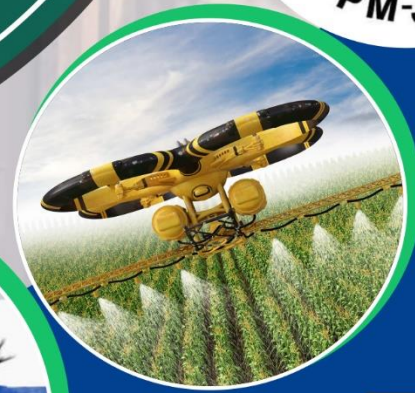


2022

APRIL EDITION



WITH
PRACTICE
QUESTIONS

UPSC MONTHLY CURRENT AFFAIRS MAGAZINE



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Monthly Current Affairs Magazine – April 2022

The UPSC Prelims 2022 exam would be conducted on 5th June 2022, while UPSC Mains 2022 examination has been scheduled starting from 16th September 2022. For those, who are preparing for UPSC CSE 2022, needless to say, a thorough study, understanding, and revision of Current Affairs is a must!

To ease the preparation, we are providing monthly current affairs compilation for the aspirants. The magazine contains subject-wise distribution of comprehensive news articles, which have been derived from the sources like PIB, The Hindu, The Indian Express, etc.

A separate section – ‘The Editorials Corner’ has been added to discuss the important Editorial articles published in The Hindu and Indian Express Newspaper. We have also added MCQ Current Affairs questions with solutions. Aspirants should attempt these questions after reading the magazine, in order to evaluate their knowledge of Current Affairs.

"Every day is a chance to begin again. Don't focus on the failures of yesterday, start today with positive thoughts and expectations."

– Catherine Pulsifer

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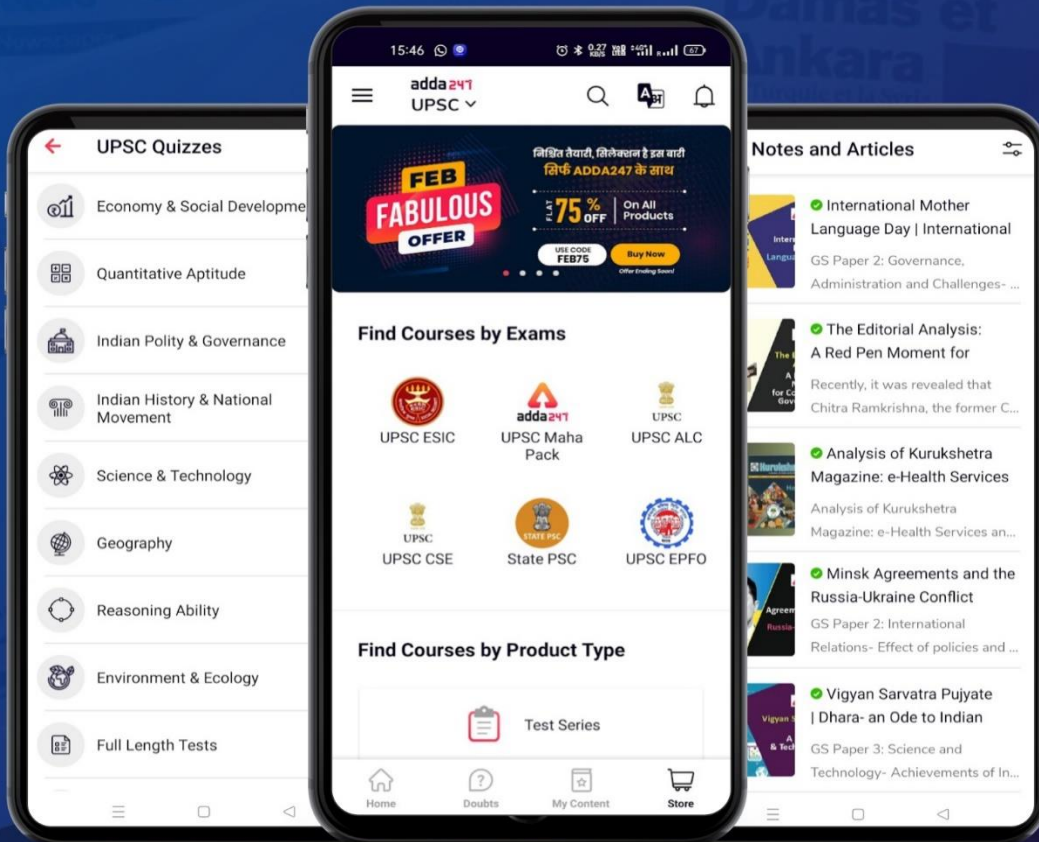
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Polity & Governance

Amendment to Mines and Minerals (Development and Regulation) Act, 1957 Approved

Context

- Recently, the Union Cabinet has approved the proposal of the Ministry of Mines for amendment of Second Schedule of the **Mines and Minerals (Development and Regulation) Act, 1957** for specifying the rate of royalty in respect of some minerals.

Key points

- The rate of royalty will be specified for Glauconite, Potash, Emerald, Platinum Group of Metals (PGM), Andalusite, Sillimanite and Molybdenum.
- The approval would ensure **auction of mineral blocks** in respect of above stated minerals.

Benefits

- The approval will lead to **import substitution** in respect of many important minerals for the economy of the country thereby **saving valuable forex reserves**.
- It will **reduce country's foreign dependency** through the local production of minerals.
- The amendment will also generate empowerment opportunity in the mining sector as well as manufacturing sector
- The amendment will help in **ensuring inclusive growth** of a large section of the society.

Amendments to Mines and Minerals Act

- The Mines and Minerals (Development and Regulation) Amendment Act, 2015
- The Mines and Minerals Act was **amended in 2015** to usher in new regime of granting mineral concessions through auction to ensure transparency and **non-discrimination in allocation** of mineral wealth of the country.
- To give further impetus to the mineral sector, the Act has been **further amended in 2021**.
 - Under the reforms, the Government has given major boost to auction of mineral blocks, increasing production, improving ease of doing business in the country and improving the contribution of minerals in the overall GDP.

Steps taken in the mines sector

- Ministry of Mines has also taken steps for **increasing exploration** of minerals in the country, which has led to availability of more blocks for auction.

- Exploration activities have increased not only for traditional minerals such as iron ore, bauxite, limestone but also for deep-seated minerals, fertilizer minerals, critical minerals and minerals which are imported.
- Agencies like **Geological Survey of India and Mineral Exploration Corporation Ltd.** have carried out exploration and handed over reports to the State Governments of several blocks of minerals which are hitherto not mined in the country.

Use of minerals

- Minerals like Glauconite and Potash are used as **fertilizer in agriculture**.
- Platinum Group of Metals (PGM)** are high value metal used in various industries and new innovative applications.
- Minerals like Andalusite, molybdenum are vital minerals used in **industrial applications**.

Criminal Procedure Identification Bill 2022

Context

- Recently, Government has introduced the **Criminal Procedure (Identification) Bill, 2022** to allow the police and prison authorities to collect, store and analyse physical and biological samples including retina and iris scans.

Key points

- The Criminal Procedure (Identification) Bill, 2022 compels certain individuals who are convicted and accused of offences, to **share biological personal data**.
- The Bill also seeks to replace the Identification of Prisoners Act, 1920 which applied to **collection of "measurements"** for mostly those who were convicted and who would serve a prison sentence.



The Bill

- **Define “measurements”** to include finger impressions, palm-print and foot-print impressions, photographs, iris and retina scan, physical, biological samples and their analysis, etc.
- **Empower the National Crime Records Bureau (NCRB)** to collect, store and preserve the record of measurements and for sharing, dissemination, destruction and disposal of records.
- **Empower a Magistrate** to direct any person to give measurements;
 - a Magistrate can also direct law enforcement officials to collect fingerprints, footprint impressions and photographs in the case of a specified category of convicted and non-convicted persons;
- **Empower police or prison officers** to take measurements of any person who resists or refuses to give measurements.

Criticism of the Bill

- **Lacks clarity:** The Bill does not define several provisions. For example: the Bill says that it provides for collection of measurements for “convicts and other persons” but the expression “other persons” is not defined.
- **Conflict with fundamental rights:** The opposition member in the Parliament argued that the Bill violates the fundamental rights of citizens including the right to privacy, so the Bill is beyond the legislative competence of the Parliament.
- **Article 20(3):** The Bill comes in direct contravention with the Article 20(3), which explicitly states that no person accused of any offence shall be compelled to be a witness against himself.
- The Bill also brings to focus rights of prisoners and the **right to be forgotten** since biometric data can be stored for 75 years.
 - While the jurisprudence around the right to be forgotten is still in an early stage in India, the Puttaswamy judgment discusses it as an important part of the fundamental right to privacy.

CUET 2022: Common Test for UG Admission

Context

- Recently, the UGC (University Grant Commission) chairman announced that the first ever **mandatory common entrance test** for admission to undergraduate programmes will be held in the first week of July.

What is CUET?

- The Common University Entrance Test (CUET) is a computerised exam and will be conducted by the National Testing Agency (NTA) in **all the 45 Central universities**.
- Admission to undergraduate courses in these universities will henceforth be solely based on the CUET score, and **Class 12 Board marks will not carry any weightage**.
- The universities, however, can use the Board exam marks as an eligibility criterion for the test.

CUCET basic details

CUCET information	Details
CUCET application form date	First week of April
CUCET exam date	First week of July
CUET syllabus	Class 12 NCERT textbooks.
CUET exam pattern	CUET test will only have multiple choice questions. CUET will essentially have three parts.
CUCET exam time	CUET exam will be a the three-and-a-half-hour computer-based entrance test.
CUCET shift	CUCET exam will be conducted in two shifts. In the first shift, candidates will appear for Section I (languages), two chosen domain subjects and the general test. In the second shift, they will appear for the other four domain subjects and an additional language test, if opted for.
CUET marking scheme	Students will be marked negatively for incorrect answers
CUCET exam fee	The fee has not been decided yet.

Key points

- CUET will be compulsory for all the 45 Central Universities funded by UGC, **including minority institutions** like AMU and Jamia. The exam, however, **will not affect the quota** of reserved seats at such institutions.
- International students seeking admissions in Indian universities are **exempted from CUET**.
- UGC has decided to offer CUET 2022 in **13 languages**—Hindi, Marathi, Gujarati, Tamil, Telugu, Kannada, Malayalam, Urdu, Assamese, Bengali, Punjabi, Odia and English.

Why CUCET?

- The Government did not favour using Board marks for admission because of the “**diversity in evaluation methods**.”
- It was noticed that some Boards are more generous in marking than others, and this gives their students an unfair advantage over others.

What is NTA?

- The Ministry of Education (MoE), Government of India (GOI) has established the National Testing Agency (NTA) as an independent, autonomous, and self-sustained premier testing organization under the **Societies Registration Act (1860)**.
- NTA has been mandated to conduct efficient, transparent and international standards tests in order to assess the competency of candidates for admissions to premier higher education institutions.

Draft National Medical Devices Policy 2022

Draft National Medical Devices Policy 2022 in News

- Recently, the Department of Pharmaceuticals, Ministry of Chemicals and Fertilizers has released an Approach Paper for the Draft National Policy for the Medical Devices, 2022.
- Approach Paper for the Draft National Policy for the Medical Devices, 2022 invites feedback and remarks of the Industry and stakeholders, till the 25th of March 2022.

Vision of the Draft National Medical Devices Policy 2022

- Draft National Medical Devices Policy 2022 envisions that by 2047-
- India will be having few National Institutes of Medical Devices Education and Research (NIMERs) on the lines of NIPERs;
- India will be home & originator to 25 high-end futuristic technologies in MedTech
- India will have a MedTech Industry of \$100-300 Bn size with 10-12% of Global Market Share.

Key Objectives of the Draft National Medical Devices Policy 2022

- Draft National Medical Devices Policy 2022 strives to put in place a comprehensive set of measures for ensuring sustained growth and development of the sector.
- It also aims at addressing the further challenges of the Sector such as-
 - Regulatory streamlining,
 - Skilling of human resources and
 - Lack of technology for high end equipment and
 - Lack of appropriate infrastructure

- The Draft National Policy further aims to facilitate an orderly growth of the sector for the coming years.
- Draft National Medical Devices Policy 2022 while addressing the core objectives of accessibility, affordability, safety and quality, focus on self-sustainability and innovation.

Key Features of the Draft National Medical Devices Policy 2022

- **Regulatory streamlining** in order to optimize regulatory processes and multiplicity of agencies for enhanced ease of doing business, along with harmonization with global standards to ensure standardization.
- **Quality Standards and Safety of the Devices** in order to provide safe devices to the consumers, in harmony with the global standards.
- **Building Competitiveness through fiscal and financial support** for stimulating the development of the local manufacturing ecosystem with private sector investments.
- **Infrastructure Development-**
 - To provide best-in-class physical foundation, including medical devices parks with common facilities such as testing centres,
 - To improve cost competitiveness and enhance attraction of domestic manufacturers.
- **Facilitating R&D and Innovation** with a focus on enhanced collaboration in innovation and R&D projects, global partnerships, and joint ventures among key stakeholders to bridge the gap between academic curriculum and industry requirements.
- **Human Resource Development** to ensure relevant curriculum at higher education level, skilling of various stakeholders, creation of future-ready HR with required skill sets across the innovation value chain.
- **Awareness Creation and Brand Positioning** in creating awareness and positioning India as a hub for manufacturing of medical devices as part of the “Make in India, Make for the World” initiative.

GeM Portal touches INR 1 Lakh Crore in Procurement

Government e Marketplace (GeM) in News

- Government e Marketplace (GeM) has attained an annual procurement of INR 1 Lakh crore within FY 2021-22. This represents a 160% growth compared to last FY.
- In a short span of 5 years, GeM has become one of the biggest government e-procurement platforms in the world.

Performance of GeM

- Since inception of GeM, the cumulative Gross Merchandise Value (GMV) reached INR 1 Lakh crore over 4 and half years, on 23rd March 2021.
- On the other hand, the GMV of GeM in the current Financial Year surpassed Rs. 1 lakh crore (Ts. 1 trillion) in less than a year, representing a 160% growth compared to last FY.
- The number of orders has also surpassed 31.5 Lakh in the current financial year with a growth at the rate of 22%.
- States continued to be an important stakeholder with approx. 30% contribution to total GMV.
- 57% of the total business on GeM has come through the MSME units and over 6% has been contributed by female entrepreneurs.
 - It may be noted that the number of women sellers and entrepreneurs on GeM has grown 6 times in a year.
- There is also a 44% increase in the number of Services compared to last FY with a 25% contribution in the total GMV (Rs. 25,000 Crore).

What is Government e Marketplace (GeM)?

- Government e Marketplace (GeM) is dynamic, self-sustaining and user-friendly portal for making procurement by Government officers. It is an online platform for public procurement in India.
 - GeM Initiative was launched on August 9, 2016 by Ministry of Commerce and Industry, GoI.
- **Development of GeM Portal:** Directorate General of Supplies and Disposal (DGS&D) with technical support of National eGovernance Division (Ministry of Electronics and Information Technology) has developed GeM portal for procurement of both Products & Services.
 - Government e-Market (GeM) is hosted by the Directorate General of Supplies and Disposal.



What is the Objective of Government e-Market (GeM)?

- Government e Marketplace (GeM) aims to create an open and transparent procurement platform for government buyers.
- Government e Marketplace (GeM) facilitates online procurement of common use Goods and Services.

Government e Marketplace (GeM) Advantages

For Buyers	For Sellers
<ul style="list-style-type: none"> • Rich listing of products for individual categories of Goods/Services • Search, Compare, Select and Buy facility • Buying Goods and Services online, as and when required. • Transparent and ease of buying • Continuous vendor rating system • User-friendly dash board for Buying and monitoring supplies and payments • Easy Return policy 	<ul style="list-style-type: none"> • Direct access to all Government departments. • One stop shop for marketing with minimal efforts. • One stop shop for bids / reverse auction on products / services • New Product Suggestion facility available to Sellers • Dynamic pricing: Price can be changed based on market conditions • Seller friendly dashboard for selling and monitoring of supplies and payments • Consistent and uniform purchase procedures

Gram Nyayalayas | Gram Nyayalayas Act 2008

Gram Nyayalayas in news?

- As per information made available by State Governments/High Courts, 476 Gram Nyayalayas have been notified so far by 15 States/UT.
 - Out of these, 257 are operational in 10 States at present.

Key Facts about Gram Nyayalayas

- **Background:** The Law Commission of India had suggested establishment of Gram Nyayalayas for providing affordable and quick access to justice to the citizens at their doorsteps.
- **Associated Legislation:** Gram Nyayalayas are established under the Gram Nyayalayas Act 2008 which came into force with effect from 02nd October, 2009.

- **Gram Nyayalayas:** The Gram Nyayalayas Act 2008 provides for establishment of Gram Nyayalayas at intermediate panchayat level.
- **Establishment of Gram Nyayalayas:** The State Governments are responsible for establishing Gram Nyayalayas in consultation with the respective High Courts.
 - However, the Act does not make setting up of Gram Nyayalayas mandatory.
- **Judicial Status:** Gram Nyayalayas are deemed to be a Court of Judicial Magistrate of First Class with both civil and criminal jurisdiction to settle petty disputes at the village level.
- **Financial Support by Centre:** For opening of Gram Nyayalayas, the Central Government has been encouraging the States by way of providing financial assistance.
 - The scheme has since been extended by the Government for five years till 2026 at a budgetary outlay of Rs.50 crores allocated for the Gram Nyayalayas Scheme.
 - The funds for the Gram Nyayalayas will be released only after they have been notified as well as made operational alongwith the appointment of Nyayadhikaris and reported on the Gram Nyayalayas Portal of the Department of Justice.

Key Features of the Gram Nyayalayas Act

- Gram Nyayalayas are aimed at providing inexpensive justice to people in rural areas at their doorsteps;
- Gram Nyayalayas are to be established for every Panchayat at intermediate level or a group of contiguous Panchayats at intermediate level or for a group of contiguous Gram Panchayats;
- The seat of the Gram Nyayalayas shall be located at the headquarters of the intermediate Panchayat.
 - The Nyayadhikari shall periodically visit villages and may hear the parties and dispose of the cases at the place other than its headquarters;
- The Gram Nyayalayas will try criminal cases, civil suits, claims or disputes which are specified in the First Schedule and the Second Schedule to the Act.
 - They are to follow summary procedure in criminal trial.
- Disputes are to be settled as far as possible by bringing about conciliation between the parties and for this purpose, the Gram Nyayalayas will make use of the conciliators to be appointed for this purpose;
- The Gram Nyayalaya shall not be bound by the rules of evidence provided in the Indian Evidence Act, 1872 but shall be guided by the principles of natural justice subject to any rule made by the High Court.

Implementation of PM-Kisan Samman Nidhi Yojana

PM-KISAN Yojana in news

- The Pradhan Mantri Kisan Samman Nidhi Yojana (PM-KISAN) is being successfully implemented in all States/UTs of the country.
- The benefits under the PM-KISAN Scheme are transferred to the beneficiaries via Direct Benefit Transfer Mode on receipt of their correct data from the respective States/UTs after clearing all validation/verification levels.

Implementation of PM-KISAN Yojana

Government has taken many steps for successful implementation of PM-KISAN in all States/UTs of the country, some of which are as follows-

- **Launching of PM-KISAN portal** for uploading of farmers' data by respective State/UT Governments and first level verification thereof.
- **Integration of the PM-KISAN portal with UIDAI, PFMS, Income tax portal** and Pensioners & Employee Record for validation/weeding out of ineligible beneficiaries, and NTRP portal for refund of amount by ineligible beneficiaries.
- **Launching of Farmers' Corner on PM-KISAN portal** where farmers can register themselves, check their status of benefit transfer, edit Aadhaar details etc. Farmers can avail all these facilities through CSCs as well.
- Launching of PM-KISAN app to provide all functionalities of farmers' corner of PM-KISAN portal.
- Introduction of various verification exercises like **physical verification, e-KYC etc.** to ensure that benefits are transferred to eligible farmers only.
- Launching of **recovery mechanism for recovering money from ineligible beneficiaries** of PM-KISAN.
- Regular holding of Video Conferences with States/UTs to resolve their technical and policy issues, if any.
- **Devising special interventions** wherever needed, like in Jharkhand, Manipur, Nagaland, and Meghalaya.
- **Setting up of a Project Monitoring Unit at central level**, namely National Farmers Welfare Program Implementation Society for the smooth implementation of PM-KISAN.

PM-KISAN Scheme- Key Points

- **Background:** PM-KISAN Scheme was launched by the Prime Minister in 2019 to provide financial assistance to small and marginal farmers.
- **About:** Under the PM-KISAN scheme, a financial benefit of Rs. 6000/- per year is provided to the eligible beneficiary farmer families, payable in three equal 4-monthly installments of Rs.2000/- each.
- **Funding:** PM-KISAN is a Central Sector Scheme with 100% funding from the Government of India.
- **Implementation:** PM-KISAN Scheme is being implemented by the Ministry of Agriculture and Farmers Welfare, Government of India.
- **Identification of Beneficiaries:** Under PM-KISAN, the State / UT Governments are entrusted with the responsibility of identification of beneficiary farmer families.

PM-KISAN Scheme- Key Objectives

- PM-KISAN aims to supplement the financial needs of the Small and Marginal Farmers in procuring various inputs.
 - This is to ensure proper crop health and appropriate yields, commensurate with the anticipated farm income at the end of each crop cycle.
- PM-KISAN also aims to protect farmers from falling into the clutches of moneylenders for meeting such expenses and ensure their continuance in farming activities.

Indian Standards for Drinking Water

Indian Standards for Drinking Water in news

- Recently, Union Minister of State for Consumer Affairs, Food and Public Distribution informed parliament that the Bureau of Indian Standards (BIS) has made two Indian Standards pertaining to drinking water.

Indian Standards for Drinking Water

- **Bureau of Indian Standards (BIS)** has made two Indian Standards pertaining to drinking water, namely-
 - **IS 10500:2012 on Drinking Water** - Specification and
 - **IS 17482:2020 on Drinking Water Supply Management System** - Requirements for Piped Drinking Water Supply.
- **Voluntary in Nature:** BIS quality standards are not mandatory for civic agencies engaged in supplying drinking water to houses across the country.

- **Significance:** Under Jal Jeevan Mission, as per existing guideline, IS 10500:2012 is to be adopted for ensuring safe drinking water supply.
 - States/ UTs have been advised to carry out testing of drinking water sources once in a year for chemical and physical parameters and twice in a year for bacteriological parameters.

