna (posthumously).
- (A) Nine months after the death of General Bipin Rawat in a helicopter crash, the government on September 28, 2022 named Lt General Anil Chauhan (Retired) the new Chief of Defence Staff, the country's top military officer and leader of one of the world's largest armed forces. Lt. Gen. Chauhan, 61, had retired as

Eastern Command Chief in May 2021 and was serving as the Military Advisor to the National Security Council.

17. (C) Fédération Internationale de Football Association (FIFA) has launched a documentary series on India's talismanic captain titled 'Captain Fantastic'; the first season has three episodes chronicling Chhetri's personal and professional life. The Indian footballer is only behind first-placed Cristiano Ronaldo of Portugal and Lionel Messi of Argentina, with 84 goals to his name in 131 international matches.
18. (B) The Centre has appointed R Venkataramani, Senior Advocate at Supreme Court, as the 15th Attorney General of India (AG). The 72-year old Venkataramani, who has completed 34 years of practice in the Supreme Court, will take over from 91-year-old incumbent AG K.K. Venugopal, whose tenure will end on September 30. The appointment is for three years. AG is the Indian government's chief legal advisor and is its Principal Advocate before the Supreme Court of India. The President of India appoints the AG.
19. (D) The NMC Act came into force in September 2020.
20. (D) The landmark verdict came on a petition by a 25-year-old unmarried woman. The woman had appealed against a Delhi High Court order that she is not entitled to abortion under the Act as she was unmarried, and the pregnancy followed a consensual relationship. The woman had submitted that she was 23 weeks into her pregnancy and that partner had refused to marry her.
21. (D) In a major escalation of the ongoing war, Russian President Vladimir Putin has recognised the independence of Ukraine's Zaporizhzhia and Kherson regions. This came after he took similar steps regarding Luhansk and Donetsk in February 2022 and earlier for Crimea. The annexation was formalized at the ceremony on September 30, 2022
- The four territories create a crucial land corridor between Russia and the Crimean peninsula, annexed by Moscow in 2014. Together, all five make up around 20 per cent of Ukraine, whose forces in recent weeks have been clawing background.
22. (D) The Vande Bharat Express offers a myriad of superior amenities which provide passengers with aircraft like travelling experience and advanced state-of-the-art safety features including Kavach technology an indigenously developed Train Collision Avoidance System. Gandhi Nagar and Mumbai is the country's third Vande Bharat train, with the previous two running between New Delhi and Varanasi and New Delhi and Shri Mata Vaishno Devi Katra. PM Modi flagged off country's fourth Vande Bharat Express from Amb Andaura (himachal Pradesh) to New Delhi on October 13, 2022.
23. (B) The Light Combat Helicopter (LCH), developed by state-run aerospace major Hindustan Aeronautics Ltd. (HAL), has been primarily designed for deployment in high-altitude regions. It was inducted on October 3, 2022 into the IAF at a ceremony in Jodhpur in the presence of Defence Minister Rajnath Singh and Chief of Air Staff Air Chief Marshal V.R. Chaudhari.
24. (C) In more than one lakh population category Indore (MP) is the cleanest city, while Surat (Gujarat) is at second place and Navi Mumbai is at the third place. In the population category of 'less than 1 lakh', Panchgani and Karad from Maharashtra bagged the first and third positions respectively, while Patan from Chhattisgarh bagged the second position.
25. (B) 26. (C)
27. (C) The State awards saw a few surprises. Madhya Pradesh emerged as the 'Cleanest State' in the category of "more than 100 Urban Local Bodies", relegating Chhattisgarh, the Cleanest State of the previous 3 years, to second place. Maharashtra emerged as third cleanest State. Similarly, Tripura emerged as the Cleanest State award in the "less than 100 ULBs category", dislodging Jharkhand, which had won in the last 2 consecutive years. Jharkhand and Uttarakhand received the second and third spots respectively.
28. (C) 29. (D)
30. (D) According to the official website of the awards, the three won "for experiments with entangled photons, establishing the violation of Bell inequalities and pioneering quantum information science."
31. (B) TRS supremo and Telangana Chief Minister K. Chandrasekhar Rao on October 5, 2022 launched the Bharat Rashtra Samithi (BRS) at exactly 1:19 pm, in the first step towards becoming a national party.
32. (D) Their work, known as click chemistry and bioorthogonal reactions, is used to make cancer drugs, map DNA and create materials that are tailored to a specific purpose. Sharpless is affiliated with Scripps Research, California. Sharpless previously won a Nobel Prize in 2001. He is the fifth person to receive the award twice.
33. (A) The Nobel prize in literature for the year 2022 was awarded to Annie Ernaux. Annie Ernaux has been given the award "for the courage and clinical acuity with which she uncovers the roots, estrangements and collective restraints of personal memory", the Nobel prize committee said.
34. (C)
35. (A) The Centre on October 8, 2022 has appointed a commission headed by former CJI K.G. Balakrishnan to examine the matter of giving Scheduled Caste status to new people who claim to historically have belonged to the SCs, but have converted to a religion other than those mentioned in the Presidential orders.
36. (A) This is the first time since independence that a new operational branch (Weapon System Branch) has been created. This will essentially be for manning of force specialised streams of

surface-to-surface missiles, surface-to-air missiles, remotely piloted aircraft, and weapon system operators in twin and multi-crew aircraft.

37. (C) Ales Bialiatski was one of the initiators of the democracy movement that emerged in Belarus in the mid-1980s. He has devoted his life to promoting democracy and peaceful development in his home country. The Human Rights Organisation Memorial was established in 1987 by human rights activists in the former Soviet Union who wanted to ensure that the victims of the communist regime's oppression would never be forgotten. Nobel Peace Prize laureate Andrei Sakharov and human rights advocate Svetlana Gannushkina were among the founders. Memorial is based on the notion that confronting past crimes is essential in preventing new ones. The Center for Civil Liberties was founded in Kyiv in 2007 for the purpose of advancing human rights and democracy in Ukraine. The center has taken a stand to strengthen Ukrainian civil society and pressure the authorities to make Ukraine a full-fledged democracy.
38. (A) Prime Minister Narendra Modi on October 9, 2022 declared Modhera, a village in Mehsana district of Gujarat, as India's first solar-powered village. Modhera, which is associated with the Sun Temple will also be known for its strides in solar energy.
39. (A) Kalyani M4 is a "Quick Reaction Fighting Vehicle (Heavy), indigenously manufactured by Bharat Forge and capable of carrying an infantry section (10 soldiers) in full combat gear. On October 10, 2022, Bharat Forge handed over 16 world-class, made-in-India Armoured Personnel Carriers (APCs), called the Kalyani M4, to the Indian Army for UNPKOs.
40. (D) The agreement will create new sources of energy and income for both countries, particularly important for Lebanon, which is facing a crippling energy and financial crises.

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stage including on social media. Chinese diplomacy continues to display fighting spirit, improve its ability to fight, and always stand ready at the frontline to protect its national interest and dignity. China's resolve to safeguard the sovereignty and territorial integrity as well as the fundamental interests of the Chinese nation are treated rock hard and unshakable. China's diplomatic front carry on the fighting spirit to bolster the so called people's will, courage and confidence, refrain from pressure and containment, brave hardships, strive to consolidate development and security and safeguard the country's sovereignty, security and development interests.

Mission LiFE

Prime Minister Narendra Modi and UN Secretary General Antonio Guterres on October 20, 2022 launched Mission LiFE, a global initiative by India to combat climate change and make it a people's movement across the world. Mission LiFE aims to change people's collective approach towards sustainability. The Mission LiFE was launched at Statue of Unity in Ekta Nagar, Kevadia, Gujarat.

Mission LiFE (Lifestyle for Environment) brings everyone together as pro-planet people. Heads of 11 countries have praised the Indian government for taking this lead.

Mission LiFE aims at a three-pronged strategy for changing people's collective approach towards sustainability. First, by nudging individuals to practise simple yet effective environment-friendly actions in their daily live; second, by enabling industries and markets to respond swiftly to the changing demand; and to influence governments and industrial policy to support both sustainable production and consumption.

The PM said the initiative envisages to make every individual and community a trustee of the environment who doesn't allow blind exploitation of resources. "The trustees are not exploiters rather nurturers. Mission LiFE will strengthen the concept of 3P-pro-planet people," Modi said.

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are more productive and more nutritious, despite challenging environmental conditions. Breeding projects might take these factors into consideration :

1. **Plants that conserve water and soil** : These precious resources are limited and in demand.
2. **Plants that conserve genetic diversity** : The broader our genetic diversity, the more resilient our crops can be against the next disease or natural disaster. (Read more about the importance of this in the Plant preservation section.)
3. **Plants that have better nutritional quality** : More nutrition per calorie makes the best use of resources. (More about this in the Nutritional quality section.)
4. **Plants that produce more on the same or less land** : We need to limit the further expansion of croplands to preserve our forests and other wild areas.
5. **Plants that are adaptable** : Breeders also work to adapt our crops to rising temperatures and increasingly inconsistent weather. **These challenges are out there—and changing everyday.**

Future Opportunities in Crop Breeding

Crop breeding is a rapidly advancing science. It is able to make use of genetic and biotechnological innovations to efficiently develop better crop varieties. Recent biotechnological developments are helping breeders make desired genetic changes with much greater precision. Breeders can cut out, add in, or otherwise 'edit' genes so a plant can be more productive. Techniques such as marker-assisted selection mean plant breeders can quickly choose plants with desirable traits.

In addition, crop breeders gather a lot of information about the unique qualities of each plant. This means plant breeders have to be savvy in the art of working with vast amounts of data. Developing methods to store, share, and quickly analyze these data will produce significant advances in plant breeding.

Test Your Knowledge

Answers with Hints

- (B) First Statutory National Commission for Minorities was set up in 1993.
- (A) The Punchhi Commission was constituted on Centre-State relations.
- (D) 4. (A) 5. (B) 6. (D) 7. (C)
- (B) 9. (C)
- (A) Roger Binny, the highest wicket-taker of India's triumphant 1983 World Cup, was elected as the 36th President of Board of Control for Cricket in India (BCCI) on October 18, 2022.
- (A) The ₹ 50000 prize for the Karunalitaka for his novel which is a satire based in war-torn Sri Lanka surrounded the life of a war-photographer who goes on journalistic mission in his life.
- (B)
- (A) The Mission School of Excellence was launched by PM Modi on October 19, 2022 at Tri Mandir's Dadanagar Convention, Hall, Adalaj, Gandhinagar, Gujarat.
- (C)
- (A) Sri Mahakal Lok Corridor has been developed at Mahakaleshwar temple in Ujjain in Madhya Pradesh.
- (C) Grishneshwar Jyotirling is in the Maharashtra.
- (A)
- (C) Criminals or suspects often flee to other countries to evade facing justice. A Red Corner Notice, or Red Notice alerts police forces across the world about fugitives who are wanted internationally. Red Corner Notice can be issued by the Interpol (International Criminal Police Organisation), which is an intergovernmental organisation comprising 195 member countries, which helps police forces in all these countries to better coordinate their actions.
- (C) The RCN is issued by the Interpol only after a competent court has taken cognizance of a chargesheet against the fugitive.
- (D) INS Arihant and its class of submarines are classified as SSBN.
- (C) New Zealand on October 19, 2022 passed the Plain Language Bill, 2022, that requires bureaucrats to use simple, easily understandable language while communicating with the public with this law, which banishes jargon and complicated English words. New Zealand is aiming to become a more inclusive democracy and help people who speak English as their second language, those with disabilities and less educated.
- (D) Prime Minister Narendra Modi and UN Secretary General on October 20, 2022 launched Mission LiFE (Lifestyle for Environment at the statue of Unity at Ekta Nagar, in Kevadia (Gujarat) Mission LiFE will help in fighting climate crisis.
- (B) Wolf Warrior diplomacy, which takes the name from a popular Chinese war movie, symbolises an aggressive and confrontational, even hostile, type of diplomacy on a public image, including on social media Chinese diplomacy continues to display fighting spirit, improve its ability to fight and always ready at the frontline to protect its national interest and dignity.
- (B) 25. (D)
- (C) The 45 year old far-right leader Giorgia Meloni heads a coalition government.
- (B) The Chinese city of Shanghai started administering an inhalable Covid-19 vaccine on October 26, 2022 in what appears to a world first. The vaccine, a mist that is sucked in through the mouth, is being offered for free as a booster dose for previously vaccinated individuals.
- (A) S.S. Rajamouli directorial RRR has won the Best International Film Award at the 50th Saturn Awards which are American awards presented annually by the Academy of Science Fiction, Fantasy and Horror Films.
- (C) Blue Flag Tag is accorded by the Foundation for Environment Education in Denmark (FEE). In order to qualify for this prestigious award a series of stringent environmental, educational, safety-related and access-related criteria must be met and maintained. The Mission of Blue Flag is to promote sustainability in the tourism sector, through environmental education, environmental education and other sustainable development practices.
- (C) Duckworth - Lewis - Stern method is a mathematical formulation designated to calculate the target score (number of runs needed to win) for the team batting due to the interruption of a cricket match by weather or other circumstances.
- (B)
- (A) Six States/UTs have so far attained SDG target of reduction of neonatal mortality Rate (≤ 12 by 2030)—Kerala (4), Delhi (9), Tamil Nadu (9), Maharashtra (11), Jammu & Kashmir (12) and Punjab (12).
- (B) As per the Sample Registration System Report (2020) released in 2022. Eleven States/UTs have already attained SDG target of under 5 mortality Rate (≤ 25 by 2030)—Kerala (8), Tamil Nadu (13), Delhi (14), Maharashtra (18), Jammu & Kashmir (17), Karnataka (21), Punjab (22), West Bengal (22), Telangana (23), Gujarat (24), Himachal Pradesh (24).
- (C) The Central Bureau of Investigation on September 26, 2022 conducted searches of 56 locations in 20 States/UTs in connection with cases of child sexual abuse material circulating online as part of Operation Megha Chakra.
- (D) Sittanavasal is a small hamlet in Pudukottai district of Tamil Nadu. It houses all of these structures.
- (B) Thrissur is known as the cultural capital of Kerala and is home to academic and research institutions. Nilambur aims to promote sustainable development, gender equality, inclusivity and democracy through community ownership Warangal served as the capital of the Kaketya dynasty (1163).
- (A) This form of embroidery is done on eri silk. It is unique art form of Mustoh and the Shella region, Cherapunjee, Meghalaya.
- (B)
- (B) HIV is Human Immunodeficiency Virus that causes the AIDS.
- (C)

(Held on 16-9-2022)**General Studies-I****Paper-II**

Q. 1. How will you explain that medieval Indian temple sculptures represent the social life of those days ? (Answer in 150 words)

Ans. From the Harappan period to the Gupta period, Temple sculpture continued to develop with state patronage. Sculpture reached the peak of its development during the Gupta period but began to decline during the later centuries. However, in the 7th and 8th centuries, sculpture again appears to represent folk life with a new original spirit, especially with temple architecture in Gujarat, Rajasthan, Central India and some Himalayan states.

In the medieval period, artists created human figures along with a large number of gods and goddesses. The most important images brought out by the artists were those of Vishnu, Surya, Uma, Maheshwara, Buddha, Mahavira and other Jain Tirthankaras. These artists displayed great creative talent in these works. The sculptures of the medieval period are indeed of high artistic standard. In addition to human images and images of gods and goddesses, artists have also incorporated some historical or semi-historical scenes as the archetypal themes of sculpture. The sculpture of this period depicted women in a variety of postures and attitudes, daily life, domestic scenes, the role of warriors, etc.

With the arrival of Muslims, the art of sculpture began to decline due to lack of opportunities for patronage and self-expression. The spread of Muslim power in India damaged the temple sculpture. According to Muslim law, creating images of a living human is sinful and even more sinful for the Almighty. The Muslim invaders therefore considered it their religious duty to prevent the making of images of gods, goddesses, humans or animals. They resorted to

the large-scale destruction of paintings and sculptural representations. As a result, most of the sculptural remains of the medieval period were destroyed and only those specimens of temple sculpture remained which were far away from the centers of Muslim power. In short we can say that the sculpture suffered maximum damage by the radical Muslim rulers in the medieval period. Condolence

But, despite the unfavourable environment for the development of sculpture under temple architecture in the medieval period, the classical tradition of sculpture continued in some areas like Orissa, South India etc., which not only developed sculpture but also achieved new heights due to new experiments. If we analyze the themes of Pallava sculpture, Chalukya sculpture, Chola sculpture, Pala sculpture, Rashtrakuta sculpture, Bundelkhand (Khajuraho) sculpture, Sultanate sculpture and Mughal sculpture under temple architecture in medieval period, then one thing emerges clearly, that while before the medieval period, the propounded subjects of sculpture were idealistic. In this period their subject matter became related to social life. The most accurate examples of this fact can be seen in the temples of Khajuraho and South India. While the temples of Khajuraho are an acknowledgment of the growing influence of Tantra among the people, the sculptures of South India reflect their social and religious beliefs.

Q. 2. Why did the armies of the British East India Company mostly comprising of Indian soldiers-win consistently against the more numerous and better equipped armies of the then Indian rulers ? Give reasons. (Answer in 150 words)

Ans. If we analyze the East India Company's conquest of India, then

one conclusion is generally accepted that the Company's army was better than the army of Indian kings in terms of organization and discipline. Despite the fact that, the army of Indian rulers was more in quantity, the Company's army proved its superiority in every conflict, be it the Battle of Plassey, Buxar or the Revolt of 1857.

When the British came to India, they also brought new ways of governance and reforms, but the real power of the Company was in military power. The army of the Mughal and local rulers was mainly cavalry and infantry. It used to be that both sides used to fight on the basis of almost the same technology and the reason for victory in the war was the number of military forces. To increase the military force, these rulers used to recruit local farmers and non-professional people in the army, who became part of the army only during the war, the rest of the time they used to do their traditional profession. So, these local rulers never felt the need for professional training of the army.

The company's military structure was also made up of Indian soldiers, but in the 19th century, as the war technology started changing, the company adapted its army according to the changed conditions. Since the company was expanding its empire in Burma, Afghanistan and Egypt, the company's Indian army was sent there. Due to which the company's army returned with training in new war weapons along with learning the art of adapting itself to the new environment. The above reasons completely changed the color and military structure of the Company's army. The native rulers could not give up their fascination for traditional warfare techniques. In the early 19th century, the company began to

develop a homogeneous military culture. Soldiers were taught European-style training, practice and discipline. Due to which the army got a strong, disciplined and professional base. The English armies were also far ahead of the Indian rulers in terms of strategy and tactics and they worked under the orders of a very well organized company, which had sufficient sources of manpower and abundant resources of the British Empire.

In spite of the great military power of the Indian rulers, the reasons for the defeat lie at the root of the above reasons.

Q. 3. Why was there a sudden spurt in famines in colonial India since the mid-eighteenth century? Give reasons. (Answer in 150 words)

Ans. Famine was not a new phenomenon in Indian history, we find mention of famine in ancient and medieval times also. But, an important fact under British rule was the continuity and intensity of famines.

Under the rule of the Company there were 12 major famines and 4 times there was severe shortage of food grains. For example, in 1769-70 there was a severe famine in Bengal as a result of the dual rule, in which about a third of the population was destroyed. Similarly, in 1781-82 Madras and in 1784 in North India, there was a severe famine in which there was a large scale of loss of life.

The famines of 1877-78 in Orissa and 1895-96 in Agra can be called oceans of horror. But, one fact is worth mentioning here that all these famines are after the development of railways. The biggest criticism in this context was that the government did not use the railways to supply food grains and relief to the famine-affected areas. Apart from this, the other factors that inspired the famine under the colonial rule were as follows:

- Due to the exploitative policies of the British rule, the purchasing power of the farmers was greatly reduced. As a result, in the event of a shortage of grains, they could not buy and eat foodgrains.
- The production of coarse cereals, which was the main food of the poor, was affected due to the

British government encouraging the cultivation of commercial crops to fulfil its economic interests.

- Even when many regions of India were facing the problem of shortage of foodgrains, the export of foodgrains from India was encouraged by the colonial government. Due to the priority given to British interests, the railways further increased the horror of famines.

In conclusion, it can be said that the exploitative policies of the British rule were responsible for the intensity of the famines in the British state rather than natural causes.

Q. 4. Describe the characteristics and types of primary rocks.

(Answer in 150 words)

Ans. A primary rock is defined as the newly formed rock (crystalline rocks with no organic remains) and has never been constituents of some other rock or formed through replacement and alterations. Igneous rocks are known as primary rocks because they formed at first in the rock cycle and do not contain any organic remains. The other two types are sedimentary and metamorphic rocks. Granite, gabbro, pumice, pegmatite, basalt, volcanic breccia and tuff are common examples of igneous rocks. Igneous rock is formed by the solidification of magma and lava which happen in the earth's crust or on the surface of the earth. Igneous rocks are classified based on texture which depends upon size and arrangement of grains or other physical conditions of the materials.

Q. 5. Discuss the meaning of colour-coded weather warnings for cyclone prone areas given by India Meteorological Department.

(Answer in 150 words)

Ans. The Indian Meteorological Department (IMD) was established in 1875. It is the principal agency responsible for meteorological observations, weather forecasting and seismology. It is an agency of the Ministry of Earth Sciences of the Government of India. IMD has issued different weather warning in the pattern of colours for different weather conditions. Colour-Coded Weather Warning alerts are universal in nature which are as follows:

- **Green**: No advisory is issued.
- **Yellow (Be Aware)**: Yellow indicates severely bad weather spanning across several days.
- **Orange or Amber (Be prepared)**: issued as a warning of extremely bad weather with road and rail closures, and interruption of power supply.
- **Red (Take Action)**: extremely bad weather conditions which disrupt travel and power and have significant risk to life.

Q. 6. Discuss the natural resource potentials of 'Deccan Trap'.

(Answer in 150 words)

Ans. Deccan traps are formed by the outpouring of lava from the earth's crust. This outpouring did not create any volcanic domes. It just spread across the surface. This incident started 66-25 million years ago at the end of the Cretaceous period when India was near present placed Madagascar and during its movement towards north, it passed over Reunion Hotspot which is dormant in nature. The most important rock of Deccan Trap is Basalt (augite-basalt type) with a greyish green colour (vesicular and amygdaloidal textures). (a) They were erupted in a sub-aerial environment. (b) Eruptions of the lava took place along linear fissures, forming fissure-type of eruption and not from any central cone-type volcanoes. (c) The lava when erupted was in a highly liquid form (d) A large number of dykes that have been found occurring intersecting many lava flows might be quite younger to those flows (e) The lava flows, especially after the beginning and before the close of activity, passed through definite periods of no volcanic activity.

Q. 7. Examine the potential of wind energy in India and explain the reasons for their limited spatial spread. (Answer in 150 words)

Ans. India currently has the fourth highest wind installed capacity in the world with total installed capacity of 39.25 GW (as on 31st March, 2021) and has generated around 60.149 Billion Units during 2020-21. According to the Global Wind Energy Council (GWEC) and MEC Intelligence (MEC+) has reported that annual installation of new wind power projects in India will

peak by 2024 and likely decline thereafter. India has potential of about 60 GW of wind and the old wind power stations that have very low capacity and could be replaced with wind turbines which have higher capacity. Across the world, exploration from this area is at a nascent stage but India has a bit of a problem because on eastern side it has a lot of cyclones which hit the coast. Probably, it can explore wind energy on the western side. India is a country having around 7,516.6 km long coastline and on eastern side, many cyclones hit the coast which can explore on the western side wind energy. Wind energy typically comes in two different types which are as follows - Onshore wind farms - large installations of wind turbines on land. Offshore wind farms - installations in water bodies.

Q. 8. Explore and evaluate the impact of 'Work From Home' on family relationships.

(Answer in 150 words)

Ans. Work From Home (WFH) is an alternative working to minimize the risk of COVID-19 infection. 'Work From Home' culture developed since the COVID pandemic. The WFH concept was initially mentioned by Nilles during 1973, known as 'telecommuting' or 'telework'. WFH also known as remote work, flexible workplace, telework, telecommuting, e-working. Some positive outcomes are to reduce commuting time, avoiding office politics, using less office space, improved gender diversity (e.g., women and careers), healthier workforces with less absenteeism and turnover, job satisfaction, and better productivity. Some negative outcomes are that the blurred line between work and family, distractions, social isolation, employees bearing the costs related to WFH, and employees working at home having to pay for electricity and the internet costs themselves. It has both positive as well as negative impacts on family relationships.

Q. 9. How is the growth of Tier 2 cities related to the rise of a new middle class with an emphasis on the culture of consumption ?

(Answer in 150 words)

Ans. In the past few years, there has been a rapid growth of con-

sumerism culture along with employment opportunities in smaller towns and cities also known as Tier II and Tier III cities rather than metros or Tier I cities. टैयर I Growing employment opportunities, land scarcity in cities, high cost of construction and land purchase, skyrocketing property prices, dwindling demand, lack of infrastructure and unprecedented rise in cost of living has forced both consumers and manufacturers to move to Tier II and Tier III cities. Apart from the above factors, Tier-II and III cities are free from the woes of metropolitan cities such as low quality of life, high cost of living, costly transportation, inadequate infrastructure and costly healthcare and expensive education etc. Presently, some of the emerging Tier-II and III cities are as follows - Vadodara, Surat, Nashik and Nagpur in the west; Coimbatore, Kochi, Mangalore, Thiruvananthapuram and Vizag in the south; Bhubaneswar in the east and Chandigarh, Mohali, Pantnagar, Rudrapur, Lucknow, Kanpur, Indore and Jaipur in the north.

As employment opportunities are increasing continuously in Tier II cities, people from different parts of the country and from different cultural backgrounds are settling in these cities. These increasing employment opportunities have created a new middle class in these cities who have surplus capital to meet its essential requirements. This new middle class is using this surplus capital in the form of material luxury and investment. As a result these cities are getting cultural development as well as physical development, due to which there has been a significant improvement in the economic economy of these cities.

Q. 10. Given the diversities among tribal communities in India, in which specific contexts should they be considered as a single category ? **(Answer in 150 words)**

Ans. Tribal population in India represents a vast diversity of groups despite being numerically a minority group. Tribes have their own distinct culture and history, they share similarities with other disadvantaged sections of Indian society in subjects such as inadequate political repre-

sentation, economic deprivation and cultural discrimination. The categorization of 'Tribes' reflects a social and cultural dimension, but categorization as 'Scheduled Tribes' has politico-administrative implications as well. Majority of the ST population is concentrated in the Eastern, Central and Western belts, which extend to nine states : Odisha, Madhya Pradesh, Chhattisgarh, Jharkhand, Maharashtra, Gujarat, Rajasthan, Andhra Pradesh and West Bengal. About 12 per cent in the North-Eastern region, about 5 per cent in the southern region and about 3 per cent of the tribal population in the northern states.

A tribe lives in a certain area and often has its own language (dialect). The members of a tribe have their own culture, way of life and lifestyle. The members of a tribe follow the rules of their culture. Apart from this, members of a tribe enter into marriage relations within their own tribe. Tribal society is a simple society. Different tribes are formed on the basis of various social groups, such as family, gotra and half-ansh, as a result of which very close and informal relations are found between the members. The social relations of different individuals in a tribe are determined on the basis of kinship or region. The level of technological development in the tribe is low. Basically, there is a lack of specialization and division of labor among the tribes. Most of the social and economic activities are carried out on the basis of collectivism.

It is worth mentioning that unity in diversity is the identity of Indian culture and at the root of this is definitely the tribes, who live in different areas and different regions of India, giving a unique identity to Indian culture through their culture.

Therefore, in view of the diversity of the tribal communities of India, they should be considered in a single category.

Q. 11. The political and administrative reorganization of states and territories has been a continuous ongoing process since the mid-nineteenth century. Discuss with examples. **(Answer in 250 words)**

Ans. Before independence, India was divided into 565 princely states.

These indigenous princely states believed in independent governance, which was the biggest obstacle in building a strong India. At this time India had three types of states : (1) 'Territories of British India', (2) 'Princely states' and the colonial territories of France and Portugal.

After the Indian independence; 562 princely states had nodded to join the Indian Confederation except Hyderabad, Junagadh, Bhopal and Kashmir.

Since the Indian independence the boundaries of the Indian states keep on changing year by year. From 565 princely states and 17 provinces before partition, to 14 states and 6 Union Territories following the Reorganisation of States in 1956 to 29 states and 7 Union Territories in 2014, now after the bifurcation of Jammu & Kashmir to 28 States and 8 Union Territories after it.

The chronology of states' bifurcation in India after 1956 :

- 1960 : Bombay state split into Maharashtra and Gujarat.
- 1963 : Nagaland carved out of Assam.
- 1966 : Haryana and Himachal Pradesh carved out of Punjab state.
- 1972 : Meghalaya , Manipur and Tripura were formed.
- 1975 : Sikkim became part of Indian union.
- 1987 : Goa and Arunachal Pradesh became states (earlier these were UTs).
- 2000 : Uttaranchal (out of UP), Jharkhand (out of Bihar) and Chhattisgarh (out of Madhya Pradesh) were formed.
- Telangana (out of Andhra Pradesh), when it was eventually created in 2014, became India's 29th state.

Changes in the map of India after the formation of States and Union territories have given India such a form, through which the administrative and political problems of India can be solved. The power given to the Parliament in the Indian Constitution to form states, change the name of the states, change the boundary, etc. reveals the importance of Parliament. In this way, by using his power in the Parliament, by increasing the language and cultural

importance of India, it has provided security and maintenance of the country.

Thus, we can say that the political and administrative reorganization of states and territories is a continuous and uninterrupted process going on since the middle of the nineteenth century.

Q. 12. Discuss the main contributions of Gupta period and Chola period to Indian heritage and culture. (Answer in 250 words)

Ans. The Gupta period is considered to be a period of unprecedented success from the point of view of cultural development. Sanskrit language literature was restored in the Gupta period. It was during the Gupta period that Sanskrit poetic literature assumed classical norms. In other words, the works of scholars like Kalidasa and Visakhadatta were established as a standard. Some other works of this period such as Vatsyana's Kamasutra, Vishnu Sharma's Panchatantra, Shudrak's Mrichhakatikam etc. are some such works, which are the literary flourishes of the Gupta period.

If we look at the architectural form of the Gupta period, we find that while the earlier art was mainly influenced by Buddhist consciousness, the Gupta art was mainly governed by Brahmanical elements. This is the reason that during this period, emphasis was laid on the construction of temples instead of Chaityas and Viharas. Among the major temples of this period, Shiva temple of Umra, Parvati temple of Nachnakuthar, temple of Bhitargaon, Dashavatar temple of Deogarh are prominent.

In the field of sculpture, the Gupta period seems to have adopted the classical standard. Mathura style, Sarnath style, and Pataliputra style of sculpture prevailed during this period. Apart from this, painting had reached the peak level of development in the Gupta period, it presented a benchmark for the upcoming ages. For example, the painting of Ajanta and Bagh is a unique heritage of Indian culture.

The Chola empire was famous for its exquisite work of art displayed through bronze sculptures. Bronze sculptures of gods and goddesses

were carved and placed in the temples for worship during festivals. The temples that were built during this era followed the Dravidian style of architecture where the shape of the temple is like a stepped pyramid and has a geometric feature with the entrance at the center. Some of the notable architectures and pieces of art are the temple of Gangaikondacholisvaram, the Airavatesvara temple. The Airavatesvara temple is dedicated to Lord Shiva, a Hindu god. It has six pairs of huge statues that guard the entrance and it also has a stone image of Shiva and numerous bronze sculptures inside the temple.

Tamil literature was given importance during this period in which the Vedas and epics were taught in educational institutions. Devotional religious literature was produced and Jain, as well as Buddhist authors, flourished during this era. The Ramayanam by Kamban and Periya puranam by Sekkilar are two renowned literary works of the period rich with color, language, and landscape in the writings.

During the Chola era, the cultural centers were mostly the temples and also the educational institutions that were built around the temple. Temples were built not only for worshipping their god but also for imparting knowledge of the Sastras, Vedas, Grammar to the students. Moreover, these cultural centers also served as the boarding house for the students where they were provided with food, comfort, care from doctors and nurses when sick. Therefore, the temples were used as centers to expand their arena of supreme authority. The village of Ennayiram is one example of an important center of learning. Although the people from the Chola era gained knowledge in every aspect of education and art, the artistic medium they excelled at are the creation of exquisite bronze sculptures. The dancing posture of Nataraja, the cosmic dancer is one of the numerous sculptures that prove their excellent craftsmanship.

Q. 13. Discuss the significance of the lion and bull figures in Indian mythology, art and architecture.

(Answer in 250 words)

Ans. Animals have been an important subject in Indian art and architecture since the very beginning. On the basis of the artistic remains found in the Harappan period, it is concluded that in this civilization Bull was a symbol of important and religious faith, which was marked by artifacts and coins obtained from there, although the marking of a lion is not found. Since, the artistic remains of Aryan culture were not found as much, but literary evidence shows that the cattle dynasty played an important role in social and economic life during this period, while the lion has been described as a symbol of courage and bravery.

The figures of Lion and Bull (*Vrishabha*) received the main basis of artistic character in the Maurya period. Despite the similar structure of the Ashokan pillars, various animal figures have been installed on their top, such as Horse, Lion, Bull, Hasti etc. In the two Bull and Lion heads obtained from Rampurwa more development is visible. Speed, vitality and elegance are reflected in the statue of Bull. Ashoka Pillar located at Sanchi, lion head also, like Sarnath. The emblem has four lions mounted back to back on a circular abacus, facing four different directions. They represent courage, pride, power and confidence.

The Sarnath pillar is the grandest of all the pillars of the Ashoka period and is by far the best specimen of sculpture available in India. It is difficult to find a specimen of an ancient animal sculpture greater than or equal to this beautiful art work in any country. It embodies the ideal as well as the real texture and is subtle in every respect and utterly subtle in texture. The top is seven feet high. Above it, four grand lions are sitting on the round pedestal with their back to the back. Between them was a large stone wheel symbolizing the wheel of Dharma. There were probably 32 spokes in the wheel. Below the lions are four small chakras with 24-24 spokes.

Later on, in the coins and other architectural artifacts of dynasties like Satavahana, Gupta, Harsh Pallava, Chalukya, Vijayanagar etc., the marking of lion and Bull can be seen continuously.

In conclusion, it can be said that lion and Bull was the main theme of Indian architecture, sculpture and painting.

Q. 14. What are the forces that influence ocean currents? Describe their role in fishing industry of the world. (Answer in 250 words)

Ans. An ocean current is characterised by continuous, predictable, directed movement of seawater generated by forces acting on the mean flow which are located at the ocean surface and in deep water below 300 meters (984 feet). The ocean current has an interconnected current influenced by wind, tides, the Earth's rotation, temperature, salinity, and water density differences. These forces and physical characteristics affect the size, shape, speed, and direction of ocean currents. The ocean currents may be classified based on their depth as—

1. Surface currents : It amounts to only 8-10% of the global oceanic current flow. It is driven by global wind systems that are fuelled by energy from the sun.

2. Deep water currents : It amounts to 90-92% of the global oceanic current flow. Thermohaline circulation drives deep ocean circulation. Differences in temperature and in salinity change the density of sea-water. Differences in water density, resulting from the variability of water temperature (Thermo) and salinity (haline), also cause ocean currents which are known as thermohaline circulation.

Q. 15. Describing the distribution of rubber producing countries, indicate the major environmental issues faced by them. (Answer in 250 words)

Ans. Natural rubber processing sector is an industry which produces raw materials used for the manufacture of rubber industrial products (conveyor belts, rubber rollers, etc.), automotive products (fan belts, radiator hoses, etc.), latex products (rubber gloves, toys hygienic products, etc.) and many kinds of adhesives. The major users of natural rubber are tire and footwear industries. The raw material used for natural rubber processing is latex mainly tapped from rubber tree (*Hevea brasiliensis*). Natural rubber

factories are always located around the plantation area, and they could be categorized from small scale to large scale industries depending upon the size of rubber tree plantation. As the demand of rubber products is increasing time to time, the existence and development of natural rubber processing sectors become significantly important : 1. Thailand, 2. Indonesia, 3. Vietnam, 4. Ivory Coast, 5. China, 6. India, 7. Malaysia.

Q. 16. Mention the significance of straits and isthmus in international trade. (Answer in 250 words)

Ans. An isthmus is a narrow strip of land that connects two larger landmasses and separates two bodies of water. Isthmuses have been strategic locations for centuries. They are natural sites for ports and canals linking terrestrial and aquatic trade routes. Isthmuses are also key sites for communications and cultural exchange, as well as military outposts. The Isthmus of Panama in Panama links the continents of North and South America, and separates the Pacific and Atlantic Oceans. A strait is a narrow body of water that connects two larger bodies of water. It may be formed by a fracture in an isthmus, a narrow body of land that connects two bodies of water. Tectonic shifts can lead to straits like this. One strait that was formed by tectonic activity is the Strait of Gibraltar, the only link between the Mediterranean Sea and the Atlantic Ocean.

Q. 17. Troposphere is a very significant atmospheric layer that determines weather processes. How? (Answer in 250 words)

Ans. The troposphere is the lowest layer of the atmosphere which is characterized by a temperature that decreases with altitude. The top of the troposphere is called the tropopause (occurs at an altitude of 18 km at the equator but only 8 km at the poles). Earth's troposphere contains 80% of the mass and most of the water vapour in the atmosphere, and consequently most of the clouds and stormy weather. Vertical mixing is an important process in the troposphere.

In the troposphere, water vapour (upto ~1% of air) varies spatially and decreases rapidly with altitude. The

water vapour mixing ratio in the stratosphere and above is almost four orders of magnitude smaller than that in the tropical lower troposphere.

Q. 18. Analyse the salience of 'sect' in Indian society vis-à-vis caste, region and religion.

(Answer in 250 words)

Ans. The social truth of the sect is rooted in the sect action. It is an act related to the system of worship. It is a complex mixture of emotions and attitudes, symbols (postures, words, rituals, and practices) and is primarily concerned with the sacred power and beyond the transcendental. It is related to co-action and social boundary. Under this, the relationship between the general and the priestly class is not negligible, but it is definitely in the second place.

The Sect is a voluntary organization. It is open to all who wish to join and participate in it. It is open to all who wish to attend and participate, but where it is secret it becomes highly exclusive. The sect is generally not strict except in economic matters, although it tends to encourage its members to follow its ideology and well-defined rituals. A sect emphasizes a principle above all else or focuses on a god and goddess with a view to certain characteristics.

Cults develop more rapidly in metropolitan cities where culturally different people are forced to live together and they experience rapid social change. This view creates conditions of uncertainty and powerlessness and as a result, the problem of harmony arises. The cults help in resolving these situations.

Q. 19. Are tolerance, assimilation and pluralism the key elements in the making of an Indian form of secularism? Justify your answer.

(Answer in 250 words)

Ans. Secularism is a complex and dynamic concept. This concept was first used in Europe. It is an ideology in which the ideas related to religion are deliberately kept away from the matters related to the world, that is kept neutral. Secularism prevents the state from providing patronage to a particular religion.

The Indian philosophy of secularism is related to 'servadharma sambhav' (literally meaning that the

paths followed by all religions have the same destination, though the paths themselves may differ) which means equal respect for all religions. Secularism. This model of government is adopted by Western societies where government is completely separate from religion (i.e., separation of church and state).

India does not accept any religion as official. Nor does it profess allegiance to any particular religion. India has no official state religion. However, individual laws differ in matters such as marriage, divorce, inheritance, alimony. There is fairness in religion. India does not bar matters of any specific religion. It respects all religions equally. It assures religious freedom to the members of all religions. Citizens are free to choose and practice their religion. Indian secularism is a means to remove religious pluralism and is not an end in itself. It tried to achieve peaceful coexistence of different religions. In this way we can say that tolerance, inclusion and plurality are the main elements which constitute the Indian form of secularism.

Q. 20. Elucidate the relationship between globalization and new technology in a world of scarce resources, with special reference to India.

(Answer in 250 words)

Ans. Advancements in technology have considerably facilitated globalization. In fact technological progress has been one of the main forces driving globalization. Technological breakthroughs compel business enterprises to become global by increasing the economies of scale and the market size needed to break even. Technological advancements reduce costs of transportation and communication across nations and thereby facilitate global sourcing of raw materials and other inputs. Patented technology encourages globalization as the firm owning the patent can exploit foreign markets without much competition. Information technology has led to the emergence of the global village. For example, the World Wide Web has reduced the barriers of time and place in business dealings. Buyers and sellers can now make transactions at any time and any part of the globe. Technological change also affects investments. Earlier, high technology production was limited to rich countries with high wages. Now technology is easily transferable to developing countries like India where high tech production can be combined with low wages. A large number of firms in advanced countries are now outsourcing labour intensive services from developing.

UPKAR'S

An Objective History of

English Literature

Through
Multiple-Choice Questions

For

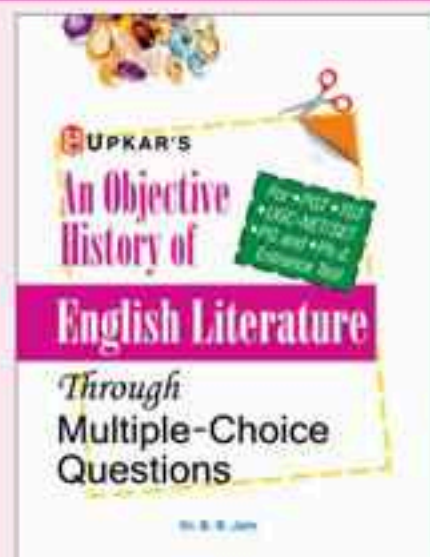
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(Held on 27-12-2021)

Home Science

1. When was the POSHAN abhiyaan launched ?
 (A) 8 March, 2018
 (B) 26 January, 2018
 (C) 1 May, 2018
 (D) 30 April, 2018
2. What are Sequestrants ?
 (A) They are added to keep the food stable
 (B) Form a complex ion with metals like copper, iron etc.
 (C) Added for colour
 (D) They keep the food oxidized
3. Vitamin D₂ is also known as—
 (A) Retinol
 (B) Cholecalciferol
 (C) Tocopherol
 (D) Ergocalciferol
4. When the food is directly given in the veins, it is called ?
 (A) Parenteral nutrition
 (B) Enteral nutrition
 (C) Nasogastric nutrition
 (D) Saline nutrition
5. The time and temperature used for the pasteurisation of milk is—
 (A) 72 C/15 min.
 (B) 72 C/15 sec.
 (C) 72 C/30 min.
 (D) 72 C/30 sec.
6. In order to pursue the research, which of the following is pre required ?
 (A) Developing a research design
 (B) Formulating a research question
 (C) Deciding about the data analysis procedure
 (D) Formulating a research hypothesis
7. Any two immiscible liquid when mixed together form an—
 (A) Aerosol (B) Emulsion
 (C) Gel (D) Sol
8. Symptoms of thiamin deficiency are—
 (a) Peripheral neuropathy
 (b) Photophobia
 (c) Cardiomegaly
 (d) Koilonychia
 (e) Tachycardia
 Choose the correct answer from the options given ahead—
 (A) (a), (b) and (d) only
 (B) (c), (d) and (e) only
 (C) (a), (c) and (e) only
 (D) (b), (d) and (e) only
9. Proteins present in milk are—
 (a) Lactalbumins
 (b) Lactoglobulins
 (c) Casein
 (d) Ovalbumin
 (e) Myosin
 Choose the correct answer from the options given below—
 (A) (a), (b) and (c) only
 (B) (a), (c) and (e) only
 (C) (b), (c) and (d) only
 (D) (c), (d) and (e) only
10. Identify the names of essential fatty acids—
 (a) Linoleic (b) Butyric
 (c) Linolenic (d) Myristic
 (e) Arachidonic
 Choose the correct answer from the options given below—
 (A) (a), (c) and (d) only
 (B) (c), (d) and (e) only
 (C) (a), (c) and (e) only
 (D) (b), (d) and (e) only
11. Major symptoms of diabetes are—
 (a) Polyuria (b) Glossitis
 (c) Acidosis (d) Tachycardia
 (e) Nocturia
 Choose the correct answer from the options given below—
 (A) (a), (b) and (d) only
 (B) (a), (c) and (e) only
 (C) (a), (b) and (e) only
 (D) (a), (c) and (d) only
12. Match the food additives given in List-I with their functions in List-II—
List-I
 (Food additives)
 (a) Yeast
 (b) Soy lecithin
 (c) Butylated hydroxyl toluene
 (d) Benzoyl peroxide
 (e) Calcium sorbate
List-II
 (Functions)
 1. Emulsifier
 2. Antioxidant
 3. Bleaching agent
 4. Preservative
 5. Leavening
 Choose the correct answer from the options given below—
- | | (a) | (b) | (c) | (d) | (e) |
|-----|-----|-----|-----|-----|-----|
| (A) | 2 | 3 | 1 | 4 | 5 |
| (B) | 5 | 1 | 3 | 4 | 2 |
| (C) | 5 | 1 | 2 | 3 | 4 |
| (D) | 5 | 1 | 2 | 4 | 3 |
13. Match biochemical tests in List-I with nutritional deficiency disease in List-II—
List-I
 (Biochemical test)
 (a) Serum albumin
 (b) Haemoglobin
 (c) Urinary iodine
 (d) Serum retinol
List-II
 (Nutritional deficiency disease)
 1. Vitamin A deficiency
 2. Goitre
 3. Kwashirkar
 4. Anaemia
 Choose the correct answer from the options given below—
- | | (a) | (b) | (c) | (d) |
|-----|-----|-----|-----|-----|
| (A) | 4 | 1 | 3 | 2 |
| (B) | 3 | 1 | 2 | 4 |
| (C) | 2 | 3 | 4 | 1 |
| (D) | 3 | 4 | 2 | 1 |

14. Match vitamins given in List-I with their functions in List-II—

List-I

(Vitamins)

- (a) Vitamin B12
(b) Vitamin A
(c) Vitamin E
(d) Thiamin

List-II

(Functions)

1. Protection of PUFA from oxidative damage
2. Role in carbohydrate metabolism
3. Role in formation of normal RBC
4. Integrity of epithelial tissues

Choose the correct answer from the options given below—

- | | (a) | (b) | (c) | (d) |
|-----|-----|-----|-----|-----|
| (A) | 3 | 4 | 2 | 1 |
| (B) | 3 | 1 | 2 | 4 |
| (C) | 2 | 1 | 3 | 4 |
| (D) | 3 | 4 | 1 | 2 |

15. Arrange the stages of new food product development—

- (a) Idea generation
(b) Product development
(c) Screening
(d) Commercialization
(e) Concept development

Choose the correct answer from the options given below—

- (A) (a), (c), (d), (b), (e)
(B) (a), (c), (b), (d), (e)
(C) (a), (c), (e), (b), (d)
(D) (a), (b), (e), (c), (d)

16. Given below are two statements, one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**—

Assertion (A) : Calcium requirements during lactation are higher than during pregnancy.

Reason (R) : As lactating women lose bone mass during breast feeding because less estrogen hormone is produced.

In light of the above statements, choose the correct answer from the options given below—

- (A) Both (A) and (R) are true and (R) is the correct explanation of (A)
(B) Both (A) and (R) are true, but (R) is not the correct explanation of (A)

- (C) (A) is true, but (R) is false
(D) (A) is false, but (R) is true

17. By mistake you have over blueed your clothes, which of the following reagents you would use to rectify the fault ?

- (A) Acetic acid
(B) Borax
(C) Sodium chloride
(D) Oxalic acid

18. Which of the following apparel production systems is based on teamwork and shared responsibility for quantity and quality of output ?

- (A) Progressive bundle system
(B) Unit production system
(C) Modular production system
(D) Customized production system

19. Light fastness ratings are in the range of—

- (A) 1-5 (B) 1-6
(C) 1-7 (D) 1-8

20. Which of the following is a knit fabric that uses fine worsted yarns ?

- (A) Inlay (B) Zephyr
(C) Intarsia (D) Shaker

21. For making a dress with kasuti embroidery, which of the following motifs will you use ?

- (A) Gopuram
(B) Tulsi Vrindavan
(C) Nandi
(D) Chokla

22. Reactive dyes from the following bonds with the fiber—

- (A) Ionic
(B) Hydrogen
(C) Van-der-waals forces
(D) Covalent

23. Which of the following is not an advantage of plasma technology ?

- (A) Increases abrasion resistance
(B) Increases dyeing speed
(C) Assists bio-scouring
(D) Gives liquid repellency

24. Shifting of darts from one place to other changes the—

- (a) Fit of the garment
(b) Amount of dart control
(c) Shape of the pattern
(d) Design of the garment

Choose the correct answer from the options given below—

- (A) (a) and (b) only
(B) (b) and (c) only
(C) (c) and (d) only
(D) (a) and (d) only

25. For making a dress for yourself in a plain-woven fabric, which of the following fabrics will you use ?

- (a) Percale (b) Flannel
(c) Burlap (d) Chino
(e) Moleskin

Choose the correct answer from the options given below—

- (A) (a), (b) and (c) only
(B) (b), (c) and (d) only
(C) (c), (d) and (e) only
(D) (a), (b) and (d) only

26. Which of the following factors favour fashion ?

- (a) Advertising
(b) Transportation and communication
(c) Political Instability
(d) Sumptuary laws
(e) An economy of abundance

Choose the correct answer from the options given below—

- (A) (a), (b) and (c) only
(B) (b), (c) and (d) only
(C) (c), (d) and (e) only
(D) (a), (b) and (e) only

27. Which of the following are examples of condensation polymer ?

- (a) Acrylic (b) Modacrylic
(c) Polyester (d) Nylon

Choose the correct answer from the options given below—

- (A) (a), (b) only
(B) (b), (c) only
(C) (c), (d) only
(D) (a), (d) only

28. Given below are two statements, one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**—

Assertion (A) : Overweight people look heavier in stiff fabrics.

Reason (R) : These fabrics stand away from the body creating an illusion of additional thickness.

In light of the above statements, choose the most appropriate answer from the options given below—

- (A) Both (A) and (R) are correct and (R) is the correct explanation of (A)
 (B) Both (A) and (R) are incorrect
 (C) (A) is correct, but (R) is not correct
 (D) (A) is not correct, but (R) is correct

29. Match the hip types given in List-I with their description given in List-II—

List-I

(Figure Types)

- (a) Ideal Type
 (b) Square Shaped
 (c) Heart Shaped
 (d) Diamond Shaped

List-II

(Description)

1. Curves diagonally outwards from waist to hip.
2. Curves outward abruptly from waist and rounds sharply inwards.
3. Curves outward gradually from waist and round over hip bone.
4. Curves outward abruptly from waist and falls straight to hips.

Choose the correct answer from the options given below—

- | | (a) | (b) | (c) | (d) |
|-----|-----|-----|-----|-----|
| (A) | 3 | 4 | 2 | 1 |
| (B) | 1 | 4 | 2 | 3 |
| (C) | 3 | 2 | 1 | 4 |
| (D) | 4 | 1 | 3 | 2 |

30. Match the colour problems given in List-I with their description given in List-II—

List-I

(Colour problems)

- (a) Frosting (b) Tendering
 (c) Barre (d) Metamerism

List-II

(Description)

1. Weak areas in a fabric resulting from chemical damage.
2. Horizontal off shade band across fabric.
3. Same colour appears different under different light sources.
4. Change of colour due to localized abrasive wear.
5. Unintentional shade variation within a piece of fabric.

Choose the correct answer from the options given below—

- | | (a) | (b) | (c) | (d) |
|-----|-----|-----|-----|-----|
| (A) | 4 | 1 | 2 | 3 |
| (B) | 1 | 5 | 2 | 3 |
| (C) | 3 | 2 | 1 | 5 |
| (D) | 4 | 1 | 3 | 2 |

31. Give the correct sequence of cotton spinning system—

- (a) Drawing (b) Carding
 (c) Blending (d) Roving
 (e) Spinning (f) Picking

Choose the correct answer from the options given below—

- (A) (a), (b), (d), (e), (c), (f)
 (B) (c), (a), (d), (b), (f), (e)
 (C) (c), (f), (b), (a), (d), (e)
 (D) (c), (a), (b), (d), (f), (e)

32. Give the correct sequence of converting the waist dart of the bodice into two French darts—

- (a) Trace the front bodice
 (b) Locate the position and draw the lines for the number of French darts required
 (c) Cut on the French dart lines
 (d) Close the waist dart
 (e) Shorten the darts and connect the end of the dart lines to the apex
 (f) Draw the line for the French dart
 (g) Distribute the dart control equally

Choose the correct answer from the options given below—

- (A) (a), (b), (d), (e), (g), (c), (f)
 (B) (c), (a), (d), (b), (f), (g), (e)
 (C) (b), (a), (d), (e), (f), (g), (c)
 (D) (a), (f), (b), (e), (c), (d), (g)

33. A comorbid means—

- (A) a disorder or condition that may co-occur with another disorder or condition
 (B) absence of diseases or medical conditions
 (C) a cognitive impairment can shorten lifespan
 (D) a condition can appear independently and have a detrimental effect on performance

34. A fifth-grade student with autism spectrum disorder (ASD) attends a general education class full time with support from a special education teacher. Which of the following would be the

most effective way for the Individualized Education Program (IEP) team to integrate social skills training into the general academic curriculum for this student?

- (A) Incorporate individual counseling services into the student's IEP
 (B) Establish clear expectations for appropriate classroom behaviour
 (C) Assign the student a one-on-one aide to model appropriate behaviour
 (D) Include peer-to-peer supports in the general education class as part of the student's IEP

35. Ethological theory of attachment was proposed by—

- (A) Jean Piaget (B) Pavlov
 (C) Erik Erikson (D) Bowlby

36. A special education teacher is participating in a three-year reevaluation of a high school student with an intellectual disability. As part of an assessment, the teacher accompanies the student to a store and asks the student to locate and purchase an item. This is an example of which of the following types of assessments?