Bureau of Indian Standards (BIS)- Key Points

- **About:** BIS is the National Standard Body of India established under the BIS Act 2016 for the harmonious development of the activities of standardization, marking and quality certification of goods and for matters connected therewith or incidental thereto.
- **Parent Ministry:** BIS functions under Department of Consumer affairs, Ministry of Consumer Affairs, Food & Public Distribution.
- **Ex-officio President:** The Minister in charge of the Ministry or Department having administrative control of the BIS is the ex-officio President of the BIS.
- **BIS Headquarters:** BIS has its Headquarters at New Delhi.
 - BIS has also 05 Regional Offices (ROs) located in- Kolkata (Eastern), Chennai (Southern), Mumbai (Western), Chandigarh (Northern) and Delhi (Central).
- **Key Functions of BIS:** Bureau of Indian Standards (BIS) is entrusted with following key functions-
 - Standards Formulation
 - Product Certification Scheme
 - Compulsory Registration Scheme
 - Foreign Manufacturers Certification Scheme
 - Hall Marking Scheme
 - Laboratory Services
 - Laboratory Recognition Scheme
 - Sale of Indian Standards
 - Consumer Affairs Activities
 - Promotional Activities
 - Training Services, National & International level
 - Information Services

KAVACH System of Indian Railways

KAVACH System in news

- Recently, the Union Minister of Railways inspected the trial of 'Kavach' working system between Gullaguda-Chitgidda Railway stations.
 - In his presence, extensive trial of 'Kavach' system was conducted.
- During the trial, Head-on-collision situation was created as both the locomotives were moving towards each other.
 - The 'Kavach' system initiated the automatic braking system and halted the locomotives 380 metres apart.

What is KAVACH System?

- **About:** The KAVACH is an indigenously developed ATP to achieve the corporate objective of safety in train operations across Indian Railways.
 - The KAVACH system is a state of the art electronic system of Safety Integrity Level - 4 standards.
- **Design and Development:** KAVACH system is designed and developed by Research Design and Standards Organisation (RDSO) in collaboration with Indian industry.
 - **KAVACH system's** trials facilitated by South Central Railway.
- **Objective:** KAVACH is meant to provide protection by preventing trains to pass the signal at Danger (Red) and avoid collision.
 - KAVACH activates the train braking system automatically if the driver fails to control the train as per the speed restrictions.
 - In addition, it prevents collision between two Locomotives equipped with functional KAVACH system.
- **Association Significance:**
 - 'KAVACH' is one of the cheapest, Safety Integrity Level 4 (SIL-4) certified technologies with the probability of error is 1 in 10,000 years.
 - Also, it opens avenues of export of this indigenous technology for Railways.
- **Target:** As a part of Atmanirbhar Bharat, 2,000 km of network will be brought under Kavach for safety and capacity augmentation in 2022-23.
 - Around 34,000 Kms of network will be brought under Kavach.

Key Features of KAVACH system

- Prevention of Signal Passing at Danger (SPAD)
- Continuous update of Movement Authority with display of signal aspects in Driver Machine Interface (DMI) / Loco Pilot operation cum Indication Panel (LPOCIP)
- Automatic Braking for Prevention of Over Speeding
- Auto Whistling while approaching Level Crossing Gates
- Prevention of collision between two Locomotives equipped with functional KAVACH.
- SoS Messages during emergency situations
- Centralized live monitoring of Train movements through Network Monitor System.

Maternal Mortality Ratio (MMR) Declines

Maternal Mortality Ratio (MMR) in news

- The Maternal Mortality Ratio (MMR) of India has declined by 10 points as per a special bulletin released by the Registrar General of India.

Definition of Maternal Mortality Ratio (MMR)

- The maternal mortality ratio (MMR) is defined as the number of maternal deaths during a given time period per 100,000 live births during the same time period.
- MMR depicts the risk of maternal death relative to the number of live births and essentially captures the risk of death in a single pregnancy or a single live birth.

India's Maternal Mortality Ratio (MMR)

- India's Maternal Mortality Ratio (MMR) has declined from 113 in 2016-18 to 103 in 2017-19 (8.8 % decline).
- India had been witnessing a progressive reduction in the MMR from 130 in 2014-2016, 122 in 2015-17, 113 in 2016-18, and to 103 in 2017-19.
- **Significance:** With this persistent decline, India was on the verge of achieving the National Health Policy (NHP) target of 100/lakh live births by 2020.
 - **India is also** on track to achieve the Sustainable Development Goal (SDG) target of 70/ lakh live births by 2030.

State-wise Performance on MMR

- **Increase in Number of States achieving SDG targets:** The number of States that have achieved the SDG target has now risen from five to seven. These states are-
 - Kerala (30),
 - Maharashtra (38),
 - Telangana (56),
 - Tamil Nadu (58),
 - Andhra Pradesh (58),
 - Jharkhand (61), and
 - Gujarat (70)
- **Increase in number of states achieving NHP Targets:** There are now nine States that have achieved the MMR target set by the NHP, which include the above seven and Karnataka (83) and Haryana (96).
- **Maximum Decline in MMR:** Encouraging achievement has been reported by Uttar Pradesh, which has shown the maximum decline of 30 points, followed by Rajasthan (23 points), Bihar (19 points), Punjab (15 points) and Odisha (14 points).

- **States showing Increase in MMR:** West Bengal, Haryana, Uttarakhand and Chhattisgarh have shown an increase in the MMR.
 - **These states** would need to reappraise their strategy and intensify efforts to accelerate the MMR decline to achieve the SDG target.
- **Percentage-wise MMR decline in States:**
 - **More than 15% Decline in MMR:** Kerala, Maharashtra and Uttar Pradesh have shown more than 15% decline in the MMR.
 - **Between 10-15% decline in MMR:** Jharkhand, Rajasthan, Bihar, Punjab, Telangana and Andhra Pradesh have shown a decline between 10-15%.
 - **Between 5-10% decline in MMR:** Madhya Pradesh, Gujarat, Odisha and Karnataka witnessed a decline between 5-10%.

Key Points about Registrar General of India

- **About:** In 1949, Government established an organisation in the Ministry of Home Affairs under Registrar General and ex-Officio Census Commissioner, India.
 - The position of Registrar is usually held by a civil servant holding the rank of Joint Secretary.
- **Mandate:** Registrar General of India mandated to develop systematic collection of statistics on the size of population, its growth, etc.
- **Key Responsibilities:** Registrar General of India arranges, conducts and analyses the results of the demographic surveys of India including Census of India and Linguistic Survey of India.

MSME Innovative Scheme (Incubation, Design and IPR)

MSME Innovative Scheme in news

- Recently, Union Minister for MSME launched the MSME Innovative Scheme (Incubation, Design and IPR) along with the MSME IDEA HACKATHON 2022.

What is MSME Innovative Scheme?

- **About:** MSME Innovative is a holistic approach to unify, synergize and converge 3 sub-components and interventions with a single purpose.
- **Uniqueness:** MSME Innovative is a new concept for MSMEs with a combination of innovation in incubation, design intervention and by protecting IPR in a single mode approach.
 - This is to create awareness amongst MSMEs about India's innovation and motivate them to become MSME Champions.

- **Significance:** MSME Innovative Scheme will act as a hub for innovation activities facilitating and guiding development of ideas into viable business proposition that can benefit society directly and can be marketed successfully.
 - MSME Innovative Scheme will help entrepreneurs in developing new ventures.
 - MSME Innovative Scheme will promote and support untapped creativity of MSME sector.

Sub-Components of MSME Innovative Scheme

- **Incubation:** The primary objective of the scheme is to promote and support untapped creativity.
 - MSME Innovation Scheme aims to promote adoption of latest technologies in MSMEs that seek the validation of their ideas at the proof-of-concept level.
 - Financial assistance up to Rs. 15 lakh per idea and up to Rs. 1.00 crore for relevant plant and machines will be provided.
- **Design:** The objective of this component is to bring Indian manufacturing sector and Design expertise/ Design fraternity on to a common platform.
 - It aims to provide expert advice and cost-effective solution on real time design problems for new product development, its continuous improvement and value addition in existing/new products.
 - Financial assistance up to Rs. 40 lakhs for design project and up to Rs. 2.5 lakh for student project will be provided.
- **IPR (Intellectual Property Rights):** The objective of the scheme is to improve the IP culture in India with a view to enhance the awareness of Intellectual Property Rights (IPRs) amongst the MSMEs and to encourage creative intellectual endeavor in Indian economy.
 - It also aims to take suitable measures for the protection of ideas, technological innovation and knowledge-driven business strategies developed by the MSMEs for their commercialization and effective utilization of IPR tools through IP Facilitation Centre.
 - Financial assistance upto Rs. 5 lakhs for Foreign Patent, Rs. 1.00 lakh Domestic Patent, Rs. 2.00 lakh for GI Registration, Rs. 15,000/- for Design Registration, Rs.10,000/- for Trademark in the form of reimbursement.

National Achievement Survey (NAS)

National Achievement Survey (NAS)

- The Government of India has been implementing a rolling program of sample based National Achievement Survey (NAS) aimed at classes III, V, VIII and X with a cycle period of three years.

What is National Achievement Survey (NAS)?

- About: National Achievement Survey (NAS)** is a nationally representative large-scale survey of students' learning undertaken by the Ministry of Education, Government of India.
 - NAS gives a system level reflection on effectiveness of school education.
- Objective:** The aim and objective of NAS is to evaluate children's progress and learning competencies as an indicator of the health of the education system, so as to take appropriate steps for remedial actions at different levels.
- Development:** The tools and assessment of National Achievement Survey (NAS) has been developed by the National Council of Educational Research and Training (NCERT).
- Conducting Authority:** National Achievement Survey (NAS) level survey would be conducted by the Central Board of Secondary Education (CBSE) as Assessment Administrator.
- Eligible Institutions and Students:** NAS is conducted for Grade 3, 5, 8 and 10 students of State Govt. schools, Govt. Aided schools, Private Unaided recognized schools and Central Government schools.
- Benefit:** NAS findings help compare the performance across spectrum and across population in order to find the desirable direction for improvements.
 - The National Achievement Survey (NAS) goes beyond the scorecard and includes the background variables to correlate student's performance in different learning outcomes vis-a-vis contextual variables.

Key Features of the National Achievement Survey (NAS)

- National Achievement Survey (NAS) provides a system-level reflection on the effectiveness of school education.
- Data Collection:** National Achievement Survey (NAS) collects information on relevant background variables such as school environment, teaching processes, and student home and background factors.

- Coverage:** NAS covers the whole spectrum of schools including Government schools (both State and Central government), Government-aided schools, and Private schools across India.

Previous National Achievement Surveys (NAS)

- The National Council of Educational Research and Training (NCERT) has been periodically conducting National Achievement Surveys (NAS) since 2001.
- Five rounds of NAS have been completed till 2017, wherein the first three rounds covered Class III, V and VIII and in the last two rounds, NAS also covered Class X.
- National Achievement Survey (NAS) 2021:**
 - Class 3 & 5:** Subjects covered are Language, Mathematics & EVS for class 3 & 5.
 - Class 8:** Mathematics, Science & Social Science for class 8 and
 - Class 10:** Language, Mathematics, Science, Social Science and English for class 10.
 - Participation:** About 34 lakh students of 1.18 lakh schools from both rural and urban areas participated in NAS 2021.

National eVidhan Application (NeVA)

Context

- Recently, Ministry of Parliamentary Affairs has developed a "National eVidhan Application (NeVA)", a Mission Mode Project for **Digital Legislatures** to make the functioning of all Legislative Houses in the country paperless.

Key points

- NeVA theme: 'One Nation – One Application'.
- NeVA is transforming all State Legislatures into '**DIGITAL HOUSES**' so as to enable them to transact entire Government Business on digital platform including information exchange with the State Government Departments in digital mode.
- It stands for bringing **far reaching transformation** in the governance across the country by making the people well informed & enlighten citizens and thereby strengthening the roots of the democracy in the country.
- NeVA is not only bringing greater synergy, coordination, transparency and accountability between the Legislature and the executive in a State, but also across the States.
- Keeping in view the latest technological development in the field of ICT, maximum use of AI& IOT has been made to make NeVA a robust IT product.

- To adopt National e-Vidhan Application (NeVA), Memorandum of Understanding (MoU) have been signed with 18 States.

NeVA in states

- Bihar Legislative Council became the first House** in the country to transit to NeVA platform completely on 25th Nov, 2021 and conducted Winter Session, 2021 on the NeVA platform in paperless mode.
- Odisha Assembly also presented their budget 2021 in **paperless mode** using NeVA.

What is NeVA?

- NeVA is a **Unicode compliant software** having provision for easy access to various documents like List of Questions, List of Business, Reports etc. bilingually viz. English and any regional language.
- This application is spearheading the principle of 'One Nation- One Application' with the objective of Cloud First and Mobile First to serve Members' FIRST.
- Technical & financial provisions have been made under NeVA for **creating digital archives** of entire legacy data and making it available to users including Members and citizens in easy to search mode through mobile App and website as well.

National Youth Parliament Festival 2022

National Youth Parliament Festival 2022 in news

- Recently, Lok Sabha Speaker addressed the valedictory function of the 3rd edition of National Youth Parliament Festival -2022 in the Central Hall of Parliament, New Delhi.

What is National Youth Parliament Festival?

- Background:** National Youth Parliament Festival is based on the idea given by the Prime Minister in his Mann Ki Baat Address on 31st December, 2017.
- About:** The National Youth Parliament Festival (NYPF) is organised to hear the voice of the youth, who will join various careers in coming years, including public services.

How many National Youth Parliament Festivals have been organized?

Till now, a total three editions of the National Youth Parliament Festivals have been organized in India.

- First National Youth Parliament Festival:** it was organized from 12th January to 27th February, 2019.
 - National Youth Parliament Festival 2019 theme:** the theme of first edition of National Youth Parliament Festival was "Be the Voice of New India and Find solutions and Contribute to Policy".

- A total of 88,000 youth participated in the program.

- Second Edition of National Youth Parliament Festival:** It was organized from 23rd December, 2020 to 12th January, 2021 through virtual mode.

- National Youth Parliament Festival 2020 Theme:** the theme was "YUVAAH- Utsah Naye Bharat Ka".

- It was witnessed by more than 23 lakh youth and stakeholders across the country at District, State and National level.

- Third National Youth Festival 2022:** It is being currently organized in the Central Hall of Parliament, New Delhi.

National Youth Parliament Festival 2022

- About:** Third Edition of National Youth Parliament Festival: It was launched on 14th February 2022 at District level through virtual mode.

- Participation:** More than 2.44 lakh youth across the country participated in the District Youth Parliaments followed by State Youth Parliaments through virtual mode from 23rd - 27th February, 2022.

- National Young Awards:** Three young national winners of the National Youth Parliament Festival got an opportunity to speak before the Speaker, Lok Sabha during the valedictory function.

- Award Prize:** Certificates and Awards will be given to 3 final winners at the National level (Cash prizes of INR 2,00,000, INR 150,000, INR 100,000).

- Rs. 50,000 for 2 consolation prizes may also be awarded, if any.



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PMGDISHA Scheme - Steps Taken to ensure Village Connectivity

PMGDISHA Scheme in news

- The Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) was approved by Union Cabinet in February 2017 to usher in digital literacy in rural India.

Steps Taken to ensure Village Connectivity under PMGDISHA

- Scaling up the awareness and promotional activities towards Digital literacy through campaigns, workshops, seminars, digital vans, etc.
- In order to address the low internet connectivity issues, Wifi-choupals have been established at remote locations.
- Rural schools have been engaged for training and examination of candidates in order to penetrate the rural populous districts of identified states
- Hon'ble MPs/MLAs/District Collectors have distributed the PMGDISHA certificates at various events organised by the local PMGDISHA team.
- Some rural schools have been engaged for training and examination of candidates in order to cover the rural populous districts.
- Various mechanisms have been adopted to disseminate information regarding the scheme to the intended beneficiaries such as word of mouth publicity, online, print & electronic media including posters, banners, radio, newspaper, television, social media etc.

Key Points about PMGDISHA Scheme

- **About:** The Pradhan Mantri Gramin Digital Saksharta Abhiyan (PMGDISHA) is a program under Digital India Program to usher digital literacy in rural India.
- **Key Objectives:** The main objective of the PMGDISHA Scheme is to impart digital literacy training by covering 6 crore rural households (one person per household).
 - To ensure equitable geographical reach, each of the 2,50,000 Gram Panchayats across the country are envisaged to register an average of 200-300 candidates.
- **Digital Skills to be Imparted:** under PMGDISHA, after training, trainees are able to-
 - Operate computers/digital access devices (like tablets, smartphones, etc.),
 - Send and receive emails,
 - Browse internet,
 - Access Government Services,
 - Search for information,
 - Undertake cashless transactions, etc.

- **Coverage:** The PMGDISHA Scheme covers candidates in the age group of 14-60 years.
 - So far, around 5.66 crore candidates have been enrolled and 4.81 crore candidates have completed the training out of which 3.54 crore candidates have been certified under the scheme.

Eligibility Criteria under PMGDISHA

- The PMGDISHA Scheme is applicable only for rural areas of the country.
- All such households where none of the family member is digitally literate will be considered as eligible household under the Scheme.
- Only one person per eligible household would be considered for training.
- All the members of the family in the age group of 14 - 60 years would be covered.
- Preference would be given to SC, ST, BPL, women, differently-abled persons and minorities
- The identification of the beneficiaries would be carried out by CSC-SPV (Special Purpose Vehicle) in active collaboration with DeGS (Delhi e-Government Society), Gram Panchayats, and Block Development Officers.

Pradhan Mantri Bhartiya Janaushadi Pariyojana (PMBJP)

Pradhan Mantri Bhartiya Janaushadi Pariyojana (PMBJP)

- Recently, government has informed that about 8689 Pradhan Mantri Bhartiya Janaushadhi Kendra (PMBJKs) have been opened up in the country covering all districts of the country.

Key Points about Pradhan Mantri Bhartiya Janaushadi Pariyojana (PMBJP)

- **About:** Under the PMBJP scheme, dedicated outlets known as Pradhan Mantri Bhartiya Janaushadhi Kendra (PMBJKs) are opened to provide generic medicines at cheaper rates to the citizens of the country.
- **Mandates:** Pradhan Mantri Bhartiya Janaushadhi Kendra (PMBJKs) aims at making quality generic medicines available at affordable prices to all.
- **Parent Ministry:** Pradhan Mantri Bhartiya Janaushadhi Pariyojana (PMBJP) was launched by the Department of Pharmaceuticals, Ministry of Chemicals & Fertilizers, Government of India.
- **Implementation Agency:** The Bureau of Pharma PSUs of India (BPPI) under the Department of Pharmaceuticals is entrusted with coordinating, procuring, supplying and marketing generic medicines through PMBJK.

- **Significance:** PMBJP will create demand for generic medicines by improving access to better healthcare through low treatment cost and easy availability wherever needed in all therapeutic categories.
 - PMBJP will also create awareness about generic medicines through education and publicity.
 - PMBJP will extend coverage of quality generic medicines, leading to reduced out of pocket expenditure on medicines, reducing the burden of healthcare on poor.

Fund Allocation for Pradhan Mantri Bhartiya Janaushadi Pariyojana (PMBJP)

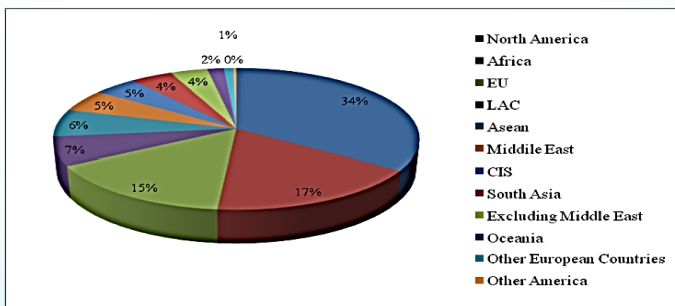
The details of the funds allocated and utilized under the PMBJP Scheme for the financial years 2020-21 and 2021-22 is as under-

Sl. No.	Financial Year	Funds Allocated (Rs. in Cr.)	Funds Utilized (Rs. in Cr.)
1.	2020-21	65.00	65.00
2.	2021-22 (As on 28.02.2022)	64.65	60.08

Pradhan Mantri Bhartiya Janaushadhi Kendra (PMBJKs)

- **About:** PMBJKs are the centers from where quality generic medicines are made available to all.
- **Setting up of PMBJKs:** PMBJKs can be set up by doctors, pharmacists, entrepreneurs, Self Help Groups, NGOs, Charitable Societies, etc. at any suitable place or outside the hospital premises.

(Region wise India's Pharma exports FY 2019-20)



- **Targets:** The Government has set a target to have about 10,500 PMBJKs by March 2025 across the country.
 - The target for the year 2022-23 is to have about 9,300 PMBJKs across the country.

What is generic medicine?

- **About:** Generic medicines are unbranded medicines which are equally safe and having the same efficacy as that of branded medicines in terms of their therapeutic value.
- **Advantage:** The prices of generic medicines are much cheaper than their branded equivalent.

Prime Minister's Yoga Awards 2022

In news

- Recently, Ministry of Ayush has invited nominations for Prime Minister's Yoga Awards 2022. The winners will be announced on the International Day of Yoga on 21st June, 2022.

Application Process

- The application process of award for the year 2022 is currently being hosted on the MyGov platform (<https://innovateindia.mygov.in/pm-yoga-awards-2022/>).
- The applications/nominations can be submitted only through online mode and no hardcopy is to be sent.
- Interested individuals and institutions can access the PMYA page at <https://innovateindia.mygov.in/pm-yoga-awards-2022/> to understand the nominations process and participate.
- The applicant can directly apply or they may be nominated by a prominent person or organisation working in the field of Yoga for consideration under this award process.

Categories

- It consists of two National categories for entities of Indian origin, and two International categories for entities of foreign origin.
- The applicants/nominees for these awards should have made exceptional contributions to Yoga, and have a deep understanding of Yoga.
- An applicant can nominate/can be nominated for only one award category, that is, either the National Award or the International Award, in a particular year.

Selection Process

- The selection process is a well-defined process for which two committees are constituted by the Ministry of AYUSH (MoA), Government of India (GoI), namely-
 - The Screening Committee and
 - The Evaluation Committee (Jury).
- Above committees will decide the selection and evaluation criteria for finalizing the recipients of the awards.
- The Evaluation Committee (Jury) is chaired by the Cabinet secretary.

International Yoga Day

- **International Yoga Day:** United Nations proclaimed 21 June as the International Day of Yoga by resolution 69/131 in the year 2014.
- **The message of Yoga** in promoting both the physical and mental well-being of humanity has never been more relevant than during COVID-19 pandemic.
 - The communities around the world have embraced Yoga to stay healthy and rejuvenate themselves.