- (A) Ecological (B) Portfolio
 (C) Authentic (D) Interview

37. One of the reasons for using drugs by the Adolescents is—

- (A) Pleasurable feelings
 (B) Thrill of doing something illegal
 (C) Parental Pressure
 (D) Escape from everyday life

38. Compared to younger adults, middle aged adults who lose their jobs—

- (A) Tend to stay unemployed longer and have fewer opportunities for gratifying work as they age
 (B) Tend to find jobs quickly because of their skills but find it difficult to stay employed
 (C) Find it difficult to get new jobs, but once employed have a stable work history
 (D) Are less likely to become depressed, which makes it easier for them to obtain employment

39. What is the focus of younger preschoolers and older preschoolers respectively when they indulge in play?

- (A) Shared activities; trust and shared interest
- (B) Trust and shared interest; Shared activities
- (C) Parallel play; Solitary play
- (D) Communicative play; non-verbal play

40. One of the reading readiness skills is the development of comprehension that includes—

- (a) Ability to arrange a picture story with events in the correct sequence.
- (b) Ability to tell some personal experience.
- (c) Ability to write his or her name.
- (d) Ability to answer questions about a story which has been read and tell it in simple words.

Choose the correct answer from the options given below—

- (A) (a), (b), (c) and (d) only
- (B) (b), (c) and (d) only
- (C) (a), (b) and (d) only
- (D) (b), (c) and (a) only

41. Egocentric thoughts can involve—

- (a) The lack of awareness that others see things from a different physical perspective.
- (b) The inability to present their own perspectives to others.
- (c) Failure to realize that others may hold thoughts, feelings and points of view that differ from theirs.
- (d) Being intentionally selfish and inconsiderate.

Choose the correct answer from the options given below—

- (A) (a) and (b) only
- (B) (a) and (c) only
- (C) (b) and (c) only
- (D) (b) and (d) only

42. The major principles that govern growth are—

- (a) Cephalocaudal Principle
- (b) Proximodistal Principle
- (c) Principle of Hierarchical Integration
- (d) Principle of the independence of systems

Choose the correct answer from the options given below—

- (A) (a), (b), (c) and (d) only
- (B) (a), (b) and (c) only
- (C) (a) and (b) only
- (D) (c) and (d) only

43. Which type of speech is used in the example : Like other 2-year-olds, Arjun can say, "Ma bye, bye" and "ball broken".

Which type of speech is used in the example : When 9-month-old Radha's mother talks to her, she uses short, simple sentences, repetitive words and higher pitches.

- (a) Holophrastic
- (b) Telegraphic
- (c) Interpretive
- (d) Infant-directed

Choose the correct answer from the options given below—

- (A) (a) and (d) only
- (B) (a) and (c) only
- (C) (b) and (c) only
- (D) (b) and (d) only

44. List-I and List-II contain Basic Virtue and Erikson's Psychosocial stages respectively—

List-I

(Basic Virtue)

- (a) Hope
- (b) Will
- (c) Purpose
- (d) Competency
- (e) Fidelity

List-II

(Erikson's Psychosocial stages)

1. Autonomy Vs. Shame
2. Initiative Vs. Guilt
3. Trust Vs. Mistrust
4. Identity Vs. Role Confusion
5. Industry Vs. Inferiority

Choose the correct answer from the options given ahead—

- | | (a) | (b) | (c) | (d) | (e) |
|-----|-----|-----|-----|-----|-----|
| (A) | 3 | 1 | 2 | 5 | 4 |
| (B) | 1 | 3 | 2 | 5 | 4 |
| (C) | 2 | 1 | 3 | 4 | 5 |
| (D) | 3 | 2 | 1 | 4 | 5 |

45. Match List-I with List-II—

List-I and List-II contain the description of prenatal development and their labels respectively—

List-I

(Description of Prenatal Development)

- (a) This stage lasts from 8 weeks until birth and involves the differentiation of major organs.
- (b) From 2 to 8 weeks following fertilization, when the major organs and basic anatomy begin developing.
- (c) The first and shortest stage, where the zygote begins to divide and grow in complexity during the first 2 weeks following conception.

List-II

(Labels)

1. Embryonic
2. Germinal
3. Fetal

Choose the correct answer from the options given below—

- | | (a) | (b) | (c) |
|-----|-----|-----|-----|
| (A) | 1 | 3 | 2 |
| (B) | 3 | 1 | 2 |
| (C) | 2 | 1 | 3 |
| (D) | 3 | 2 | 1 |

46. Arrange the four phases of Adult Development as given by Cohen in sequence—

- (a) Encore
- (b) Liberation
- (c) Midlife Re-evaluation
- (d) Summing Up

Choose the correct answer from the options given below—

- (A) (a), (b), (c), (d)
- (B) (b), (d), (a), (c)
- (C) (a), (b), (d), (c)
- (D) (c), (b), (d), (a)

47. According to Lawrence Kohlberg's theory, the development of moral reasoning takes place in six stages. Arrange these stages in sequence—

- (a) Universal Ethical principles
- (b) Authority and maintaining social order
- (c) Interpersonal Accord and Conformity
- (d) Social Contract
- (e) Self-interest
- (f) Obedience and Punishment

Choose the correct answer from the options given below—

- (A) (a), (b), (c), (d), (e), (f)
- (B) (b), (d), (a), (f), (e), (c)
- (C) (f), (e), (c), (b), (d), (a)
- (D) (c), (b), (d), (e), (f), (a)

48. Given below are two statements, one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**—
Assertion (A) : Communication serves to construct as well as reflect family relationships.
Reason (R) : Family member spend to much time with each other, they use and understand communication shortcuts and idiosyncrasies that may elude an outsider.
 In light of the above statements, choose the correct answer from the options given below—
 (A) Both (A) and (R) are true and (R) is the correct explanation of (A)
 (B) Both (A) and (R) are true, but (R) is not the correct explanation of (A)
 (C) (A) is true, but (R) is false
 (D) (A) is false, but (R) is true
49. Muster rolls are prepared under the programme—
 (A) SGSY (B) MDM
 (C) NHM (D) MGNREGA
50. Which one of the following is not a component of the services offered under ICDS ?
 (A) Immunization
 (B) Referral Services
 (C) Formal Education
 (D) Supplementary Nutrition
51. Licence to operate Community Radio stations is granted by—
 (A) State Governments
 (B) Ministry of information and Broadcasting
 (C) Prasar Bharti Corporation
 (D) Department of Telecommunications
52. International Literacy day is celebrated on—
 (A) 8th March
 (B) 8th May
 (C) 8th September
 (D) 8th November
53. PCPNDT Act was enacted to prevent—
 (A) Child Labour
 (B) Sex Selective Abortions
 (C) Domestic Violence
 (D) Dowry
54. The process of assessing the progress of a project based on pre-determined indicators of the programme is called—
 (A) Feedback
 (B) Feed Forward
 (C) Monitoring
 (D) Planning
55. Which of the following features can be studied through 'Mapping' while conducting PLAs ?
 (A) Natural Resources
 (B) Priority Patterns
 (C) Conflict Resolutions
 (D) Problem Solving
56. Common elements between BCC and Advocacy are—
 (a) Both rely on persuasion techniques.
 (b) Both seek to bring in behaviour change.
 (c) Both need strategic planning
 (d) Both use only intrapersonal communication.
 (e) Both can work only with people at the grassroots.
 Choose the correct answer from the options given below—
 (A) (b), (c) and (e) only
 (B) (a), (b) and (c) only
 (C) (c), (d) and (e) only
 (D) (a), (c) and (e) only
57. Which of the following can be used for outdoor publicity ?
 (a) Flash Cards (b) Bill Boards
 (c) Kiosks (d) Banners
 (e) Flip Charts
 Choose the correct answer from the options given below—
 (A) (a), (b) and (c) only
 (B) (b), (c) and (d) only
 (C) (c), (d) and (e) only
 (D) (a), (c) and (e) only
58. The communication process is always—
 (a) Systematic
 (b) Transactional
 (c) Universal
 (d) Functional
 (e) Interactional
 Choose the correct answer from the options given below—
 (A) (a), (b) and (c) only
 (B) (a), (c) and (d) only
 (C) (b), (c) and (d) only
 (D) (a), (c) and (e) only
59. The major functions of KVKs in Extension are—
 (a) Organizing vocational training for rural youth.
 (b) Organizing training for farmers.
 (c) Providing loans to farmers.
 (d) Providing labour for farming activities.
 (e) Conducting research for new farming technologies.
 Choose the correct answer from the options given below—
 (A) (a), (b) and (c) only
 (B) (a), (b) and (d) only
 (C) (a), (b) and (e) only
 (D) (b), (c) and (d) only
60. Match List-I with List-II—
List-I
(Theories of Mass Communication)
 (a) Authoritarian Theory
 (b) Liberatarian Theory
 (c) Social Responsibility Theory
 (d) Development Media Theory
List-II
(Characteristic Features of Theories)
 1. Media assist in the growth of society
 2. Media are responsible
 3. Media are free
 4. Media are controlled
 5. Media are agents of government
 Choose the correct answer from the options given below—

	(a)	(b)	(c)	(d)
(A)	2	3	4	5
(B)	3	2	4	5
(C)	4	3	2	1
(D)	5	3	2	1
61. Match List-I with List-II—
List-I
(Adopter categories)
 (a) Innovators
 (b) Early Adopters
 (c) Early Majority
 (d) Laggards
List-II
(Estimated distribution in population)
 1. 13.5% 2. 2.5%
 3. 16% 4. 34%
 5. 44%
 Choose the correct answer from the options given below—

	(a)	(b)	(c)	(d)
(A)	2	4	5	1
(B)	2	1	4	3
(C)	3	1	2	5
(D)	3	4	2	5

62. Arrange the following terms in the increasing order of complexity as per the Bloom's Taxonomy of Objectives—

- (a) Creating
- (b) Applying
- (c) Understanding
- (d) Evaluating
- (e) Analysing

Choose the correct answer from the options given below—

- (A) (a), (c), (d), (e), (b)
- (B) (b), (d), (e), (a), (c)
- (C) (c), (b), (e), (d), (a)
- (D) (d), (e), (b), (c), (a)

63. Arrange the steps of Programme planning in a sequential order—

- (a) Identify the Problem
- (b) Analyse Situation
- (c) Collection of facts
- (d) Develop a plan of work
- (e) Decide on the objectives

Choose the correct answer from the options given below—

- (A) (a), (b), (c), (d), (e)
- (B) (b), (c), (d), (e), (a)
- (C) (c), (b), (a), (e), (d)
- (D) (d), (b), (c), (a), (e)

64. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R)—

Assertion (A) : Strategy for behaviour change must include providing communication that might trigger individuals to make decisions.

Reason (R) : Internal and external factors may serve as cues to action.

In light of the above statements, choose the most appropriate answer from the options given below—

- (A) Both (A) and (R) are correct and (R) is the correct explanation of (A)
- (B) Both (A) and (R) are correct, but (R) is not the correct explanation of (A)
- (C) (A) is correct, but (R) is not correct
- (D) (A) is not correct, but (R) is correct

65. Which one of the following is not the characteristic of scientific research ?

- (A) Precision
- (B) Objectivity

- (C) Systematisation
- (D) Speculation

66. Identify the pure research problem from the following—

- (A) Vocational interests of adolescent girls
- (B) Role of ICT's is empowering rural women
- (C) Estimating time and energy consumption in use of solar cooker
- (D) Entrepreneurial activities of rural women

67. The crucial weakness encountered in laboratory experiment is—

- (A) Control
- (B) Manipulation
- (C) Accuracy
- (D) Time

68. The parametric tests are used when—

- (A) Variables are qualitative
- (B) Distribution is normal
- (C) Data is skewed
- (D) Observations are independent

69. Which data collection tool is appropriate for the study of job satisfaction of KVK professionals ?

- (A) Interview
- (B) Aptitude
- (C) Questionnaire
- (D) Interest inventories

70. The advantages of using probability sampling are—

- (a) Perfect control on extraneous variables
- (b) Convenient when sample is very small
- (c) Absence of sampling biasness
- (d) Lesser degree of judgement
- (e) Faster and cost effective

Choose the correct answer from the options given below—

- (A) (a), (c) and (d) only
- (B) (b), (d) and (e) only
- (C) (a), (d) and (e) only
- (D) (c), (d) and (e) only

71. Match List-I with List-II—

List-I

(Variables)

- (a) Experimental
- (b) Organismic
- (c) Assigned
- (d) Dependent

List-II

(Characteristics)

1. Cannot be altered by researcher.
2. Uncontrolled but have significant effect on dependent variable.
3. Manipulated.
4. Measurable, can't be manipulated.
5. Is the presumed cause of dependent variable.

Choose the correct answer from the options given below—

- | | (a) | (b) | (c) | (d) |
|-----|-----|-----|-----|-----|
| (A) | 2 | 1 | 4 | 3 |
| (B) | 4 | 5 | 3 | 1 |
| (C) | 5 | 3 | 2 | 4 |
| (D) | 3 | 1 | 4 | 5 |

72. The sequential steps of constructing Thurstone Equal Appearing Interval attitude scale are—

- (a) Collection and Editing of items
- (b) Calculating Scale and Q values
- (c) Finalization of items
- (d) Sorting items on different continuum
- (e) Administration

Choose the correct answer from the options given below—

- (A) (a), (c), (d), (e)
- (B) (a), (d), (b), (c)
- (C) (c), (a), (d), (b)
- (D) (d), (b), (c), (e)

73. What is the correct sequence of statistical analysis of data ?

- (a) Gathering (b) Analysing
- (c) Organizing (d) Interpreting

Choose the correct answer from the options given below—

- (A) (b), (a), (c), (d)
- (B) (a), (c), (b), (d)
- (C) (a), (b), (d), (c)
- (D) (c), (a), (b), (d)

74. Given below are two statements, one is labelled as Assertion (A) and the other is labelled as Reason (R)—

Assertion (A) : Statistics is the servant (not master) of logic rather than an end of research.

Reason (R) : Careful collection and logical analysis of data contributes more to the search of truth than statistics.

In light of the above statements, choose the correct answer from the options given below—

- (A) Both (A) and (R) are true and (R) is the correct explanation of (A)
- (B) Both (A) and (R) are true, but (R) is not the correct explanation of (A)
- (C) (A) is true, but (R) is false
- (D) (A) is false, but (R) is true

75. Per minute calorie consumption for moderate activities is—

- (A) 1.4–2.0 calories
- (B) 1.5–2.5 calories
- (C) 2.0–3.5 calories
- (D) 3.0–4.5 calories

76. What type of adaptation it is where humans exhibit the capacity of being moulded ?

- (A) Genetic
- (B) Plasticity
- (C) Acclimatization
- (D) Behavioural adaptation

77. Quarternary Purple is—

- (A) $38 + 3Y + 2R$
- (B) $2R + 2B + 2Y$
- (C) $3Y + 3R + 2B$
- (D) $3R + 3B + 2Y$

78. The general guidelines of work height for the task where there is frequent use of eyes and infrequent use of hands are—

- (A) 2–8 cm below eye level
- (B) 3–10 cm below eye level
- (C) 5–10 cm below eye level
- (D) 8–12 cm below eye level

79. The group of commodities listed in the essential commodities act is—

- (A) Iron, steel, petroleum, Aluminum
- (B) Coal, steel, cotton, steel, plastic
- (C) Paper, drugs, brass, steel
- (D) Coal, cotton textile, iron, petroleum products

80. Which colour combinations are used in achromatic colour schemes ?

- (A) Value variation of neutral colours
- (B) Secondary colours
- (C) Primary colours
- (D) Opposite colours

81. Project size is decided by—

- (A) Government
- (B) Financial institutions
- (C) Project formulation team
- (D) Project engineer

82. Identify from the list the values of working environment—

- (a) Punctuality
- (b) Creativity
- (c) Variety in work
- (d) Economic reward
- (e) Flexibility

Choose the correct answer from the options given below—

- (A) (a), (b) and (c) only
- (B) (b), (d) and (e) only
- (C) (b), (c) and (d) only
- (D) (a), (c) and (e) only

83. The expected standards of a consumer education material are—

- (a) Accuracy
- (b) Completeness
- (c) Commercial
- (d) Objectivity
- (e) Discriminatory

Choose the correct answer from the options given below—

- (A) (a), (c) and (d) only
- (B) (a), (b) and (d) only
- (C) (a), (d) and (e) only
- (D) (b), (d) and (e) only

84. From the list given below which are the indicators of static work—

- (a) Increased muscle blood flow
- (b) Sustained muscle contraction
- (c) Increased muscle oxygen production
- (d) Oxygen independent energy production
- (e) Glycogen and blood sugar is used to produce energy

Choose the correct answer from the options given below—

- (A) (a), (b) and (c) only
- (B) (b), (c) and (e) only
- (C) (b), (d) and (e) only
- (D) (a), (b) and (d) only

85. From the styles given below which of the following styles are part of Late Georgian Style—

- (a) Adam
- (b) William and Marry
- (c) Happle White
- (d) Chippendale
- (e) Shearton

Choose the correct answer from the options given below—

- (A) (b), (c), (d) and (e) only
- (B) (a), (c), (d) and (e) only
- (C) (a), (b), (d) and (e) only
- (D) (a), (b), (c) and (d) only

86. Match List-I with List-II—

List-I

(Project appraisal dimensions)

- (a) Economic appraisal
- (b) Technical appraisal
- (c) Organizational appraisal
- (d) Managerial appraisal
- (e) Operational appraisal
- (f) Financial appraisal

List-II

(Activity)

1. Suitability is examined
2. Determines financial viability
3. Scale of project and the process adopted
4. Adequacy and competencies are scrutinized
5. Indicates priority use
6. Capability of project is judged

Choose the correct answer from the options given below—

- | | (a) | (b) | (c) | (d) | (e) | (f) |
|-----|-----|-----|-----|-----|-----|-----|
| (A) | 1 | 2 | 6 | 5 | 4 | 3 |
| (B) | 5 | 3 | 1 | 4 | 6 | 2 |
| (C) | 3 | 6 | 4 | 2 | 5 | 1 |
| (D) | 3 | 1 | 5 | 2 | 6 | 4 |

87. Match List-I with List-II—

List-I

- (a) E.L. Nino
- (b) Green house effect
- (c) Desertification
- (d) Deforestation
- (e) Commensalism

List-II

1. An interaction where one organism beneficially affects second organism.
2. A practice/process that tends to 'long term change' in land to non-forest uses.
3. The progressive warming of the earth's atmospheric temperature due to insulating effect of CO₂ and other similar gases.
4. A periodic rise in temperature of the Eastern Pacific.
5. Degrading a once fertile land.

Choose the correct answer from the options given below—

- | | | | | | |
|-----|-----|-----|-----|-----|-----|
| | (a) | (b) | (c) | (d) | (e) |
| (A) | 1 | 2 | 3 | 5 | 4 |
| (B) | 3 | 1 | 4 | 2 | 5 |
| (C) | 3 | 1 | 5 | 2 | 4 |
| (D) | 4 | 3 | 5 | 4 | 1 |

88. Arrange the steps of organization process in sequence—

- (a) Delegating the work
- (b) Grouping activities
- (c) Delegation of authority
- (d) Identifying and classifying the activities
- (e) Coordination

Choose the correct answer from the options given below—

- (A) (d), (b), (c), (a), (e)
- (B) (a), (b), (c), (d), (e)
- (C) (b), (a), (d), (c), (e)
- (D) (d), (c), (a), (b), (e)

89. Arrange the steps of buying process in sequence—

- (a) Evaluate the product
- (b) Exchange product with money
- (c) Find the product
- (d) Recognise the need
- (e) Develop interest in the product

Choose the correct answer from the options given below—

- (A) (b), (a), (c), (d), (e)
- (B) (d), (c), (e), (a), (b)
- (C) (d), (e), (c), (a), (b)
- (D) (a), (d), (c), (b), (e)

90. Given below are two statements, one is labelled as **Assertion (A)** and the other is labelled as **Reason (R)**—

Assertion (A) : The colour of ripe watermelon is higher in strength as compared to colour of strawberry ice cream.

Reason (R) : The colours at normal value as in watermelon are always in their pure form and thus are full intensity colours.

In light of the above statements, choose the most appropriate answer from the options given below—

- (A) Both (A) and (R) are correct and (R) is the correct explanation of (A)
- (B) Both (A) and (R) are correct, but (R) is not the correct explanation of (A)

(C) (A) is correct, but (R) is not correct

(D) (A) is not correct, but (R) is correct

Directions—(Q. 91 to 95) Read the passage carefully and answer the question—

After ratification of the United Nation's Convention on the Rights of the Child (UNCRC) in 1992, India changed its law on juvenile to ensure that every person below the age of 18 years of age, who is in need of care and protection, is entitled to receive it from the state. The National Commission for Protection of Child Rights (NCRC) was set up in March 2007 under the Commission for Protection of Child Rights Act, 2005. The constitution of India guarantees all the children certain rights which include—(i) Right to free and compulsory elementary education for all children between the age group of 6–14 years; (ii) Right to be protected from any hazardous employment till the age of 14 years; (iii) Right to be protected from being abused and forced by economic necessity to enter occupation unsuited to their age or strength; (iv) Right to equal opportunities and facilities to develop in a healthy manner. However, despite having so many legal instruments the children in India are still not secured. Several indicators are showing how the Child Rights are being violated in different parts of our country whose plausible social and economic consequences would be more dangerous. Child Abuse is another dangerous part of erosion which silently kills the potential and development spurt of many children. We still live in a tabooed society in our country, where no-proper sex education is provided to the children. Children get molested and abused but due to ignorance, they fail to protest and keep on becoming victim of exploitation for long.

91. Which is one of the dangerous things done to the children that silently kills the potential and development spurt of many children ?

- (A) Child rights
- (B) Child abuse
- (C) Sex education
- (D) Child protection

92. This is not the right of a child—
(A) Right to free and compulsory elementary education for all children between the age group 6–14 years

(B) Right to be protected from being abused and forced by economic necessity to enter occupation unsuited to their age or strength

(C) Right to be protected from any hazardous employment till the age of 16 years

(D) Right to equal opportunities and facilities to develop in a healthy manner

93. Child abuse occurs in India but it not reported and children fail to protest because—

- (A) Children are not vulnerable
- (B) Children are ignorant
- (C) Child rights are being violated
- (D) Children don't have any right

94. The full form of UNCRC is—
(A) United Nations Child Right Commission

(B) United Nations Convention on the Rights of the Child

(C) Union of Nations for Child Rights Convention

(D) United Nations for Child Resource Commission

95. Right to free and compulsory elementary education for all children covers the children between the age group of—

- (A) 3–6 years
- (B) 3–18 years
- (C) 6–14 years
- (D) 6–18 years

Directions—(96 to 100) Read the passage carefully and answer the question—

New technology does not remove the need to employ systematic approach to Communication for Development. Well-designed mobile content is often informed by local tastes so that people can identify with the content. The content needs to be 'sticky' so that the user wants to return to it again and again. It could be conveniently used by frontline social workers, easily understood by the masses and easy to recall.

Creative techniques are used to make educational content engaging and entertaining. 'Mobile kunji', an innovative audio visual job aid

developed by BBC Media Action for use by front line health workers is one such example, that features an empathetic yet authoritative female doctor character, Dr. Anita, who 'speaks' to rural families. She is designed to be both trusted and respected by community health workers and families alike.

The audio message from the doctor is followed by rhyming couplets, punctuated by drum beats and the sound of a stringed instrument, which function as a mnemonic for key health message. This rhyme is about preparing for delivery : "Keep three phone numbers in mind : Hospital, transportation and community health worker. To keep tension at bay : Plan as we say !"

The audio message is motivating health workers too. A nurse midwife in Samastipur, Bihar was surprised that someone was giving such an expert advice in her local language, 'even though she is a doctor and educated, she was speaking in Bhojpuri !', another community health worker summed up, "I have learned how to explain things in simple and easy language. Now, I can explain the content to the beneficiaries in the same way".

Localized content is thus crucial for achieving resonance with users. However, it's much harder to take context-specific content to scale across disparate geographical regions.

96. Making the content 'sticky' means—
 (A) Pasting it on the walls in public places
 (B) Making it complex enough to be understood by the doctors only
 (C) User wants to return to it again and again
 (D) The message should be abstract
97. 'Mobile kunjji' is an innovative audio visual job aid developed by—
 (A) All India Radio
 (B) Bihar state government
 (C) Women and Child Welfare Department
 (D) BBC Media Action
98. Which three numbers are needed to be kept in mind ?

- (A) Hospital, BLO and medical store
 (B) Hospital, transportation and community health worker
 (C) Doctor, Neighbourer and BLO
 (D) Sarpanch, transportation and ward member

99. *Mobile Kunji* has a potential to be used as—
 (a) Capacity building tool for the health workers
 (b) Tool to educate health workers
 (c) Tool to inform only health workers
 (d) Tool to inform people directly
 (e) Tool to educate masses only
 Choose the correct answer from the options given below—
 (A) (a), (b) and (c) only
 (B) (b), (c) and (d) only
 (C) (a), (b) and (d) only
 (D) (a), (c) and (d) only

100. The characteristic features of context specific content for communication are—
 (a) It cannot be scaled up
 (b) It cannot be used in all states
 (c) It will be equally valid in all states
 (d) It can be scaled up easily
 (e) It is very powerful for behaviour change communication
 Choose the correct answer from the options given below—
 (A) (a), (b) and (c) only
 (B) (a), (b) and (d) only
 (C) (b), (c) and (d) only
 (D) (a), (b) and (e) only

Answers with Hints

1. (A) POSHAN Abhiyaan was launched by the Hon'ble Prime Minister on 8th March, 2018 in the Jhunjhunu district of Rajasthan. The focus of Abhiyaan is to lay emphasis on the nutritional status of adolescent girls, pregnant women, lactating mothers and children from 0-6 years of age.
 2. (B) A sequestrants is a food additive that improves the quality and stability of foods. A

sequestrants forms chelate complexes with polyvalent metal ions, especially copper, iron, and nickel, which can prevent the oxidation of the fats in the food. Sequestrants are a type of preservative.

3. (B) The two major forms are vitamin D₂ and vitamin D₃. Vitamin D₂ (ergocalciferol) is largely human-made and added to foods, whereas vitamin D₃ (cholecalciferol) is synthesized in the skin of humans from 7-dehydrocholesterol and is also consumed in the diet via the intake of animal-based foods.
 4. (A) Parenteral nutrition, often called total parenteral nutrition, is the medical term for infusing a specialized form of food through a vein (intravenously).
 5. (B)
 6. (B) Formulation of the research question (RQ) is essential before starting any research. It aims to explore an existing uncertainty in an area of concern and points to a need for deliberate investigation. It is, therefore, pertinent to formulate a good RQ.
 7. (B) An emulsion is a mixture of two or more liquids that are normally immiscible (unmixable or unblendable) owing to liquid phase separation. Emulsions are part of a more general class of two-phase systems of matter called colloids.
 8. (C)
 9. (A) The principal proteins found in milk are casein, lactalbumin, and lactoglobulin. Milk protein has a high biological value since it contains all of the eight essential amino acids, which need to be provided by the diet.
 10. (C)
 11. (B) The three P's of diabetes are polydipsia, polyuria, and polyphagia. These terms correspond to increases in thirst, urination, and appetite, respectively.
 12. (C) 13. (D) 14. (D)
 15. (C) Five phases guide the new product development process for small businesses : idea generation, screening, concept development, product development, and, finally and commercialization.