International Yoga Day 2022

- **International Day of Yoga 2022 countdown campaign:** It commenced on 13 March 2022.
 - The 100 days countdown is focused on 100 cities involving 100 organizations till 21st June 2022.
- **Key Activities Planned:**
 - To celebrate Azadi ka Amrit Mahotsav, a demonstration of Yoga will be at 75 Heritage/Iconic cultural sites on 21st June 2022.
 - Other programs include Yoga demonstrations, workshops, and seminars to be held during countdown.
- The Ministry will propagate the benefits of Yoga using WHO mYoga App, Namastey App, Y-break Application and various people-centric activities and programmes.
- The activities will be launched on MyGov platform including Photo contest, quiz, discussion, pledge, poll survey, jingle etc.

Smart Grid Knowledge Center and Innovation Park

Context

- Recently, Ministry of Power has launched a virtual Smart Grid Knowledge Center (SGKC) and Innovation Park as part of Azadi ka Amrit Mahotsav Programme.

Key points

- The Virtual SGKC has been conceptualized and developed by **POWERGRID** with support from the Ministry of Power and technical assistance from **USAID**.
- SGKC aims to be one of the leading Centers of Excellence globally to foster innovation, entrepreneurship and research in smart grid technologies and create capacities in the power distribution sector.

- The Virtual SGKC enables a digital footprint of the physical setup of SGKC, the need for which was **felt during COVID-19 pandemic**.
- The platform presently hosts more than 50 solutions from over 30 technology partners across 8 thematic areas spanning across new and **advanced technologies** such as artificial intelligence, machine learning, blockchain, IOT, etc.

What is smart grid technology?

- A smart grid is an electricity network based on digital technology that is used to **supply electricity to consumers** via two-way digital communication.
- Smart grid allows for monitoring, analysis, control and communication within the supply chain to help improve efficiency, reduce energy consumption and cost, and maximize the transparency and reliability of the energy supply chain.
- The main objective behind the introduction of smart grid is to **overcome the weaknesses of conventional electrical grids** by using smart net meters.

Features of smart grid

- Real time monitoring.
- Automated outage management and faster restoration.
- Dynamic pricing mechanisms.
- Incentivize consumers to alter usage during different times of day based on pricing signals.
- Better energy management.
- In-house displays.
- Web portals and mobile apps.
- Track and manage energy usage.
- Opportunities to reduce and conserve electricity etc.

Smart grid benefits

- Reduction of T&D losses.
- Peak load management, improved QoS and reliability.
- Reduction in power purchase cost.
- Better asset management.
- Increased grid visibility and self-healing grids.
- Renewable integration and accessibility to electricity.
- Increased options such as ToU tariff, DR programs, net metering.
- Satisfied customers and financially sound utilities etc.

TEJAS Skilling Project

In News

- Recently, the Union Minister Shri Anurag Thakur launched TEJAS (Training for Emirates Jobs And Skills), a Skill India International Project to train overseas Indians.
- The MoU was signed between India's National Skill Development Corporation (NSDC) and Gulf countries based EFS, DulSCO, Artificial Intelligence Organization, FutureMilez, Lulu International Exchange, EDI and Prime Health Group.
- He also visited the country pavilions of UAE, Saudi Arabia and Italy at the Dubai Expo.

Key Points

- **About:** TEJAS (Training for Emirates Jobs And Skills), is a Skill India International Project to train overseas Indians.
- **Objective:** The Tejas project is aimed at skilling, certification and overseas employment of Indians.
 - Tejas is aimed at creating pathways to enable Indian workforce to get equipped for skill and market requirements in UAE.
 - Tejas aims at creating a 10,000 strong Indian workforce in UAE during the initial phase.

Significance of TEJAS Skilling Project

- Tejas will skill overseas Indian population and provide the world with a large skilled workforce from India.
- TEJAS will act as a pathway between India and UAE.
 - TEJAS will create pathways between India-UAE and enable the Indian workforce to be equipped with the skills required for the market in the UAE.

Key Points about Dubai Expo 2022

- The Dubai Expo 2020 is one of the largest events to be held in the Middle East and South Asian region following the coronavirus pandemic.
- The six-month-long Dubai Expo that commenced in October last year witnessed the participation of as many as 192 countries.
- India's pavilion at Dubai Expo 2020 is a massive affair that spans across four floors over nearly one lakh square feet.
- India's pavilion is a massive affair that spans across four floors, and over nearly one lakh square feet.
- Fifteen states and nine central ministries from India are participating in this expo, which will be ending on March 31, 2022.

UDISE+ 2020-21 Report

In news

- Ministry of Education will be releasing a detailed report on Unified District Information System for Education Plus (UDISE+) 2020-21 on school education of India.

Key Points

Development: The UDISE+ system of online data collection from the schools was developed by Department of School Education & Literacy in the year 2018-19.

- **Objective:** UDISE+ System aims to overcome the issues related to erstwhile practice of manual data filling in paper format and subsequent feeding on computer at the block or district level in the UDISE data collection system since 2012-13.
- **Improvements:** In UDISE+ system, improvements have been made particularly in the areas related to data capture, data mapping and data verification.

Report on Students and Teachers in schools

- In 2020-21 total students enrolled in school education from primary to higher secondary stood at 25.38 crore.
 - There is an increase of 28.32 lakh enrolments as compared to the 25.10 crore enrolment in 2019-20.
- **Gross Enrolment Ratio (GER):** It measure the general level of participation has improved in 2020-21 at all levels of school education compared to 2019-20.
- **Level wise GER in 2020-21 as compared to 2019-20 are:** 92.2% from 89.7% in upper primary, 99.1 % from 97.8% in elementary, 79.8% from 77.9% in secondary and 53.8% from 51.4% in higher secondary respectively.
- **Teachers in school education:** 96.96 lakh teachers are engaged in school education during 2020-21.
 - This is higher by about 8800 in comparison with number of teachers in school education in 2019-20.
- **Pupil Teacher Ratio (PTR):** In 2020-21 the Pupil Teacher Ratio (PTR) stood at 26 for primary, 19 for upper primary, 18 for secondary and 26 for higher secondary, showing an improvement since 2018-19.
 - The PTR for primary, upper primary, secondary and higher secondary was 28, 20, 21, and 30 respectively during 2018-19.
- **Girls in School:** In 2020-21 over 12.2 crore girls are enrolled in primary to higher secondary showing an increase of 11.8 lakh girls compared to the enrolment of girls in 2019-20.

Report on Non-teaching staffs

- **Non-teaching staff:** The number of non-teaching staffs has also improved over the years. Total non-teaching staffs during 2020-21 stood at 15.8 lakh as compared to 12.37 lakhs in 2018-19.

Report on School Infrastructure

- **Schools with functional electricity** have made impressive progress during 2020-21 with net addition of 57,799 schools provided electricity.
 - Now 84% of the total schools have functional electricity facility in comparison with 73.85% in 2018-19 showing remarkable improvement of 10.15% during the period.
- **Percentage of the schools with functional drinking water** has increased to 95.2 % in 2020-21 from 93.7 % in 2019-20.
- **Percentage of the school with functional girl's toilet facility** has increased to 93.91 % in 2020-21 in comparison with 93.2 % in 2019-20 by adding the facility in additional 11,933 schools during the year.
- **Percentage of schools with hand wash facilities** has also improved during 2020-21 and now stands at 91.9 % as compared to 90.2 % in 2019-20.
- **Number of schools having functional computers** increased to 6 lakhs in 2020-21 from 5.5 lakh in 2019-20 showing an increasing of 3 %. Now, 40% of the schools have functional computers.
- **Number of schools having internet facility** increased to 3.7 lakh in 2020-21 from 3.36 lakh in 2019-20 with an increase of 2.6%.

Impact of COVID-19 Pandemic on Enrolment

- During 2020-21, 39.7 lakh students of government aided, private school students shifted to Government schools.

WHO Global Centre for Traditional Medicine in India

Context

- Recently, Union Cabinet has approved the establishment of the WHO Global Centre for Traditional Medicine (WHO GCTM) in Jamnagar, Gujarat.

What is WHO GCTM?

- The WHO GCTM will be established in Jamnagar under the Ministry of AYUSH.
- This would be the first and only global outposted Centre (office) for traditional medicine across the globe.

- Dr. Tedros Adhanom Ghebreyesus, Director General, World Health Organization announced the establishment of WHO GCTM in India on the occasion of 5th Ayurveda Day.
- WHO GCTM is expected to emerge as a centre of global wellness, bolster evidence-based research, training and awareness for Traditional Medicine.
- A Joint Task Force (JTF) is constituted for coordination, execution and monitoring of activities for the establishment of this Centre.

WHO GCTM benefits

- to position AYUSH systems across the globe
- to provide leadership on global health matters pertaining to traditional medicine.
- To ensure quality, safety and efficacy, accessibility and rational use of traditional medicine.
- To develop norms, standards, and guidelines in relevant technical areas, tools and methodologies, for collecting data undertaking analytics, and assess impact. Envisage WHO TM Informatics centre creating a collaborative of existing TM Data banks, virtual libraries, and academic and research institutes.
- To develop specific capacity building and training programmes in the areas of relevance to the objectives and conduct training programmes in campus, residential, or web-based, and through partnerships with the WHO Academy and other strategic partners.
- The WHO GCTM would provide leadership on all global health matters related to traditional medicine as well as extend support to member countries in shaping various policies related to traditional medicine research, practices and public health.

Traditional medicine in India

- Traditional medicine is a key pillar of health care delivery systems and plays a crucial role in maintaining good health and well-being.
- Safe and effective traditional medicine will play a significant role in ensuring all people have access to quality essential health care services and safe, effective and affordable essential medicines as the world approach the ten-year milestone for Sustainable Development Goals in 2030.
- The WHO-GCTM will identify various challenges faced by the countries in regulating, integrating and further positioning Traditional Medicine in respective countries.
- The upcoming WHO- GCTM and various other initiatives in collaboration with WHO will aid India in positioning traditional medicine across the globe.

International Relations

5th BIMSTEC Summit

5th BIMSTEC Summit

- Recently, the Prime Minister of India participated in the 5th BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation) Summit.
- 5th BIMSTEC Summit is hosted in virtual mode by Sri Lanka, the current chair of BIMSTEC.

India at 5th BIMSTEC Summit

- India highlighted the importance of enhanced BIMSTEC regional connectivity, cooperation and security, and made several suggestions in this regard.
- Indian Prime Minister called upon the fellow leaders to strive to transform Bay of Bengal into a Bridge of Connectivity, Prosperity, and Security among the BIMSTEC-member countries.

5th BIMSTEC Summit Theme

- **5th BIMSTEC Theme:** The 5th BIMSTEC Summit's theme is "Towards a Resilient Region, Prosperous Economies, Healthy People".
- BIMSTEC Theme captures the efforts by BIMSTEC to develop cooperation activities that support member state's program to deal with the economic and development consequences of the Covid-19 pandemic.

Key Outcomes of the 5th BIMSTEC Summit

- The main outcome of 5th BIMSTEC Summit 2022 was the adoption and signing of the BIMSTEC Charter.
 - **BIMSTEC Charter** formalizes the grouping into an organization made up of members states that are littoral to, and dependent upon, the Bay of Bengal.
- The Summit also saw considerable progress being achieved in the BIMSTEC connectivity agenda with the adoption of the 'Master Plan for Transport Connectivity' by Leaders.
 - **Master Plan for Transport Connectivity:** It lays out a guidance framework for connectivity related activities in the region in the future.
- **Signing of three BIMSTEC agreements:** These represent progress being achieved in ongoing cooperation activities-
 - BIMSTEC Convention on Mutual Legal Assistance in Criminal Matters;
 - BIMSTEC Memorandum of Understanding on Mutual Cooperation in the field of Diplomatic Training and
 - Memorandum of Association on Establishment of BIMSTEC Technology Transfer Facility.

Key Points about BIMSTEC Countries

- The BIMSTEC was founded in 1997 to provides a unique link between the South and South-East Asia with 5 countries – Bangladesh, Bhutan, India, Nepal and Sri Lanka from South Asia and two countries – Myanmar and Thailand from the South-East Asia.



The BIMSTEC flag stands as a symbol to signify the unity of the Member States and their support for the principles of BIMSTEC.

- **Cooperative areas:** The countries came together one platform for cooperation in 14 key economic and social sectors of the economy.
 - Initially, six sectors- trade, technology, energy, transport, tourism and fisheries were included for sectoral cooperation which was later expanded to 14 areas of cooperation.
- **BIMSTEC Headquarter:** BIMSTEC headquarters at Kathmandu, Nepal.
- 17th BIMSTEC summit was held in Sri Lanka in April 2021.
- **BIMSTEC New Secretary General:** Tenzin Lekphell.
- **Objective:** To pursue mutual trade, connectivity and cultural, technical and economic development in the region.

36th International Geological Congress (IGC)

In News

- The reformatted 36th International Geological Congress is being organized jointly by the Ministry of Mines, Ministry of Earth Sciences, Govt. of India and Indian National Science Academy.

Key Points

- 36th International Geological Congress (IGC) is being organized on virtual platform with the support of India's neighboring countries- Bangladesh, Nepal and Sri Lanka.
- Theme of 36th IGC: "Geoscience for the next decade: Challenges and Society".
- The scientific program under 36th IGC reflected on how Geosciences are integrally related to a sustainable future, touching various aspects of life.
- 36th International Geological Congress (IGC) was attended virtually by the geoscience community over the world with its inaugural ceremony in a hybrid mode.

International Geological Congress (IGC)- Key Points

- **About:** International Geological Congress (IGC) is a nonprofit scientific and educational organization. International Geological Congress (IGC) is also described as the Olympics of Geosciences.
 - Meetings of the IGC are held in collaboration with, and under sponsorship of the International Union of Geological Sciences (IUGS).
 - IUGS holds its General Assemblies in conjunction with Sessions of the IGC.
- **Frequency of IGC Meetings:** IGC's are held quadrennial, under the aegis of the International Union of Geological Congress (IUGS), the scientific sponsor of IGCs.
- **Mandate:** The main purpose of the Congress is to encourage the advancement of fundamental and applied research in the Earth sciences world-wide.

Key Facts about International Union of Geological Sciences (IUGS)

- **About:** International Union of Geological Sciences founded in 1961, with 121 national members, representing over a million geoscientists.
 - The IUGS is one of the World's largest scientific organizations.
 - The IUGS is a member of the International Science Council (ISC).
- **Mandate:** The IUGS encourages international cooperation and participation in the Earth sciences in relation to human welfare.
- **IUGS Membership:** its membership is open to countries or defined regions.

Key Functions of the International Union of Geological Sciences (IUGS)

- IUGS promotes and encourages the study of geological problems, especially those of world-wide significance.
 - IUGS also supports and facilitates international and interdisciplinary cooperation in the Earth sciences.
- **IUGS gives special consideration to-**
 - International standards;
 - Geoscience education;
 - Geoscience information;
 - Environmental management and hazards.
- IUGS works through topic specific Commissions, Task Groups, and Initiatives as well as Joint Programs with other organizations, that are concerned with a wide range of geologic research of direct interest to governments, industry, and academic groups within the Earth sciences.

- IUGS aims to promote development of the Earth sciences through the support of broad-based scientific studies relevant to the entire Earth system-
 - To apply the results of these and other studies to preserving Earth's natural environment, using all natural resources wisely and improving the prosperity of nations and the quality of human life; and
 - To strengthen public awareness of geology and advance geological education in the widest sense.
- IUGS fosters dialogue and communication among the various specialists in earth sciences around the world.
 - IUGS achieves this by organizing international projects and meetings, sponsoring symposia and scientific field trips, and producing publications.

BBIN Motor Vehicle Agreement Finalised

Context

- Recently, India, Bangladesh and Nepal finalised an Memorandum of Understanding (MoU) for implementing the **Bangladesh-Bhutan-India-Nepal (BBIN) Motor Vehicles Agreement (MVA)** that is aimed at **boosting regional trade** and connectivity.

Key points

- Bhutan participated in the meeting as an observer and the MoU was finalised "**pending ratification of the MVA by Bhutan**".
- The original BBIN MVA was signed by all four countries in June **2015**. However, Bhutan objected the proposal over sustainability and environmental concerns.
- The Bhutanese parliament then decided **not to endorse the plan**, and former Prime Minister Tobgay Tshering's government agreed to allow the other three countries to go ahead with the project for vehicular movement (BIN-MVA) in 2017.
- In 2020, Prime Minister told that given Bhutan's "current infrastructure" and top priority to remaining a "**carbon-negative**" country, it would not be possible to consider joining the MVA.
- While India remained "hopeful" that Bhutan could change its position on the project, it was decided at a meeting in November 2021 to go ahead for now, given that there are **no new signals from Bhutan** on the project.

What is BBIN initiative?

- The BBIN economic project aims at **constructing an economic corridor** connecting Bangladesh, Bhutan, India and Nepal by roads.
- The BBIN connectivity project was conceived after South Asian Association for Regional Cooperation (SAARC) **failed to agree** on a regional motor vehicles agreement at a summit in Nepal in 2014, mainly because of opposition from Pakistan.

BBIN importance

- BBIN is a step towards **improving the economic situations** of these South-Asian countries through regional cooperation.
- The BBIN agreement was created 'for the Regulation of Passenger, Personal and Cargo Vehicular Traffic between Bangladesh, Bhutan, India, and Nepal and improve the quality of transportation between these neighbouring countries also aiding the economy.
- The corridor will enhance connectivity between goods, people and support easier transportation.
- It will also act as **resistance towards growing influence of China** in the region as well as portray a strong front regarding sub-regional South-Asian unity.

BBIN initiative: Key aspects

- Member states would be **permitted to operate** their vehicles in each other's territory for transportation of cargo and passengers.
- To enter a neighbouring country's territory, all cars would need an **electronic permit**, and border security measures across nations' borders would remain in place.
- Cargo vehicles will be allowed to enter any of the four countries without the requirement for products to be transferred from one truck to another at the border.
- Cargo trucks are **tracked electronically**, permits are granted online, and permits are delivered electronically to all land ports under the system.
- Every time the container door is opened, an electronic seal on the vehicle informs authorities.



Impact of Russia Ukraine War on Indian Economy

Context

- The ongoing Russia Ukraine tensions have impacted the global trade significantly. The supply chains have been hit all around the world and experts are of the opinion that Indian economy will be **negatively impacted** due to such disruptions.

Key sectors to be impacted

Crude oil

- **Oi forms a major component** of our import basket from Russia. The sanctions can sour the price to a new level, resulting into higher prices of petroleum products domestically.
- The rise in fuel prices could further **aggravate the issue of inflation** in the country.
 - Notably, Economic Survey 2021-22 has pointed 3 challenges to Indian economy—Resurgent COVID waves, supply chain disruptions and inflation.
- Due to rise in fuel price our **import bill will sour** and so will our Current Account Deficit.

Exports

- If the fuel price remains at high levels for a long time, prices of other commodities which India imports will also rise in the international market.
- Due to this pressure on global economy, demand may be impacted which could **affect our exports too**.

Agriculture

- Russia and Ukraine are the major global suppliers of wheat, corn and sunflower oil.
- **India imports most of its sunflower oil from Ukraine**.
- Considering the demand of oil in India, the price rise of sunflower oil will further increase inflation in India.
- A sustained rise in oil and food prices would have adverse impacts on Asia's economies, manifested through higher inflation, weaker current account and fiscal balances, and a squeeze on economic growth.
- In such a scenario, India, Thailand and the Philippines will be the most impacted countries, while Indonesia would be a relative beneficiary.

Banking

- Till date, **banking sector has remained resilient** to the ongoing conflict.
- The indicators of financial health—**profitability, asset quality and capital adequacy**—has risen to a new peak, thus showing a strong banking scenario.
- Moreover, there is adequate liquidity of Es. 7 lakh crore and appropriate cash balance of Rs. 2.8 lakh crore, which should insulate the banking sector from the ongoing crisis.

Steel

- The expected shortfall in international markets because of the ongoing war is likely to keep steel prices at buoyant levels in the near term, which will **benefit Indian steel players**.
- Also, export opportunities will allow leading steel companies to operate at higher capacity utilisation rates.

Conclusion

- Some sectors like oil and gas and both ferrous and non-ferrous metals can gain through this trend, while the ones which depend on oil as a key input, like chemicals, fertilisers, gas utilities, refining and marketing, will have a negative impact.

Impact of Russia-Ukraine Conflict on Shipping Sector

Why in news?

- Russia Ukraine war began when Russian President Vladimir Putin announced the 'military operations in Ukraine.
- Russia Ukraine conflict has caused many strategic, political and economic consequences around the world.
- Ukraine has severed diplomatic relations with Russia after Moscow launched an all-out invasion of Ukraine by land, air and sea.
- The ongoing Russia Ukraine tensions have impacted the global trade significantly.

Impact of Russia-Ukraine Conflict on Shipping Sector

- The supply chains have been hit all around the world and experts are of the opinion that Indian economy will be negatively impacted due to such disruptions including the shipping sector.

- **Due to conflict between Russia and Ukraine the Shipping companies are facing the following issues-**

- Shipping activities in northern black sea is closed
- Insurance cover has been withdrawn by the P&I.
- Containers bound for Ukraine and Russia are lying at different transshipment ports.
- Payment affected due to blockage of SWIFT in Russia.
- Congestion at neighbouring ports and transshipment ports.
- Trade to Russia and CIS countries have been affected and Shipping lines are not accepting goods for Russian ports.

- **The following steps have been taken to protect the Indian shipping companies from the adverse impact of this crisis-**

- Meetings are taken at regular intervals with all stakeholders to review the situation.
- Shipping lines have been requested to explore alternative routes for Commonwealth of Independent States (CIS) / Russian cargo.
- EXIM Traders were informed that M/s ONE Shipping is carrying containers to Vladivostok.

India's Diplomatic Dilemma

India's statement at the UN lacked condemnation of the Russian attack on Ukraine. Five reasons for India's diplomatic dilemma are discussed below-

- **Double Standards:** The West views India's statement as condoning Russia's actions and applying double standards while it raises the issue of "territorial integrity and sovereignty" when it comes to China.
- **India's strategic ties with Russia:** India's dependence on Russia for military supplies — 60 to 70 percent of India's military hardware is of Russian origin.
 - This is extremely crucial at a time when India has an ongoing border standoff with China.
- **India at UN Meeting:** India said the escalation of tension along the border of Ukraine with the Russian Federation is a matter of deep concern.
 - This is the closest New Delhi has gone so far to caution Putin's Russia to not undertake risky behavior that may escalate.
 - It is a euphemism and diplomatese for India telling Russia: don't do it.
- **Safety of Indian Citizens:** India's worry remains its 20,000 Indian students and nationals, many of them who live close to the Ukraine-Russia border.
 - Many of these students are enrolled in the medical colleges of Ukraine.
 - India has also emphasized that it was concerned about the safety and security of civilians.

- **Peaceful Negotiation through Diplomatic Channels:** India has asked “all sides” to intensify diplomatic efforts to reach for an amicable solution at the earliest.
 - This is again a time-tested line of India’s, where it doesn’t blame one side or the other for not being cooperative.
 - West has blamed Russia for starting the tension and has put the ball in Putin’s court, whereas the Russian President has blamed NATO’s eastward expansion as a threat.

India's Arctic Policy

In news

- Recently, the Union Minister of State (Independent Charge) Science & Technology released India's Arctic policy titled 'India and the Arctic: building a partnership for sustainable development’.

India’s Arctic Policy

- **About:** India's Arctic policy titled 'India and the Arctic: building a partnership for sustainable development’.
- **Nodal Agency for Implementation of India’s Arctic Policy:** The National Centre for Polar and Ocean Research (NCPOR) is the nodal institution for India’s Arctic Policy.
 - National Centre for Polar and Ocean Research (NCPOR), an autonomous institute under the Ministry of Earth Sciences is the nodal agency for India’s Polar research program.
- **Pillars of India’s Arctic Policy:** it has six pillars which are mentioned below-
 - Strengthening India's scientific research and cooperation,
 - Climate and environmental protection,
 - Economic and human development,
 - Transportation and connectivity,
 - Governance and International cooperation, and
 - National capacity building in the Arctic region.
- **Implementation of India’s Arctic Policy:**
 - India's Arctic policy shall be implemented through an action plan, and an effective governance and review mechanism involving the inter-ministerial Empowered Arctic Policy Group.
- **Multi-stakeholders Approach:** Implementing India's Arctic policy will involve multiple stakeholders, including academia, the research community, business, and industry.

Significance of India's Arctic Policy

- India has moved forward to join an elite group of countries working on various aspects of Arctic.
- **Arctic Council:** India is one of thirteen nations holding Observer status in the Arctic Council.
 - **About:** Arctic Council is a high-level intergovernmental forum that addresses issues faced by the Arctic governments and the indigenous people of the Arctic.
 - **Observer Nations:** Thirteen (13) nations are observers in the Arctic Council are- France, Germany, Italian Republic, Japan, The Netherlands, People’s Republic of China, Poland, **India**, Republic of Korea, Spain, Switzerland, United Kingdom.
- **India’s Stand on Arctic:** India maintains that all human activity should be sustainable, responsible, transparent, and based on respect for international laws.

Key Objectives of India's Arctic Policy

India's Arctic policy aims to promote the following agenda-

- **Strengthening national capabilities and competencies** in science and exploration, climate and environmental protection, maritime and economic cooperation with the Arctic region.
 - Institutional and human resource capacities will be strengthened within Government and academic, research and business institutions.
- **Inter-ministerial coordination** in pursuit of India's interests in the Arctic.
- **Enhancing understanding of the impact of climate change** in the Arctic on India's climate, economic, and energy security.
- **Contributing better analysis, prediction, and coordinated policymaking** on the implications of ice melting in the Arctic on India's economic, military and strategic interests related to global shipping routes, energy security, and exploitation of mineral wealth.
- **Studying linkages between polar regions and the Himalayas.**
- **Deepen cooperation between India and countries of the Arctic region** under various Arctic forums, drawing expertise from scientific and traditional knowledge.
- **Increase India’s participation in the Arctic Council** and improve understanding of the complex governance structures in the Arctic, relevant international laws, and geopolitics of the region.

Conclusion: India's Arctic policy would play an essential role in preparing the country for a future where humankind's biggest challenges, such as climate change, can be addressed through collective will and effort.

India-Australia Virtual Summit

India-Australia Virtual Summit in news

- Prime Minister of India and Prime Minister of Australia held the 2nd India-Australia Virtual Summit.
- During the 2nd India-Australia Virtual Summit, they reviewed the multi-faceted relationship between the two countries and exchanged views on regional and global developments.

2nd India-Australia Virtual Summit

- India expressed its condolences on the destruction caused by severe flooding in New South Wales and Queensland, and the resultant loss of lives.
- **Return of Ancient Artefacts to India:** Indian PM thanked Australia for the special gesture in returning 29 ancient artefacts to India. The artefacts include-
 - 12th century Chola bronzes,
 - 11th-12th century Jain sculptures from Rajasthan,
 - 12th-13th century sandstone Goddess Mahisasuramardini from Gujarat,
 - 18th-19th century paintings and
 - Early gelatin silver photographs.
- **On Comprehensive Strategic Partnership:** Both the leaders expressed satisfaction at the progress made under the Comprehensive Strategic Partnership established during the 1st Virtual Summit in June 2020.
- **Diverse Areas of Cooperation:** Indian Prime Minister also expressed his satisfaction at the enhanced scope of the relationship which now covers diverse areas such as-
 - Trade and investments,
 - Defence and security,
 - Education and innovation,
 - Science and technology,
 - Critical minerals,
 - Water management,
 - New and renewable energy technology,
 - Covid-19 related research, etc.

- **On Indo-Pacific:** Increasing strategic convergence between the two countries as fellow democracies with shared values and common interests, which include a free, open, inclusive, and prosperous Indo-Pacific.
- **Future Commitments:** Joint statement of the Second India-Australia Virtual Summit included-
 - Commitments of Deepening Comprehensive Strategic Partnership.
 - Establishing annual summits between the Prime Ministers under the Comprehensive Strategic Partnership.

Key Facts about India-Australia Virtual Summit

- **About:** the first India-Australia Virtual Summit was held in June 2020 in the backdrop of COVID-19 Pandemic.
- **Aim:** India-Australia Virtual Summit aims to deepen and expand the horizon of India-Australia Relations.
- **Key Outcomes:**
 - At the first India-Australia Virtual Summit, both countries had elevated their relationship to a comprehensive strategic partnership.
 - India has signed CSPs with the United Kingdom, Indonesia, Vietnam and the United Arab Emirates (UAE) so far.
 - On the other hand, Australia has CSPs with China, Indonesia and Singapore.
 - During first India-Australia Virtual Summit, multiple MoUs were signed in various fields, including mining, cyber technology, public administration, defence cooperation and water resource management.



India-Canada Ministerial Dialogue on Trade & Investment

India-Canada Ministerial Dialogue on Trade & Investment in news

- Recently, India and Canada held the fifth Ministerial Dialogue on Trade & Investment (MDTI) which was co-chaired by the Indian Minister of Commerce and Industry and his Canadian Counterpart.

Key agreements at fifth India-Canada Ministerial Dialogue on Trade & Investment

- **Finalizing India-Canada CEPA:** Ministers agreed to formally re-launch the negotiations for India-Canada Comprehensive Economic Partnership Agreement (CEPA).
- **Interim Agreement:** They will also consider an Interim Agreement or Early Progress Trade Agreement (EPTA) that could bring early commercial gains to both the countries. The Interim Agreement would include-
 - High level commitments in goods, services, rules of origin, sanitary and phytosanitary measures, technical barriers to trade, and dispute settlement, and
 - May also cover any other areas mutually agreed upon.
- **Promoting Agricultural exports:** Both countries agreed to undertake intensified work with respect to the recognition of Canada's systems approach to pest risk management in pulses and market access for Indian agriculture goods such as sweet corn, baby corn and banana etc.
- **Facilitating Organic Exports:** Canada agreed to examine expeditiously the request for Conformity Verification Body (CVB) status to APEDA (Agricultural and Processed Food Products Export Development Authority) for facilitating Indian organic export products.
- **Establishing Resilient Supply Chains:** They acknowledged the significance of establishing resilient supply chains in critical sectors and exchanged views on collaboration in this area.
- **People to People Cooperation:** They also noted the role of strong people-to-people ties between the two countries, including movement of professionals and skilled workers, students, and business travellers, in strengthening the bilateral economic partnership.

Benefits of India-Canada Comprehensive Economic Partnership Agreement (CEPA)

- India-Canada Comprehensive trade agreement would help in expanding bilateral trade in goods and services through unlocking the potential across sectors.
- India Canada cooperation across sectors will help in harnessing full potential of the trade and investment relationship between India and Canada.

Indian Power Projects to Replace Chinese Ventures in Sri Lanka

Chinese Angle in India-Sri Lanka Relations

- Recently, Indian power projects were cleared by Sri Lankan Authorities. Now, India will set up hybrid power projects in three Islands off Jaffna, effectively replacing the Chinese venture cleared by Colombo last year.
- The MoU for the project was among those signed during a recent meeting between visiting External Affairs Minister (EAM) S. Jaishankar and his Sri Lankan counterpart G.L. Peiris.

Background of Chinese Power Projects in Sri Lanka

- In January 2021, Sri Lanka decided to award renewable energy projects in Nainativu, Delft or Neduntheevu, and Analaitivu islands to Chinese company Sinosoar-Etechwin, following an Asia Development Bank-backed competitive bid.
- India was quick to express concern to the Sri Lankan side over the Chinese project coming up in the Palk Bay, barely 50 km off Tamil Nadu.
 - New Delhi offered to execute the same project with a grant rather than a loan.
- Unable to pick a side for over a year, Colombo kept the project in suspension, apparently putting off China.
- Recently, the Chinese Ambassador in Colombo voiced rare criticism over the projects being interrupted for "unknown reasons", and said it sent out the wrong message to potential foreign investors.

Indian Energy Projects in Northern Sri Lanka

- **Indian Energy Projects in North-East Sri Lanka:** It will be the third Indian energy project coming up in Sri Lanka's north and east, after the recent agreements for-
 - National Thermal Power Corporation's solar venture in the eastern Sampur town, and
 - Adani Group's renewable energy projects in Mannar and Pooneryn in the north.

International Election Visitors Programme 2022

In news

- Recently, the Election Commission of India (ECI) hosted the virtual International Election Visitors Programme (IEVP) 2022.

What is International Election Visitors Program

- Background:** International Election Visitors Program (IEVP) is being held by India since 2012 elections
- About:** In International Election Visitors Program, International delegates are invited to visit the Polling stations and see the electoral processes in practice for themselves in person.
 - Even during the Covid pandemic with travel restrictions, IEVP in India has not been discontinued and continues to be held in an innovative virtual mode.
- Participation:** International Election Visitors Program (IEVP) 2022 for Election Management Bodies (EMBs) saw participation from nearly 32 Countries and four international organizations.
- Key Events:** An overview of the ongoing Elections for Legislative Assemblies of Goa, Manipur, Punjab, Uttarakhand and Uttar Pradesh was presented to more than 150 EMB Delegates participating online.

About Election Commission of India (ECI)

- Formation:** ECI was established on 25th January 1950 as per the provisions of the constitution of India.
 - Till 1989, it was a single-member commission which was further expanded to three members by the Election Commission Amendment Act 1989.
 - Later in 1990, two posts of Election Commissioners (EC) were abolished but again in 1993, the president appointed two more EC. Since that time, ECI has one CEC and two EC.
- About:** The ECI is an autonomous constitutional authority responsible for administering Union and State election processes in India.
- Key Function:** The Election Commission of India (ECI) administers elections to the Lok Sabha, Rajya Sabha, and State Legislative Assemblies in India, and the offices of the President and Vice President in the country.
- Constitutional Provisions:**
 - Part XV of the Indian constitution:** deals with elections, and establishes a commission for these matters.
 - Article 324 to 329 of the constitution:** deals with powers, function, tenure, eligibility, etc. of the commission and the member.

QUAD Summit amid Russia-Ukraine War

In News

- Recently, Indian Prime Minister participated at a virtual summit of Quad leaders, along with US President, Australian Prime Minister and Japanese Prime Minister.
- At the QUAD Summit 2022, India reiterated the importance of adhering to the UN Charter, international law and respect for sovereignty and territorial integrity.

Key Points

- The QUAD meeting reviewed the progress on Quad initiatives since the September 2021 Quad Summit.
- The QUAD leaders agreed on accelerating cooperation, with an objective to achieve concrete outcomes by the summit in Japan later this year.
- On Russia-Ukraine War:** Developments in Ukraine were discussed in the QUAD meeting, including its humanitarian implications.
 - India emphasised to end the Russia-Ukraine war and the need to return to a path of dialogue and diplomacy.
- Other Discussed Issues:** QUAD leaders also discussed-
 - The situation in Southeast Asia,
 - The Indian Ocean region and
 - The Pacific Islands.

QUAD Summit: India's Vision for QUAD

- Focus on Indo-Pacific Region:** India said that the Quad must remain focused on its core objective of promoting peace, stability and prosperity in the Indo-Pacific region.
- Widening Areas of Cooperation:** India called for concrete and practical forms of cooperation within the Quad, in areas like-
 - Humanitarian and Disaster Relief,
 - Debt sustainability,
 - Supply chains,
 - Clean energy,
 - Connectivity, and
 - Capacity-building.

Quadrilateral Security Dialogue (QUAD)- Key Points

- About:** Quadrilateral Security Dialogue (Quad) is an informal Geo-strategic grouping between India, the USA, Japan and Australia.
 - The "Quad" Coalition though first mooted by the Japanese Prime minister in 2007, came into reality only in 2017.

- **Quad Objective:** Quad members have come together with a shared objective to ensure and support a “free, open and prosperous” Indo-Pacific region.
 - Quad is considered as a grouping to counter rising Chinese dominance in the Indi-Pacific region, especially in the geo-strategic and economic domain.

UN Human Rights Council Resolution on Russia Ukraine War

In news

- Recently, a voting on ongoing Russia-Ukraine war was held at the UN Human Rights Council (UNHRC) in Geneva.
- India abstained at the UN Human Rights Council in Geneva as the Council decided to set up an international commission of enquiry into Russia’s actions in Ukraine.
- On Russia Ukraine Conflict, till now India has abstained from-
 - Three votes at the UN Security Council,
 - Two at the UN General Assembly in New York,
 - Two at the Human Rights Council in Geneva, and
 - One at the International Atomic Energy Agency (IAEA) in Vienna.

UNHRC resolution on Russia’s action in Ukraine

- The strongest one to be adopted by the UN system yet, UNHRC resolution “strongly condemned” aggression by Russia, and
- UNHRC Resolution said it was “gravely concerned” about reports of human rights violations by Russian forces, civilian casualties and the forced displacement of 6,60,000 refugees due to Russian “bombing and shelling” in populated areas.
- **Setting up of International Commission for enquiry:**
 - **Vote in Support:** 32 countries, or nearly two-thirds of the Council voted for the resolution that asked the HRC President to appoint three human rights experts for a year.
 - It is mandated to “investigate all alleged violations and abuses of human rights and violations of international humanitarian law, and related crimes.
 - **Abstained:** Total of 13 out of 48 members of UNHRC including India, China, Pakistan, Kazakhstan, Sudan, Uzbekistan and Venezuela abstained from the resolution on Russia Ukraine war.
 - **Against Voting:** Only Russia and Eritrea voted against the resolution.

Russia-Ukraine Tensions | UNSC Meeting on Ukraine

Context

- India called for quiet diplomacy and the peaceful resolution of the Russia-Ukraine tensions at the United Nations Security Council (UNSC) meeting on Ukraine.
- India also called for the immediate de-escalation of the Russia-Ukraine situation while taking into account the security interests of all.

UNSC Meeting on Russia- Ukraine Tension- Key Points

- **India’s Stand:** India was one of three countries (Kenya and Gabon were the others) that abstained from a procedural vote on whether or not Ukraine would be discussed.
 - India reiterated its support for a July 2020 ceasefire, the 2014 Minsk Agreement and the Normandy Process.
 - The Normandy Format refers to discussions held between Russia, Ukraine, Germany, and France, who have met since 2014, when Russia annexed Crimea.
- **China’s Stand:** China and Russia voted against the move to discuss the Russia-Ukraine issue in the UN security Council (UNSC).
- **USA’s Stand:** The U.S., which initiated the meeting and nine other countries voted to hold the discussion on the Russia-Ukraine issue in the UNSC Meeting.

Key Points about UNSC

- UNSC is **one of the six main organs of the UN**. Article 23 of the UN Charter concerns the composition of the UNSC.
 - The other 5 organs of the United Nations are— **the General Assembly, the Trusteeship Council, the Economic and Social Council, the International Court of Justice, and the Secretariat.**
- It’s primarily responsible for maintaining international peace and security. Under UN Charter, it’s **obligatory for the member states to implement decisions of the UNSC.**
- **Main headquarter:** New York City at the UN Headquarters.
- **Composition:** It is composed of 15 members- **5 permanent and 10 non-permanent.**
 - **Permanent members:** China, France, the Russian Federation, the United Kingdom, and the United States.

- **Non-permanent members:** Each year, the General Assembly elects five non-permanent members out of a total of 10, for a two-year term.
- **Process of the election of non-permanent members:**
 - **Regional distribution of seats:** Five for African and Asian countries; two for Latin American and Caribbean countries; two for Western European and other countries; one for Eastern European countries.
- **Out of five, three are allocated for Africa and two for Asia.**
 - A contesting country needs to secure the votes of **two-thirds of the members present and voting at the General Assembly session** (a minimum of 129 votes if all 193 member states participate).
- A contesting country has to obtain this irrespective of whether it has been endorsed unanimously by its group or not.
- **For example, India's candidature for the 2021-22 term** was endorsed unanimously by the Asia Pacific group. Still, India had to secure a minimum number of votes in the General Assembly session. It garnered 184 votes in the General Assembly.
- **Decision-making at UNSC:** Each member has one vote. For any resolution to pass, **9 members out of 15 should vote in favour** including the concurring votes of the permanent members.

- **The veto power of Permanent members:** A "No" vote from one of the **five permanent members blocks the passage** of the resolution.
- A non-member of the security council can participate in UNSC discussions but without a vote, if it is discussing a matter which directly affects the interests of the concerned country.
- **UNSC Presidency:** rotates every month among its 15 members.
- **Enforcement of UNSC decisions:** They are typically enforced by UN peacekeepers, military forces voluntarily provided by member states, and funded independently of the main UN budget.



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Economy

Technology in Agriculture: Remote Sensing Crop Model

Context

- Recently, Agribazaar, India's largest agri-trading marketplace, has launched a 'remote sensing crop model' to help farmers in order to implement precision farming naturally.

Key points

- At present, the services are being offered to over **three lakh farmers registered** with Agribazaar.
- Moreover, **more than 10 lakh additional farmers** are expected to benefit from this service in the next 12 months.
- Though available globally, Agribazaar was offering remote sensing crop model for the first time in India.

Benefits

- This model will help millions of Indian small farmers and farmer producer organisations (FPOs) to do farming in a **lesser risk-prone manner**, and incurring fewer expenses with higher yield.
- It will also help in **replenishing earth** by avoiding excessive use of agri-nutrients, water and tilling.
- This model considers soil properties, weather parameters and geographic location, based on which it benefits farmers with a data-based decision-making system.

What is a remote sensing crop model?

- Remote sensing is a process where scientific data and observations are collected about an object whose **physical presence is not needed**.
- Remote sensing in agriculture means the process of collecting information about **soil and the land**.
- Through these data and observations, scientists and agricultural experts are able to measure various features like nutrient deficiencies, water deficiency or surplus, weed infestations, insect damage, hail damage, wind damage, herbicide damage, plant populations and presence of diseases.
- The collection of this agricultural data allows for the easy implementation of precision farming.

What is precision farming?

- Precision farming is an approach where inputs are **utilised in precise amounts** to get more average yields than the traditional cultivation techniques.
- It can help with the **inputs needed like fertilisers**. Moreover, it can also guide on the aspects like the amount of water given to crops, choice of crops, cropping practices, and more.

- It addresses various farming questions: What, when and how to sow besides giving the crop calendar and telling farmers when to harvest.

What is agristack?

- The Government of India has chosen Agribazaar as one of the partners alongside Microsoft India for its India agri-stack programme, to share the remote sensing crop model
- Agristack seeks to **build a digital data stack of information**, like land records.
- These datasets will be analysed to recommend the farmers on issues like seeds to buy, farming best practices, updates on weather, information about agricultural credit, insurance, and more to improve average farming yields.
- Agristack is officially known as India Digital Ecosystem Architecture (IDEA), and is mandated to combine all the various datasets on agriculture to have a comprehensive integrated platform

Bilateral Swap Arrangement

Context

- Recently, India and Japan have **renewed bilateral swap arrangement** under which the two countries can swap their local currencies in exchange for the US Dollar.

Key points

- Both the countries have renewed the Bilateral Swap Arrangement (BSA) of up to **\$75 billion** with effect from February 28, 2022.
- BSA aims to strengthen and complement other financial safety nets, and will further **deepen financial cooperation** between the two countries and contribute to regional and global financial stability.

What is Bilateral Swap Arrangement?

- BSA is a two-way arrangement where both authorities can **swap their local currencies** in exchange for the US Dollar.
- The arrangement is another milestone in mutual economic cooperation and special strategic and global partnership between India and Japan.

Bilateral Swap Arrangement benefits

- The BSA is a very good **example of mutual cooperation** between India and Japan for strategic objective of assisting each other in times of difficulty and for restoring international confidence.

- This facility will enable the agreed amount of capital being available to India on tap for use.
- Also, with this arrangement in place, prospects of Indian companies would improve in **tapping foreign capital** as there would be greater confidence in stability of country's exchange rate.
- Availability of such swap line to tide over difficulties arising out of Balance of Payment (BOP) would deter speculative attacks on the domestic currency and greatly **enhance the RBI's ability** to manage exchange rate volatility.

SAARC currency swap

- The SAARC currency swap framework came into operation on November 15, 2012.
- The aim was to **provide a backstop line of funding** for short term foreign exchange liquidity requirements or short-term balance of payments stress till longer term arrangements are made.
- In 2019, RBI, had decided to put in place a revised framework on currency swap arrangement for **SAARC countries 2019-2022** with an aim to further financial stability and economic cooperation within the SAARC region.
- The framework is valid from November 14, 2019 to **November 13, 2022**.
- Under the framework for 2019-22, RBI will continue to offer swap arrangement within the overall corpus of USD 2 billion.
- The withdrawals can be made in either in **US Dollar, Euro or Indian Rupee**. The Reserve Bank of India (RBI) has signed a currency swap agreement with the Central Bank
- Under this SAARC currency swap agreement, in 2020, RBI signed a currency swap agreement with the **Central Bank of Sri Lanka**.

DPR on Rejuvenation of 13 Major Rivers

Context

- Recently, Ministry of Jal Shakti has Release **Detailed Project Reports (DPR)** on Rejuvenation Of 13 Major Rivers Through Forestry Interventions.

Key points

- **13 rivers:** The 13 rivers for which DPRs were released are Jhelum, Chenab, Ravi, Beas, Sutlej, Yamuna, Brahmaputra, Luni, Narmada, Godavari, Mahanadi, Krishna, and Cauvery.
- The DPRs were funded by National Afforestation & Eco-development Board, (MoEF&CC) and prepared by Indian Council of Forestry Research & Education(ICFRE), Dehradun.
- Thirteen rivers collectively cover a basin area that covers **57.45% of the geographical area** of the country.