Idea Generation—This is the initial stage where a business sources ideas regarding a new product. Some of the sources for new product ideas include the business customers, competitors, newspapers, journals, employees and suppliers. Small businesses may be limited when it comes to technical research-based idea generation techniques. This stage is crucial as it lays the foundation for all the other phases, the ideas generated shall guide the overall process of product development.

Screening—The generated ideas have to go through a screening process to filter out the viable ones. The business seeks opinions from workers, customers, and other businesses to avoid the pursuit of costly unfeasible ideas. External industry factors affecting small businesses, such as competition, legislation, and changes in technology, influence the enterprise's decision criteria. At the end of the screening process, the firm remains with only a few feasible ideas from the large pool generated.

Concept Development—The enterprise undertakes research to find out the potential costs, revenues, and profits arising from the product. The business conducts a SWOT analysis to identify the strengths, weaknesses opportunities, and threats existing in the market. The market strategy is set out to identify the product's target group, which facilitates segmentation of the product's market. Market segmentation is important as it enables the firm to identify its niche. The identified niche influences most of the marketing decisions.

Product Development—Product development entails the actual design and manufacture of the product. Development commences with the manufacture of a prototype that facilitates market testing. Based upon the results of the tests, the business owner decides on whether to undertake large-scale production or not.

Commercialization—Favourable results in the development stage precede large-scale production

and commercialization. Here, the business launches its promotion campaign for the new product. The market research conducted during the conception stage influences the timing and location of the product launch.

16. (A)
17. (A) Acetic acid which is a dilute solution is used extensively as vinegar. And as we are familiar with, vinegar is widely used for cleaning, laundry, cooking and many other household uses. Farmers usually spray acetic acid on livestock silage to counter bacterial and fungal growth.
18. (C) A modular production system involves a group of 4-17 people who set their own standards and work together to produce a finished garment. They work as a team or module and each team member works on more than one operation.
19. (A, D)
20. (B) Zephyr is a blend of 50% Chinese tussah silk and 50% Merino wool, with a subtle sheen and soft hand. It is often used for woven scarves or clothing and can be substituted in any project calling for 2/18 wool.
21. (A)
22. (D) Such association through sharing of electron pairs among different or same kinds is known as Covalent Bond.
23. (C)
24. (C) Shape patterns occur when a group of shapes is repeated over and over again. These patterns follow a certain sequence, or order, of shapes that is then repeated at least two times. The shapes can be simple shapes like circles or squares, or other objects such as arrows, flowers, moon and stars. Garment design is an integration of all the design elements including colour, texture, space, lines, pattern, silhouette, shape, proportion, balance, emphasis or focal point, rhythm and harmony. Each of these contributes to the visual perception of the garment.
25. (A)
26. (D) Advertising is a marketing communication that employs an openly sponsored, non-personal message to promote or sell a product, service or idea.

Transport generally involves the movement of people or goods from one place to another via a means of transport. On the other hand, communication is the passing of information or data from one source to another. (Source : Pixabay) The transport usually involves means of transport such as roadways, railways and air travel etc.

The 'economics of abundance' is based on a critique of our present economic system, which finds value only in scarce commodities – i.e., things which can be sold at a high price because demand exceeds supply.

27. (C) Polyester is a generalized term for any fabric or textile, which is made using polyester yarns or fibers. It is a shortened name for a synthetic, man-made polymer, which, as a specific material, is most commonly referred to as a type called polyethylene terephthalate (PET). Nylon is one of the most useful synthetic materials with applications varying from day-to-day life activities to industries. Nylon is plastic that can easily be drawn into fibers.
28. (A) 29. (A) 30. (A) 31. (C) 32. (D)
33. (A) 34. (D)
35. (D) Edward John Mostyn Bowlby, CBE, FRCP, FRCPSych was a British psychologist, psychiatrist, and psychoanalyst, notable for his interest in child development and for his pioneering work in attachment theory.
36. (C) Authentic assessment is the measurement of 'intellectual accomplishments that are worthwhile, significant, and meaningful,' as contrasted with multiple-choice tests. Authentic assessment can be devised by the teacher, or in collaboration with the student by engaging the student's voice. When applying authentic assessment to student learning and achievement, a teacher applies criteria related to "construction of knowledge, disciplined inquiry, and the value of achievement beyond the school."
37. (A) Adolescents use drugs because they feel pleasurable feelings. Drugs interact with the

neurochemistry of the brain to produce feelings of pleasure.

38. (A) 39. (A) 40. (C) 41. (B)
42. (A) The major principles that govern growth are as follows—
Cephalocaudal principle—Growth follows a pattern that begins with the head and upper body parts and then proceeds down to the rest of the body; we develop visual abilities well before we master the ability to walk
Proximodistal principle—Development proceeds from the center of the body outward; the trunk of the body grows before the extremities of arms and legs and the development of the ability to use various parts of the body follows the proximodistal principle.
Principle of hierarchical integration—Simple skills typically develop separately and independently but are later integrated into more complex skills. (Thus, the relative complexity of grasping something in the hand can't be mastered until the developing infant learns how to control and integrate the movements of individual fingers.)
Principle of the independence of systems—Suggests that different body systems grow at different rates. For instance, the patterns of growth for body size, the nervous system and sexual maturation are quite different.
43. (D) Telegraphic speech is simply two-word sentences, such as 'kitty tired' or 'I hungry'. Toddlers develop this level of speech between 18-24 months. Infant Directed Speech (IDS) is a speech register characterized by simpler sentences, a slower rate, and more variable prosody. Recent work has implicated it in more subtle aspects of language development.
44. (A) 45. (B)
46. (D) Phases of adult development as given by Cohen are as follows—
Mid-life re-evaluation. Note this is not the mid-life crisis of jokes. This is a time of serious questions about the true meaning of MY life—Where have I been ? Where am I now ? Where am I

going ? It can take place at any time between the 40 and the mid-'60s.

Liberation, can overlap in Phase I and continues thru the 70s and 80s. It is characterized by the desire to experiment, innovate, and free self from earlier inhibitions or limitations. If not now, when ? It is a time of psychological change, the development of new connections between brain cells and more balanced use of both brain hemispheres.

Summing Up (ages the late 60s through 80s) is a time of review and resolution and heralds a desire to give back. The review is of one's life with recognition of its meaning. It is a time of putting photos in albums, of writing memories. It may be that the richness of the autobiographical activities is aided by the ability to use the left and the right sides of the brain simultaneously. The left side is mostly used by young adults. Cohen speculates that the brain 'relishes' the summing-up activities.

Encore, using the French meaning of the word—still, continuing. There is a desire to go on, to remain vital which is manifested in new creativity and increased social engagement.

47. (C) 48. (A)
49. (D) "A muster roll is essentially a labour attendance register. It is also used as a receipt to claim funds from the Programme Officer for the payment of wages. Its funding could be a principle means for embezzlement of the NREGA fund.
50. (C) Formal education means the structured education and training system that runs from pre-primary and primary through secondary school and on to university. It takes place, as a rule, at general or vocational educational institutions and leads to certification.
51. (B)
52. (C) International Literacy Day takes place on September 8 every year to raise awareness and concern for literacy problems that exist within our own local communities as well as globally. International Literacy Day was

founded by the proclamation of The United Nations Educational, Scientific and Cultural Organization, UNESCO, in 1966.

53. (B) Sex-selective abortion is the practice of terminating a pregnancy based upon the predicted sex of the infant. The selective abortion of female fetuses is most common where male children are valued over female children, especially in parts of East Asia and South Asia (particularly in countries such as the People's Republic of China, India, and Pakistan), as well as in the Caucasus, Western Balkans, and to a lesser extent North America.
54. (C)
55. (A) Natural resources are those resources which exist without the actions of mankind. In other words, those natural substances, which are considered valuable in their relatively original natural form, are called natural resources.
56. (B) 57. (B) 58. (B) 59. (C) 60. (D)
61. (B) 62. (C) 63. (C) 64. (A)
65. (D) Speculation refers to the act of conducting a financial transaction that has a substantial risk of losing value but also holds the expectation of a significant gain.
66. (C) 67. (A)
68. (B) Parametric tests are used only where a normal distribution is assumed. The most widely used tests are the t-test (paired or unpaired), ANOVA (one-way non-repeated, repeated; two-way, three-way), linear regression and Pearson rank correlation.
69. (C) A questionnaire is a research tool featuring a series of questions used to collect useful information from respondents. These instruments include either written or oral questions and comprise an interview-style format.
70. (A) 71. (*) 72. (B)
73. (B) The correct sequence of statistical analysis of data is as follows—
(1) Collection data—It refers to gathering some statistical facts by different methods.
(2) Organisation of data—In the tills stage, the organized data are presented in the form of graphs, diagrams, tables etc.

(3) **Presentation of data**—In this stage, the organized data are presented in the form of graphs, diagrams, tables etc.

(4) **Analysis of data**—In the fourth stage we analyze the data in terms of averages of percentages.

(5) **Interpretation of data**—This is the last stage of statistics. In this stage, we interpret the data to find some conclusions.

74. (C) 75. (C) 76. (B) 77. (D)

78. (C) Ideally, your eyes should be in line with a point on the screen that is about 5-10 cm below the top edge of the monitor. The center of the screen should be about 17-18 degrees below eye level. Our eyes see more below the horizontal line than above it, so this location gives you the best view.

79. (D) 80. (A) 81. (C) 82. (D) 83. (B)

84. (D) 85. (B) 86. (B) 87. (D)

88. (A) The steps of the organization process in the sequence are as follows—

Identifying and Classifying the Activities—Organizing as a function begins with identifying all activities that are planned for a business based on its mission, goals, and objectives. The process then involves a 'division of labour' that divides the work process into a certain number of tasks, with each task performed separately by employees or groups of employees.

Grouping Activities—The process of grouping activities of similar nature is called Departmentalisation. Departmentalisation facilitates specialization and coordination in the organization.

Delegation of Authority—Authority is basically the right an individual has to act according to his wishes and extract obedience from the others. So when a manager is assigned certain duties and responsibilities, he must also be delegated authority to carry out such duties effectively.

Delegating the work—In management, delegating refers to sharing or transferring responsibilities, and typically happens from a superior (or an employer) to a subordinate (or an

employee). Delegating is a critical skill for supervisors at any level and can be a major challenge for them to learn, due to concerns of giving up control or the lack of confidence in the abilities of others. Delegating is an important trait for those who work in teams, and trust plays a critical role in its success.

Co-ordination—Finally, the manager must ensure that all activities carried out by various employees and groups are well coordinated. Otherwise, it may lead to conflicts between employees, duplication of work, and wastage of time and efforts. He must ensure all the departments are carrying out their specialized tasks and there is harmony in these activities. The ultimate aim is to ensure that the goal of the organization is fulfilled

89. (B) 90. (A)

91. (B) Sexual abuse, also called child molestation, is a form of child abuse in which an adult or older person uses a child for sexual stimulation.

92. (*) 93. (B)

94. (B) The United Nations Convention on the Rights of the Child (UNCRC) is a legally-binding international agreement setting out the civil, political, economic, social and cultural rights of every child, regardless of their race or religion.

95. (C) 96. (C)

97. (D) BBC Media Action, formerly known as the BBC World Service Trust, is the BBC's international development charity, funded independently by external grants and voluntary contributions. The purpose of the organization is to use media and communication to reduce poverty, improve health and support people in understanding their rights. It works in partnership with the BBC World Service and other local media and development partners in over 35 developing and transitional countries around the world.

98. (B) 99. (C) 100. (D)

* Bonus marks to all candidates.

Essential Educational Qualifications: Educational qualifications vary as per the requirement of the posts.

Scheme of Examination: There will be a Preliminary Examination comprising objective type questions. Successful candidates will be invited for the Main Examination.

How to Apply: Candidates can apply online only and no other mode of application will be accepted. Candidates are first required to go to the IBPS's authorized website www.ibps.in and click on the Home Page to open the link "CRP Specialist Officers" and then click on the option "CLICK HERE TO APPLY ONLINE FOR CRP- Specialist Officers (CRP-SPL-XII)" to open the On-Line Application Form.

Central Board of Secondary Education, Delhi

Invites online applications from eligible candidates for Central Teacher Eligibility Test (CTET) - December 2022.

Last Date for Online Submission of Application: November 24, 2022.

Eligibility: The minimum qualifications for appearing in the CTET are as notified by NCTE. The candidates are advised to visit the website of NCTE <https://ncte.gov.in> to ascertain their eligibility.

Structure and Content of CTET: All questions in CTET will be Multiple Choice Questions (MCQs), with four alternatives out of which one answer will be most appropriate. Each carrying one mark and there will be no negative marking. There will be two papers of CTET—

(i) Paper I will be for a person who intends to be a teacher for classes I to V.

(ii) Paper II will be for a person who intends to be a teacher for classes VI to VIII.

For more details please visit the website <https://ctet.nic.in>

How to Apply: Candidates can apply for CTET-Dec., 2022 "Online" through CTET website

<https://ctet.nic.in>

(Held on 10-4-2022)

General Knowledge

- If the magnification produced by a lens is + 2, then the image is—
(A) erect, virtual and smaller than the object
(B) inverted, real and smaller than the object
(C) erect, virtual and larger than the object
(D) inverted, real and larger than the object
- What is the correct sequence of resistivity of silver, nichrome and glass at room temperature ?
(A) Silver < Nichrome < Glass
(B) Glass < Nichrome < Silver
(C) Silver < Glass < Nichrome
(D) Nichrome < Silver < Glass
- At the time of short-circuit, the current in the circuit—
(A) reduces substantially
(B) does not change
(C) increases heavily
(D) keeps on fluctuating
- Which one of the following statements is not correct ?
(A) An electric motor converts electrical energy into mechanical energy
(B) An electric generator works on the principle of electromagnetic induction
(C) The magnetic field at the centre of a long circular coil carrying current will be parallel straight lines
(D) A wire with a green insulation is usually the live wire of an electric supply
- A boy completes one round of a circular track of diameter 200 m in 30 s. What will be the displacement at the end of 3 minutes and 45 seconds ?
(A) 50 m (B) 100 m
(C) 200 m (D) 236 m
- What happens to the gravitational force between two objects if the mass of one object is doubled and the distance between them is also doubled ?
(A) The force would remain the same
(B) The force would be doubled
(C) The force would be halved
(D) The force would increase by a factor of 4
- The number of moles of oxygen gas used in the complete combustion of 1 mole of glucose is—
(A) 1 (B) 3
(C) 6 (D) 12
- Which one of the following is not an example of an oxidation reaction ?
(A) The taste of butter changes if left for a longer period
(B) A white substance is formed when an aqueous solution of barium chloride is mixed with sodium sulphate solution
(C) A reddish-brown powder gets coated on articles made of iron
(D) Wine gets sour with time
- Methanoic acid is normally found in—
(A) muscles (B) urine
(C) ant stings (D) human brain
- What is the number of moles of 'He' is 104 g of helium gas ?
(A) 52 (B) 26
(C) 13 (D) 6.5
- While burning hydrocarbon fuels, if we see a yellow flame with lots of black smoke, it means that the fuel is—
(A) made of saturated hydrocarbons
(B) made of unsaturated hydrocarbons
(C) burning completely
(D) wet
- The number of saturated and unsaturated bonds in cyclohexane are—
(A) 9 and 0 respectively
(B) 18 and 3 respectively
(C) 18 and 0 respectively
(D) 9 and 3 respectively
- Which one of the following statements is true when non-metals are dissolved in water ?
(A) They produce basic oxides
(B) They produce acidic oxides
(C) They produce neutral oxides
(D) They provide hydroxides
- Which one of the following statements is not correct with regard to genetically modified organisms ?
(A) In this technique a gene from one organism is isolated and transferred to the cell of another organism
(B) This technique has applications only in plants
(C) Genes for insect resistance may spread from crop plants to wild plants
(D) To produce a transgenic animal the novel genes are inserted at a very early stage of development
- Suppose, due to an accident, the delicate lining of the mouth and the oesophagus of a person is injured. In this case, which one of the following tissues will be affected ?
(A) Smooth muscle
(B) Cuboidal epithelium
(C) Squamous epithelium
(D) Striated muscle
- Which one of the following statements is correct about the cell membrane ?
(A) It is made up of cellulose
(B) It is a permeable structure for all substances

(C) It is flexible and enables the cell to engulf many materials
(D) It does not allow diffusion of gases like oxygen and carbon dioxide

17. Plants prepare glucose in the process of—
(A) respiration
(B) photosynthesis
(C) degradation
(D) mineral absorption
18. The disease rickets develops in children due to the deficiency of—
(A) Vitamin C (B) Vitamin D
(C) Vitamin A (D) Vitamin B
19. Match List-I with List-II and select the correct answer using the codes given below the lists—

List-I

(Blood Vessel)

- (a) Pulmonary artery
(b) Capillaries
(c) Coronary artery
(d) Pulmonary vein

List-II

(Function)

1. Carries blood from lungs to heart.
2. Carries blood to heart muscle.
3. Connection between arteries and veins.
4. Carries blood from heart to lungs.

Codes :

	(a)	(b)	(c)	(d)
(A)	4	3	2	1
(B)	4	2	3	1
(C)	1	2	3	4
(D)	1	3	2	4

20. Which one of the following statements is true with regard to greenhouse?
(A) The shorter wavelength infrared radiations from the Sun can enter into the greenhouse while longer wavelength infrared radiations from the ground and the plants inside the greenhouse cannot pass back out through the glass
(B) The shorter wavelength infrared radiations from the Sun can enter into the greenhouse and the longer wavelength infrared radiations from the ground and the plants inside the green-

house can also pass back out through the glass

(C) The shorter wavelength infrared radiations from the Sun cannot enter into the greenhouse while longer wavelength infrared radiations from the ground and the plants inside the greenhouse can pass back out through the glass
(D) No infrared radiation can pass through the glass of the greenhouse

21. An object weighs 9 N on the surface of the Earth. What would be its weight, when measured on the surface of a planet where the acceleration due to gravity is 9 times that on the surface of the Earth?
(A) The weight would remain the same
(B) The weight would be equal to 1 N
(C) The weight would become 9 times
(D) The weight will be reduced to 1/9 N

22. The twinkling of a star is due to—
(A) atmospheric reflection of starlight
(B) atmospheric refraction of starlight
(C) continuous change in the position of the star
(D) oscillation of starlight

23. A convex lens has a focal length of 15 cm. At what distance should an object be placed in front of the lens to get a real image of the same size of the object?
(A) 15 cm (B) 10 cm
(C) 30 cm (D) 40 cm

24. Which one of the following statements about biogas is not correct?
(A) It is mainly composed of methane gas
(B) It is a non-renewable source of energy
(C) It is formed by the decomposition of cow dung in the absence of oxygen
(D) It burns without smoke and leaves no residue

25. Which of the following mineral acids is found in human stomach?

- (A) Hydrochloric acid
(B) Lactic acid
(C) Uric acid
(D) Methanoic acid

26. Which one of the following living organisms gives litmus?
(A) Protozoa
(B) Virus
(C) Lichen
(D) Saccharomyces
27. Which one of the following is the main reason of acid rains?
(A) Dissolution of sulphur and nitrogen oxides in rain
(B) Dissolution of minerals in rain
(C) Dissolution of dust particles in rain
(D) Dissolution of soil solution in rain
28. Mutation in a virus is caused due to a change in its—
(A) cell size
(B) genetic material
(C) shape
(D) colour
29. Yeast, which is used to make bread, belongs to the group—
(A) Protista (B) Fungi
(C) Monera (D) Protozoa
30. Hyphae are—
(A) produced by yeast
(B) thin threads formed by many fungi
(C) reproductive cells
(D) responsible for preventing the cell from losing water in wet conditions
31. Which one of the following is the first urban settlement in the world to reach a population size of one million (million-plus city)?
(A) London
(B) Paris
(C) New York
(D) Washington D.C.
32. Which one of the following climatic types Köppen's Scheme) is best suited to describe the climate of the western fringe of Rajasthan?
(A) Amw (B) Aw
(C) Bwhw (D) Cwg
33. Where are the Bermuda Islands located?

- (A) Caribbean Sea
(B) North Atlantic Ocean
(C) Gulf of Mexico
(D) Mediterranean Sea
34. Which one of the following States/Union Territories has the highest percentage of forest area to the total geographical area?
(A) Arunachal Pradesh
(B) Lakshadweep
(C) Nagaland
(D) Mizoram
35. In India, the period of steady population growth refers to the decade(s) of—
(A) 1981–2011 (B) 1951–1981
(C) 1921–1951 (D) 1911–1921
36. Manikaran to Himachal Pradesh is known for—
(A) Solar energy
(B) Geothermal energy
(C) Bioenergy
(D) Wind energy
37. Who among the following, first mooted the idea of deficit financing?
(A) Adam Smith
(B) Alfred Marshall
(C) John Maynard Keynes
(D) Milton Friedman
38. Which of the following is/are the function(s) of environment?
1. Supplying resources
2. Sustaining life
3. Providing aesthetic services
Select the correct answer using the codes given below—
(A) Only 1 (B) Only 2 and 3
(C) 1, 2 and 3 (D) Only 1 and 3
39. Who among the following formulated the concept of poverty as a measurable development indicator in the Indian sub-continent?
(A) Dadabhai Naoroji
(B) Ramesh Chandra Dutt
(C) V.K.R.V. Rao
(D) M. Ranade
40. Which one of the following terms denotes the inputs in terms of tools, machines, buildings, raw materials and money in hand required at any stage of production?
(A) Fixed capital
(B) Working capital
(C) Physical capital
(D) Human capital
41. Which one of the following inputs is required in less quantity in case of non-farming activities?
(A) Land
(B) Labour
(C) Capital
(D) Raw material
42. Which one of the following statements with regard to the National Rural Employment Guarantee Act, 2005 is correct?
(A) It ensures 175 days of employment to needy persons in rural areas
(B) It gives higher wages to women workers
(C) People are generally given both skilled and unskilled jobs
(D) This is implemented only in rural areas of India
43. Which one of the following is not mentioned as a form of Emergency in the Constitution of India?
(A) National Emergency
(B) State Emergency in terms of Proclamation of President's Rule in a State
(C) Financial Emergency
(D) Health Emergency
44. Which one of the following is not a provision related to a Money Bill?
(A) Imposition, abolition, remission, alteration or regulation of any tax
(B) Appropriation of moneys out of the Consolidated Fund of India
(C) Imposition of fines by local authority for local purpose
(D) Custody of the Consolidated Fund of India or the Contingency Fund of India
45. Which one of the following items is not covered under GST?
(A) Cosmetics
(B) Medical grade oxygen
(C) Jewellery
(D) Petrol
46. Which of the following statements is/are correct?
1. Committee on Estimates is an ad hoc committee of the Parliament.
2. Committee on Railway Convention is a Standing Committee of the Parliament.
Select the correct answer using the code given below—
(A) Only 1
(B) Only 2
(C) Both 1 and 2
(D) Neither 1 nor 2
47. Which one of the following is not an Indian form of Socialism?
(A) Democratic Socialism
(B) Radical Socialism
(C) Communitarian Socialism
(D) Nehruvian Socialism
48. Which one of the following best describes BRICS?
(A) A group of five nuclear powers
(B) A group of five industrialized nations
(C) A group of five major emerging economies
(D) A group of five potentially strong UN Security Council members from the Countries of the Global South
49. Which one of the following is not a characteristic feature of Indian Federalism?
(A) The federating units consented to form a union
(B) Residuary powers vest with the Centre
(C) Single citizenship
(D) An extensive Union and Concurrent list
50. Which of the following statements about sculptures of Sanchi is/are correct?
1. In some sculptures there is representation of Shalabhanjika.
2. The figure of Shalabhanjika is represented by a woman surrounded by lotuses and elephants.
3. The Shalabhanjika motif was not directly inspired by Buddhist ideas.
Select the correct answer using the codes given below—
(A) 1, 2 and 3 (B) Only 2 and 3
(C) Only 2 (D) Only 1 and 3
51. In which one of the following years was the first telegraphic connection established between Europe and India?

- (A) 1851 (B) 1854
(C) 1865 (D) 1871

52. Who among the following was the founder of the Virashaiva Movement of Karnataka ?

- (A) Basavanna
(B) Appar
(C) Sambandar
(D) Sundarar

53. The ruins of Hampi were brought to light by which of the following British officers of the East India Company ?

- (A) Colonel Colin Mackenzie
(B) James Prinsep
(C) William Jones
(D) James Rennell

54. Which one of the following works was composed by Krishna-devaraya on statecraft in Telugu ?

- (A) Amuktamalyada
(B) Jambavati Kalyanam
(C) Rayavachakamu
(D) Satyavadu Parinaya

55. Match List-I with List-II and select the correct answer using the codes given below the lists—

List-I

(Soil Type)

- (a) Entisols (b) Inceptisols
(c) Histosols (d) Oxisols

List-II

(Salient Characteristic)

- Soils having weakly or quickly developed horizons.
- Weakly developed soils with no horizons.
- These soils are very old and highly weathered.
- These soils have very high quantity of organic matter in the upper layers.

Codes :

- | | (a) | (b) | (c) | (d) |
|-----|-----|-----|-----|-----|
| (A) | 2 | 1 | 4 | 3 |
| (B) | 2 | 4 | 1 | 3 |
| (C) | 3 | 4 | 1 | 2 |
| (D) | 3 | 1 | 4 | 2 |

56. A peripediment in a desert or semi-desert region is also known as—

- (A) Inselberg (B) Zeugen
(C) Bajada (D) Playa

57. Individual lava flows are normally only a few feet thick, but over a long period of time,

repeated flows may build up a volcano. Such volcanoes are termed as—

- (A) Shield volcano
(B) Composite volcano
(C) Strato-volcano
(D) Cinder-cone volcano

58. Isohalines are lines joining equal—

- (A) temperature
(B) pressure
(C) rainfall
(D) salinity

59. Which one of the following would be considered as Foreign Direct Investment ?

- (A) A foreign company buying shares in stock exchanges in India
(B) A foreign country pension fund investing in Indian stock markets
(C) A foreign merchant banker buying shares from Indian stock markets
(D) A foreign entity setting up an educational institution in India

60. Which one of the following does not influence quantity demanded for a good ?

- (A) Good's own price
(B) Price of a complementary good
(C) Price of a substitute good
(D) Prices of inputs into production of the good

61. Infant mortality ratio of which one of the following countries is comparable to that of India ?

- (A) China
(B) United States of America
(C) Sri Lanka
(D) None of the above

62. Which of the following factors signify monopolistic competition ?

- Differentiated products
- Large number of buyers and sellers
- Barriers to entry
- Homogeneous products

Select the correct answer using the codes given below—

- (A) Only 1 and 2
(B) Only 1, 2 and 3
(C) Only 3 and 4
(D) Only 2 and 4

63. Article 19(1) of the Constitution of India, as it stands amended, includes which of the following ?

- Freedom of speech and expression
- Assemble peaceably and without arms
- To acquire and dispose property
- To move freely throughout the territory of India

Select the correct answer using the codes given below—

- (A) Only 1 and 2
(B) 1, 2, 3 and 4
(C) Only 4
(D) Only 1, 2 and 4

64. Which one of the following statements with regard to the Election Commission is not correct ?

- (A) It conducts elections to the office of the Vice-President of India
(B) An Election Commissioner can be removed from his office without the recommendation of the Chief Election Commissioner
(C) Election Commissioners are appointed by the President of India
(D) Governor of a State is constitutionally bound to provide support staff to the Election Commission, if required

65. Which of the following statements with regard to the Preamble to the Constitution of India is/are correct ?

- Equality of status and equality of opportunity find mention in the Preamble.
- The expression 'unity and integrity of the Nation' was not there in the Preamble since the beginning.

Select the correct answer using the code given below—

- (A) Only 1
(B) Only 2
(C) Both 1 and 2
(D) Neither 1 nor 2

66. In Part-IVA of the Constitution of India, which one of the following is not mentioned as a duty of every citizen of India ?

- (A) To render national service when called upon to do so

- (B) To renounce practices derogatory to the dignity of women
 (C) To value and preserve a unitary national culture
 (D) To develop the spirit of inquiry and reform

67. Which of the following terms were used in the Indo-Persian sources of the Mughal period to denote a peasant ?

1. Raiyat 2. Asami
 3. Muzarian 4. Majur

Select the correct answer using the codes given below—

- (A) Only 1 and 2
 (B) Only 2 and 3
 (C) Only 1, 2 and 3
 (D) Only 1, 3 and 4

68. Who among the following pioneering Bengali women serialised her autobiography **Amar Katha** between 1910 and 1913 ?

- (A) Binodini Dasi
 (B) Rashsundari Debi
 (C) Begum Rokeya Sakhawat Hossain
 (D) Kailashbhashini Debi

69. Arrange the following events chronologically starting from the earliest—

1. Ahmedabad Mill Strike
 2. Champaran Satyagraha
 3. Foundation of the Satyagraha Sabha
 4. Jallianwala Bagh Massacre

Select the correct answer using the codes given below—

- (A) 1, 2, 3, 4 (B) 2, 1, 3, 4
 (C) 2, 4, 1, 3 (D) 4, 2, 1, 3

70. The year 1916 is important in Indian history for—

1. Lucknow Session of the Congress
 2. Congress - League Pact
 3. Formation of Home Rule League

Select the correct answer using the codes given below—

- (A) Only 1 and 3
 (B) Only 2 and 3
 (C) Only 1 and 2
 (D) 1, 2 and 3

71. Match List-I with List-II and select the correct answer using the codes given below the lists—

List-I

(Railway Zone)

- (a) South-Eastern
 (b) South-Central
 (c) South-Western
 (d) South-East-Central

List-II

(Headquarters)

1. Secunderabad
 2. Kolkata
 3. Bilaspur
 4. Hubli

Codes :

- | | (a) | (b) | (c) | (d) |
|-----|-----|-----|-----|-----|
| (A) | 2 | 1 | 4 | 3 |
| (B) | 2 | 4 | 1 | 3 |
| (C) | 3 | 4 | 1 | 2 |
| (D) | 3 | 1 | 4 | 2 |

72. Ten Degree Channel is found between—

- (A) North Andaman and Middle Andaman
 (B) South Andaman and Little Andaman
 (C) Little Andaman and Car Nicobar
 (D) Car Nicobar and Great Nicobar

73. Match List-I with List-II and select the correct answer using the codes given below the lists—

List-I

(Waterfall)

- (a) Barkana
 (b) Dudhsagar
 (c) Duduma
 (d) Kiliyur

List-II

(State)

1. Tamil Nadu
 2. Odisha
 3. Karnataka
 4. Goa

Codes :

- | | (a) | (b) | (c) | (d) |
|-----|-----|-----|-----|-----|
| (A) | 3 | 2 | 4 | 1 |
| (B) | 3 | 4 | 2 | 1 |
| (C) | 1 | 4 | 2 | 3 |
| (D) | 1 | 2 | 4 | 3 |

74. Which one of the following is not a resultant of the El Nino effect ?

- (A) Distortion of equatorial atmospheric circulation
 (B) Flow of the South-East Trade Winds towards the Indian Ocean
 (C) Irregularities in the evaporation of sea water
 (D) Reduction in the amount of planktons which reduces the number of fish in the sea

75. According to the Constitution of India, which one of the following statements is not correct ?

(A) The executive powers of the Union shall be vested in the President of India

(B) Parliament, by law, can confer functions on authorities other than the President of India

(C) The President of India is elected by an electoral college consisting of all Members of Parliament and all Members of all State Legislatures

(D) A person, having held office as the President, shall be eligible for election to that office for the second term

76. Which one of the following Articles of the Constitution of India requires the Prime Minister of India to furnish information related to decisions of the Council of Ministers to the President of India ?

- (A) Article 78 (B) Article 74
 (C) Article 75 (D) Article 81

77. Which one of the following statements is not correct ?

(A) All executive actions of the Government of India are taken in the name of the President of India

(B) The President of India appoints a person as Attorney General of India provided she/he is qualified to be a judge of the Supreme Court or a High Court

(C) The total number of Ministers in the Council of Ministers cannot exceed ten per cent of the total number of members of the House of People

(D) The President of India is bound to act as per the advice tendered by the Council of Ministers

78. The issue, "whether Section 377 of the Indian Penal Code is violative of Articles 21, 14 and 15 of the Constitution of India" was decided in which one of the following cases ?

- (A) Shreya Singhal Vs Union of India
 (B) Vishakha Vs State of Rajasthan
 (C) Shayara Bano Vs Union of India
 (D) Naz Foundation Vs Government of NCT of Delhi and others

79. Which one of the following writs means 'you may have the body' ?
 (A) Habeas Corpus
 (B) Mandamus
 (C) Certiorari
 (D) Quo Warranto
80. Who among the following belonged to Serampore Mission ?
 1. William Carey
 2. Joshua Marshman
 3. William Ward
 4. David Hare
 Select the correct answer using the codes given below—
 (A) Only 1 and 2
 (B) Only 1 and 3
 (C) Only 1, 2 and 3
 (D) Only 2, 3 and 4
81. Consider the following statements :
 1. In the 19th century, peasants in various parts of India rose in revolt against money-lenders and grain dealers.
 2. In May 1875, at village Supa in Poona District in the Bombay Deccan, peasants attacked shopkeepers, burnt the *bahi khata*s (account books), looted grain shops and set fire to the houses of Sahukars.
 Which of the statement given above is/are correct ?
 (A) Only 1
 (B) Only 2
 (C) Both 1 and 2
 (D) Neither 1 nor 2
82. Which one of the following was not a part of Kautilya's Saptanga Theory of the State ?
 (A) Amatya (B) Janapada
 (C) Durga (D) Dhamma
83. Consider the following statements about Ashoka's faith in Buddhism :
 1. Rummindei Pillar Inscription and Nigali Sagar Pillar Inscription provide clear evidence of Ashoka's faith in Buddhism.
 2. Minor Rock Edict-I gives evidence of a sudden change in Ashoka's faith in Buddhism.
 Which of the statements given above is/are correct ?
 (A) Only 1
 (B) Only 2
 (C) Both 1 and 2
 (D) Neither 1 nor 2
84. Which of the following variable(s) is/are displayed in population pyramids ?
 1. Age-groups
 2. Sex indicators (male and female)
 Select the correct answer using the codes given below—
 (A) Only 1
 (B) Only 2
 (C) Both 1 and 2
 (D) Neither 1 nor 2
85. Match List-I with List-II and select the correct answer using the codes given below the lists—
List-I
 (Lake)
 (a) Kaliveli
 (b) Khajjiar
 (c) Khecheopalri
 (d) Vembanad
List-II
 (State)
 1. Sikkim
 2. Kerala
 3. Himachal Pradesh
 4. Tamil Nadu
Codes :

	(a)	(b)	(c)	(d)
(A)	2	1	3	4
(B)	2	3	1	4
(C)	4	1	3	2
(D)	4	3	1	2
86. Which one of following is the most important factor for the formulation of smog ?
 (A) Long winter nights
 (B) Formation of an 'inversion lid'
 (C) Presence of many air pollutant resources
 (D) Rapid fall in temperature with increasing height above the sea level
87. Mount Thullier (642 m) is an important mountain peak of Andaman and Nicobar Islands. It is located in—
 (A) North Andaman
 (B) Middle Andaman
 (C) South Andaman
 (D) Great Nicobar
88. Which one of the following land surfaces has the highest albedo ?
 (A) A snow covered mountain
 (B) A barren rocky piedmont surface
 (C) A sandy desert
 (D) A mangrove forest
89. Which one of the following terms represents the maxim, 'no man/person shall be condemned unheard' ?
 (A) *Autrefois acquit*
 (B) *Non bis in idem*
 (C) *Autrefois convict*
 (D) *Audi Alteram Partem*
90. Which one of the following statements about the Speaker of Lok Sabha is not correct ?
 (A) He shall vacate his office if he ceases to be a member of the House of the People
 (B) He may, at any time, resign by writing his resignation to the President of India
 (C) He may be removed from his office by a resolution of the House of the People passed by majority of all the then members of the House
 (D) While the office of the Speaker is vacant, the duties of the office shall performed by the Deputy Speaker
91. Which one of the following statements about a Bill for Amendment of the Constitution of India is not correct ?
 (A) It is governed by Article 368(2) of the Constitution of India
 (B) Joint sitting can be resorted to for passing a Bill amending the Constitution of India
 (C) The State Legislatures cannot initiate any Bill or proposal for amendment of the Constitution of India
 (D) The previous sanction of the President of India is not required for introducing any Bill in the Parliament for amendment of the Constitution of India
92. Which one of the following methods is followed in electing the President of India ?
 (A) Proportional Representation only
 (B) First-Past-the-Post System only
 (C) Proportional Representation and the Single Transferable Vote System

- (D) Proportional Representation and the First-Past-the-Post System
93. From among the following Mahajanapadas, identify the *gana / sangha* (oligarchy)—
 (A) Magadha (B) Vajji
 (C) Avanti (D) Kosala
94. The provision for separate electorate for Muslims was given in—
 (A) Morley-Minto Reforms, 1909
 (B) Montagu-Chelmsford Reforms, 1919
 (C) Communal Award, 1932
 (D) Government of India Act, 1935
95. Which of the following was/were the founder member(s) Hindustan Socialist Republican Army established in September, 1928?
 1. Bhagat Singh
 2. Jatindranath
 3. Ajay Ghosh
 4. Phanindranath Ghosh
 Select the correct answer using the codes given below—
 (A) Only 1
 (B) Only 2 and 3
 (C) Only 1, 2 and 3
 (D) 1, 2, 3 and 4
96. Who among the following did not belong to the group of 'No-Changers' ?
 (A) M.A. Ansari
 (B) Vithalbhai Patel
 (C) Chakravarti Rajagopalachari
 (D) Kasturi Ranga Iyengar
97. The headquarters of Ghadar Movement/Party were at—
 (A) San Francisco
 (B) Stanford University
 (C) Portland
 (D) Florida
98. Which one of the following pairs of Newspaper and Editor is not correctly matched?

Newspaper	Editor
(A) Navjiva	—Mahatma Gandhi
(B) Mahratta	—Bal Gangadhar Tilak
(C) Bengalee	—Surendranath Banerjee
(D) Voice of India	—Gopal Krishna Gokhale
99. Which one of the following was not included in the terms and conditions of Subsidiary Alliance System of Lord Wellesley?
 (A) The British would protect their ally
 (B) The ally was free to enter into agreements with other rulers or engage in warfare
 (C) In the territory of the ally, a British armed contingent would be stationed
 (D) The ally would have to provide resources for the maintenance of the British armed contingent
100. Which one of the following is an exhaustible but renewable natural resource?
 (A) Solar energy
 (B) Water in usable conditions
 (C) Soil
 (D) Landscape in the natural condition
101. Recently, the term 'two-pillar solution/two-pillar package' often seen in the news, refers to—
 (A) Global energy security in near future
 (B) International cyber crime reporting
 (C) Minimum global corporate tax
 (D) Prevention of International money laundering
102. Consider the following pairs of vaccine and category/type—
 1. Covaxin—Inactivated pathogen-based vaccine
 2. Covishield—mRNA vaccine
 3. Sputnik V—Viral vector-based vaccine
 Which of the pairs given above is/are correctly matched?
 (A) Only 1
 (B) Only 2 and 3
 (C) Only 1 and 3
 (D) 1, 2 and 3
103. What is 'Unicorn Company' often mentioned in Indian news?
 (A) Any privately held startup company with a value of over \$ 1 billion
 (B) Any public sector company to be merged with another public sector company
 (C) Privatization of any loss-making State-owned company
 (D) Any foreign multinational company doing business in India in collaboration with an Indian company
104. A global initiative popularly known as '30 × 30 target' is often seen in the news. Which one of the following statements best reflects this initiative?
 (A) At least 30% of the planet should be protected by 2030
 (B) At least 30% of the cultivated area should be brought under organic farming by 2030
 (C) At least 30% of the energy requirements should be met by renewable sources by 2030
 (D) At least 30% of the people below poverty line should be brought out of their poverty by 2030
105. Which one of the following statements is correct regarding LOFAR (Low Frequency Array)?
 (A) It is the world's most powerful radio antenna
 (B) It is a space technology launched by NASA to discover exoplanets
 (C) It is an arrangement of satellites in space for the purpose of creating Satellite Navigation System
 (D) It is a wireless communication technology for 5G services
106. In the recently formed grouping of countries generally known as 'Middle-East Quad', in addition to India, which of the following are other members?
 (A) Egypt, Saudi Arabia and USA
 (B) Israel, UAE and USA
 (C) Egypt, UAE and UK
 (D) Israel, Saudi Arabia and UK
107. The terms 'Pinaka and Smerch' mentioned in news recently refer to—
 (A) Cruise missiles
 (B) Nuclear-powered submarines
 (C) Rocket launcher systems
 (D) Weaponised drones


108. Which of the following statements is/are correct ?
1. India had accorded recognition to Bangladesh even before the liberation of Bangladesh in 1971.
 2. In March 2021, both India and Bangladesh had decided to celebrate 6 December as Maitri Diwas.
- Select the correct answer using the codes given below—
- (A) Only 1
(B) Only 2
(C) Both 1 and 2
(D) Neither 1 nor 2
109. Recently India signed a contract for the manufacture of nearly 6 lakh AK-203 rifles with which one of the following countries ?
- (A) Canada (B) Russia
(C) France (D) Israel
110. In December 2021, who among the following succeeded Angela Merkel as the Chancellor of Germany ?
- (A) Olaf Scholz
(B) Annalena Baerbock
(C) Armin Laschet
(D) Jana Puglierin
111. Which of the following statements is/are correct ?
1. Nilamoni Phukan Jr. is the 56th Jnanpith Award winner.
 2. Damodar Mauzo is the 57th Jnanpith Award winner.
- Select the correct answer using the codes given below—
- (A) Only 1
(B) Only 2
(C) Both 1 and 2
(D) Neither 1 nor 2
112. Which one of the following statements about Anil Menon is correct ?
- (A) He is an engineer who revolutionised organic farming
(B) He is a diplomat selected in a UN Peace-Keeping mission
(C) He is a physician selected by NASA to be an astronaut
(D) He is a star football player
113. India's maiden human space mission will be launched in 2023. What is its name ?
- (A) Vayumitra
(B) Vikram
(C) Chandrayaan-3
(D) Gaganyaan
114. Which one of the following teams won the Senior Women's National Football Championship 2021 ?
- (A) Manipur
(B) Railways
(C) West Bengal
(D) Odisha
115. Which of the following about Khijadiya Bird Sanctuary is/are correct ?
1. It is recently declared as a Ramsar Site (wetlands of international importance).
 2. It is located in Uttar Pradesh.
- Select the correct answer using the codes given below—
- (A) Only 1
(B) Only 2
(C) Both 1 and 2
(D) Neither 1 nor 2
116. Which one among the following countries has announced a plan that sets a goal of having fewer, than 5% of its populace smoking by 2025 ?
- (A) England
(B) Germany
(C) New Zealand
(D) Russia
117. Who among the following won the FIDE World Chess Championship, 2021 ?
- (A) Nepomniachtchi
(B) Magnus Carlsen
(C) Ding Liren
(D) Anish Giri
118. With reference to Bhindawas Wildlife Sanctuary, Sultanpur National Park, Thol Lake Wildlife Sanctuary and Wadhvana Wetland, which of the following statements is/are correct ?
1. All of them are Ramsar sites.
 2. All of them are naturally formed wetlands.
 3. All of them are birding sites.
- Select the correct answer using the codes given below—
- (A) Only 1
(B) Only 1 and 3
(C) Only 2 and 3
(D) 1, 2 and 3
119. To study which one of the following was a space-craft launched that would be farthest from the Sun and would run exclusively on solar power ?
- (A) Jupiter's Trojan asteroids
(B) Saturn's rings and moons
(C) Mars' atmosphere
(D) Kuiper Belt and Oort Cloud
120. Recently, archaeological studies at which one among the following revealed that by 1200 BCE there was a flourishing agrarian civilization and the cultivation of rice was well-established at this place ?
- (A) Raichur Doab
(B) Krishna Delta
(C) Vicinity of Vamsadhara river
(D) Vicinity of Thamirabarani river

Answers with Hints

1. (C) 2. (A) 3. (C) 4. (D) 5. (C)
6. (C) 7. (C) 8. (B)
9. (C) Methanoic acid is systematic name of formic acid is the simplest carboxylic acid.
10. (B)
11. (B) Unsaturated hydrocarbon gives out yellow flame with black smoke while saturated hydrocarbon gives clean flame.
12. (C) 13. (B)
14. (B) A genetically modified organism (GMO) is an animal, plant or microb whose DNA has been altered using genetic engineering techniques.
15. (C) 16. (C)
17. (B) Photosynthesis is a process by which plant produces their own food by using sunlight water and CO₂ from air.
18. (B) Ricket is softening and weakening of bones in children due to lack of Vitamin D and Calcium.
19. (A) 20. (A) 21. (C) 22. (B) 23. (C)
24. (B)
25. (A) Hydrochloric acid also known as inuriatic acid is a component of gastic acid in the digestive system.

26. (C) Litmus is a water soluble mixture of different dyes extracted from Lichens.
27. (A) 28. (B) 29. (B) 30. (B) 31. (A)
32. (C) 33. (B) 34. (D) 35. (C) 36. (B)
37. (C) Deficit financing means generating new funds to finance the deficit which results from excess expenditure over revenue.
38. (C)
39. (A) Dadabhai Naoroji in his book 'Poverty and Unbritish Rule in India' made the estimation of poverty line.
40. (A) 41. (A) 42. (D) 43. (D) 44. (C)
45. (D) 46. (D) 47. (B)
48. (C) BRICS is an acronym for the grouping of world's leading emerging economies that is Brazil, Russia, India, China and South Africa.
49. (A) States in India never entered into an agreement with the centre to form a federation.
50. (C)
51. (C) Telegraph communication between India and England was opened in 1865 by the persian gulf line.
52. (A) The Virashaiva movement began in Karnataka by Basavanna and his companions.
53. (A) 54. (A) 55. (A) 56. (C) 57. (A)
58. (D) Isohalines are imaginary lines on map that joins points of equal salinity in an unequatic system.
59. (D) 60. (A) 61. (D)
62. (A) Monopolistic competition occurs when an industry has many firms offering products that are some what similar but not identical.
63. (D) 64. (B) 65. (A) 66. (C) 67. (C)
68. (A) 69. (B) 70. (D) 71. (A) 72. (C)
73. (B) 74. (B) 75. (C) 76. (A) 77. (B)
78. (D) 79. (A) 80. (C) 81. (C) 82. (D)
83. (C) 84. (C) 85. (D) 86. (C) 87. (D)
88. (A) 89. (D) 90. (B) 91. (B) 92. (C)
93. (B) 94. (A) 95. (A)
96. (D) The Swarajists or the pro-changers were led by C.R. Das, Motilal Nehru, Kasturi Ranga Iyengar and Ajmal Khan. They wanted an end to the boycott of Legislative Councils.
97. (A)
98. (D) Dadabhai Naoroji started the Newspaper Voice of India. In 1883 he started the Voice of India in Bombay and later incorporated it into the Indian Spectator.
99. (B) 100. (A) 101. (C) 102. (B)
103. (A) 104. (A) 105. (A) 106. (B)
107. (C) 108. (B) 109. (B) 110. (A)
111. (C) 112. (C) 113. (D) 114. (A)
115. (A) Khijadiya Bird Sanctuary is located in Jamnagar district of Gujarat.
116. (C) 117. (B) 118. (D)
119. (A) Lucy is NASA's spacecraft to study the distant asteroids. Lucy is the first mission to study Jupiter's Trojan Asteroids and would run exclusively on Solar Power.
120. (D)

Florian



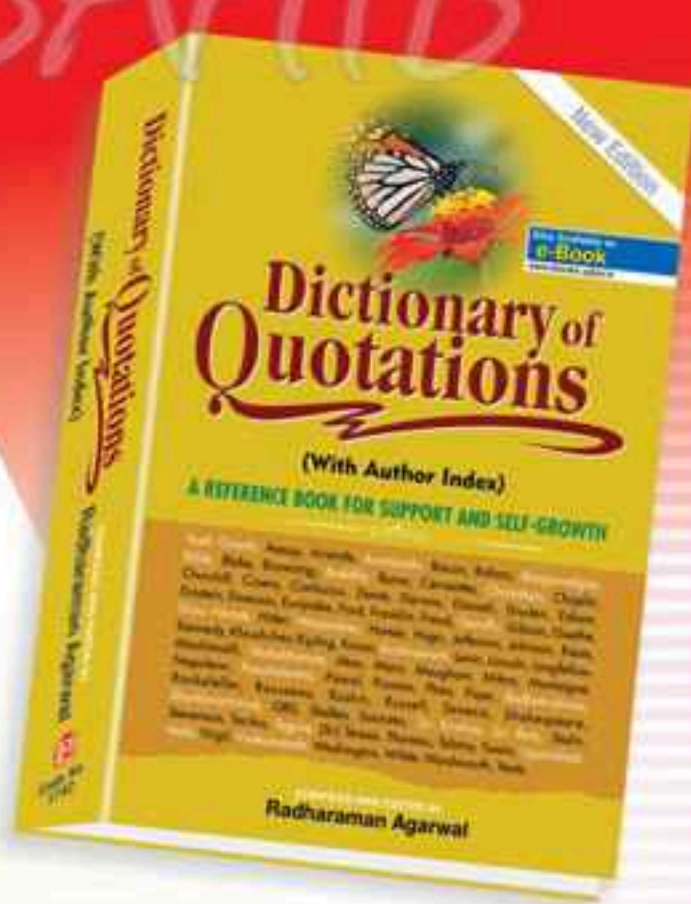
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S.S.C. Combined Graduate Level (Shift-I) Examination, 2021 (Tier-I)

(Hel on 12-4-2022)

SECTION-I

General Intelligence and Reasoning

1. Select the figure from among the given options that can replace the question-mark (?) in the following series—



(A) (B) (C) (D)

2. Select the option that is related to the third number in the same way as the second number is related to the first number—

$$52 : 91 :: 72 : ?$$

(A) 98 (B) 126
(C) 109 (D) 138

3. If the signs '+' and '÷' are interchanged, then which of the following equations can be correctly balanced?

(A) $12 + 4 - 8 + 3 = 11$
(B) $24 - 12 + 6 + 3 = 20$
(C) $16 + 4 \times 8 \div 3 = 45$
(D) $22 + 11 \times 8 \div 3 = 19$

4. In a certain code language, 'your attention please' is written as 'puw cuw zuw', 'kind attention' is written as 'muw zuw' and 'please pay attention' is written as 'puw zuw ruw'. How will 'pay' be written in that language?

(A) puw (B) zuw
(C) ruw (D) cuw

5. Select the option that is related to the third term in the same way as the second term is related to the first term.

FRONTIER : GSNOUHDS ::
CLOSING : ?

(A) DMNTHOH

(B) BMPTHOH
(C) DMNRHLH
(D) DKNTJOH

6. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follow(s) from the statements—

Statements :All fruits are leaves.
Some mangoes are rotten.
All rotten are fruits.**Conclusions :**I. Some leaves are rotten.
II. Some mangoes are fruits.
III. All leaves are either rotten or mangoes.(A) All the conclusions follow
(B) Only conclusions II and III follow
(C) Only conclusion II follows
(D) Only conclusions I and II follow

7. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.

C_BN_V_HC_B_H

(A) VCBHNVN (B) HVCNBVN
(C) VHCBNVN (D) VHBNCHV

8. Select the number from among the given options that can replace the question-mark (?) in the following series—

16, 35, ?, 217, 653, 1309

(A) 72 (B) 128
(C) 77 (D) 107

9. Select the Venn diagram that best illustrates the relationship between the following classes—
Planets, Mars, Venus



(A) (B) (C) (D)

10. Four letter-clusters have been given, out of which three are alike in some manner and one is different. Select the latter-cluster that is different—

(A) TVYCH (B) NPSWB
(C) UWZBI (D) ACFJO

11. Select the correct minor image of the given combination when the mirror is placed at 'PQ' as shown—

$$c \times Y L R g b \begin{array}{l} P \\ | \\ Q \end{array}$$
(A) d 6 Я T Y x 9
(B) d p Я J Y x 9
(C) q p Я J A x 9
(D) d p Я T Y x 9

12. 'A # B' means 'A is the father of B'.

'A % B' means 'A is the mother of B'.

'A @ B' means 'A is the sister of B'.

'A & B' means 'A is the son of B'.

If 'G # M # T % S @ H & R & W @ U', then which of the following statements is NOT correct?

(A) G is the paternal grandfather of T
(B) W is the maternal grandmother of H
(C) R is the husband of T
(D) M is the maternal grandfather of S

13. Select the correct option that indicates the arrangement of the given course of actions in a logical and meaningful order—

1. Open email account
2. Compose email
3. Start computer
4. Enter email address
5. Write the content
6. Send the mail(A) 3, 1, 2, 4, 5, 6
(B) 2, 5, 1, 3, 4, 6
(C) 3, 2, 6, 1, 5, 4
(D) 3, 1, 2, 6, 5, 4

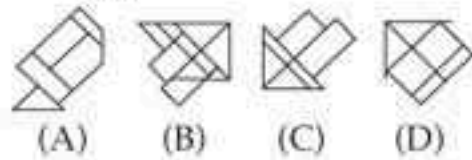
14. Select the letter-cluster from among the given options that can replace the question-mark (?) in the following series—
HDMS, OVVI, VNEY, CFNO, ?

- (A) JYWF (B) JXWE
(C) KXWE (D) JXXF

15. Select the option that is not embedded in the given figure (X) (rotation is not allowed)—



(X)



16. A is 25 years younger than B. The age of B would be double the age of C after 15 years. The current age of B is three times the current age of C. What is the current age of A ?