About the DPR

- The rivers along with their tributaries are proposed for forestry interventions in the riverscape under different landscapes namely **natural landscape, agricultural landscape and urban landscape**.
- The **different models of forestry plantations** including timber species, medicinal plants, grasses, shrubs and fuel fodder and fruit trees are aimed to augment water, ground water recharge and contain erosion.
- **Site specific treatments** in terms of soil & moisture conservation and plantations of grasses, herbs, forestry and horticultural trees have been proposed for treatment of prioritized sites in the riverscape supported by GIS technique based on consultations with various stakeholders.
- Each DPR incorporates detailed **geospatial analysis** of the delineated Riverscape, exhaustive review on the river environment, factors responsible for the current state and prioritization of areas using Remote sensing and GIS techniques.
- **Focus:** The DPRs focus on protection, afforestation, catchment treatment, ecological restoration, moisture conservation, livelihood improvement, income generation, ecotourism by developing river fronts, eco-parks and bringing awareness amongst the masses.
- **Nodal agency:** The DPRs are expected to be executed through the State Forest Departments as nodal department and with convergence of schemes of other line departments in the states towards the activities proposed in the DPRs and funding support from the Government of India.
- **Timeframe:** The treatments are proposed to be spread over a period of five years with a provision for additional time for maintenance of plantations.
- **Inflation adjusted:** In case of delay in initiation of the project, the proposed outlay of the DPRs shall be adjusted using the Wholesale Price Index (WPI) since the project outlay was worked out as per costs prevailing during 2019-20.
- **Ridge to valley approach:** During execution, "Ridge to Valley approach" shall be followed and soil & moisture conservation works would precede the plantation operations.

Benefits

- **Environmental benefits:** The activities proposed in the DPRs shall help achieve potential benefits of increasing the green cover, contain soil erosion, recharge water table and sequester carbon dioxide in addition to benefits in the form of non-timber forest produce.
- **Increasing forest cover:** Forestry interventions are expected to increase the cumulative forest cover by 7,417.36 km² across 13 riverscapes.
- **Carbon sequestration:** The proposed interventions would help to sequester 50.21 million tons CO₂ equivalent in 10-year-old plantations and 74.76 million tons CO₂ equivalent in 20-year-old plantations.
- **Groundwater recharge:** The proposed interventions in thirteen riverscapes would help in ground water recharge to the extent of 1,889.89 million m³ yr⁻¹, and reduction in sedimentation to the tune of 64,83,114 m³ yr⁻¹.
- **Economic benefits:** In addition, Rs. 449.01 crore is likely to be generated from expected non-timber and other forest produce. It is also expected that the employment of 344 million man-days shall be generated through planned activities as provisioned in 13 DPRs.

E-GOPALA Portal

In News

- Recently, the Department of agriculture and farmers welfare has developed an android and web-based application called “e- GOAPLA” Portal.

What is E-GOPALA Portal?

- **About:** E-GOPALA Portal is a digital platform to help dairy farmers for managing their animals. E-GOPALA Portal was launched in 2020 for direct use by the farmers.
- **E-GOPALA Portal** is available in 12 languages viz. Hindi, Gujarati, Marathi, Odiya, Kannada, Malayalam, Punjabi, Telugu, Bengali, Tamil, Assamese and English.

Key Benefits of E-GOPALA Portal

- E-GOPALA Portal helps farmers to formulate balanced ration for dairy animals using locally available feed ingredients.
 - **This helps in** optimising the feed costs while increasing productivity and reproductive efficacy.

- E-GOPALA Portal helps farmers in management of nearly 29 common ailments of dairy animals e.g. mastitis, indigestion, diarrhoea etc. using Ethno-Veterinary Medicine (EVM).
 - This section also contains videos in various languages on disease management protocols through Ethno- Veterinary Medicine.
- E-GOPALA Portal provides digital platform for buying/selling of dairy animals, information on source of quality semen doses available for various breeds of cattle and buffaloes and contact details for availability of IVF embryos and sex-sorted semen.
- E-GOPALA Portal **also** provides real-time information on breeding, nutrition and health of their animals from INAPH.
- E-GOPALA Portal provides timely alerts on due date for vaccination, pregnancy diagnosis, calving etc. as well as information about various schemes on dairying and animal husbandry.
- Farmers can also directly connect to call centre for their queries on animal health, nutrition and breeding through **E-GOPALA** App.

Other key steps taken by Government

- The Animal Welfare Board of India (AWBI) provides financial assistance to the recognized Gaushalas/ AWOs/ NGOs/ SPCAs and Local bodies for-
 - Establishment of new animal Shelter House,
 - Maintenance of animal shelters, animals medicines,
 - Purchase of medical equipment and conducting of veterinary camps etc. and
 - Rescued cattle maintenance grant for maintenance of the animals rescued from illegal transportation/ slaughter-houses and Provision of Ambulance Services for animals in distress.
- Under Rashtriya Gokul Mission, Government of India has been promoting use of sex sorted semen for production of female calves with 90% accuracy.
 - The extensive use of sex sorted semen will limit stray cattle population in the country.

Export Preparedness Index (EPI) of NITI Aayog

In News

- NITI Aayog, in collaboration with the Institute of Competitiveness, will release the second edition of the Export Preparedness Index (EPI) 2021 on 25 March.
- EPI 2021 is based on four main pillars: policy; business ecosystem; export ecosystem; and export performance.

What is Export Preparedness Index (EPI)?

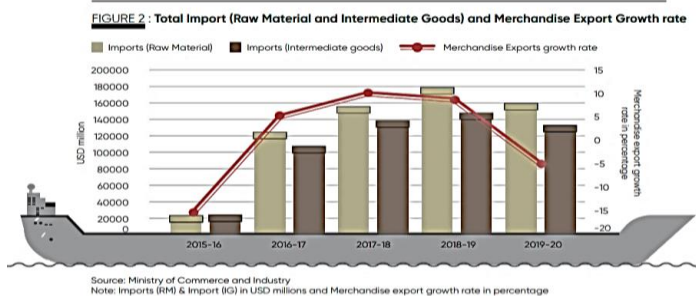
- **About:** The Export Preparedness Index (EPI) ranks all States and Union Territories (UTs) on the basis of their export readiness and performance.

Who releases Export Preparedness Index (EPI)?

- NITI Aayog releases the Export Preparedness Index (EPI) in collaboration with the Institute of Competitiveness.

Importance of Export Preparedness Index (EPI)

- The Export Preparedness Index (EPI) can be used by States and UTs to benchmark their performance against their peers and analyze the potential challenges to develop better policy mechanisms to foster export-led growth at the subnational level.



- **Promoting competitive federalism: Export Preparedness Index (EPI) shows the Government's continued commitment towards promoting competitive federalism.**
 - With EPI, each state can identify their export opportunities and challenges and subsequently establish context-specific strategies for ensuring a conducive export ecosystem.

Export Preparedness Index (EPI) 2020

- Export Preparedness Index (EPI) 2020 was the first of its kind aimed at examining export preparedness and performance of Indian states, identifying challenges and opportunities.
- **Ranking:** Gujarat topped the NITI Aayog's Export Preparedness Index 2020 followed by Maharashtra and Tamil Nadu securing the second and the third place respectively.
 - The newly created Union Territory of Jammu and Kashmir was at the bottom of the Export Preparedness Index 2020 list.
- **Among the landlocked states:** Rajasthan tops the list followed by Telangana and Haryana. Bihar emerged as the weaker state.

- **Among the Himalayan states:** Uttarakhand tops the index followed by Tripura and Himachal Pradesh.
- **Among UTs:** Delhi gained the tag of best Union Territory followed by Goa and Chandigarh.

Fintech Open Hackathon

Context

- As a part of the Fintech Open Month, NITI Aayog in association with PhonePe launches the Fintech Open Hackathon.

Key Points

- **About:** NITI Aayog in association with PhonePe will be hosting the first-ever open-to-all Hackathon event for ideating and coming up with the most creative solutions for the FinTech space.
- **Objectives: Fintech Open Hackathon** aims to showcase path-breaking solutions for the Fintech Ecosystem.
- **Importance:** The **Fintech Open** Hackathon will provide an opportunity for innovators, digital creators and developers from all over India to think, ideate and code.
- **Frameworks for Participants:**
 - Alternate risk models for Lending, Insurance or Investments with focus on financial Inclusion
 - Innovative Products that use the power data signals for various demographics and Geos for broader adoption of financial services
 - Improved Visualisation and Derived intelligence based on the Digital payments data
 - The final app that participants come up with must incorporate one of the above.
- **Awards:** The top 5 hacks will be awarded a prize money in the following denominations:
 - 1st place: INR 1,50,000 for the team - 1 prize
 - 2nd place: INR 1,00,000 for the team - 2 prizes
 - 3rd place: INR 75,000 for the team - 2 prizes
- **Participation:**
 - Participating teams can have one (solo) to 5 participants.
 - Participants can use data sources like PhonePe Pulse, the Open Government Data Platform and RBI reports on payments to build on their submission.
 - In addition, they can access any other open data platforms that they are aware of along with the Setu AA Sandbox or the Setu Payments Sandbox to develop their hacks.

National initiatives to promote entrepreneurship

Ministry of Skill Development and Entrepreneurship (MSDE) is implementing various programmes to encourage entrepreneurship in the country.

- Pilot project, ‘**Economic Empowerment of Women Entrepreneurs and Startups by Women (WEE)**’ is being implemented to pilot incubation and acceleration programmes for women micro entrepreneurs, enabling them to start new businesses and scale up existing enterprise.
- Pilot Project on **Entrepreneurship Development (PM YUVA)** has been launched in November, 2019 for creating an enabling ecosystem through entrepreneurship education, training, advocacy and easy access to entrepreneurship network, for students and alumni of skill training institutes like Industrial Training Institutes (ITIs), Polytechnics, Pradhan Mantri Kaushal Kendra (PMKK) and Jan Shikshan Sansthan (JSS).
- **Entrepreneurship Promotion and Mentoring of Micro and Small Businesses in Six Holy Cities:** The project seeks to catalyse local entrepreneurial activities through involvement of potential and existing entrepreneurs, through entrepreneurship awareness, education and mentoring in Pandharpur, Puri, Varanasi, Haridwar, Kollur and Bodh Gaya.
- In order to enhance the employability of female workers, the Government is providing training to them through a network of **Women Industrial Training Institutes**, National Skill Training Institutes, PMKVY Centers and Pradhan Mantri Kaushal Kendras.

- Going by the trend, it is expected that USD 10-12 billion will be added in the remaining nine days, taking the exports by end of 2021-22 to over USD 410 billion.
- Engineering goods exports have gone up by nearly 50 per cent so far this fiscal as compared to the last year.
- Agriculture exports too have recorded the highest ever export in 2021-22 due to export of “rice, marine products, wheat, spices and sugar.

Significance

- The highest ever goods export target was **achieved nine days ahead** of the March 31 deadline.
- This comes at a time when India is facing adversities including Covid-19 pandemic, and Russia-Ukraine war.
- It is a remarkable achievement as exporters have added over USD 110 billion in one year to reach here despite huge logistics challenges, including container shortage, skyrocketing freight and liquidity constraints.
- India crossing USD 400 billion merchandise exports marks the beginning of an era of exponential growth and dominance in world trade.
- Higher engineering exports, apparel and garment export, etc. indicate that the misconception of India being a major exporter of primary commodities is gradually changing.
- The boost in the exports is likely to **bolster India’s position** in the ongoing negotiations for Free Trade Agreements (FTAs) with several trade partners.

India Achieves Highest Ever Export, Crosses \$400 Billion

Context

- According to the recently released data from Ministry of Commerce and Industry, India’s exports for the first time crossed the USD 400 billion mark in a fiscal year.

Key points

- The merchandise exports rose by 37% to USD 400.8 billion in 2021-22 until March 21 against USD 292 billion in 2020-21.
- In 2018-19, exports touched a record of USD 330.07 billion, which was highest until now.
- Imports during the period stood at USD 589 billion, leaving a trade deficit of about USD 189 billion.
- Major performers: Good performance of petroleum products, engineering, gems and jewellery, and chemicals.

Why India should focus on export?

- **Creates a virtuous cycle** of employment, income growth, and demand-led industrial growth: as the export will drive domestic manufacturing-led employment and per-capita income. This will increase disposable income resulting in demand-driven economic growth.
- Export and economic growth:
- Pre-1991, a 3.5% growth rate was associated with export growth of about 4.5%.
- However, India’s GDP growth of over 6% after 1991 was associated with real export growth of about 11%.
- **Improved sovereign credit rating:** Export growth will help in reducing India’s trade deficit, nudging credit rating agencies to improve India’s credit rating resulting in lower interest loans and economic growth.

Challenges of Indian Export ecosystem:

- Government's focus on **domestic consumption-led growth model**:
- **Poor growth in per capita income**: will limit the consumption of goods and services.
- COVID-19 effect: resulted in poor public spending, tax cuts, private investment, etc., limiting the scope for domestic demand-led growth.
- **Disconnect with Global Value Supply Chains (GVC)**: Unlike major exporting countries of east and south-east Asia, India is poorly connected with GVCs. This limits its export potential.
- This results in low penetration in high-income countries.
- **Focus on limited export destination**: This results in high competition and fewer growth opportunities.
- **Poor domestic infrastructure and clear policy direction**: for example, India spends more than 14% of its GDP on logistics, resulting in costlier products for international markets, diminishing their competitiveness.
- **Lack of awareness**: There is an information gap among people of India, resulting in fewer people participating in the export market.
- **Technical barriers to trade**: Imposed by many developed countries to reject exports from India. For example, use of sanitary and phytosanitary measures by European Union countries to rejects various Indian goods.

I-Sprint'21 and InFINITY Forum 2021| The Global FinTech Hackathon

In news

- Recently, International Financial Services Centres Authority (IFSCA) announced the winners of Hackathon "Sprint03: InsureTech" under I-Sprint'21 which is a part of InFINITY Forum 2021.

About I-Sprint'21 and InFINITY Forum 2021

- **About I-Sprint'21**: International Financial Services Centres Authority (IFSCA) launched I-Sprint'21, the global FinTech Hackathon as part of InFINITY Forum 2021.
 - **Aim**: Through -Sprint'21, the global FinTech Hackathon, IFSCA aims to support a World Class FinTech Hub at GIFT IFSC.
- **About InFINITY Forum 2021**: it is IFSCA's flagship financial technology event, uniting the world's leading minds in policy, business, and technology.
 - **Aim**: It aims to explore and advance the biggest ideas in FinTech, and to develop those ideas into global solutions and opportunities.

"Sprint03: InsureTech" Global Fintech Hackathon

- **About: "Sprint03: InsureTech" under the banner of I-Sprint'21 was launched with a focus on Insurance Sector.**
- **Organizations involved**: It was hosted by IFSCA and GIFT city in collaboration with FICCI.
 - The Partners to the Hackathon were ICICI Lombard, Max Life, iCreate, India Insure-Tech Association and Invest-India.
- **Eligibility**: This Hackathon was open to all eligible FinTechs from across the globe and was one of its kind being backed by a financial sector Regulator.
- **Benefits**:
 - The winners of the "Sprint03: InsureTech" Global Fintech Hackathon will be allowed direct entry into the applicable IFSCA Regulatory/Innovation Sandbox.
 - They will receive Regulatory guidance and handholding.
 - After successful exit from the respective Sandbox, they shall get an opportunity to set up business at GIFT IFSC.

Winners of the "Sprint03: InsureTech" Global Fintech Hackathon

	Name of the Entity	Problem Statement Applied for:
i	UMBO IDTech Private Limited (Riskcovry InsureTech)	Development of technologies for increasing penetration, better underwriting, claims management of life/health products
ii	Livwell Asia (Singapore)	Digital Innovation for Global Health Insurance Cover
iii	GOQii Technologies Private Limited	Digital Innovation for Global Health Insurance Cover
iv	Onsurety Technologies Pvt Ltd	Development of technologies for increasing penetration, better underwriting, claims management of life/health products
v	ZignSec AB (Sweden)	Development of technologies for increasing penetration, better underwriting, claims management of life/health products

vi	Signzy Technologies Pvt Ltd	Development of technologies for increasing penetration, better underwriting, claims management of life/health products
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Market Infrastructure Institutions

Context

- Recently, SEBI noted that the **National Stock Exchange (NSE)** is a systemically important market infrastructure institution (MII).

Key points

- The decision comes after SEBI has earlier sanctioned the NSE, Ms. Ramkrishna, and others for the alleged **laxity in governance**.

What is market infrastructure institution?

- Stock exchanges, depositories and clearing houses are all **Market Infrastructure Institutions** and constitute a key part of the nation's vital economic infrastructure.
- A panel set up in 2010 under the chairmanship of former RBI Governor Bimal Jalan said that the term 'infrastructure' would mean the basic, underlying framework or features of a system; and the term '**market infrastructure**' denotes such fundamental facilities and systems serving this market.
- The primary purpose of securities /capital market is to enable allocation/reallocation of capital/financial resources. Such movement helped optimal use of money in the economy and fostered economic development.
- Well-functioning MIIs, constitute "**the nucleus of (the) capital allocation system**", are indispensable for economic growth and have a net positive effect on society like any other infrastructure institution.

Why MIIs are systematically important?

- Unlike typical financial institutions, the number of stock exchanges, depositories and clearing corporations in an economy is **limited due to the nature of its business**, although they cater to the entire marketplace.
- Any failure of such an MII could lead to **even bigger collapses** that may result in an overall economic downfall that could potentially extend beyond the boundaries of the securities market and the country.

MII institutions in India

- Among stock exchanges, the SEBI lists seven, including the BSE, the NSE, the Multi Commodity Exchange of India and the Metropolitan Stock Exchange of India.

- There are **two depositories** that are tagged MIIs: the Central Depository Services Ltd. and the National Securities Depository Ltd.
 - These depositories are charged with the safekeeping of securities and enabling their trading and transfer
- The regulator also **lists seven clearing houses** including the Multi Commodity Exchange Clearing Corporation.
 - Clearing houses help validate and finalise securities trades and ensure that both buyers and sellers honour their obligations.

National Bank for Financing Infrastructure and Development (NaBFID)

Context

- Recently, RBI said that NaBFID will be regulated and supervised as an **All India Financial Institution (AIFI)** under the Reserve Bank of India Act, 1934.

Key points

- The National Bank for Financing Infrastructure and Development (NaBFID) Act, 2021, was passed in March 2021 and it came into force in April 2021.
- It becomes the fifth AIFI after EXIM Bank, NABARD, NHB and SIDBI.

What is NaBFID?

- The National Bank for Financing Infrastructure and Development (NaBFID) is set up as the **principal development financial institution (DFIs)** for infrastructure financing.
- NaBFID is set up as a **corporate body** with authorised share capital of one lakh crore rupees.
- Shares of NaBFID** may be held by entities like central government, multilateral institutions, sovereign wealth funds, banks and any other institution prescribed by the central government.
- Initially, the central government will **own 100% shares** of the institution which may subsequently be reduced up to 26%.

What is DFI?

- DFIs are set up to provide **long-term finance** for such segments of the economy where the risks involved are beyond the acceptable limits of commercial banks and other ordinary financial institutions.
- DFIs, unlike banks, **do not accept deposits** from people.
- Source of funds:** market, government, as well as multi-lateral institutions.

NaBFID functions

NBFID will have both financial as well as developmental objectives.

Financial objectives

- To **directly or indirectly lend**, invest, or attract investments for infrastructure projects located entirely or partly in India.
- Central government will prescribe the sectors to be covered under the infrastructure domain.

Developmental objectives

- **Facilitating the development of the market** for bonds, loans, and derivatives for infrastructure financing.

Other functions

- Extending loans and advances for infrastructure projects,
- taking over or refinancing such existing loans,
- attracting investment from private sector investors and institutional investors for infrastructure projects,
- organising and facilitating foreign participation in infrastructure projects,
- facilitating negotiations with various government authorities for dispute resolution in the field of infrastructure financing, and
- providing consultancy services in infrastructure financing.

NaBFID source of funds

NBFID may raise money in the form of

- loans or otherwise both in Indian rupees and foreign currencies, or
- securing money by the issue and sale of various financial instruments including bonds and debentures.
- Borrowings from central government, Reserve Bank of India (RBI), scheduled commercial banks, mutual funds, and multilateral institutions such as World Bank and Asian Development Bank.

What is AIFI?

- All India Financial Institutions (AIFI) is a group **composed of financial regulatory bodies** that play a pivotal role in the financial markets.
- The financial institutions assist in the proper allocation of resources, sourcing from businesses that have a surplus and distributing to others who have deficits.
- The financial institutions act as an **intermediary between borrowers and final lenders**, providing safety and liquidity.

National Digital Tourism Mission**Context**

- Recently, Ministry of Tourism has invited final comments from the stakeholders on draft report for setting up of National Digital Tourism Mission.

Key points

- Ministry of Tourism had constituted an inter-ministerial task force for National Digital Tourism Mission to define the context, mission, vision, objectives, and overall scope of the National Digital Tourism Mission.
- The Task Force has prepared a draft report on proposed National Digital Tourism Mission, which inter-alia lays down domain and technology principles, standards, digital stack, governance structure and plan for implementation of the envisaged National Digital Tourism Mission.
- The vision of National Digital Tourism Mission is to bridge the existing information gap amongst different stakeholders of tourism ecosystem through a digital highway.
- The National Digital Tourism Mission envisages to achieve the objective of harnessing the full potential of digitization in tourism sector by facilitating exchange of information and services in tourism sector.

Challenges to Indian tourism

- **Lack of formalisation:** It leads to gaps in credit worthiness, handle currency exchange fluctuations, lack of infrastructure.
- **Compliance overhead:** Absence of single window, labour compliances etc.
- **Unsteady flow:** Seasonal dependence, COVID, security issues.
- **Technology upgradation:** Lack of internet bookability in India, lack of tourism products, lack of social media promotion campaigns.
- **Employable manpower:** Lack of professional approach, low productivity, multi-lingual translators etc.
- **Transport:** Lack of secure, fast and quality transport, unified ticket options etc.

Steps by the government

- **Incredible India Website and Mobile App:** A multi-lingual 'Incredible India' website and mobile application assist international and domestic tourists to access information about various tourism destinations and attractions in the country.

- National Integrated Database of Hospitality Industry (NIDHI): NIDHI has been established for registration and classification of tourism service providers namely Tour Operators, Hotels and other Tourism Service Providers.
- Swadesh and PRASHAD Schemes: Two flagship schemes has been launched specifically to boost tourism sector in India.
- During COVID, the Ministry has developed an initiative called SAATHI (System for Assessment, Awareness & Training for Hospitality Industry), for effective implementation of Guidelines/SOPs issued with reference to COVID 19 and beyond for safe operations of Hotels, Restaurants, B&Bs and other units.