- (A) 25 years (B) 20 years
(C) 15 years (D) 30 years

17. Eight north-facing restaurants named P, Q, R, S, T, U, V and W are located in a straight line. S is second to the left of T. W is third to the left of P. T is between P and V. S is third to the left of V. W is to the immediate right of U. R is third to the right of P. Who is sitting fourth to the right of S ?

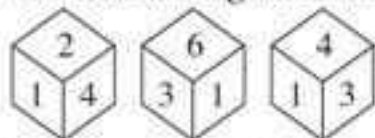
- (A) U (B) W
(C) R (D) V

18. Study the given pattern carefully and select the number from among the given options that can replace the question mark (?) in it.

11 15 9
14 16 ?
75 31 88

- (A) 13 (B) 22
(C) 18 (D) 25

19. Three different positions of the same dice are shown, the six faces of which are numbered from 1 to 6. Select the number that will be on the face opposite to the face having the number '5'.

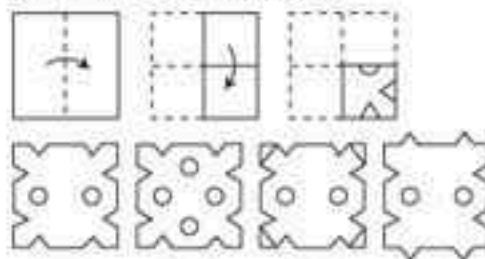


- (A) 3 (B) 1
(C) 6 (D) 2

20. Srinija walked 9 km towards the west from her home, then turned towards the south and walked 11 km. Then she walked 13 km towards the east and finally walked 4 km towards the west. How far is Srinija from her initial position ?

- (A) 11 km (B) 15 km
(C) 13 km (D) 10 km

21. The sequence of folding a piece of paper and the manner in which the folded paper has been cut is shown in the following figures. How would this paper look when unfolded ?



- (A) (B) (C) (D)

22. Select the number from among the given options that can replace the question-mark (?) in the following series—
62, 74, 80, 86, 95, ?, 158

- (A) 100 (B) 108
(C) 122 (D) 113

23. In a code language, SOUP is written as TNVO. How will BOWL be written in that language ?

- (A) CPVM (B) ANVK
(C) APVM (D) CNXX

24. If A denotes 'addition', B denotes 'multiplication', C denotes 'subtraction' and D denotes 'division', then what will be the value of the following expression ?
46 C (6 A 7) B 5 A 24 D 6 B (27 D (9 D 3))

- (A) 21 (B) 17
(C) 39 (D) 65

25. In a code language, if PEN is written as 17717, then how will CAP be written in the same language ?

- (A) 4319 (B) 2320
(C) 4219 (D) 2319

SECTION-II

General Awareness

26. The Nobel Prize in Literature 2020 was awarded to—

- (A) Olga Tokarczuk
(B) Kazuo Ishiguro
(C) Louise Gluck
(D) Peter Handke

27. Who among the following was elected as the President of the Asian Cricket Council (ACC) in January 2021 ?

- (A) Sachin Tendulkar
(B) Sourav Ganguly
(C) Anurag Thakur
(D) Jay Shah

28. Which of the following is NOT a part of a flower ?

- (A) Stamen (B) Petiole
(C) Sepal (D) Pistil

29. As a part of Mission Sagar-IV, Indian Naval Ship, Jalashwa arrived at Port Anjouan, Comoros on 14 March, 2021 to deliver 1,000 metric tonnes of—

- (A) rice (B) tea
(C) sugar (D) wheat

30. Which of the following diseases CANNOT be prevented by vaccination ?

- (A) Rabies (B) Beri beri
(C) Typhoid (D) Measles

31. Which law of Newton provides a quantitative definition of force ?

- (A) Universal law of gravitation
(B) Second law of motion
(C) First law of motion
(D) Third law of motion

32. The foul smell from a body specially during a sultry summer is due to the action of on sweat.

- (A) melanin (B) moisture
(C) bacteria (D) virus

33. Who among the following first argued that in the face of high deficits, people save more ?

- (A) Amartya Sen
(B) Esther Duflo
(C) Adam Smith
(D) David Ricardo

34. Which of the following Harappan sites is in Haryana ?

- (A) Kalibangan (B) Lothal
(C) Rakhigarhi (D) Dholavira

35. The value of the Gross Domestic Product (GDP) of India is published by PIB in—

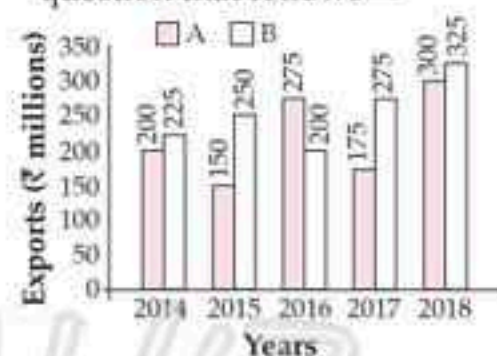
- (A) US Dollar
(B) Yen

- (C) Yuan
(D) Indian Rupee
36. Approximately how much percentage (nearest to integer) of total water on the surface of earth is accounted for by the oceans?
(A) 96 (B) 97
(C) 94 (D) 92
37. As per the Union Budget of 2021-22, how many textile parks are to be set-up in 3 years?
(A) Eight (B) Six
(C) Five (D) Seven
38. Ozone is an allotrope of—
(A) carbon dioxide
(B) oxygen
(C) hydrogen
(D) nitrogen
39. Who among the following athletes was appointed as the Deputy Superintendent of Police by the Assam Government in February 2021?
(A) Deepika Kumari
(B) Ekta Bhanu
(C) Dutee Chand
(D) Hima Das
40. Which of the following cities won the hosting rights of the 2030 Asian Games in December 2020?
(A) Jakarta (B) Doha
(C) Seoul (D) Shanghai
41. The Deomali is the highest mountain peak of—
(A) Assam
(B) West Bengal
(C) Bihar
(D) Odisha
42. Who among the following was a ruler of the Rashtrakuta Dynasty?
(A) Kanishka
(B) Samudragupta
(C) Dhruva
(D) Ashoka
43. Which of the following is a UNESCO recognised dance form?
(A) Bhangra (B) Delkhai
(C) Kalbelia (D) Giddha
44. Which of the following environment events is observed by switching off all lights at homes, business establishments, landmarks and so on for an hour?
(A) World Environment Day
(B) Earth Hour
(C) Earth Charter
(D) Earth Day
45. Which of the following Amendments of the Constitution of India declared that the Parliament has the power to abridge or take away any of the Fundamental Rights under Article 368 and such an Act, will not be a law under the meaning of Article 13?
(A) Twenty-third Amendment
(B) Twentieth Amendment
(C) Twenty-fourth Amendment
(D) Twenty-eight Amendment
46. Me-Dhum-Me-Phi is an ancestor-worship festival celebrated in the state of—
(A) Madhya Pradesh
(B) Himachal Pradesh
(C) Assam
(D) Goa
47. Which of the following crops is described as—'It is a crop which is used both as food and fodder. It is a Kharif crop that requires temperature between 21°C to 27°C and grows well in old alluvial soil?'
(A) Sesamum (B) Maize
(C) Bajra (D) Ragi
48. Who among the following Presidents of India gave assent to the 100th Amendment of the Constitution of India?
(A) Pranab Mukherjee
(B) Ram Nath Kovind
(C) APJ Abdul Kalam
(D) Pratibha Devisingh Patil
49. During the rule of which of the following dynasties did Timur or Tamerlane invade India in 1398 AD?
(A) The Slave dynasty
(B) The Sayyad dynasty
(C) The Tughlaq dynasty
(D) The Khilji dynasty
50. The Government of National Capital Territory of Delhi (Amendment) Bill 2021, which was passed in March 2021 amended the Government of National Capital Territory of Delhi Act—
(A) 1998 (B) 1994
(C) 1996 (D) 1991

SECTION-III

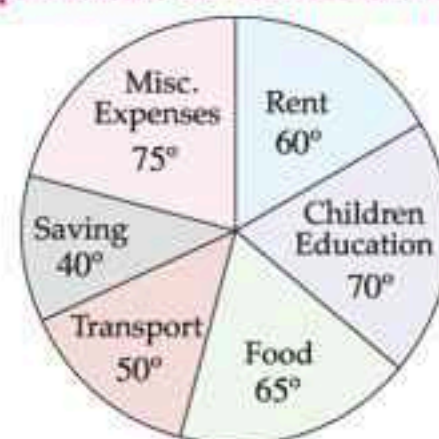
Quantitative Aptitude

51. Find the value of $70^3 + 20^3 - 90^3$.
(A) 0 (B) 378000
(C) -378000 (D) -300000
52. On simple interest, a certain sum becomes ₹ 59,200 in 6 years and ₹ 72,000 in 10 years. If the rate of interest had been 2% more, then in how many years would the sum have become ₹ 76,000?
(A) 10 (B) 9
(C) 8 (D) 7
53. The given bar graph shows exports of cars of type A and B (in ₹ millions) from 2014 to 2018. Study the graph and answer the question that follows—



- What is the ratio of the total exports of cars of type A in 2014 and 2018 to the total exports of cars of type B in 2015 and 2017?
(A) 20 : 21 (B) 10 : 9
(C) 5 : 4 (D) 13 : 12
54. Monthly expenditure of a family on different heads is shown in the following pie chart. What is the percentage of family earnings spent on rent?

Expenditure on Different Heads



- (A) $15\frac{3}{4}$ (B) $16\frac{2}{3}$
(C) $16\frac{1}{3}$ (D) 15
55. The difference between the two perpendicular sides of a right-angled triangle is 17 cm and

its area is 84 cm^2 . What is the perimeter (in cm) of the triangle?

- (A) 40 (B) 49
(C) 36 (D) 56

56. Find the value of the following expression:

$$\frac{5-35 \div 5 \times 15+5}{12-2}$$

- (A) -9.5 (B) -13.5
(C) -2.5 (D) 11.5

57. The average of 9 consecutive numbers is 20. The smallest of these numbers is—

- (A) 10 (B) 20
(C) 16 (D) 12

58. The price of petrol shot up by 5%. Before the hike, the price was ₹ 82 per litre. A man travels 3045 km every month and his car gives a mileage of 15 km per litre. What is the increase in the monthly expenditure (to the nearest ₹) on the man's travel due to the hike in the petrol prices?

- (A) 832 (B) 859
(C) 758 (D) 944

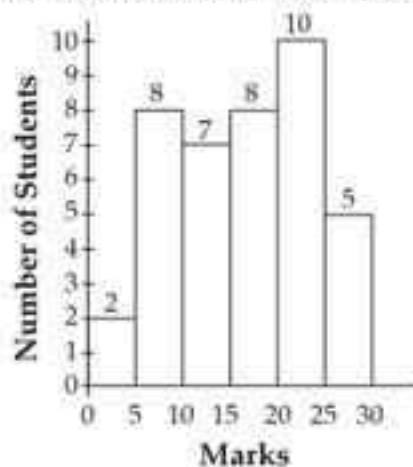
59. A trader sells an article for ₹ 425 and loses 15%. At what price (in ₹) should he sell the article to earn 5% profit?

- (A) 505 (B) 510
(C) 445 (D) 525

60. The following histogram shows the marks scored by 40 students in a test of 30 marks. A student has to score a minimum of 10 marks to pass the test.

How many students have scored less than two-third of the total marks?

Marks scored in 30 marks test



- (A) 35 (B) 17
(C) 25 (D) 32

61. A, B and C can do a work in 8, 10 and 12 days, respectively. After

completing the work together, they received ₹ 5,550. What is the share of B (in ₹) in the amount received?

- (A) 1,500 (B) 1,850
(C) 1,800 (D) 1,696

62. What is the difference in the volume (in cm^3) of a sphere of radius 7 cm and that of a cone of radius 7 cm and height 10 cm?

$$\left(\text{Use } \pi = \frac{22}{7} \right)$$

- (A) 205 (B) 704
(C) 924 (D) 1078

63. If $3 \sec^2 \theta + \tan \theta - 7 = 0$, $0^\circ < \theta < 90^\circ$, then what is the value of

$$\left(\frac{2 \sin \theta + 3 \cos \theta}{\operatorname{cosec} \theta + \sec \theta} \right) ?$$

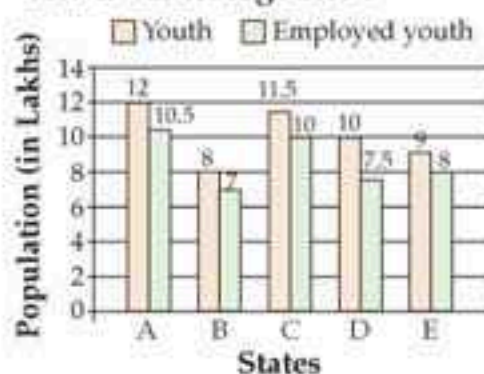
- (A) 10 (B) $\frac{5}{2}$
(C) $\frac{5}{4}$ (D) $4\sqrt{2}$

64. The bisector of $\angle B$ in ΔABC meets AC at D . If $AB = 12 \text{ cm}$, $BC = 18 \text{ cm}$ and $AC = 15 \text{ cm}$, then the length of AD (in cm) is—

- (A) 6 (B) 5
(C) 12 (D) 9

65. The following bar graph shows the total number of youth (in lakhs) and the number of employed youth (in lakhs) in 5 states A, B, C, D and E.

What is the ratio of the number of youth in states A, C and E taken together to the number of employed youth in states B, C and D taken together?



- (A) 65 : 59 (B) 65 : 49
(C) 8 : 7 (D) 57 : 49

66. A tangent is drawn from a point P to a circle, which meets the circle at T such that $PT = 10.5 \text{ cm}$. A secant PAB intersects the circle in points A and B. If $PA = 7 \text{ cm}$, what is the length (in cm) of the chord AB ?

- (A) 8.5 (B) 8.75
(C) 7.75 (D) 8.45

67. What is the remainder when the product of 335, 608 and 853 is divided by 13?

- (A) 11 (B) 12
(C) 6 (D) 7

68. The marked price of an article is ₹ 625. After allowing a discount of 32% on the marked price, there was a profit of ₹ 25. The profit percentage (correct to the nearest integer) is—

- (A) 5% (B) 4%
(C) 6% (D) 7%

69. At present, A is younger than B by 8 years. If 4 years ago, their ages were in the ratio 1 : 2, then what is the present age of B (in years)?

- (A) 11 (B) 20
(C) 12 (D) 18

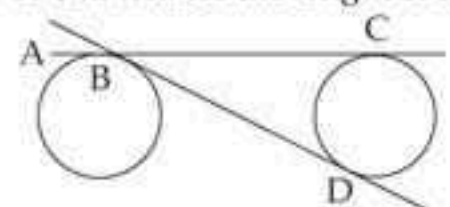
70. Which is the smallest multiple of 7, which leaves 5 as remainder in each case, when divided by 8, 9, 12 and 15?

- (A) 365 (B) 1085
(C) 2525 (D) 725

71. The ratio of the speeds of two trains is 2 : 7. If the first train runs 250 km in 5 hours, then the sum of the speeds (in km/h) of both the trains is—

- (A) 250 (B) 175
(C) 150 (D) 225

72. Two common tangents AC and BD touch two equal circles each of radius 7 cm, at points A, C, B and D, respectively as shown in the figure. If the length of BD is 48 cm, what is the length of AC ?



- (A) 40 cm (B) 30 cm
(C) 50 cm (D) 48 cm

73. If $x + y + z = 11$, $xy + yz + zx = -6$, and $x^3 + y^3 + z^3 = 1604$, then the value of xyz is—

- (A) 25 (B) 4
(C) 1 (D) 5

74. If $\cot B = \frac{12}{5}$, what is the value of $\sec B$?

- (A) $\frac{5}{12}$ (B) $\frac{13}{12}$
(C) $\frac{13}{5}$ (D) $\frac{12}{13}$

75. A vertical pole and a vertical tower are on the same level ground in such a way that, from the top of the pole, the angle of elevation of the top of the tower is 60° and the angle of depression of the bottom of the tower is 30° . If the height of the pole is 24 m, then find the height of the tower (in m)—

- (A) $24\sqrt{3}(\sqrt{3}+1)$
 (B) 72
 (C) 96
 (D) $24(\sqrt{3}+1)$

SECTION-IV

English Comprehension

76. Select the INCORRECTLY spelt word—
 (A) Progress (B) Mystery
 (C) Pilgrim (D) Symtoms
77. The following sentence has been split into four segments. Identify the segment that contains a grammatical error—
 My older brother / which you'll / meet later / is a dentist.
 (A) My older brother
 (B) which you'll
 (C) meet later
 (D) is a dentist
78. Select the most appropriate ANTONYM of the given word—
 Rely
 (A) Move (B) Distrust
 (C) Await (D) Depend
79. Select the most appropriate meaning of the given idiom—
 To take after
 (A) To chase someone
 (B) To be similar in appearance
 (C) To mock someone
 (D) To change sides often
80. Select the option that expresses the given sentence in active voice—
 Hatred can be overcome by love.
 (A) Love can overcome hatred
 (B) Love has overcome hatred
 (C) Love is overcoming hatred
 (D) Love can overcame hatred
81. Sentences of a paragraph are given below in jumbled order. Arrange the sentences in the correct order to form a meaningful and coherent paragraph—
- However, when areas in Leh began to experience water shortages, life didn't grind to a halt.
 - Ladakh is a cold desert with a low average annual rainfall.
 - Thus, glaciers have been the main source of water for the people.
 - This was because Chewang Norphel, a retired civil engineer came up with the idea of artificial glaciers.
- (A) 3 2 4 1 (B) 2 3 1 4
 (C) 4 1 2 3 (D) 2 3 4 1
82. Select the most appropriate meaning of the given idiom—
 Foul play
 (A) Unfair or dishonest behaviour
 (B) A bad smelling theatre or playground
 (C) Unpleasant weather for playing
 (D) A drama which is badly produced
83. Select the option that can be used as a one-word substitute for the given group of words—
 Formally put an end to a system, practice, or institution
 (A) Stop (B) Destroy
 (C) Kill (D) Abolish
84. The following sentence has been divided into parts. One of them contains an error. Select the part that contains the error from the given options—
 He was / late / for school / and punished.
 (A) for school
 (B) late
 (C) He was
 (D) and punished
85. Select the most appropriate option to fill in the blank—
 She hardly works on weekends, ?
 (A) doesn't she (B) is she
 (C) does she (D) isn't she
86. Select the most appropriate option to substitute the **bold** segment in the given sentence. If there is no need to substitute it, select 'No substitution required'.
 I wish I **were listening** to my parents.
 (A) am listening
 (B) have listened
 (C) No substitution required
 (D) had listened
87. Select the option that expresses the given sentence in reported speech—
 Mother said, 'Abhinav slipped while trying to board a bus.'
 (A) Mother told that Abhinav slipped while trying to board a bus
 (B) Mother said that Abhinav slipped while trying to board a bus
 (C) Mother says that Abhinav slipped while trying to board a bus
 (D) Mother said that Abhinav had slipped while trying to board a bus
88. Select the most appropriate synonym of the given word.
 DUO
 (A) Bond (B) Pair
 (C) Loan (D) Debt
89. The following sentence has been divided into parts. One of them may contain an error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer—
 It was a surprising / to receive the gift / from my brother.
 (A) No error
 (B) It was a surprising
 (C) from my brother
 (D) to receive the gift
90. The following sentence has been divided into parts. One of them may contain an error. Select the part that contains the error from the given options. If you don't find any error, mark 'No error' as your answer—
 The fisheries sector / have grown significantly / in the last one year
 (A) have grown significantly
 (B) in the last one year
 (C) No error
 (D) The fisheries sector
91. The following sentence has been split into four segments. Identify the segment that contains a grammatical error.

My house / is more / spacious than / my sister

- (A) is more
(B) My house
(C) my sister
(D) spacious than

92. Select the option that expresses the given sentence in passive voice—

- Do you trust me ?
(A) Am I trusted by you ?
(B) Do I am trusted by you ?
(C) Do I was trusted by you ?
(D) I am trusted by you

93. Select the most appropriate synonym of the given word—
Paranoid

- (A) Convinced (B) Trustful
(C) Committed (D) Distrustful

94. Select the option that can be used as a one-word substitute for the given group of words—
Indifferent to pleasure and pain

- (A) Cynic (B) Stoic
(C) Prudent (D) Lusty

95. Select the most appropriate ANTONYM of the given word—
Appal

- (A) Alarm (B) Assure
(C) Amaze (D) Astound

Directions—(Q. 96 to 100) In the following passage, some words have been deleted. Read the passage carefully and select the most appropriate option to fill in each blank.

An old man lived in the village. He was one of the ... (1) ... unfortunate people in the world. The whole village was tired ... (2) ... him, he was always gloomy, he ... (3) ... complained and was always in a bad mood. The ... (4) ... he lived, the more vile he was becoming and the more ... (5) ... were his words.

96. Select the most appropriate option to fill in blank number (1).
(A) maximum (B) utmost
(C) most (D) main

97. Select the most appropriate option to fill in blank number (2).
(A) from (B) of
(C) by (D) at

98. Select the most appropriate option to fill in blank number (3).
(A) mostly (B) commonly
(C) cyclically (D) constantly

99. Select the most appropriate option to fill in blank number (4).

- (A) long (B) lengthy
(C) longer (D) longest

100. Select the most appropriate option to fill in blank number (5).

- (A) fatal (B) mortal
(C) poisonous (D) toxic

Answers with Hints

1. (D) Option (D) is the right option that can replace the question mark.

2. (B) According to the question

$$\begin{array}{ccccccc} 52 & : & 91 & :: & 72 & : & \boxed{126} \\ \downarrow & & \downarrow & & \downarrow & & \downarrow \\ 13 \times 4 & & 13 \times 7 & & 18 \times 4 & & 18 \times 7 \end{array}$$

3. (D) If the signs '+' and '÷' are interchange then the option (D) equation is correctly balance—

$$\begin{aligned} \text{equation—} & 22 + 11 \times 8 \div 3 = 19 \\ \text{After sign interchange—} & \\ \Rightarrow & 22 \div 11 \times 8 + 3 = 19 \\ \Rightarrow & 2 \times 8 + 3 = 19 \\ \Rightarrow & 19 = 19 \end{aligned}$$

4. (C) Given,
your attention please—
puw cuw zuw ... (i)
kind attention—muw zuw ... (ii)
please pay attention—
puw zuw ruw ... (iii)

According to (i) & (iii)
please—puw
According to (i) & (ii)
attention—zuw

∴ pay is written as ruw

5. (A)

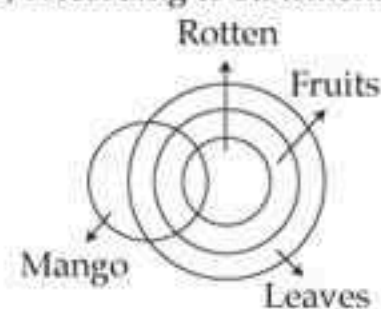
6	18	15	14	20	9	5	18
F	R	O	N	T	I	E	R
+1	+1	-1	+1	+1	-1	-1	+1
G	S	N	O	U	H	D	S
7	19	14	15	21	8	4	19

Here, vowels is decreasing one & consonants is increasing one.

Therefore,

3	12	15	19	9	14	7
C	L	O	S	I	N	G
+1	+1	-1	+1	-1	+1	+1
D	M	N	T	H	O	H
4	13	14	20	8	15	8

6. (D) According to statement

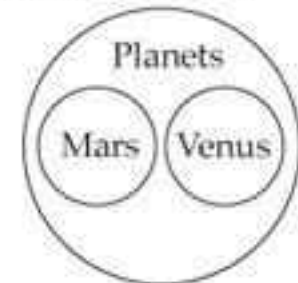


7. (C) C V B N H / C V B N H / C V B N H

8. (D) Given series—

$$\begin{array}{ccccccc} & & & & 35 \times 3 + 2 & & \\ & & & & 107 & & \\ 16 & 35 & ? & 217 & 653 & 1309 & \\ \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \uparrow & \\ \boxed{+2} & \boxed{+3} & \boxed{+2} & \boxed{+3} & \boxed{+2} & \boxed{+3} & \end{array}$$

9. (B) Relationship between, Planets, Mars, Venus



10. (C) Given options—

(A) T V Y C H

20	22	25	3	8
T	V	Y	C	H
+2	+3	+4	+5	

(B) N P S W B

14	16	19	23	2
N	P	S	W	B
+2	+3	+4	+5	

(C) U W Z B I

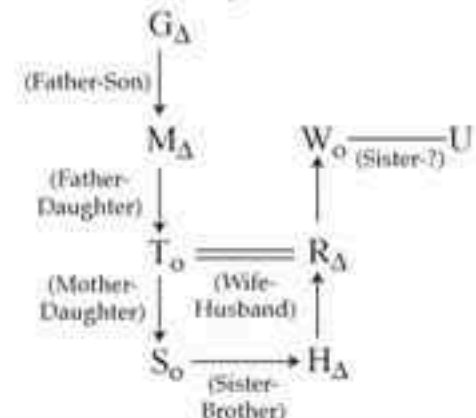
21	23	26	2	9
U	W	Z	B	I
+2	+3	+2	+7	

(D) A C F J O

1	3	6	10	15
A	C	F	J	O
+2	+3	+4	+5	

11. (B) When the mirror is placed at 'PQ' the combination.

12. (B) According to question—
[Male-A, Female-O]



Because W is the paternal grandmother of H.

13. (A) It indicates the arrangement of the given course.

14. (B) Given series—

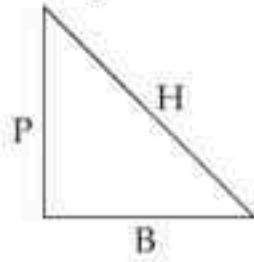
8	4	13	19	15	22	22	9	22	14	5	25	3	6	14	15	10	24	23	5
H	D	M	S	O	V	V	I	V	N	E	Y	C	F	N	O	J	X	W	E
+7		+7		+7		+7		+7		+7		+7		+7		+7		+7	
-8		-8		-8		-8		-8		-8		-8		-8		-8		-8	
+9		+9		+9		+9		+9		+9		+9		+9		+9		+9	
-10		-10		-10		-10		-10		-10		-10		-10		-10		-10	

15. (B) Option (B) is not embedded in the given figure.