National Land Monetization Corporation to be set up as Special Purpose Vehicle

In news

- Recently, the Union Cabinet has approved the setting up National Land Monetization Corporation (NLMC) as a wholly owned Government of India company.
- The proposal is in pursuance of the Budget Announcement for 2021-22.

Need for National Land Monetization Corporation

- **Background:** At present, CPSEs hold considerable surplus, unused and under used non-core assets in the nature of land and buildings.
 - For CPSEs undergoing strategic disinvestment or closure, monetization of these surplus land and non-core assets is important to unlock their value.
- **Need for NLMC:** It will support and undertake monetization of above surplus and unutilized government assets.
- **Administrative Ministry:** Department of Public Enterprise, Ministry of Finance, will set up the company and act as its administrative ministry.

Key Facts about National Land Monetization Corporation

- **About:** National Land Monetization Corporation is to be set up as a SPV to undertake monetization of surplus land and building assets of Central Public Sector Enterprises (CPSEs) and other Government agencies.
- **Share Capital:** National Land Monetization Corporation (NLMC) is being set up with an initial authorized share capital of Rs 5000 crore and paid-up share capital of Rs 150 crore.

- **Organizational Structure:** The Board of Directors of NLMC will comprise senior Central Government officers and eminent experts to enable professional operations and management of the company.
 - The Chairman, non-Government Directors of the NLMC will be appointed through a merit-based selection process.
 - NLMC will be a lean organization with minimal full time staff, hired directly from the market on contract basis.
 - Flexibility will be provided to the Board of NLMC to hire, pay and retain experienced professionals from the private sector.
- **Expected Benefits:**
 - With monetization of non-core assets, Government would be able to generate substantial revenues by monetizing unused and under-used assets.
 - This will also enable productive utilization of these under-utilized assets to trigger private sector investments, new economic activities, boost local economy and generate financial resources for economic and social infrastructure.

Key Functions of National Land Monetization Corporation

- NLMC is also expected to own, hold, manage and monetize surplus land and building assets of CPSEs under closure and the surplus non-core land assets of Government owned CPSEs under strategic disinvestment.
 - This will speed up the closure process of CPSEs and smoothen the strategic disinvestment process of Government owned CPSEs.
- NLMC will also advise and support other Government entities (including CPSEs) in identifying their surplus non-core assets and monetizing them in a professional and efficient manner to generate maximum value realization.
- NLMC will act as a repository of best practices in land monetization, assist and provide technical advice to Government in implementation of asset monetization programme.

National Rail Plan Vision

Context

- Recently, Ministry of Railways have prepared a National Rail Plan (NRP) for India – 2030 to create a ‘future ready’ Railway system by 2030.

Key points

- The NRP is aimed to formulate strategies based on **both operational capacities and commercial policy initiatives** to increase modal share of the Railways in freight to 45%.

- The objective of the Plan is to create capacity ahead of demand, which in turn would also cater to future growth in demand right up to 2050 and also increase the modal share of Railways to **45% in freight traffic** and to continue to sustain it.

National Rail Plan Vision objectives

- Formulate strategies based on both operational capacities and commercial policy initiatives to increase modal share of the Railways in freight to 45%.
- **Reduce transit time** of freight substantially by increasing average speed of freight trains to 50Kmph.
- As part of the **National Rail Plan, Vision 2024** has been launched for accelerated implementation of certain critical projects by 2024 such as 100% electrification, multi-tracking of congested routes, upgradation of speed to 160 kmph on Delhi-Howrah and Delhi-Mumbai routes, upgradation of speed to 130kmph on all other Golden Quadrilateral-Golden Diagonal (GQ/GD) routes and elimination of all Level Crossings on all GQ/GD route.
- Identify **new Dedicated Freight Corridors**.
- Identify **new High Speed Rail Corridors**.
- Assess rolling stock requirement for passenger traffic as well as wagon requirement for freight.
- Assess Locomotive requirement to meet twin objectives of **100% electrification** (Green Energy) and increasing freight modal share.
- Assess the total investment in capital that would be required along with a periodical break up.
- Sustained involvement of the Private Sector in areas like operations and ownership of rolling stock, development of freight and passenger terminals, development/operations of track infrastructure etc.

Why modernisation of railways needed?

- The important areas where developments in Indian Railways are needed that includes **high speed trains, safety, track modernization, locomotives, signalling system** and development of heavy haul system where axle loads and length of trains and usage of renewable energy for conservation of natural resources.
- The Government has taken some key initiatives in this direction and is also considering announcing key policy initiatives in the Railway's network expansion, new infrastructure construction and technological up gradation.

Focus Areas for National Rail Plan 2030

- **Policy and Regulatory updates** in Indian Railways
- Effective means for enhancing efficiency & safety in Indian Railways
- State of the Art Technology and Joint Ventures
- Participative Models of Rail Connectivity
- Strategies to leverage private capital in Railways
- **Capacity Augmentation** and Infrastructure

NITI Aayog Releases Export Preparedness Index 2021

Context

- Recently, NITI Aayog has released the **second edition of Export Preparedness Index (EPI) 2021**, in partnership with the Institute of Competitiveness.

Key points

- The Export Preparedness Index is a data-driven endeavour to identify the **fundamental areas critical for subnational export promotion**.
- The EPI's primary goal is to **instil competition among all Indian states** ('Coastal', 'Landlocked', 'Himalayan', and 'UTs/City-States').
- The index can be a valuable tool for the government and policymakers in encouraging **healthy competition among states** and UTs, hence enhancing India's standing in the global export market.

EPI objectives

- to bring about favourable export-promotion policies,
- ease the regulatory framework to prompt subnational export promotion,
- create the necessary infrastructure for exports, and
- assist in identifying strategic recommendations for improving export competitiveness.

Key findings

- **Overall Ranking:** Gujarat ranked No. 1 for the second time in a row.
- Most of the Coastal States are the best performers.
- **Coastal state:** Gujarat topped the list of coastal states.
- **From landlocked states,** Haryana emerges as a top performer.
 - Except for trade support and export growth and orientation, the state has performed tremendously well across all pillars and sub-pillars.

- **Himalayan states:** Uttarakhand has topped the list of Himalayan states.
 - Uttarakhand has attracted significant investments over the last three years.
 - It has brought initiatives such as single-window clearances, a loan scheme for exporters, a trade guide and further improved export market penetration
- **Among UTs:** Delhi has topped the list of UTs.
 - Delhi performs well on EPI due to higher FDI inflows, better transport connectivity, logistics and investment attracted.

Challenges to India’s export promotion

EPI 2021 brings out three major challenges to India’s export promotion.

- **Intra- and inter-regional differences** in export infrastructure;
- **weak trade support** and growth orientation across states; and
- **lack of R&D infrastructure** to promote complex and unique exports.

EPI pillars and sub-pillars

The EPI ranks states and UTs on 4 main pillars

1. **Policy:** A comprehensive trade policy provides a strategic direction for exports and imports.
2. **Business Ecosystem:** An efficient business ecosystem can help attract investments and create an enabling infrastructure for businesses to grow.
3. **Export Ecosystem:** This pillar aims to assess the business environment, which is specific to exports.
4. **Export Performance:** This is the only output-based pillar and examines the reach of export footprints of states and union territories.

11 sub-pillars

- Export Promotion Policy; Institutional Framework; Business Environment; Infrastructure; Transport Connectivity; Access to Finance; Export Infrastructure; Trade Support; R&D Infrastructure; Export Diversification; and Growth Orientation.



PLFS Quarterly Bulletin

Context

- Recently, Ministry of Statistics & Programme Implementation has released the Quarterly Bulletin for April-June 2021.

Key findings

Unemployment rate

UR (in per cent) in CWS in urban areas for persons of age 15 years and above all-India			
NSS survey period	Male	Female	Person
(1)	(2)	(3)	(4)
April - June 2020	20.7	21.1	20.8
July - September 2020	12.6	15.8	13.2
October - December 2020	9.5	13.1	10.3
January - March 2021	8.6	11.8	9.3
April - June 2021	12.2	14.3	12.6

Labour Force Participation Rate

LFPR (in per cent) in CWS in urban areas for persons of age 15 years and above all-India			
NSS survey period	Male	Female	Person
(1)	(2)	(3)	(4)
April - June 2020	71.7	19.6	45.9
July - September 2020	73.5	20.3	47.2
October - December 2020	73.6	20.6	47.3
January - March 2021	73.5	21.2	47.5
April - June 2021	73.1	20.1	46.8

Worker population ratio

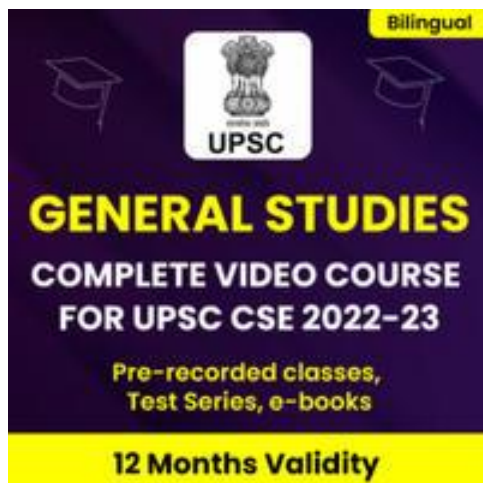
WPR (in per cent) in CWS in urban areas for persons of age 15 years and above all-India			
NSS survey period	Male	Female	Person
(1)	(2)	(3)	(4)
April - June 2020	56.9	15.5	36.4
July - September 2020	64.3	17.1	40.9
October - December 2020	66.7	17.9	42.4
January - March 2021	67.2	18.7	43.1
April - June 2021	64.2	17.2	40.9

PLFS objectives

- to estimate the key employment and unemployment indicators (viz. Worker Population Ratio, Labour Force Participation Rate, Unemployment Rate) in the short time interval of three months for the urban areas only in the 'Current Weekly Status' (CWS).
- to estimate employment and unemployment indicators in both 'Usual Status' (ps+ss) and CWS in both rural and urban areas annually.

Basic definition

- **Labour Force Participation Rate (LFPR):** LFPR is defined as the percentage of persons in labour force (i.e., working or seeking or available for work) in the population.
- **Worker Population Ratio (WPR):** WPR is defined as the percentage of employed persons in the population.
- **Unemployment Rate (UR):** UR is defined as the percentage of persons unemployed among the persons in the labour force.



- **Current Weekly Status (CWS):** The activity status determined on the basis of a reference period of last 7 days preceding the date of survey is known as the current weekly status (CWS) of the person.

'Raising and Accelerating MSME Performance' Scheme

Context

- Recently, the Ministry of Micro, Small & Medium Enterprises (MSME) has launched a World Bank assisted programme on "Raising and Accelerating MSME Performance" (RAMP).

Key points

- RAMP is a new scheme and would commence in **FY 2022-23**.
- The total outlay for the scheme is around **Rs.6,000 crore or USD 808 Million**, out of which Rs.3750 crore or USD 500 Million would be a loan from the World Bank and the remaining Rs.2000 crore or USD 308 Million would be funded by the Government of India (GoI).
- RAMP programme will address the **generic and COVID related challenges** in the MSME sector by way of impact enhancement of existing MSME schemes, especially, on the competitiveness front.
- RAMP was formulated and proposed by the Government of India, for strengthening MSMEs in line with the recommendations made by **U K Sinha Committee, KV Kamath Committee** and Economic Advisory Council to the Prime Minister (PMEAC).

What is RAMP scheme?

- "Raising and Accelerating MSME Performance" (RAMP) is a **World Bank assisted Central Sector Scheme**, supporting various Corona Virus Disease 2019 Resilience and Recovery Interventions of the Ministry of MSME.
- The programme aims at improving access to market and credit, strengthening institutions and governance at the Centre and State, improving Centre-State linkages and partnerships, addressing issues of delayed payments and greening of MSMEs.

RAMP scheme benefits

- The programme will **bolster the inadequately addressed blocks** of capacity building, handholding, skill development, quality enrichment, technological upgradation, digitization, outreach and marketing promotion, amongst other things.
- RAMP programme will be a **job-enabler, market promoter, finance facilitator**, and will support vulnerable sections and greening initiatives.

- In States where the presence of MSMEs is on the lower side, the programme will usher in **larger formalization** resulting from the higher impact of the schemes covered under RAMP.
- RAMP will **complement the Atma Nirbhar Bharat mission** by fostering innovation and enhancement in industry standards, practices and provide the necessary technological inputs to the MSMEs to make them competitive and self reliant, enhancing exports, substituting imports, and promoting domestic manufacturing.

Roles of RAMP scheme

- **“Policy Provider”** through the enhanced capacity for evidence-based policy and program design, to enable the delivery of more effective and cost-efficient MSME interventions to improve competitiveness and business sustainability.
- **“Knowledge Provider”** through bench-marking, sharing and demonstrating best practices/success stories by leveraging international experiences, and
- **“Technology Provider”** providing access to high-end technology resulting in the digital and technological transformation of MSMEs through state of art Artificial Intelligence, Data Analytics, Internet of things (IoT), Machine Learning etc.

RBI Releases Regulatory Framework for Microfinance Loans Directions, 2022

Context

- Recently, RBI has put in place the directions for microfinance loans to make credit available to low-income households in a transparent manner while ensuring borrowers’ protection from any sharp practices adopted by the lenders.

Key points

- The Reserve Bank of India (Regulatory Framework for Microfinance Loans) Directions, 2022 will be effective from April 01, 2022.

What is a microfinance loan?

- A microfinance loan is defined as a collateral-free loan given to a household having annual household income up to ₹3,00,000.

Guidelines

- The RBI has asked regulated entities (REs) lending to the microfinance segment to ensure that loans are collateral-free and not linked with a lien on the borrower’s deposit account.

- The regulated entities involves all Commercial Banks (excluding payment banks); All Primary (Urban) Co-operative Banks/ State Co-operative Banks/ District Central Co-operative Banks; and All Non-Banking Financial Companies (including Microfinance Institutions and Housing Finance Companies).
- According to the directions, REs shall have a board-approved policy to provide flexibility of repayment periodicity on microfinance loans in line with the borrowers’ requirement.
 - RBI has also done away with the margin caps that were specifically applicable to non-banking finance company--microfinance institutions (NBFC-MFIs), to bring harmonisation of the regulatory framework.

Loan pricing

- The margin caps (not exceeding 10 per cent for large MFIs with loan portfolios exceeding Rs 100 crore and 12 per cent for the others) are no longer applicable to NBFC-MFIs.
- Each RE shall put in place a board-approved policy regarding pricing of microfinance loans.
- Interest rates and other charges/ fees on microfinance loans should not be usurious. These shall be subjected to supervisory scrutiny by the RBI.
- There shall be no pre-payment penalty on microfinance loans. Penalty, if any, for delayed payment shall be applied on the overdue amount and not on the entire loan amount.

Cap on loan repayment

- RBI has prescribed a limit on loan repayment obligations of a household.
- The outflows, capped at 50 per cent of the monthly household income, shall include repayments (including both principal as well as interest component) towards all existing loans as well as loans under consideration.
- Existing loans, for which outflows on account of repayment of monthly loan obligations of a household as a percentage of the monthly household income exceeds the limit of 50 per cent, shall be allowed to mature.
- However, in such cases, no new loans shall be provided to these households till the prescribed limit of 50 per cent is complied with.

Loan card

Each RE shall provide a loan card to the borrower which shall incorporate the following:

- Information which adequately identifies the borrower;
- Simplified factsheet on pricing;
- All other terms and conditions attached to the loan;
- Acknowledgements by the RE of all repayments including instalments received and the final discharge; and
- Details of the grievance redressal system, including the name and contact number of the nodal officer of the RE.

Outsourced activities

- RBI said that outsourcing of any activity by the RE does not diminish its obligations and the onus of compliance with these directions shall rest solely with the RE.
- A declaration that the RE shall be accountable for inappropriate behaviour by its employees or employees of the outsourced agency and shall provide timely grievance redressal, shall be made in the loan agreement.

Recovery of loans

- Each RE shall put in place a mechanism for identification of the borrowers facing repayment related difficulties, engagement with such borrowers and providing them necessary guidance about the recourse available.
- Recovery shall be made at a designated/ central designated place decided mutually by the borrower and the RE. However, field staff shall be allowed to make recovery at the place of residence or work of the borrower if the borrower fails to appear at the designated/ central designated place on two or more successive occasions.
- RE or its agent shall not engage in any harsh methods towards recovery.

Qualifying Assets criteria

- The minimum requirement of microfinance loans for NBFC-MFIs also stands revised to 75 per cent of the total assets.
 - i. The definition of 'qualifying assets' of NBFC-MFIs is now being aligned with the definition of 'microfinance loan'.
- The maximum limit on microfinance loans for NBFCs (i.e., NBFCs other than NBFC-MFIs) now stands revised to 25 per cent of the total assets.
 - i. Under the earlier guidelines, an NBFC that does not qualify as an NBFC-MFI, cannot extend microfinance loans exceeding 10 per cent of its total assets.

SAMARTH Initiative

Context

- Recently, Ministry of Micro, Small & Medium Enterprises has launched a Special Entrepreneurship Promotion Drive for Women - "SAMARTH", to provide them an opportunity to be self-reliant and independent by undertaking self-employment opportunities.

Key points

- To celebrate International Women's Day, Ministry of MSME organised an international conference - "Empowering Women Entrepreneurs" in association with National Small Industries Corporation and India SME Forum.
- The Conference has been organized to provide a platform to existing and aspiring Indian Women Entrepreneurs to gain from experiences and entrepreneurial journey of the most successful women entrepreneurs from different parts of the world as well as for discussing the best practices and innovation in entrepreneurship with international experts.
- A comprehensive presentation on the various schemes being implemented by the Ministry was also made by the senior officials from the Ministry.

Women in MSME

- MSME sector offers **plethora of opportunities for women** and therefore steps are needed to promote women entrepreneurship.
- Women today are creating exceptional and **ground-breaking accomplishments** in every sphere of life and are optimistic about what the future holds for them.
- With the increased supportive initiatives by the government, we together can usher in a new era in India's future.

What is SAMARTH initiative?

- Through this initiative, Ministry of MSME is focusing on providing Skill Development and Market Development Assistance to women and **more than 7500 women candidates** from rural and sub-urban areas will be trained in the FY 2022-23.
- Besides, thousands of women will be getting marketing opportunities to showcase their products in domestic and international exhibitions.

Samarth initiative benefits

- **20% Seats in free Skill Development Programs** organized under skill development schemes of the Ministry will be allocated for Women. More than 7500 women will be benefitted.

- **20% of MSME Business Delegations** sent to domestic & international exhibitions under the schemes for Marketing Assistance implemented by Ministry will be dedicated to women owned MSMEs.
- **20% Discount** on annual processing fee on NSIC's Commercial Schemes
- **Special Drive for registration** of women-owned MSMEs under Udyam Registration.

Seven Years of Sagarmala Programme

Context

- Recently, Ministry of Ports, Shipping and Waterways organized an event to commemorate successful **seven years of Sagarmala program**.

Success of Sagarmala programme

- The highlight of the event was showcasing the exemplary performance, the flagship program of Ministry of Ports, Shipping and Waterways has achieved during the last 7 years.
- Quality service delivery has made Turnaround Time (containers) at Ports come down to **26.58 hours from 44.70 hours** in 2013-14.
- The report card of Ministry showcases 802 projects worth Rs. 5.48 lakh Crore under the Sagarmala program **targeted to be executed by 2035** out of which 194 projects worth Rs. 99,000 Crore have been completed.
- A total of **29 projects worth Rs. 45,000 Crore** have been successfully implemented under PPP model, thus, reducing the financial burden on the exchequer.
- **Skill development:** Centre of Excellence in Maritime and Shipbuilding (CEMS) which has trained over 5000 candidates in 50+ courses since inception.
- **Port connectivity**, another important element of the program, has 80 projects under its ambit.

What is Sagarmala project?

- The Sagarmala programme is the **flagship programme of the Ministry of Ports, Shipping and Waterways** to promote port-led development in the country by taking advantage 14,500 km long potentially navigable waterways and the strategic location on major maritime trade routes.
- The core vision of the Sagarmala programme is to **reduce the logistics cost for EXIM** (Export Import) and domestic trade with minimal infrastructure investment.
- The concept of Sagarmala was approved by the Union Cabinet on **25th March, 2015**.
- The **National Perspective Plan (NPP)** was released for the holistic development of the Indian Coastline and Maritime Sector on 14th April, 2016.

Sagarmala Programme objectives

- **Reducing cost of transporting domestic cargo** through optimizing modal mix
- **Lowering logistics cost of bulk commodities** by locating future industrial capacities near the coast
- **Improving export competitiveness** by developing port proximate discrete manufacturing clusters
- **Optimizing time/cost** of EXIM container movement.

Components of Sagarmala Programme

- **Port Modernization & New Port Development:** De-bottlenecking and capacity expansion of existing ports and development of new greenfield ports
- **Port Connectivity Enhancement:** Enhancing the connectivity of the ports to the hinterland, optimizing cost and time of cargo movement through multi-modal logistics solutions including domestic waterways (inland water transport and coastal shipping)
- **Port-linked Industrialization:** Developing port-proximate industrial clusters and Coastal Economic Zones to reduce logistics cost and time of EXIM and domestic cargo
- **Coastal Community Development** Promoting sustainable development of coastal communities through skill development & livelihood generation activities, fisheries development, coastal tourism etc.
- **Coastal Shipping & Inland Waterways Transport** Impetus to move cargo through the sustainable and environment-friendly coastal and inland waterways mode.

Sovereign Green Bonds

Context

- Recently, it was informed that India will issue at least **240 billion rupees** (\$3.3 billion) in sovereign green bonds as the country marks a shift towards a low-carbon economy.

Key points

- The debut sale of sovereign green bonds may take place in the first half of FY23 that starts on April 1, and a decision to sell more green debt will depend on the response to the initial issuance.
- The initiative comes in the backdrop of its plans to fund renewable energy projects that will help meet its goal of **net-zero emissions by 2070**.
- The issuance comes due to **global boom in sustainable investments**.
- India is the **world's third-biggest emitter** of greenhouse gases and plans to more than quadruple its renewable power generation capacity by 2030.

What are green bonds?

- Green bonds are the bonds issued by companies, countries and multilateral organisations to exclusively **fund projects that have positive environmental** or climate benefits.
- The projects can **include renewable energy**, clean transportation and green buildings, among others.
 - In standard bonds, however, the proceeds of which can be utilised for various purposes at the discretion of the issuer.
- The issuer of green bonds issuers is also required to provide details regarding the project they intend to finance as well as its expected climate and environmental impacts.