16. (B) Given : A is 25 year younger than B

$$\Rightarrow B - A = 25 \quad \dots(i)$$

55. (D) Given,
Difference between the two perpendicular side of Right-Angle triangle = 17 cm



$$\text{Area of triangle} = 84 \text{ cm}^2$$

$$\therefore P = B + 17 \quad \dots(i)$$

$$\text{Area of triangle} = \frac{1}{2} \times P \times B$$

$$\Rightarrow 84 = \frac{1}{2} \times (B + 17) \times B$$

$$\Rightarrow B^2 + 17B = 168$$

$$\Rightarrow B^2 + 24B - 7B - 168 = 0$$

$$\Rightarrow B(B + 24) - 7(B + 24) = 0$$

$$\Rightarrow B = 7,$$

$$B = -24$$

$B = 7$ cm therefore

$$P = 7 + 17 = 24 \text{ cm}$$

$$\therefore H^2 = B^2 + P^2$$

$$\Rightarrow H = \sqrt{7^2 + (24)^2}$$

$$\Rightarrow H = \sqrt{49 + 576}$$

$$\Rightarrow H = \sqrt{625} = 25 \text{ cm}$$

Now, Perimeter of triangle

$$= P + H + B$$

$$= 24 + 25 + 7$$

$$= 56 \text{ cm}$$

56. (A) Given :

$$\frac{5-35}{12-2} \quad \frac{5 \times 15 + 5}{12-2}$$

$$= \frac{5-7 \times 15 + 5}{10}$$

$$= \frac{10-105}{10}$$

$$= \frac{-95}{10}$$

$$= \boxed{-9.5}$$

57. (C) Given,

$$\text{Average of numbers} = 20$$

So that the sum of all numbers is

$$= 20 \times 9$$

$$= 180$$

Let, 9 consecutive number

$$= n, n+1, n+2, n+3, n+4, n+5, n+6, n+7, n+8$$

So that

$$\Rightarrow n + n + 1 + n + 2 + n + 3 + n + 4 + n + 5 + n + 6 + n + 7 + n + 8 = 180$$

$$\Rightarrow 9n + 36 = 180$$

$$\Rightarrow 9n = 144$$

$$\Rightarrow \boxed{n=16}$$

n is the smallest number.

58. (A) Given,

The price of petrol before the hike = ₹ 82

Price of petrol after hike

$$= \frac{82 \times 105}{100}$$

$$= ₹ 86.1$$

Consumption of petrol every month

$$= \frac{3045}{15}$$

$$= 203 \text{ liter}$$

Monthly expenditure increase

$$= 203 \times 86.1 - 203 \times 82$$

$$= 203(86.1 - 82)$$

$$= 203(4.1)$$

$$= 832.3 \approx \boxed{₹ 832}$$

59. (D) Given,

$$\text{Sales price} = ₹ 425$$

$$\text{loss \%} = 15$$

So that,

$$\text{The cost price} = \frac{425 \times 100}{(100 - 15)}$$

$$= \frac{425 \times 100}{85}$$

$$= ₹ 500$$

If article sales with 5% profit.

Then, the sale price

$$= \frac{500 \times 105}{100}$$

$$= 5 \times 105$$

$$= ₹ 525$$

60. (C) Given,

$$\text{Total marks} = 30$$

$$\text{Total student} = 40$$

So, $\frac{2}{3}$ of total marks

$$= \frac{30 \times 2}{3}$$

According to histogram there are some student who scored less than two-third of the total mark

$$= 2 + 8 + 7 + 8$$

$$= \boxed{25} \text{ student}$$

61. (C) Given,

$$\text{A can do a work in} = 8 \text{ days}$$

$$\text{B can do a work in} = 10 \text{ days}$$

$$\text{C can do a work in} = 12 \text{ days}$$

$$\text{LCM of 8, 10 and 12} = 120$$

If 120 is the work then the work.

Ratio of A, B, C

$$= \frac{120}{8}, \frac{120}{10}, \frac{120}{12}$$

$$= 15, 12, 10$$

Therefore the share of B is

$$= \frac{5550 \times 12}{15 + 12 + 10}$$

$$= \frac{5550 \times 12}{37}$$

$$= 150 \times 12$$

$$= \boxed{₹ 1800}$$

62. (C) Given, radius of sphere (r)

$$= 7 \text{ cm}$$

$$\text{Radius of cone } (r_1) = 7 \text{ cm}$$

$$\text{Here, } r_1 = r = 7 \text{ cm}$$

$$\text{Height of cone } (h) = 10 \text{ cm}$$

Difference in the volume

$$= \frac{4}{3} \pi r^3 - \frac{1}{3} \pi r^2 h$$

$$= \frac{1}{3} \pi r^2 (4r - h)$$

$$= \frac{1}{3} \times \frac{22}{7} \times 7 \times 7 (4 \times 7 - 10)$$

$$= \frac{154}{3} \times 18$$

$$= 154 \times 6 = \boxed{924}$$

63. (C) If θ is $0^\circ < \theta < 90^\circ$

Then, let assume $\theta = 45^\circ$

So that,

$$3 \sec^2 45^\circ + \tan 45^\circ - 7 = 0$$

$$\Rightarrow 3 \times (\sqrt{2})^2 + 1 - 7 = 0$$

$$\Rightarrow 3 \times 2 + 1 - 7 = 0$$

$$\Rightarrow 6 - 6 = 0$$

$$\Rightarrow 0 = 0$$

Here $\theta = 45^\circ$ satisfying the equation

$$\text{So, } \frac{2 \sin \theta + 3 \cos \theta}{\operatorname{cosec} \theta + \sec \theta}$$

$$\Rightarrow \frac{2 \sin 45^\circ + 3 \cos 45^\circ}{\operatorname{cosec} 45^\circ + \sec 45^\circ}$$

$$\Rightarrow \frac{2 \times \frac{1}{\sqrt{2}} + 3 \times \frac{1}{\sqrt{2}}}{\sqrt{2} + \sqrt{2}}$$

$$\Rightarrow \frac{\frac{2}{\sqrt{2}} + \frac{3}{\sqrt{2}}}{2\sqrt{2}} = \frac{5}{2\sqrt{2}}$$

$$\Rightarrow \frac{5}{4}$$

64. (A) Given,

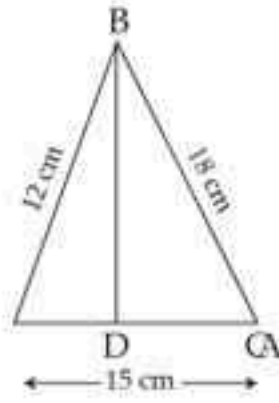
$$AB = 12 \text{ cm,}$$

$$BC = 18 \text{ cm}$$

$$\text{and } AC = 15 \text{ cm}$$

In ΔABC , BD is bisector.

We know that,



$$\frac{AB}{BC} = \frac{AD}{DC}$$

$$\Rightarrow \frac{12}{18} = \frac{AD}{DC}$$

$$\Rightarrow \frac{AD}{DC} = \frac{2}{3}$$

$$\Rightarrow AD : DC = 2 : 3$$

So that,

$$\text{Length of AD} = \frac{AC}{2+3} \times 2$$

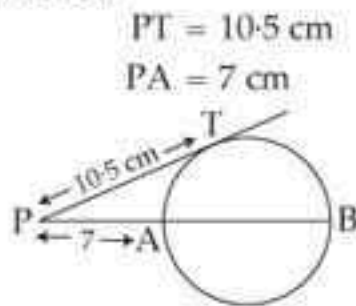
$$= \frac{15}{5} \times 2$$

$$= 3 \times 2 = \boxed{6 \text{ cm}}$$

65. (B) Total number of youth in state A, C and E
 $= 12 + 11.5 + 9$
 $= 32.5$
 Total number of employed youth in state B, C and D
 $= 7 + 10 + 7.5$
 $= 24.5$

Ratio in youth and employed youth
 $= 32.5 : 24.5$
 $= \boxed{65 : 49}$

66. (B) Given,



We know that,

$$PT^2 = PA \times PB$$

$$\Rightarrow (10.5)^2 = 7 \times PB$$

$$\Rightarrow \frac{105 \times 105}{10 \times 10 \times 7} = PB$$

$$\Rightarrow PB = \frac{105 \times 15}{100}$$

$$\Rightarrow PB = 15.75 \text{ cm}$$

Now, $AB = PB - PA$
 $\Rightarrow AB = 15.75 - 7$
 $\Rightarrow AB = \boxed{8.75 \text{ cm}}$

67. (D) Divide all the number by 13 separately & get the remainder

$$= \frac{335}{13}, \frac{608}{13}, \frac{853}{13}$$

$$\text{Remainder} = 10, 10, 8$$

Now, multiply all the remainder & Divided by 13 we get the remainder (Answer)

$$= \frac{10 \times 10 \times 8}{13} = \frac{800}{13}$$

$$= \frac{61 \times 13 + 7}{13}$$

Here Answer is 7.

68. (C) Given,

$$\text{Marked price} = ₹ 625$$

$$\text{Profit after discount of } 32\% = ₹ 25$$

So, the cost price

$$= \frac{625 \times (100 - 32)}{100} - 25$$

$$= \frac{25 \times 68}{4} - 25$$

$$= 25 \times 17 - 25$$

$$= 425 - 25 = ₹ 400$$

Therefore,

$$\text{Profit \%} = \frac{25}{400} \times 100$$

$$\left[\frac{\text{Profit}}{\text{Cost price}} \times 100 \right]$$

$$= 6.25\% \text{ or } \boxed{6\%}$$

69. (B) Let,

$$\text{Age of A} = x \text{ years}$$

$$\text{So, Age of B} = x + 8 \text{ years}$$

4 years ago, their ages were in the ratio $1 : 2$

$$\text{So, that } \frac{x-4}{x+8-4} = \frac{1}{2}$$

$$\Rightarrow 2x - 8 = x + 4$$

$$\Rightarrow x = 12 \text{ years}$$

$$\text{Present age of B} = x + 8$$

$$= 12 + 8$$

$$= \boxed{20} \text{ years}$$

70. (B) LCM of 8, 9, 12, 15 = 360

360 is divided by 8, 9, 12, 15 and not giving 5 remainder.

So we need to add 5

$$\therefore 360 + 5 = 365$$

365 is not a multiple of 7 only

$$360 \times 3 + 5 = 1085$$

So, that the answer is 1085 it is a multiple of 7 as well giving 5 remainder when divide by 8, 9, 12, 15.

71. (D) The ratio of the speeds of two trains = 2 : 7

First train speed

$$= \frac{250}{5} = 50 \text{ km/h}$$

So, that the second train speed

$$= \frac{50}{2} \times 7$$

$$= 25 \times 7 = 175 \text{ km/h}$$

Total sum of the speed

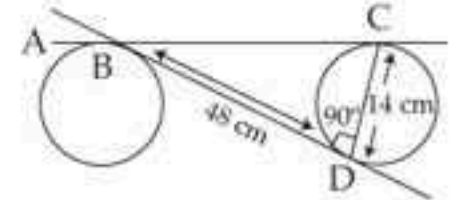
$$= 50 + 175 = 225 \text{ km/h}$$

72. (C) Given, Radius of both circles = 7 cm

So that,

$$CD = 7 + 7 = 14 \text{ cm}$$

$$\text{Given, } BD = 48 \text{ cm}$$



\therefore Pythagoras theorem

$$(AC)^2 = (BD)^2 + (CD)^2$$

$$\Rightarrow AC = \sqrt{(BD)^2 + (CD)^2}$$

$$\Rightarrow AC = \sqrt{(48)^2 + (14)^2}$$

$$\Rightarrow AC = \sqrt{2304 + 196}$$

$$\Rightarrow AC = \sqrt{2500}$$

$$\Rightarrow AC = \boxed{50}$$

73. (A) Given,

$$x + y + z = 11$$

$$xy + yz + zx = -6$$

$$x^3 + y^3 + z^3 = 1604$$

$$xyz = ?$$

Formula

$$x^3 + y^3 + z^3 - 3xyz$$

$$= (x + y + z) ((x + y + z)^2 - 3(xy + yz + zx))$$

Putting the value

$$\Rightarrow 1604 - 3xyz = (11) ((11)^2 - 3(-6))$$

$$\Rightarrow 1604 - 3xyz = (11) (121 + 18)$$

$$\Rightarrow = 1529$$

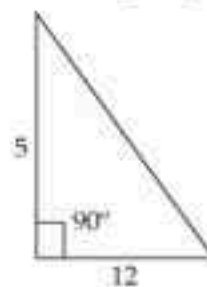
$$\Rightarrow xyz = \frac{1604 - 1529}{3}$$

$$\Rightarrow xyz = \frac{75}{3} = \boxed{25}$$

74. (B) Given,

$$\cot B = \frac{12}{5}$$

$$\left[\frac{\text{Base (B)}}{\text{Perpendicular (P)}} \right]$$



We know that Hypotenuse (H)

$$= \sqrt{(B)^2 + (P)^2}$$

$$\Rightarrow H = \sqrt{(12)^2 + (5)^2}$$

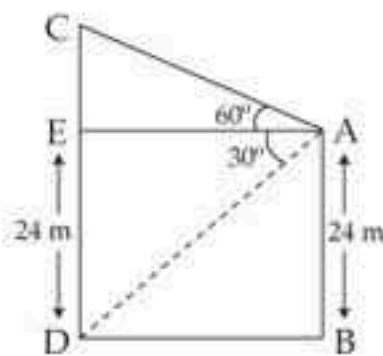
$$\Rightarrow H = \sqrt{144 + 25}$$

$$\Rightarrow H = \sqrt{169} = 13$$

So that, $\sec B = \frac{H}{B}$

$$= \frac{13}{12}$$

75. (C) Let AB is pole & CD is tower. Given, height of the pole AB = 24 m



in $\triangle DAE$,

$$\tan 30^\circ = \frac{24}{AE}$$

$$\Rightarrow \frac{1}{\sqrt{3}} = \frac{24}{AE}$$

$$\Rightarrow AE = 24\sqrt{3} \text{ cm}$$

Now in $\triangle CAE$,

$$\tan 60^\circ = \frac{CE}{AE}$$

$$\Rightarrow \sqrt{3} = \frac{CE}{24\sqrt{3}}$$

$$CE = 24 \times 3$$

$$\Rightarrow CE = 72 \text{ m}$$

So that, the height of the tower

$$= CE + ED$$

$$= 72 + 24$$

$$= \boxed{96 \text{ m}}$$

76. (D) Symtoms is incorrectly spelt Correct spelling—Symptoms

77. (B) My older brother / **which** you'll / meet later / is a dentist.

Which → Replace → **Whom**
error correct

78. (B) 'Distrust' is the antonym of Rely.

79. (B) To take after—to be similar in appearance.

80. (A) Active voice— Love can overcome hatred.

81. (B) In this para jumble 2314 is the right sequence.

82. (A) Foul play—unfair or dishonest behaviour.

83. (D)

84. (D) Last part of the sentence has an error and punished replace with **and was punished**.

85. (C) 86. (D)

87. (D) Mother said that Abhinav had slipped while trying to board a bus.

88. (B) 'Pair' is the synonym of Duo.

89. (B)

90. (A) 'have grown significantly' repalce 'have' with 'has'.

91. (C) There is no comparison in my house & my sister.

My house can be compair with my sister's house.

92. (A)

93. (D) 'Distrustful' is synonym of 'Paranoid'.

94. (B) Stoic—Indifferent to pleasure and pain.

95. (B) 'Assure' is the antonym of 'Appal'.

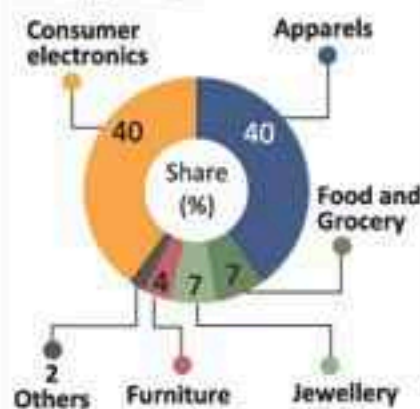
96. (C) 97. (B) 98. (D) 99. (C) 100. (C)

FDragon

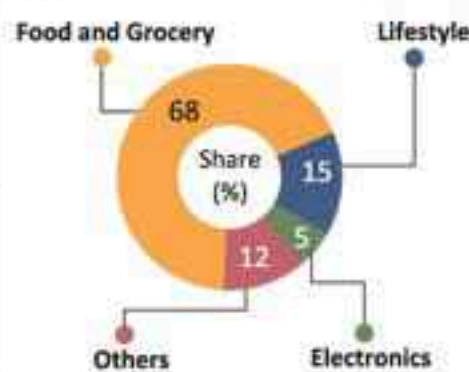
Path Towards Digital Commerce Revolution in India

The Open Network for Digital Commerce (ONDC) has been incubated with the primary purpose of supporting grassroots-level entrepreneurship and digitising small, local retailers by making them a participant in India's e-commerce revolution. ONDC is expected to play major role in driving India's digital penetration in retail, just as UPI democratised the digital payments space in India. Here is a look at the potential of ONDC and how it can be a gamechanger.

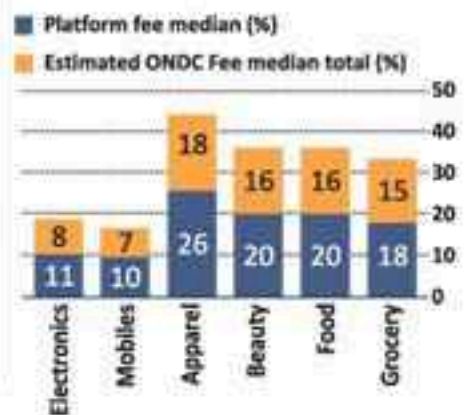
E-commerce in India is dominated by electronics and apparel...



...food and grocery account for 68% of retail market, implying the gaps in e-commerce story



ONDC fee has the potential to be 20-30% lower than the current platform fees



ONDC can herald a new cycle of 'Atmanirbhar' e-commerce growth

■ Indian E-commerce market (\$ billion) ● Penetration (%)



Currently Amazon and Flipkart account for 60%+ market share of Indian e-commerce



Grocery business dynamics: Room for improvement for ONDC

Particulars	ONDC	Swiggy Instamart	Dunzo
Brooke Bond Red Label - 500gm	370	300	315
Daawat Pulav Basmati Rice 1kg	175	155	155
Dabur Honey Squeezy - 225gm	250	204	207
Sensodyne Toothpaste - 70gm	235	191	150
Parle Hide & Seek - 100gm	70	55	55
Id fresh Idli & Dosa Batter - 1kg	119	92	104
Aashirvaad Multigrain Atta - 1kg	111	90	96
Del monte Extra virgin Olive oil - 1 Ltr	940	896	890

Pilot phase has listed groceries at MRP along with a delivery fee on top

Source: JM Financial Institutional Securities report

- Which are the main centres of whaling ?
(A) Arctic Ocean
(B) Iceland
(C) Falkland and Georgia
(D) Greenland
- What is Doggar Bank ?
(A) Coalfields in Russia
(B) Coastline of Japan
(C) Fishing ground in East Atlantic
(D) None of the above
- Coniferous forests are located between—
(A) 50° and 70° N
(B) 40° and 50° N
(C) 55° and 65° N
(D) 80° and 82° N
- How many rings are found in Von Thunen model of agricultural location ?
(A) 8 (B) 7
(C) 6 (D) 5
- Who propounded the concentrating theory ?
(A) J.H. Thompson
(B) Weber
(C) Losch
(D) Hermann Bondi
- How many belts are found in the 'Industrial Location Theory' ?
(A) 7
(B) 5
(C) 9
(D) 3
- Which is the main cause of low productivity ?
(A) Traditional society
(B) Poor farming
(C) Poor technology
(D) Less interest towards production
- The volume of traffic, on the transport links, can be measured as—
(A) Flow
(B) Network
(C) Economic distances
(D) None of the above
- Which of the following is the ideal conditions for optimum location of industries ?
(A) Least cost theories
(B) Maximum revenue
(C) Both (A) and (B)
(D) None of the above
- When did A Weber propound the 'Industrial Location Theory' ?
(A) 1909
(B) 1928
(C) 1910
(D) 1911
- Export of goods are—
(A) Primary activities
(B) Secondary activities
(C) Tertiary activities
(D) Quaternary activities
- Developing countries of the world are engaged in—
(A) Primary activities
(B) Secondary activities
(C) Tertiary activities
(D) Quaternary activities
- The number of varieties of wheat in the world is—
(A) 710 (B) 700
(C) 820 (D) 650
- Which of the following is the best type of cotton ?
(A) Short staple cotton
(B) Long staple cotton
(C) Medium staple cotton
(D) None of the above
- Where is the origin of potato ?
(A) Rocky mountain
(B) Andos
(C) Alpines
(D) Himalayas
- The process of manufacturing is known as—
(A) Processing activities
(B) Atering activities
(C) Industrial activities
(D) None of the above
- Middle-east region has world's—
(A) 60% of mineral oil
(B) 45% of mineral oil
(C) 70% of mineral oil
(D) 35% of mineral oil
- Which of the following is the most productive soloman ground ?
(A) Atlantic coast
(B) Pacific coast
(C) South African coast
(D) East Asian coast
- Sparrow point is famous for—
(A) Steel industry
(B) Aluminium industry
(C) Heavy engineering industry
(D) Cultivation of rice
- Bunas is—
(A) Tough
(B) Soft
(C) Sticky
(D) None of the above

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Concentric Quiz

ENTRY FORM

Special on Population Geography

**PRATIYOGITA
DARPAN**

Last Date for Sending December 15, 2022

I have read and understood the rules of Concentric Quiz of Pratiyogita Darpan and agree to abide by them.

.....
(Signature)

Name Mr./Miss/Mrs. Age

Full Address

State Pin Code No..... Academic Qualification.....

Competition examination for which preparing

• How would you rate our magazine on a scale of 1 to 5?

• Topics/Features you would like to see in
forthcoming issues

• No. of Questions Solved

ANSWERS FORM

Q. No.	A	B	C	D	Q. No.	A	B	C	D	Q. No.	A	B	C	D	Q. No.	A	B	C	D
1.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	6.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	11.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	16.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	7.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	12.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	17.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	8.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	13.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	18.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	9.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	14.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	19.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
5.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	10.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	15.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	20.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Rules and Regulations

- All students or those appearing in competitive examinations can take part in this contest.
- Candidates taking part in quiz contest will necessarily have to send their entries by the fixed date. Entries are to be sent by ordinary post. Please mark your envelope 'Quiz-Pratiyogita Darpan' on the top left hand side.
- Answers given only on the Entry Form of the magazine will be admissible.
- In the form there are four squares against each question number. Contestants should put a Tick (✓) in the square for the answer they think is correct. Giving more than one answer to a question will disqualify it.
- Contestants should essentially write the number of questions they have solved.
- Marks will be deducted for wrong answers.
- The candidate sending the maximum number of correct answers will be given ₹ 1000 as first prize. Next two candidates after that will get ₹ 800 and ₹ 600 as second and third prize respectively. If there are more than one candidate eligible for a prize, the amount will be equally distributed among them.
- Write your name in English in Capital Letters. The name must be the one which appears in your bank account. Also, write the bank account number, IFSC code of the bank and your mobile phone number.
- The decision of the editor will be final and binding in all cases, and will not be a matter for consideration of any court and no correspondence will be entertained in this concern.
- Names of prize winners of Concentric Quiz alongwith the answers will be published in the next issue of Pratiyogita Darpan.
- Pratiyogita Darpan reserves the right to terminate or extend the period of quiz, or to accept or reject any or all the entries at their absolute discretion without assigning any reason.
- Pratiyogita Darpan is not responsible for any postal delays, transit losses or mutilation of entries.
- Last date for the receipt of the entries of CONCENTRIC QUIZ in the office of Pratiyogita Darpan, 2/11A, Swadeshi Bima Nagar, Agra-282 002 (U.P.) is December 15, 2022.

In Favour**—Digvijay Kumar**

Nothing in this world comes for free and a price has to be paid for everything. Without paying, things can't sustain themselves. If something is appearing to be free, a price is being paid indirectly for it, which may not be visible now, but when it comes to reality, realization comes that price has been paid with interest for what

**Digvijay Kumar**

seemed to be free. The same is with the Freebie Culture that exists in democracies. The things promised by political parties and given free to voters like electricity, water supply, monthly allowance to unemployed or free gadgets in order to secure vote of the people all this come under freebie. The states have become habituated to giving freebies, be it in the form of loan waivers or free electricity, cycles, laptops and so on. But one thing is common, why is it that earlier price was paid for these things and now they are free? The political motives get clear to people behind these things. Motive is not to focus on development but to take vote by giving services free. This type of political motive impacts the economy and democracy and has the potential to derail democracy particularly Indian democracy.

There is lot to learn from Sri Lanka. The government of Sri Lanka cut taxes across the board and provided several free goods and services. Consequently, the economy collapsed and the heavily-indebted country was left with no choice but to default on its commitments. Simply, freebies played a major role in shaking down the Sri Lankan economy. Everyone saw how easily it derailed democracy in Sri Lanka. India should worry about freebies because over the years the freebies have become an

integral part of the politics in India, be it for making promises in the electoral battles or providing free facilities to remain in power. But, freebies undercut the basic framework of macroeconomic stability, the politics of freebies distorts expenditure priorities and outlays remain concentrated on subsidies of one kind or the other. The expenditure plan of government keeps derailing due to this which keeps increasing the debt on the state. Moreover, offering freebies ultimately has an impact on the public exchequer and most of the states of India do not have a robust financial health and often have very limited resources in terms of revenue. Freebies therefore attack the economy, and economy is backbone of any country and democracy. Freebies can derail Indian democracy if not controlled now. Most importantly, those who are financially capable enough to pay for public services, even they are getting subsidies or free service. It results in govt. losing out the revenue it could have gained and used for development. Even giving the options of leaving subsidy don't work because its very rare that people will let go something which is coming for free to them. Yes, something reaching for free to a poor which is necessary for his survival is good, but same thing reaching to a rich person or economically balanced person for free holds no logic. The revenue surplus of the govt. keeps falling over the years and leads to revenue deficit. It harms state economy. Something coming for free, people start underestimating its value. If a state is providing free electricity or water, people start wasting it because they know that they don't have to pay for it or its coming very cheap. It results in loss of national and natural resources, water wasted, fossil fuels for electricity generation wasted. How can we then think of sustainable development? This will derail Indian democracy from the path of development.

It is not about how cheap the freebies are but how expensive they are for the economy, life quality and social cohesion in the long run. Freebies have made people more dependent on government rather to rely on own efforts. For example, the monthly allowance paid to unemployed, the free ration that comes every month under various schemes all the time to even those people who can work and fight off poverty with their efforts, they all rely on free ration and allowance by government and don't work or sit idle. Economist Sunil Alag said, "If you make freebies permanent, no one will work. Why will you work if you get food and drink for free? Many state governments are already facing a financial crunch. The need of the hour is to not give free things but to push citizens towards contributing towards the economy". And this thing is very true. It brings standstill in economy when actually people are getting things for free, doing no work, doing no expenditure, no tax generated, no work, no revenue earned and so how development will take place. Even after receiving freebies and subsidies, if citizens don't spend to support state's economy it can lead to a serious economic crisis, akin to what Sri Lanka saw and is going through. Rising expenditure on subsidies makes state unable to undertake much needed efforts to reinvigorate state's infrastructure. Therefore freebies directly impact economy and can derail Indian democracy in a long run.