Green bond market

- The green bond market witnessed a cumulative issuance worth more than \$1 trillion since market inception in 2007.
- By the end of 2020, 24 national governments had issued Sovereign Green, Social and Sustainability bonds.

Green bond India

- In the Union Budget, our Finance Minister had said that Sovereign Green Bonds will be issued for mobilising resources for green infrastructure, as a part of the government’s overall market borrowings in 2022-23.
- She said that the proceeds from these bonds will be deployed in public sector projects which help in reducing the carbon intensity of the economy.

Green Bonds vs Climate Bonds

- The term ‘labelled’ green bonds refers to bonds marketed by the issuer as ‘green’, where the proceeds are for climate / green assets or projects.
- ‘**Climate-themed bonds**’ are represented by a broader category of bonds whose proceeds are for climate projects but that are not (yet) labelled as green. It is **much wider than the ‘labelled green bonds market’**.

Strengthening of Pharmaceutical Industries: Ministry Releases Guidelines

Context

- Recently, Ministry of Chemicals and Fertilizers has released the guidelines for the scheme **“Strengthening of Pharmaceutical Industry (SPI)”** to address the rising demand in terms of support required to existing Pharma clusters and MSMEs across the country.

Key points

- The scheme has been launched with a total financial outlay of Rs.500 Cr for the period from FY 21-22 to FY 25-26.
- The scheme is aimed at improving the productivity, quality and sustainability of pharma clusters.
- The objectives of the scheme **“Strengthening of Pharmaceutical Industry (SPI)”** are to strengthen the existing infrastructure facilities in order to make India a global leader in the Pharma Sector.
- Under the Scheme, financial assistance to pharma clusters will be provided for creation of Common Facilities.
- This will not only improve the quality but also ensure the sustainable growth of clusters.
- **Interest subvention or capital subsidy on their capital loans will be provided** to upgrade the production facilities of SMEs and MSMEs so as to meet national and international regulatory standards.

Strengthening of Pharmaceutical Industries: Components

The Scheme has 3 components / sub-schemes:

- **Assistance to Pharmaceutical Industry for Common Facilities (APICF)**, to strengthen the existing pharmaceutical clusters’ capacity for their sustained growth by creating common facilities;
 - Under this, support for clusters for creation of common facilities with the focus on R&D Labs, Testing Laboratories, Effluent Treatment Plants, Logistic Centres and Training Centres in this order of priority with an outlay of 178 Cr for the scheme period of five years is proposed.
- **Pharmaceutical Technology Upgradation Assistance Scheme (PTUAS)** to facilitate Micro, Small and Medium Pharma Enterprises (MSMEs) of proven track record to meet national and international regulatory standards.
 - Under the PTUAS **sub-scheme**, support for about SME Industries is proposed, either through up to maximum of **5%** per annum (6% in case of units owned and managed by SC/STs) of interest subvention or through Credit linked Capital subsidy of 10%.
 - An outlay of 300 Cr has been earmarked for sub scheme for the scheme period of five years.

- **Pharmaceutical & Medical Devices Promotion and Development Scheme (PMPDS)** to facilitate growth and development of Pharmaceutical and Medical Devices Sectors through study/survey reports, awareness programs, creation of database, and promotion of industry.
 - Under the **PMPDS sub-scheme**, knowledge and awareness about the Pharmaceutical and MedTech Industry will be promoted.
- An outlay of 21.5 Cr has been earmarked for the sub scheme for the scheme period of five years.

SWIFT Ban on Russia | Russia Ukraine War

Context

- Recently, the US and European Union (EU) have decided to partially exercise the SWIFT mechanism by cutting off a number of Russian banks from the main international payment gateway, SWIFT.
- The assets of Russia's central bank are also expected to be frozen, constraining Moscow's ability to access its overseas reserves.
- The intention of the moves is to "further isolate Russia from the international financial system"

What is SWIFT?

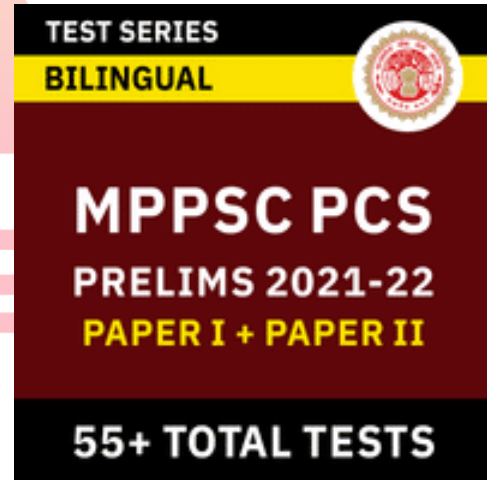
- **About:** The SWIFT is a secure platform for financial institutions to exchange information about global monetary transactions such as money transfers.
 - **SWIFT Headquarters:** SWIFT is based in Belgium.
- **SWIFT Acronym:** The SWIFT system stands for the Society for Worldwide Interbank Financial Telecommunication.

How SWIFT works?

- While SWIFT does not actually move money, it operates as a middleman to verify information of transactions by providing secure financial messaging services to more than 11,000 banks in over 200 countries.
- **SWIFT Administration:** it is overseen by the central banks from eleven industrial countries: Canada, France, Germany, Italy, Japan, the Netherlands, Sweden, Switzerland, the United Kingdom, and the United States, besides Belgium.

How will SWIFT Impact Russia?

- Excluding Russian banks from the SWIFT platform is expected to hit the country's economy hard will make the country rely on "the telephone or a fax machine" to make payments.
- Excluding Russian banks from the SWIFT platform is going to be a catastrophe on the Russian currency market.
- The banks affected are "all those already sanctioned by the international community, as well as other institutions"
- While workarounds to SWIFT have been tried, none have proven to be effective.



Social Issues

Cabinet Approves Implementation of Ayushman Bharat Digital Mission

Context

- Recently, Cabinet Committee on Economic Affairs (CCEA) has approved the **national roll-out** of Central Sector Scheme, Ayushman Bharat Digital Mission (ABDM) of Ministry of Health and Family Welfare.

Key points

- The ABDM mission has been launched with a total outlay of **Rs.1,600 crore for five years**.
- The **National Health Authority (NHA)** will be the implementing agency of Ayushman Bharat Digital Mission (ABDM).

What is Ayushman Bharat Digital Mission?

- Ayushman Bharat Digital Mission (ABDM) aims to create a **seamless online platform** through the provision of a wide-range of data, information and infrastructure services, duly leveraging open, interoperable, standards-based digital systems while ensuring the security, confidentiality and privacy of health-related personal information.
- Ayushman Bharat Digital Mission aims to connect the **digital health solutions** of hospitals across the country with each other.
- Under this program, every citizen will now get a **digital health ID** and their health record will be digitally protected.
- The mission was **first implemented on a pilot basis** in six Union Territories—Andaman and Nicobar Islands, Chandigarh, Dadra and Nagar Haveli, Daman and Diu, Ladakh, Lakshadweep, and Puducherry.
- After the successful demonstration of technology platform developed by the NHA, the cabinet has rolled out its nationwide implementation.
- The initiative is designed to **benefit the poor and middle class**, specifically in finding the right doctor and a hospital.

ABDM benefits

- The Mission will not only make the processes of hospitals simplified but also will **increase ease of living**.
- The platform will make the entire ecosystem related to treatment and **healthcare policy more effective**.
- Doctors and hospitals will be able to use this platform to **provide remote health service**.

- Also, with effective and reliable data, this will **improve treatment** and also save patients.
- With the help of this initiative, **information on doctors will reach everyone**. People will know about doctors who are knowledgeable and their speciality.

ABHA (Ayushman Bharat Health Account): A digital ID

- Under the ABDM, citizens will be able to create their ABHA (**Ayushman Bharat Health Account**) numbers, to which their digital health records can be linked.

ABHA benefits

- The digital ID will help the doctors and the patients to **check the old records**.
- Not only this, there will also be registration of colleagues like doctors, nurses, paramedics.
- Moreover, the hospitals, clinics, labs, medicine shops in the country, all these will be registered.

About Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)

- Ayushman Bharat - Pradhan Mantri Jan Arogya Yojana (AB-PMJAY) is a **Centrally Sponsored Scheme** under Ministry of Health and Family Welfare (MoHFW).
- It is an umbrella of two major health initiatives, namely
 - Health and wellness Centres and
 - National Health Protection Scheme.

AB-PMJAY benefits

- AB-PMJAY provides a cover of **5 lakh per family per year** for almost all secondary care and most of tertiary care procedures.
- There is no cap on family size and age in the scheme to ensure that **nobody is left out** (especially women, children and elderly).
- The benefit cover will also include **pre and post-hospitalisation**
- A defined transport allowance per hospitalization will also be paid to the beneficiary.
- Benefits of the scheme are **portable across the country** and a beneficiary covered under the scheme will be allowed to take cashless benefits from any public/private empanelled hospitals across the country.
- The beneficiaries can avail benefits in **both public and empanelled private facilities**.

- Hospitals belonging to Employee State Insurance Corporation (ESIC) may also be empanelled based on the bed occupancy ratio parameter.
- To control costs, the payments for treatment will be done **on package rate** (to be defined by the Government in advance) basis.

Gender Samvaad: MoRD Organises Third Edition

Context

- Recently, Ministry of Rural Development has organised the **third edition of Gender Samvaad** as a part of Ministry's Iconic Week celebration theme 'Naye Bharat ki Naari' under Amrit Mahotsava.

Key points

- Over 3000 State Mission staff and Self-Help Group (SHG) members attended the initiative, organised by the **Deendayal Antyodaya Yojana-National Rural Livelihoods Mission (DAY-NRLM)**.
- The theme for this edition was '**Promotion of food and nutrition security through women's collectives**'.
- Gender Samvaad is a **national virtual initiative** under the DAY-NRLM to generate greater awareness on the mission's interventions across the country with a gender lens.
- The event enabled National and State Rural Livelihoods Missions (SRLM) to listen to voices from SHG women and for SRLMs to share and learn from best practices.
- SHGs under the DAY-NRLM are working on multiple interventions **to fight malnutrition** including income enhancement of rural households, improving productivity, and diversification of nutrient rich food crops and social and behaviour change communication (SBCC) among SHG members.
- SHG women can **promote behaviour change**, counsel women on care of low-birth weight babies, promote girl's education, healthy diets, consumption of micronutrients, marriage at the right age, as well as spacing between pregnancies.

About NRLM

- National Rural Livelihoods Mission (DAY-NRLM) was **launched in 2011** as a flagship scheme of **Ministry of Rural Development**.
- The scheme aims at mobilizing about 9-10 crore rural **poor households into Self Help Groups (SHGs)** in a phased manner and provide them long-term support such that they diversify their livelihoods, improve their incomes and quality of life.

- In **November 2015**, the program was renamed Deendayal Antayodaya Yojana (DAY-NRLM).
- NRLM has a mandate to cover **7 Crore rural poor households**, across 600 districts, 6000 blocks, 2.5 lakh Gram Panchayats and 6 lakh villages in the country through self-managed Self Help Groups (SHGs) and federated institutions and support them for livelihoods collectives in a period of 8-10 years.
- In addition, the poor would be facilitated to achieve **increased access to their rights**, entitlements and public services, diversified risk and better social indicators of empowerment.
- NRLM believes in **harnessing the innate capabilities** of the poor and complements them with capacities (information, knowledge, skills, tools, finance and collectivization) to participate in the growing economy of the country.

Aajeevika Grameen Express Yojana

- The Government of India has introduced a new sub-scheme under Deendayal Antyodaya Yojana - National Rural Livelihoods Mission (DAY - NRLM) entitled "Aajeevika Grameen Express Yojana " (AGEY) from the **financial year 2017-18**.
- Under the programme, the **Community Investment Fund (CIF)** provided to Community based Organisations (CBOs) under the existing provisions of DAY - NRLM scheme will be utilised to support the SHG members to operate the public transport services.

International Women's Day

In news

- Recently, the President of India extended warm greetings and best wishes to all women on International Women's Day.

KeyFacts

- **Background:** Women's Day was first observed in 1911 when a conference comprising 100 women from 17 countries, with unions, socialist parties, working women's clubs and female legislators unanimously approved the same.
 - Zetkin, a feminist and labour leader, proposed at a conference that Women's Day be celebrated in every country on February 28.
 - However, in 1913, the date was changed to March 8, and it continues to be celebrated every year.
- **About:** International Women's Day is a day dedicated to women, a symbolic reminder of the historic journey they have taken globally to better their lives, and that while a lot has been achieved on that front, the journey is still long and more needs to be done.

- **International Women's Day Date:** International Women's Day is celebrated each year on March 8. This year, it falls on a Tuesday.

International Women's Day 2022

- **International Women's Day theme:** According to UN Women, the theme for International Women's Day, 2022 (IWD 2022) is 'Gender equality today for a sustainable tomorrow'.
 - Additionally, IWD 2022 campaign theme is '#BreakTheBias'. It intends to promote a "gender equal world", which is "free of bias, stereotypes, and discrimination".
 - "A world that is diverse, equitable, and inclusive", and where "difference is valued and celebrated".
- **Significance:** This year's Women's Day attempts to recognise the "contribution of women and girls around the world, who are leading the charge on climate change adaptation, mitigation, and response, to build a more sustainable future for all".

Jal Shakti Abhiyan: Catch the Rain Campaign 2022

Context

- Recently, Ministry of Jal Shakti has launched the Jal Shakti Abhiyan: Catch the Rain campaign 2022 for the period **29 March, 2022 to 30 November, 2022**.

Key points

- **New features:** Spring shed development, protection of water catchment areas, gender mainstreaming in water sector is some of the new features added to the 2022 campaign.
- Gender mainstreaming is expected to promote the role of women in water governance/conservation & management.
- The State Governments will set up Jal Shakti Kendras in each district of their state.
- **Jal Shakti Kendras:** It will act as a knowledge center, will offer a one stop solution to all water related problems, and draw district water conservation plan as early as possible.
- If all water bodies in the country are enumerated under the campaign this year, it will be a major achievement.
- Successful implementation of the "Jal Shakti Abhiyan: Catch the Rain" campaign relies on **active participation of local community** people at the grass root level.
- The local community people will be "**water warriors**" to mitigate water scarcity issues through active participation in water conservation work and act as an owner to the water conservation structures assets.

What is catch the rain campaign?

- "Catch the Rain" campaign: a **nationwide campaign** by the National Water Mission (NWM) Ministry of Jal Shakti.
- **Focus:** on saving and conserving rainwater in the pre-monsoon and monsoon periods of 2021, covering both urban and rural areas of all the districts in the country.
- **Tagline:** "Catch the rain, where it falls, when it falls".
- **Aim:** to nudge the states and all stakeholders to create RWHS (Rain Water Harvesting Structures) suitable to the climatic conditions and sub-soil strata, with people's active participation.
- **Awareness campaign:** in collaboration with the "Nehru Yuva Kendra Sangathan" (NYKS), Ministry of Youth Affairs and Sports involving youth clubs.
- After the successful implementation of **Jal Shakti Abhiyan in 2019**, the *Jal Shakti Abhiyan-II: Catch the Rain, where it Falls, When it Falls* campaign was launched.
 - Jal Shakti Abhiyan was a **national call to action** for water conservation and management and implemented in 1,592 water stressed blocks in 256 districts of the country,

Kanya Shiksha Pravesh Utsav Abhiyan

Context

- On the eve of International Women's Day, a landmark campaign 'Kanya Shiksha Pravesh Utsav Abhiyan' was launched to bring back out of school adolescent girls to the formal education.
- The **Kanya Shiksha Pravesh Utsav** program aims for a convergent approach between MoWCD and MoE with close partnership of international organisations.

Kanya Shiksha Pravesh Utsav Abhiyan

- **Organizing Ministry:** Kanya Shiksha Pravesh Utsav Abhiyan has been launched by the Ministry of Women and Child Development (MoWCD), in partnership with the Ministry of Education and UNICEF.
- **Parent Scheme:** The Kanya Shiksha Pravesh Utsav campaign will be rolled out under the umbrella of MoWCD's BBBP initiative by targeting more than 400,000 out of school adolescent girls as primary beneficiaries.
- **Funding:** over 400 districts across all states will be funded under Beti Bachao Beti Padhao Scheme for outreach and awareness generation at grassroots level.

- This is to sensitize communities and families to enroll adolescent girls in schools.
- Anganwadi workers (AWWs) will be further incentivised for counselling and referring out of school adolescent girls.

Key Objectives of Kanya Shiksha Pravesh Utsav Abhiyan

- Kanya Shiksha Pravesh Utsav Abhiyan aims to bring back out of school adolescent girls in India to the formal education and/or skilling system.
- Kanya Shiksha Pravesh Utsav also aims at enhancing enrolment and retention of girls between 11-14 years of age in school.
- Kanya Shiksha Pravesh Utsav intends to build on the existing schemes and programs like Schemes for Adolescent Girls (SAG), Beti Bachao Beti Padhao (BBBP) and National Education Policy (NEP) to work on a comprehensive system for out of school girls.

Manual Scavenging in India

In news

- Three labourers in Mumbai, allegedly hired for manual scavenging, died recently after inhaling toxic fumes in a septic tank.

What is Manual Scavenging?

- Manual scavenging is the practice of physically removing human excreta by hand from sewers or septic tanks. This dehumanizing practice is mostly undertaken by members of the Dalit community, which is at the bottom of India's caste system.
- According to the PEMSAR 2013 Act, the definition of manual scavengers was broadened to include people employed to clean septic tanks, ditches or railway tracks.

Ban on Manual Scavenging in India

- Under the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013, Manual Scavenging practice is banned in India.
- The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 prohibits the employment of manual scavengers, the manual cleaning of sewers and septic tanks without protective equipment.
 - It also bans the construction of insanitary latrines.

Key Features of The Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013

- **Prohibition:** The Act prohibits the employment of manual scavengers, the manual cleaning of sewers and septic tanks without protective equipment, and the construction of insanitary latrines.
 - **Rehabilitation:** It seeks to rehabilitate manual scavengers and provide for their alternative employment.
 - **Monitoring and Construction of Sanitary latrines:** Each local authority, cantonment board and railway authority is responsible for surveying insanitary latrines within its jurisdiction.
 - They shall also construct a number of sanitary community latrines.
 - **Responsibility of the People:** Each occupier of insanitary latrines shall be responsible for converting or demolishing the latrine at his own cost.
 - If he fails to do so, the local authority shall convert the latrine and recover the cost from him.
 - **Implementing Authorities:** The District Magistrate and the local authority shall be the implementing authorities.
 - **Punishment for Violation:** Offences under the Act shall be cognizable and non-bailable, and may be tried summarily.
- ### Why Manual Scavenging in India is still Prevalent?
- **Poor Implementation:** PEMSAR 2013 Act is poorly implemented on the ground. This results in exploitation of the poor who are unable to protect themselves against such ghastly practices.
 - **Availability of Cheap Labour:** This is often exploited by the contractors as there is a lot of cheap, unskilled labour is available to them.
 - So, contractors illegally employ them at a very poor daily wages. They often get away with this because of corruption and poor implementation of the Act.
 - **Lack of Awareness:** Government is also not doing enough to generate adequate awareness among common people, especially in the victims of Manual scavenging about various harmful health effects of such practices.

Parliamentary Panel Report on MGNREGA

Context

- Recently, the parliamentary panel on rural development has **expressed concerns about the implementation of MGNREGA** (Mahatma Gandhi National Rural Employment Guarantee Act) and has asked the government to take corrective steps for its better implementation.

Issues in MGNREGA implementation

- Insufficient funding:** The committee expressed concern for the pace of implementation of rural development schemes in the backdrop of lack of adequate funding. MGNREGA has two key aspects—demand driven nature of the job and asset creation. Both these aspects will be severely affected.
- Pending wages:** The panel has also found that that issue of pending wages is alarming as the budget estimates for the scheme for 2022-23 were reduced from the ₹78,000 crore sought by the Department of Rural Development, to ₹73,000 crore.
- Fake job cards, widespread corruption, late uploading of muster rolls,** and huge pending payments for wages and materials are among the issues hampering the MGNREGA.
- Fake beneficiaries:** Genuine labourers not getting their dues while money keeps changing hands due to collusion of unscrupulous elements surrounding the implementation of scheme at ground level is a bitter truth of the time.
- Rozgar sevaks fill up kachha muster** at the start and go to the Block once a week for online uploading of muster-rolls. It has a detrimental effect on the MGNREGA beneficiaries as delay in muster uploading causes delay in the payment of wages. Moreover, if the muster-roll is not updated and uploaded within the stipulated time, it could not be backdated, causing a loss in payment.
- The committee has also criticised the **caste-based payment system** and said that the practice needed to be addressed “urgently”, and should not to be encouraged any further.

Recommendations

- The committee recommends the Department of Rural Development to **relook at its calculation** and suitably approach the ministry of finance for higher allocation of funds in order to speed up the pace of rural development schemes for dearth of budget.
- The panel has also asked the Ministry of Rural Development (MoRD) to **restore the earlier system** by which a single Fund Transfer Order was generated without “any sort of segregation on the basis of caste”.

About caste-based payment system

- Last year, MoRD sent an advisory to states to make payment of wages to NREGS workers **according to their categories** — SC, ST, and Others — from the 2021-22 financial year.
- Under this system, if 20 individuals (say, six SCs, four STs and 10 others) work together at a site under MGNREGA, a single muster roll would be issued, but payment would be done by issuing **three separate Fund Transfer Orders (FTOs)**, one for each of the three categories.

Pew Study on Gender Roles

Background

- A Pew study on Gender Roles titled “How Indians view gender roles in families and society” released recently, highlighting status of women in the contemporary Indian Society.
- The findings of the Pew Study are based on a survey of 29,999 Indian adults conducted from November 2019 to March 2020.
- The study found that for a variety of historical, social, religious and economic reasons, families tend to place higher value on sons rather than daughters.

Key Findings

- Favour Traditional Gender Roles for Women:** The study found that while Indians accept women as political leaders, they mostly favour traditional gender roles in family life.
 - While 55% of Indians believed that men and women make equally good political leaders, “nine-in-ten Indians agree with the notion that a wife must always obey her husband”.
 - Indian women were only slightly less likely than Indian men to agree with this sentiment (61% versus 67%).
- On Child Care:** Although most Indians expressed egalitarian views on gender roles, with 62% saying that both men and women should be responsible for child care.
 - However, traditional norms still held sway, with 34% convinced that child care “should be handled primarily by women”.
- On earning roles:** 54% respondents say that both men and women “should be responsible for earning money”.
 - On the other hand, as many as 43% believed that earning an income is mainly the obligation of men.
 - 80% of Indians agreed with the idea that when there are few jobs, men should have more rights to a job than women.