Another type of freebie is loan waivers given by the governments. Giving away loan waivers in the form of freebies may have undesired consequences such as destroying the whole credit culture and it blurs the very basic question as to why is it that a large majority of the farming community is getting into a debt trap repeatedly. Simply the fact gets repeated that keep taking debts, keep falling into debt traps and every time a government will come to waive off

these loans for taking vote. Vote gets attached to loan waive off. Money of the nation and economy is lost in this cycle. And if waive off does not happen, lives of many farmers get difficult. The real development and ground reality gets sidelined which does not follow the principles of democracy. In this way freebies affects the country and the people and has the potential to derail Indian democracy. It is seriously to be wondered how government compensates revenue loss arising from freebies. A simple explanation is, the revenue deficit keeps increasing leading to huge deficit and if a new government comes, all this deficit and empty purse of government will be put on its head and to compensate this the new government will increase taxes and prices which now public has to pay in form of increased prices. All this will keep derailing development with time, and ultimately price has to be paid in the last for what appeared free initially. It derailed democracy. The freebie culture is also against free and fair election. The promise of irrational freebies from public funds before elections unduly influences the voters, disturbs the level playing field and vitiates the purity of the poll process. It amounts to an unethical practice that is similar to giving bribes to the electorate. All this goes against the ideals of democracy, helping its derail.

Take the case of Venezuela. The South-American oil-rich country was quite prosperous till 1980 because of an oil price boon. Successive governments then began to offer everything free, from food to public transport. The country, which imported 70% of its food now faced an economic crisis soon after oil prices started crumbling. Corruption became rampant. The governments continued to waive off farm loans, further damaging the economy. It took decades for it to recover, but the country could never recover fully. Thus if the freebie allurements are not stopped, it is likely that people living in poor economic conditions may be lured into a political trap, and that can ruin the economy of the country like in the case of Venezuela. It would be a big mistake ignoring demerits of freebies which are derailing Indian democracy. In the interest of Nation,

freebies should be banned or atleast controlled by some laws, especially in the States which are already in heavy debts. In this way, leaders will have to develop good qualities and provide true development, talk about it to attract voters. This will bring development to democracy when people will coordinate and participate not in green of free things but actually looking ground reality, freebies are temporary, but democracy permanent. Only this way Indian democracy will strengthen. The earlier we understand, the better it is. Otherwise, freebie culture is already derailing Indian democracy and continue to do so. Being true citizens, we have to stop this and protect our economy and democracy.

Against

—K.S. Naveen Prasad

Offering freebies to people ahead of the elections is one of the tools used by politicians to influence the people's urge and make votes in their favour. Recently, Central government came up with all providing freebies called 'Revadi Culture' is a threat to democracy and asked election commission to form a panel providing freebies during elections time is good or bad. In India people of various societies, communities are living in every parts of the state and they respect their culture and tradition more than the Constitution because the constitutional values like liberty, democracy, equality are there for people's unity and expressions but compare to those cultural values which unite them at deep level (emotionally) for their betterment.

The freebie culture is in our blood? Maximum people in India are: middle class they get attract to buy one get one offer because they need to minimize their expense and some money for their health and education.

If Government is providing good governance and their schemes are betterment of peoples there why half of the population lacks access to the basic needs of medicine, food, educa-

tion. e.g., COVID-19 lockdown made people to spend their money and savings on health doctor vehemently compared to normal situations because the private doctor played a big role in medicines compared to the government hospitals.

The freebie culture started in the Madras Presidency after the independence in 1967 election. The C.N. Annadurai promoted the idea of giving a rice for ₹ 1. This lead to spread in other states also like in 1983 N.T. Rama Rao promised ₹ 2 per kg of rices. These things made many of the populations to come out and Southern States reduced the poverty level as effectually as by taking strong measures like giving all commodities in the nation shops for better upliftment of the marginalised sections in the states. In a nutshell, the Tamil Nadu and Andhra State governments have not given freebies to every one they have given to the targeted populations.

However, giving everything in the form of freebie culture is wrong but certain things need to give as a freebies for their social empowerment. This would not derail democracy rather it would support the states like article 47 – state has to play a role for improving the status of nutrition level to their citizens.

e.g. Mid meal Program in Tamil Nadu was started by K. Kamrajar for removal of poverty and later this scheme has been replicated in the ration level.

Why would people be attracted to freebies? – the Indian Constitution has compulsory education to the children from 6-14 years under Article 21A and India's literacy rate is 74.04% (2011) but the term 'literacy' meaning people know to write and learn. If these are the measures for the education levels in India people will wish for freebies more. Moreover, many hilly areas and tribal areas people are not able to visit their schools on regular basis due to geographical and environmental situations for then giving a free bicycle is necessary freebies for their access to schools.

Continued on Page 174



K.S. Naveen Prasad

“Success is nothing more than a few simple disciplines, practiced everyday; while failure is simply a few errors in judgement repeated everyday.”

—Jim Rohn

Success—a very sweet thing which almost everyone likes in life and desires for it. For some people it gets quite easy to become successful while for some it calls for struggles then it comes. But, it is sure to come. But how? How is it that someone gets success early and some gets late? It's all on the approach that we take and follow. The earlier one understands what success demands, the earlier he gets it. Success is a mix of discipline, devoted efforts, patience and focus with determination, all in a right amount. Presence of all these elements in our efforts lead them to success. But the most important one is the discipline which guides our efforts and life in a right way. Discipline not only brings success but improves life to perfection day-by-day, not always 100 per cent perfect, but in quest of that success automatically comes. It is a well famous proverb—“slow and steady wins the race”. It means that although efforts are small or may be slow, but these must be steady and continuous, the continuity must be there. Success follows same. Every effort in disciplined way and habit, when practiced everyday, surely brings good result. It cannot be like for some days someone is very disciplined and doing lots of efforts and for some days the person is wasting time so enjoying undisciplined life. For these persons the success get delayed. It is therefore a person who works hard everyday, never removes discipline from life, and keep taking simple steps continuously, gets successful.



Digvijay Kumar

But, why is discipline so important? Why success is so closely related to it? Firstly let's understand the meaning of discipline. Discipline is the practice of training mind and body so that we control our actions, obey rules and give direction to our actions towards a good cause in life. And this can be achieved very easily with very simple actions like being polite, punctual, helping attitude, obedience, doing exercises, taking balanced diet. Success comes when there is perfect coordination between brain and body. Discipline brings focus and self control in mind, helps keep body fit and healthy with very simple actions. Domino effect is very famous because it connects to life and proves small events done daily and daily keep giving rise to events bigger than them everyday and ultimately, together they give rise to a very big event, result and make it possible. It is in this way also which illustrates that few simple disciplines practiced everyday give success like making a time-table is very easy and a simple task, but those who practice it everyday learn the ability of time management and thus are able to do all of their things, time never runs out of their hand very fast. The plan to be executed for becoming successful gets easily done since time management comes and it comes with self-control or discipline. The time is same 24 hours, those who manage get successful and those who lack it become unsuccessful.

Human mind is very interesting, wherever it sees reward, it finds pleasure in doing things for that. The same thing brings discipline in us. Success is a very big reward and following discipline is tough, so mind sometimes feels difficult in achieving this success and lose interest in that since path is tough. But then it is true that small victories give rise to a big one. When one practices simple steps of discipline, it makes mind believe that it is achieving something everyday, seeing positive results brings a

sense of accomplishment in mind. Like a disciplined student feels everyday his mind is learning things and improving scores in exam, a sportsperson sees his game improving following a disciplined practice and timetable and many other examples. The mind starts feeling happy and motivated to keep moving towards its aim of life, ready to break its own breaking point. The moment comfort zone is crossed and breaking point is reached, success gets achieved. Discipline makes mind go beyond breaking point, that point where earlier it used to give up, but now it can do more beyond this point. The yoga like doing meditation brings calmness in mind, removes distraction. Doing meditation is not easy initially, but then determination to do it brings discipline as well as a calm and focused mind. This quality is very important for a student to study and learn, thus discipline forms integral part of student life as well. With so many junk foods available, the habit of consuming balanced diet and keeping away from attraction of junk food also requires will power and thus is a disciplinary habit. It keeps body healthy and only a healthy body enjoys success. Thus rewards of discipline reflect brightly in the form of success, provided it is done continuously.

There is a saying in the Indian Armed Forces that “the more you sweat in peace, the less you bleed in war”. It is again laying the emphasis on practice on daily basis to achieve the ultimate aim. With discipline and daily practice comes the confidence and experience which makes person familiar with situations, the inner strength that he has been working upon for so long, thus in the ultimate test he performs well. It is not necessary that a person who failed, never adopted discipline in life. Failure is in no way a measure of dedication and discipline of life. Failure and success one part of life, but luck favours those who work hard, bring discipline in

life and then it is the accumulative weight of our disciplines and our judgements that leads us to either fortune or failure. But, the satisfaction comes only when efforts are done on daily basis, to bring discipline, to excel in life. Habits like early to sleep, early to rise is another factor of discipline which contributes to success. Although every person has own time-table, but habit of early rising and early start of day always keeps a person at advantage. He gets time to exercise in fresh morning breeze which totally refreshes and fills mind with energy the person gets time to plan up his day. Health and work thus go together in right amount and brings success. Learning from failures is another aspect of discipline, since bringing changes learnt from failures, into life, is quite challenging. It demands strong will power and thus discipline helps do it. Thus be it any person, any organisation, any event, their success comes because of discipline which has been practiced continuously for long time. Thus, discipline is the bedrock of success. That's why from the day 1 itself in school, every child is taught discipline. What if no one follows rules, do everything random, start discriminating, always abuse others? The world will go out of order in chaos, system will collapse. It is disciplined way which keep everything in order. Even mother nature keeps everything in discipline, sun rises and sets in time, planets always follow their path, cycle of life and death goes on in fixed way, seasons come and go in proper time. That's why life goes on successfully on Earth and even Universe is in successful order.

Politeness, kindness, helping attitude are again parts of discipline. Success of a rude person never lasts long. Being polite, kind and helpful make us humble, other people too behave in same way to us. At every point of life, we require help from others, whether we are successful or not. Therefore people will help only when we do the same. Even God helps those who help themselves as well as others and because of this help we become successful. Discipline improves our habits, bring honesty and good moral values, earns the trust of others and makes person responsible. Because of these, more

opportunities come in life and the greater becomes the chances of success. Failures and success will come and go in life, discipline practiced everyday will surely bring success, but more importantly it will keep bringing the best out of us, a more better version than what we used to be in the past. Thus as long as good moral values, honesty, good habits and good efforts are practiced with discipline everyday, life will keep becoming successful and happy every time.

Pran

Continued from Page 172

During elections giving code and liquor as freebie is wrong and this leads to a social unrest but providing basic amenities to the vulnerable sections like scooter for disabled persons', e-rickshaw to the poors are making them to actively involve in the economy for their growth and upliftment.

How freebies evolve in India? After independence there were less industries in manufacturing sector so the demand is less in the market. It is applicable to politics also. This leads to a growth of regionalism in India and evolve many state parties in the politics and everyone is in the urge to take control of the state following these consequences. This makes political parties to start of freebie culture in India.

However, people in India have not taken freebies as a political concern. They have taken for their needs and voted differently during the election times. e.g., 2006—freebies of TV are popular in Tamil Nadu and the next election people voted differently to the other parties. This shows people are aware of their strength and weakness and vote for growth and development.

Thus to create a pragmatic society in India government needs to focus on improving social consciousness among the masses like national education policy 2020 framed on the basis of new India to achieve a 5 trillion economy as PM said, "The young Indian population should be job creators not a job seekers".

Pran

Continued from Page 33

- The state government has taken a 360-degree approach to foster a competitive industrial ecosystem so that UP becomes a trillion-dollar economy in the next few years. The draft policy, which is likely to be approved by the state Cabinet soon, proposes to develop industrial land bank and integrated manufacturing clusters. The Land Pooling Policy 2020 will be fortified to enable creation of land bank.
- UP Infrastructure & Industrial Development Commissioner Arvind Kumar said UP had emerged as one of India's fastest-growing economies and a preferred destination for industrial investments owing to the proactive governance and 'doing business' environment.
- Depending upon project size and region, the various sops include capital subsidy of 25 per cent on fixed capital investment/land cost apart from 100 per cent exemption on stamp duty on the purchase of land by the private developer.
- To expedite industrial land acquisition, the policy offers hassle-free licensing for acquiring land by private developers and fast-tracking land allotment for premium investment projects.
- These measures are expected to promote 'Make in UP' and create world-class industrial infrastructure for sustainable and balanced regional industrialisation in the state.
- Meanwhile, the government will develop sector specific parks & clusters viz., medical device park, textile parks, toy park, food processing parks, IT parks, etc. through various models, including public private partnership.
- To expand the industrial land basket, the government will not only acquire fresh land but also repurpose the swathes of defunct industrial units.
- Earlier, UP Industrial Development Minister Nand Gopal Nandi had said the government would utilise the land of defunct textile mills, estimated to be almost 1,500 acres, for fresh allotment to suitable investors.

Pran

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Topic : Future of Edtech Companies in India in Post Covid-19 Pandemic Era

Last Date : December 25, 2022

Cash Prizes : 1st : ₹ 1,500/- ; 2nd : ₹ 1,200/- ; 3rd : ₹ 1,000/-

DEBATE COMPETITION

Topic : Social Media is Fueling Family Disintegration

Last Date : December 25, 2022

Cash Prizes : ₹ 1,500/- (Each in favour/ against)

Rules and Regulations :

- Duly signed hand written entries on Essay/Debate in maximum limit of 1500 words with relevant details must be sent by e-mails or by ordinary post.
- Only one entry on Essay/Debate will be accepted from one participant.
- Entries must be submitted with declaration mentioning "This is my original work and is unpublished elsewhere" and should have complete name, address, mobile no., passport size photograph alongwith bank account details/IFSC code.
- Prize money will be awarded through cheques alongwith certificates from Pratiyogita Darpan. The awarded entries will be published in the forthcoming issue of Pratiyogita Darpan.

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1, State Bank Colony, Near Khandari, Agra-Mathura Bye-Pass, Agra-5

Essay Competition

Topic : Success is a Few Simple Disciplines, Practised Everyday

Winners

First Prize Winner



Digvijay Kumar
75/4A, Kalibari Marg,
New Delhi
Delhi-110 001

Second Prize Winner



Samiksha Hans
D/o Ajay Hans
Hisar
Haryana-125 001

Third Prize Winner



K.S. Naveen Prasad
241/20, E.B. Nagar
Thiruvakatam Palayam
Peroudurai Erode
Tamil Nadu-638 052

RESULTS

Debate Competition

Topic : Freebie Culture can One Day Derail Indian Democracy

Winners

In Favour



Digvijay Kumar
75/4A, Kalibari Marg,
New Delhi
Delhi-110 001

Against the Topic



K.S. Naveen Prasad
241/20, E.B. Nagar
Thiruvakatam Palayam
Peroudurai Erode
Tamil Nadu-638.052

Quiz Contest

(Special on Electricity)

First Prize Winner

Digvijay Kumar
75/4A, Kalibari Marg,
New Delhi
Delhi-110 001

Second Prize Winner

Anirudh Singh Manglia
C-225/A, Saraswati Nagar, Basni-Ist
Phase, Jodhpur
Rajasthan-342 005

Third Prize Winner

Ekram Ali
C-210/1, 4th Floor, Backside,
Thokar No. 8, Shaheen Bagh,
Delhi-110 025

Answers

1. (A) 2. (C) 3. (B) 4. (C) 5. (A)
6. (B) 7. (A) 8. (C) 9. (C) 10. (D)
11. (C) 12. (D) 13. (C) 14. (A) 15. (B)
16. (C) 17. (B) 18. (D) 19. (D) 20. (B)

- Which of the following statements is incorrect?
 - National Commission for Minorities is a statutory body
 - The first Statutory National Commission for Minorities was set up in 1951
 - The Muslims, Christians, Sikhs, Buddhists, Zoroastrians and Jains have been notified as Minority Communities
 - Jains were notified as a Minority Community in 2014
- Which of the following has/have been associated with other Backward castes?
 - Mandal Commission
 - Justice Rohini Commission
 - Justice Punchhi Commission
 Correct code is—
 - Only I and II
 - Only I
 - Only I and III
 - All I, II and III
- Consider the following statements about Hyderabad—
 - On September 17, 1948 the then Hyderabad State which was under the rule of the Nizam was annexed into the Union of India following a military action.
 - Operation Polo was the code name of the Hyderabad 'police action' in September 1948.
 - Central government celebrated 17th September, 2022 as the 'Hyderabad Liberation Day'.
 Which of the above statements is/are correct?
 - Only I and III
 - Only II
 - Only I
 - All I, II and III
- Eight Cheetahs have been translocated from Namibia to Kuno National Park on September 17, 2022. Kuno National Park is in which state?
 - Madhya Pradesh
 - Chhattisgarh
 - Odisha
 - Jharkhand
- Which of the following statements is incorrect?
 - A Constitution Bench consists of at least five or more judges of the Supreme Court
 - Chief Justice heads the Constitution Bench
 - The provision for a constitution Bench has been given in the Article 143 of Constitution of India
 - It is the Chief Justice of India who is constitutionally authorised to constitute a Constitution Bench and refer cases to it
- Consider the following statements in relation to the Parliamentary Committee on Public Accounts—
 - It is constituted by Parliament every year.
 - The committee consists of 22 members 15 from Lok Sabha and 7 from Rajya Sabha.
 - The Speaker is empowered to appoint the Chairman of the committee from amongst its member.
 Correct code is—
 - Only I
 - Only I and II
 - Only II and III
 - All I, II and III
- Consider the following statements in relation to 'Prachand'—
 - Prachand is an indigenous Light Combat Helicopter (LCH) which is capable of destroying enemy air defence.
 - Prachand is the only attack helicopter in the world which can land and take off at an altitude of 5000 metres with a considerable load of weapons and fuel.
 Correct code is—
 - Only I
 - Only II
 - Both I and II
 - Neither I nor II
- Which of the following statements is/are correct?
 - Digital Services Act has been enacted in the USA.
 - Massive changes have been notified in the form of IT Rules 2021. India for the regulation of the social media platforms.
 - Only I
 - Only II
 - Both I and II
 - Neither I nor II
- Consider the following statements in relation to anti-Semitism—
 - Anti-Semitism refers to any form of prejudice against the Jewish people.
 - Racial Anti-Semitism, most commonly associated with the Nazis, stems from a belief that Jews are a distinct, inferior race with inherent genetic traits.
 Which of the above statements is/are correct?
 - Only I
 - Only II
 - Both I and II
 - Neither I nor II
- Who has replaced Saurav Ganguly as the new Chief of BCCI?
 - Roger Binny
 - Rahul Dravid
 - Sunil Gavaskar
 - Kapil Dev
- The Booker Prize 2022, one of the most prestigious literary awards in the world, has gone to—
 - The seven moons of Maali by Shehan Karuna titaka
 - Treache Walker by Alan Garner
 - Small Things Like These by Claire Keegan
 - Glory by Noviolet Bulawayo

12. Who among the following has been elected as the new chairman of India Premier League (IPL)?

- (A) Avishek Dalmiya
- (B) Arun Dhumal
- (C) Sourav Ganguly
- (D) Devajit Saikia

13. Which of the following statements is incorrect about "Mission School of Excellence" (MSE)?

- (A) The MSE was launched by the President of India Smt. Droupadi Murmu on October 19, 2022
- (B) The MSE has been conceived with a total outlay of ₹ 10,000 crore
- (C) The MSE will help strengthen education in Gujarat
- (D) Under the MSE, 50000 classrooms will be built in the next four-five years and 1.5 lakh smart classrooms, 20000 computer labs and 5000 Atal Tinkering Labs will be set up.

14. Consider the following statements about 'Mission DefSpace'.

- I. Mission DefSpace was launched by PM Modi on October 19, 2022 with 75 challenges at DefExpo 2022 in Gandhinagar.
- II. It is an initiative to enable the development of innovative solutions for the defence forces in the space domain through industry and start-ups.

Which of the above statements is/are correct?

- (A) Only I
- (B) Only II
- (C) Both I and II
- (D) Neither I nor II

15. Prime Minister Narendra Modi inaugurated the first phase of the 'Mahakal Lok' corridor on 11th October 2022. It is located in—

- (A) Ujjain (Madhya Pradesh)
- (B) Somnath (Gujarat)
- (C) Amarkantak (Madhya Pradesh)
- (D) Nasik (Maharashtra)

16. How many of the following pairs is/are matched correctly in relation to the sites of various 'Jyotirlingas' in India?

- I. Mallikarjuna —Andhra Pradesh
- II. Grishneshwar —Karnataka
- III. Baidyanath —Jharkhand
- IV. Omkareshwar —Madhya Pradesh

- (A) 1 (B) 2
- (C) 3 (D) 4

17. Which of the following type of banks are being allowed to establish the 'Digital Banking Units'?

- I. Nationalised Banks
- II. Regional Rural Banks
- III. Payment Banks
- IV. Local Area Banks

Correct code—

- (A) Only I
- (B) Only I and II
- (C) Only I, II and III
- (D) All I, II, III and IV

18. A Red Corner Notice is issued by—

- (A) A designated court of law
- (B) Director General of Police of a State
- (C) The Interpol
- (D) Central Bureau of Investigation

19. Which of the following statements is incorrect about the Red Corner Notice?

- (A) The RCN is only an international wanted person's notice
- (B) The RCN is not an international arrest warrant
- (C) The RCN is issued by the 'Interpol' on the request of investigation agencies of the member countries
- (D) The Interpol cannot compel law enforcement authorities in any country to arrest the subject of an RCN

20. Consider the following statements—

- I. INS Arihant is India's first indigenous nuclear powered ballistic missile capable submarine.
- II. INS Arihant has been built under the secretive Advanced Technology Vessel (ATV) project.
- III. The Indian Navy operates INS Arihant.
- IV. The operations of the Submarine Launched Ballistic Missiles (SLBMs) from the

SSBN are under the purview of India's Strategic Forces Command, which is part of India's Nuclear Command Authority.

Which of the above statements is/are correct?

- (A) Only I and II
- (B) Only I and III
- (C) Only IV
- (D) All I, II, III and IV

21. The Parliament of which country passed the 'Plain Language Bill, 2022'?

- (A) Canada
- (B) Australia
- (C) New Zealand
- (D) Sri Lanka

22. 'Mission LiFE' has been launched by—

- (A) UN Secretary General Antonio Guterres
- (B) Prime Minister Narendra Modi
- (C) Inger Anderson, Executive Director of UN Environment Programme
- (D) Jointly by (A) and (B)

23. 'Wolf Warrior' diplomacy is being adopted by which country?

- (A) The US (B) China
- (C) Iran (D) Russia

24. "Quality, Quantity and Continuity" are the core principles for success of Jal Jeevan Mission". Who among the following has said this?

- (A) President of India Smt. Droupadi Murmu
- (B) Vice President of India Sri Jagdeep Dhankhar
- (C) Prime Minister of India Sri Narendra Modi
- (D) Union Minister of Jal Shakti Sri Gajendra Singh Shekhawat

25. Consider the following statements about Rishi Sunak—

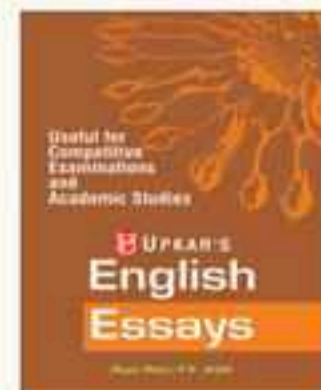
- I. He is the youngest Prime Minister of UK.
- II. Rishi Sunak a practicing Hindu of Indian descent, is the first person of colour to serve as UK's Prime Minister.
- III. He is married to Akshara Murthy, daughter of Infosys founder N.R. Narayan Murthy.

- Which of the above statements is/are correct ?
 (A) Only I
 (B) Only II
 (C) Only II and III
 (D) All I, II and III
26. Which of the following statements is incorrect about Giorgia Meloni ?
 (A) She is Italy's first female Prime Minister
 (B) She is the leader of 'Brothers of Italy Party'
 (C) Far left leader Meloni formed new government in Italy
 (D) She believes in 'nation first'
27. Which of the following countries has launched a COVID-19 vaccine inhaled through the month ?
 (A) India (B) China
 (C) Russia (D) USA
28. Which of the following film has won the Best International Film award at 50th Saturn Awards 2022 ?
 (A) RRR
 (B) Brahmastra—Part one—Shiva
 (C) Ponniyan Selvan : I
 (D) Death on the Nine
29. Consider the following statements—
 I. The globally recognised and the coveted international eco-level 'Blue Flag' has been accorded to two new beached-Minicoy Thundi Beach and Kadmat Beach both in Lakshadweep.
 II. Total number of Blue Flag Beaches in India are twelve.
 Which of the above statements is/are correct ?
 (A) Only I
 (B) Only II
 (C) Both I and II
 (D) Neither I nor II
30. Duckworth-Lewis-Stern method is related to which sport ?
 (A) Hockey (B) Football
 (C) Cricket (D) Tennis
31. Which of the following institutions actualise the goal of co-operative federalism ?
 (A) Rajya Sabha
 (B) NITI Aayog
 (C) Finance Commission
 (D) Comptroller and Auditor General of India
32. As per Sample Registration System Report 2020 which of the following states has so far not attained SDG target of Neonatal Mortality Rate (≤ 12 by 2030).
 (A) Haryana
 (B) Punjab
 (C) Maharashtra
 (D) Tamil Nadu
33. Which of the following States/UTs in India have already attained SDG target of under 5 mortality Rate (≤ 25 by 2030)—
 I. Kerala
 II. Tamil Nadu
 III. West Bengal
 IV. Rajasthan
 Correct code is—
 (A) All I, II, III and IV
 (B) Only I, II and III
 (C) Only II, III and IV
 (D) Only I and II
34. Operation 'Megha Chakra' is related to—
 I. Internationally linked online child sexual exploitation.
 II. Organised cyber financial crime.
 Correct code is—
 (A) Only I
 (B) Only II
 (C) Both I and II
 (D) Neither I nor II
35. Sittanavasal Rock-cut cave houses the—
 I. Arivar Koil
 II. Ezhadipattam
 III. Megalithic burial sites
 IV. Navachunai taru
 Correct code is—
 (A) Only I and II
 (B) Only II and III
 (C) Only I, III and IV
 (D) All I, II, III and IV
36. Which of the following Indian cities have been included in UNESCO Global Network of learning cities list ?
 I. Varanasi (UP)
 II. Thrissur (Kerala)
 III. Nilambur (Kerala)
 IV. Warangal (Telangana)
 Correct code is—
 (A) Only I, II and III
 (B) Only II, III and IV
 (C) Only II and III
 (D) All I, II, III, and IV
37. Khneng Embroidery Art is a famous traditional art of which state ?
 (A) Meghalaya (B) Sikkim
 (C) Nagaland (D) Assam
38. Trees outside Forest in India programme has been launched by—
 I. Ministry of Environment, Forest and Climate change.
 II. US Agency for International Development (USAID).
 III. United Nations Environment Programme.
 Correct code is—
 (A) Only I
 (B) Only I and II
 (C) All I, II, III
 (D) Only I and III
39. Which of the following is not a vaccine ?
 (A) BCG (B) HIV
 (C) DPT (D) DT
40. Which of the following is not a vaccine prevent disease ?
 (A) Tuberculosis
 (B) Measeles
 (C) AIDS
 (D) Diphtheria

[For Answer See Page 130]

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