- **Male Son Preference:** While Indians valued both sons and daughters, nearly 94% said it is very important for a family to have at least one son, with the corresponding figure for daughters being 90%.
- **On the Inheritance Rights:** About 64% of Indians also said that sons and daughters should have equal rights to inheritance from parents.
- **On Parental Care:** while four-in-10 adults said that sons should have the primary responsibility to care for ageing parents, only 2% said the same about daughters.
- **On Sex Selective abortion:** 40% of Indians saw “sex selective abortion as acceptable in at least some circumstances”.
 - However, 42% found this practice “completely unacceptable”.

How India fares on Global Scale?

- **On Gender Equality:** A global median of 70% said that it was very important for women to have the same rights as men.
 - Similarly in India, 72% of Indians believe that gender equality is very important.
- Indians were less likely than people in North America (92% median), Western Europe (90%), and Latin America (82%) to place a high value on gender equality.
- They were more likely to do so compared to sub-Saharan Africa (48% median) and the Middle-East-Northern Africa region (44%).
 - In South Asia, Indians were more likely to bat for gender equality than Pakistanis (72% to 64%).
- Indians with a college degree were less likely to hold traditional views on gender roles, although this did not extend to all gender-related issues.

Tribals in India: MoTA Revamps Schemes for Comprehensive Development

Context

- Recently, Ministry of Tribal Affairs have merged many schemes, revamped them, and have widened the scope of many schemes, for the **Financial Cycle 2021-26**.

Schemes for tribals in India

- Pre Matric and Post Matric Scholarship Scheme.
- Grants Under **Article 275(1)** of the Constitution
- SCA to TSS which has been now revamped as **Pradhan Mantri Adi Adarsh Gram Yojna**
- Grants for Particularly Vulnerable Tribal Groups (PVTG).
- Support to TRIs (Tribal Research Institutes).

Pre Matric and Post Matric Scholarship Scheme

- The **Pre and Post Matric schemes** are demand-based schemes and every ST student whose family income is upto Rs 2.5 lakhs is entitled to scholarship for pursuing education from class IX to Post Doctorate across India.
- The states have to send the proposal for the estimated expenditure during the financial year and advance upto 50% of Central share is released to the States.
- After the State has disbursed the scholarship to the students and has submitted UCs, the balance amount is released to State provided the State has contributed its share.

Grants under Article 275(1), SCA to TSS and PVTG scheme

- In respect of the above-mentioned schemes, the state is required to submit proposals duly approved by the **State level executive committee (SLEC)**.
- Each state has been allocated share in these 3 schemes based on criteria of population of that state and geographical area.
- The funds are released to State after taking into account the unspent funds released in previous years, the status of utilization of funds and physical proposal report submitted on **Adivasi Grant Management System (ADIGRAMS)**.

Support to TRIs.

- Under this scheme, the **funds are given to TRIs** based on the proposals received from them for undertaking various activities like research projects, training, cultural exchange, organization of festivals, craft mela, painting and other competitions etc.

Revamped schemes

The 3 schemes meant for comprehensive development of tribals are as under.

Pradhan Mantri Adi Adarsh Gram Yojna

- The scope of existing scheme of SCA to TSS has been broadened wherein comprehensive development of villages (where tribal population of **more than 500 and 50% tribals**) will be undertaken to develop these villages as Adarsh Gram, under ‘Pradhan Mantri Aadi Adarsh Gram Yojana’.
- For next five years an amount of Rs. 7276 cr. has been approved by the cabinet.

Pradhan Mantri Janjatiya Vikas Mission

- The Mission seeks to achieve livelihood driven tribal development in the next five years through **formation of Van Dhan groups** who have been organized into Vandhan Kendras.
- The MFP gathered by tribals will be processed in these kendras and marketed through Van Dhan Producer Enterprises.
- New haats bazaar and ware houses will be developed in next 5 years as part of “*Atmanirbhar Bharat Abhyan*”. TRIFED would be the nodal agency for implementing the scheme.
- The products produced will be marketed through Tribe India Stores.

Venture Capital Fund for STs

- An amount of Rs. 50 cr. has been sanctioned for the new scheme of ‘**Venture Capital Fund for Scheduled Tribes’ (VCF-ST)**, which is aimed at promoting Entrepreneurship among the STs.
- The VCF-ST scheme would be a social sector initiative to promote ST entrepreneurship and to support and incubate the start-up ideas by ST youth.

Review of DDU-GKY

Context

- Recently, Ministry of Rural Development has conducted a periodic review of the implementation of Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDU-GKY) with States/UTs.

Key points

- It is targeted to **train 2.80 lakh candidates** and **place 1.96 lakh candidates** under DDU-GKY during 2021-22.
- Till February 2022, **more than 11.5 lakh candidates** were trained under DDU-GKY, among which **more than 7 lakh candidates** were placed under DDUGKY.
- The periodic review and a NITI Aayog study on NRLM (National Rural Livelihood Mission), both has said that there is **no need to make any changes in the program**.
- There is **no indication of rural youths showing less interest** in DDU-GKY in comparison to last years.

What is DDUGKY?

- **Ministry of Rural Development** has announced the Deen Dayal Upadhyaya Grameen Kaushalya Yojana (DDUGKY) in **2014** as a part of the National Rural Livelihood Mission (NRLM).
- DDUGKY is tasked with the **dual objectives** of adding diversity to the incomes of rural poor families and cater to the career aspirations of rural youth.
- DDU-GKY **caters to the challenges of rural population** by funding training projects benchmarked to global standards, with an emphasis on placement, retention, career progression and foreign placement.
- DDU-GKY is **present in 28 States and UTs**, across 689 districts, impacting youth from over 7,426 blocks.

DDUGKY benefits

- It **enables poor and marginalized section** of society to access benefits as it provides demand led skill training at no cost to the rural poor.
- It has an **inclusive program design** as it mandatorily covers the socially disadvantaged groups (**SC/ST 50%; Minority 15%; Women 33%**).
- It shifts focus from **training to career progression** as it pioneers in providing incentives for job retention, career progression and foreign placements.
- It provides **greater support for placed candidates** by providing post-placement support, migration support and alumni network.
- It has a proactive approach in building partnership placements as it provides guaranteed **placement for at least 70%** (earlier 75%) trained candidates.

DDUGKY eligibility

- Rural Youth: **15 - 35 Yrs**
- SC/ST/Women/PVTG/PWD: **upto 45 Yrs**

DDUGKY implementation

- DDU-GKY follows a **3-tier implementation model**.
- The DDU-GKY National Unit at MoRD functions as the policy-making, technical support and facilitation agency.
- The DDU-GKY State Missions provide implementation support; and the Project Implementing Agencies (PIAs) implement the programme through skilling and placement projects.

RSETI: New Batches of Women Centric Courses Launched

Context

- Recently, RSETIs (Rural Self Employment Training Institutes) has launched new batches of women-centric courses as part of Azadi Ka Amrit Mahotsav.

Key points

- Women form **66 per cent of the total trained candidates** under the RSETI programme.
- Till date, about 26.28 lakh women candidates have been trained since inception and about 18.7 lakh have been successfully settled.
- New batches were started in trades like Homemade Agarbatti Maker, Soft Toys Maker and Seller, Papad, Pickle and Masala Powder, Beauty Parlour Management & costume Jewelry Udyami etc.
- Under the RSETI scheme, 10 training courses out of the total 64 are exclusively for women candidates.

What is RSETI?

- RSETI (Rural Self Employment Training Institutes) programme is a **three-way partnership** between the Ministry of Rural Development (MoRD), GoI, State Governments and Sponsor Banks.
- The program was launched in **2009** after taking inspiration from RUDSETI of Karnataka.
 - RUDSETI was launched in **Karnataka** in 1982 with collaboration of Manjunatheswara Trust, Syndicate Bank and Canara Bank.
- The Banks are mandated to open at least **one RSETI in their lead district** to provide training to rural youth to take up self-employment/entrepreneurship ventures.
- RSETI program runs with an approach of short-term training & long-term handholding of entrepreneurs.
- Rural poor youth between the age group of **18-45 years are eligible** to join the training.
- Each RSETI have **30-40 skill development programs** for short duration ranging from 1-6 weeks.
- Total functional RSETI:** 585 across 32 States and UTs.
- The RSETIs have become established as pioneers in capturing the aspirations of the rural poor youth and turning them into **profitable entrepreneurs** by training them in the domain and entrepreneurial skills.

RSETI objectives

- Rural BPL youth** will be identified and trained for self-employment.
- The trainings offered will be **demand driven**.
- Area in which training will be provided to the trainee will be decided after assessment the candidate's aptitude.
- Hand holding support** will be provided for assured credit linkage with banks.
- Escort services will be provided for at least for two years soon to ensure sustainability of micro enterprise trainees.
- The trainees will be provided intensive short-term residential self-employment training programmes with free food and accommodation.

SAMARTH Initiative

Context

- Recently, Ministry of Micro, Small & Medium Enterprises has launched a Special Entrepreneurship Promotion Drive for Women - "**SAMARTH**", to provide them an opportunity to be self-reliant and independent by undertaking self-employment opportunities.

Key points

- To celebrate International Women's Day, Ministry of MSME organised an international conference - "**Empowering Women Entrepreneurs**" in association with National Small Industries Corporation and India SME Forum.
- The Conference has been organized to provide a platform to existing and aspiring Indian Women Entrepreneurs to gain from experiences and entrepreneurial journey of the most successful women entrepreneurs from different parts of the world as well as for discussing the best practices and innovation in entrepreneurship with international experts.
- A comprehensive presentation on the various schemes being implemented by the Ministry was also made by the senior officials from the Ministry.

Women in MSME

- MSME sector offers **plethora of opportunities for women** and therefore steps are needed to promote women entrepreneurship.
- Women today are creating exceptional and **ground-breaking accomplishments** in every sphere of life and are optimistic about what the future holds for them.
- With the increased supportive initiatives by the government, we together can usher in a new era in India's future.

What is SAMARTH initiative?

- Through this initiative, Ministry of MSME is focusing on providing Skill Development and Market Development Assistance to women and **more than 7500 women candidates** from rural and sub-urban areas will be trained in the FY 2022-23.
- Besides, thousands of women will be getting marketing opportunities to showcase their products in domestic and international exhibitions.

Samarth initiative benefits

- **20% Seats in free Skill Development Programs** organized under skill development schemes of the Ministry will be allocated for Women. More than 7500 women will be benefitted.
- **20% of MSME Business Delegations** sent to domestic & international exhibitions under the schemes for Marketing Assistance implemented by Ministry will be dedicated to women owned MSMEs.
- **20% Discount** on annual processing fee on NSIC's Commercial Schemes
- **Special Drive for registration** of women-owned MSMEs under Udyam Registration.

Stree Manoraksha Project

Context

- Recently, Ministry of Women and Child Development (MWCD) has launched Stree Manoraksha Project, as a part of the week-long **International Women's Day** celebrations.

Key points

- The initiative has been launched in collaboration with **NIMHANS** (National Institute of Mental Health and Neuro Sciences), Bengaluru.
- The project is aimed at **extending mental health training to 6000 OSC functionaries** across India.
- The project would emphasise on the psychosocial well-being and **aim to improve the mental health of women in India.**
- The project would focus on building on **capacity building of OSC** (One Stop Centres) functionaries on the tools and techniques as to how to handle the cases of women approaching OSC, particularly the women who have suffered violence and distress with due sensitivity and care.
- The project also focusses on **self-care techniques** for OSC staff and counselors.

About Stree Manoraksha Project

- The project which has been outlined meticulously by NIMHANS based on the requirements projected by the Ministry will be imparted in two formats.
- One format will focus on **basic training for all OSC** functionaries including the security guards, cook, helpers, case workers, counselors, centre administrators, para medical staff etc.
- The second format will emphasise on the advanced course which focuses on varied components relating to **multi-generational implications** and life time trauma in case of several violence against women.
- In this regard, MWCD has launched the advance certificate course for OSC Councilors and also released the resource material for capacity building of OSC Staff.

What is One Stop Centres?

- MWCD has formulated a **Centrally Sponsored Scheme** for setting up One Stop Centre, a sub-scheme of Umbrella Scheme for National Mission for Empowerment of women.
- Popularly known as **Sakhi**, the scheme is being implemented since 2015.
- These Centres are being established across the country to provide integrated support and assistance under one roof to **women affected by violence**, both in private and public spaces in phased manner.
- Aggrieved women facing any kind of violence due to attempted sexual harassment, sexual assault, domestic violence, trafficking, honour related crimes, acid attacks or witch-hunting who have reached out or been referred to the OSC will be provided with specialized services.
- A total of 234 One Stop Centers (OSCs) currently functional in the country.

Umbrella Scheme for Relief and Rehabilitation of Migrants and Repatriates

Context

- Recently, Ministry of Home Affairs has approved the proposal for continuation of the seven existing sub schemes under the Umbrella Scheme "Relief and Rehabilitation of Migrants and Repatriates.

Key points

- The scheme has been approved for the period **2021-22 to 2025-26.**
- The total outlay of the scheme would be Rs.1,452 crore.
- The scheme enables migrants and repatriates, who have suffered on account of displacement, to earn a reasonable income and to facilitate their inclusion in **mainstream economic activities.**

- The approval will ensure that assistance under the Umbrella Scheme, continues to reach beneficiaries through **the Ministry of Home Affairs.**

7 schemes

- Relief and Rehabilitation of displaced families of Pakistan Occupied Areas of Jammu and Kashmir and Chhamb,
- Relief assistance to Sri Lankan Tamil refugees,
- Relief assistance to Brus lodged in relief camps in Tripura,
- Enhanced relief to 1984 Anti-Sikh Riot Victims,
- Financial Assistance and other facilities to the families of affected civilian victims of terrorist violence including militancy, insurgency, communal/ Left Wing Extremism violence and cross border firing and victims of mine/IED blasts on Indian Territory,
- Grants-in-aid to Central Tibetan Relief Committee (CTRC),
- The Government is also providing Grants-in-Aid to Government of West Bengal for infrastructure development in 51 erstwhile Bangladeshi enclaves in India, situated in Cooch Behar District and for resettlement of 922 returnees from erstwhile Indian enclaves in Bangladesh.

Women Transforming India Awards (WTI)

In news

- NITI Aayog’s Women Entrepreneurship Platform (WEP) is organizing the fifth edition of the Women Transforming India Awards (WTI) on 21 March 2022.
- This year, as part of the Azadi ka Amrit Mahotsav, the WTI Awards will be conferred on 75 women achievers to celebrate their contribution towards a ‘Sashakt Aur Samarth Bharat’.

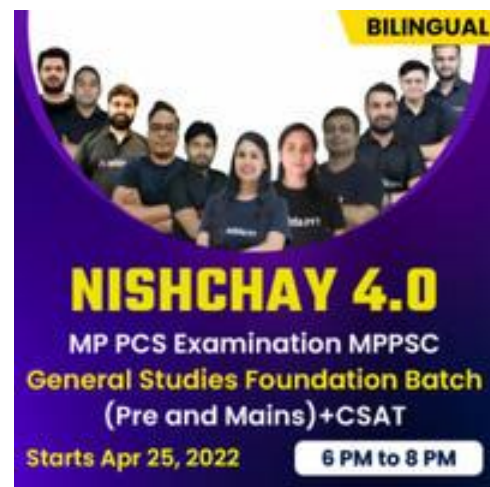
Women Transforming India Awards (WTI)

- **About:** The Women Transforming India Awards is NITI Aayog’s annual initiative to highlight the commendable and ground-breaking endeavours of India’s women leaders and change-makers.
- **Categories:** Applications for the WTI Awards ’21 were invited from 1 October 2021 to 21 February 2022, under one or more than one of the following seven categories:

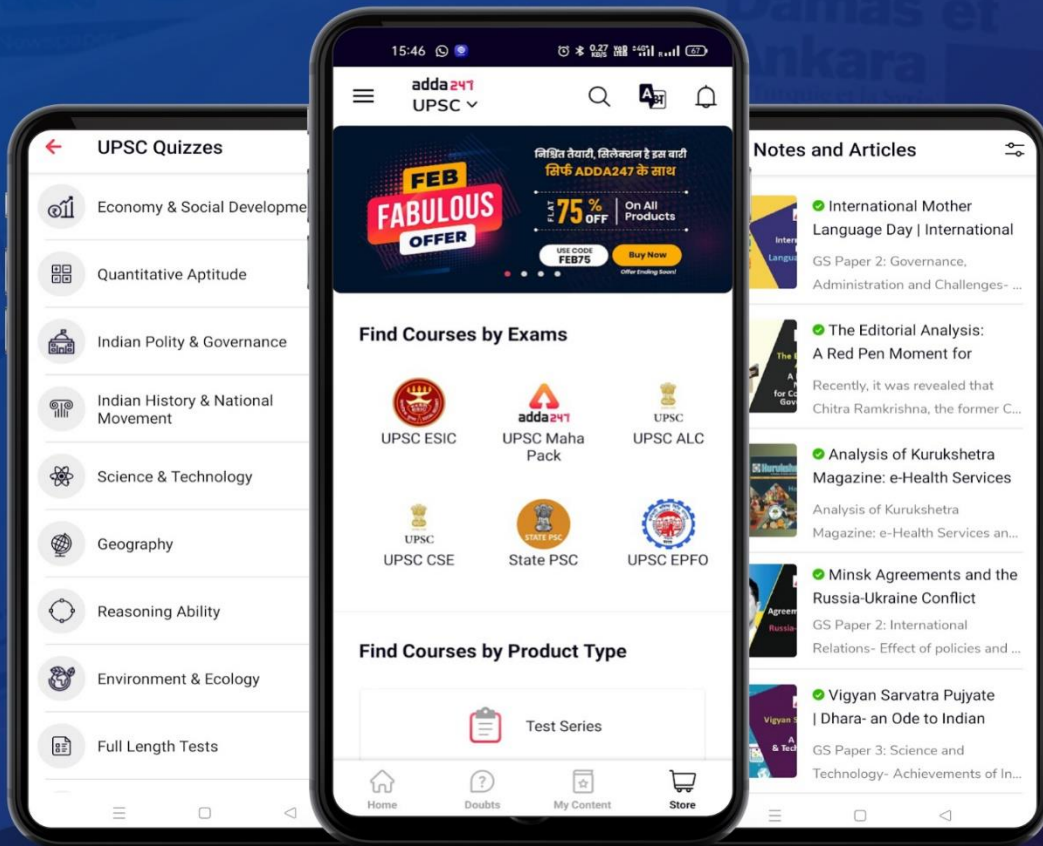
- Public and Community Service
- Manufacturing Sector
- Non-manufacturing Sector
- Financial Products enabling Economic Growth
- Climate Action
- Promote Art, Culture and Handicrafts
- Digital Innovation
- **Selection of Winners:** The 75 awardees represent different regions and sectors and have been selected through an elaborate process spanning several months.
 - The awardees have been selected on the basis of nominations received on WEP and through shortlisting by a search-and-select committee.

About Women Entrepreneurship Platform

- **About:** Women Entrepreneurship Platform (WEP) is an aggregator portal that aims to catalyse the entrepreneurial ecosystem for women and address information asymmetry.
- **Mandate:** To build a vibrant ecosystem for women-led enterprises, the WEP works to strengthen industry linkages and increase awareness of existing programmes and services.
- **Performance:** To date, more than 900 women entrepreneurs have been benefitted through 77 programmes and events hosted on the platform.
- **Role Played during COVID-19 Pandemic:** The Women Entrepreneurship Platform (WEP) played an active role during Covid-19-
 - By conducting webinars to provide business support to women entrepreneurs and
 - **Through its Masking It Up campaign:** women-led small businesses in India that were adversely impacted were supported.



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Environment & Biodiversity

Amazon Rainforest Reaching Tipping Point

Context

- According to a new study, above 75% of the Amazon rainforest is heading towards a tipping point since the 2000s.

Key points

- Using the satellite data, researchers found that the forest might be losing its ability to bounce back from extreme events such as drought or fire, threatening to become a dry savanna-like ecosystem.
- The transition could have a negative impact on the forest as it could alter its rich biodiversity, carbon-storing potential and global climate change.
- The study showed that the indicators of tipping points go up faster in areas with less rainfall and closer to human land use.

Amazon rainforest importance

- The Amazon's rainforest has around 30 per cent of the world's species, comprising 40,000 plant species, 16,000 tree species, 1,300 birds and more than 430 species of mammals.
- Trees of Amazon take up water through the roots, release it into the atmosphere, and influence precipitation over whole of South America.
- The rainforest is also a carbon sink and thus plays an essential role in combating climate change.

Amazon rainforest: Present situation

- Deforestation: According to reports, deforestation totalled 430 square kilometres in January 2022, five times higher than the same month last year.
- This loss of trees will significantly impact the rainfall in the continent.
- Increasing temperatures: Increasing temperatures due to human-induced climate change is pushing the rainforest to transform into a carbon source, from the carbon sink.
- The researchers were of the view that the forests could release vast amounts of CO₂ if they partially transform into dry habitats.
- Human land-use activities: Practices like direct removal of trees, construction of roads, and fires are on the rise since 2010, which is also worsening the situation.

Amazon rainforest deforestation effects

- Scientists warn that decades of human activity and a changing climate has brought the jungle near a "tipping point."

- Experts also warn that the water cycle will soon become irreversibly broken, locking in a trend of declining rainfall and longer dry seasons that began decades ago.
- At least half of the shrinking forest will give way to savanna.
- With as much as 17% of the forest lost already, scientists believe that the tipping point will be reached at 20% to 25% of deforestation even if climate change is tamed.
- If global temperatures rise by 4°C, much of the central, eastern and southern Amazon will certainly become barren scrubland.
- If things continue as they are now, the Amazon might not exist at all within a few generations, with dire consequences for all life on earth.
- If the Amazon is destroyed, it will be impossible to control global warming.

Way forward

- Reducing deforestation and limiting the global greenhouse gases will protect the forest's threatened parts and boost Amazon rainforest resilience.

Carbon Neutral Farming Methods

Context

- **Kerala is set to become the first state** in India to introduce carbon-neutral farming methods to mitigate the effects of climate change on agriculture.

Key points

- The state will **introduce carbon-neutral farming methods** in selected locations, for which the government has allocated ₹6 crore in the 2022-23 Budget.
- In the first phase, carbon-neutral farming will be implemented in 13 farms, and steps are on to convert the State Seed Farm at Aluva a carbon-neutral farm.
- In the second phase, model carbon-neutral farms will be developed in all the 140 Assembly constituencies.

Why important

- Carbon-neutral agriculture is becoming the need of the hour for **environmental balance** and improved health and safe sustenance of future generations.
- Kerala is witnessing the impact of **global warming and climate change**, as was evidenced by the unpredictable heavy rain and flooding in recent times.

- In such a situation, it is imperative for the state to adopt new and innovative agricultural practices.
- Carbon neutral agriculture would **reduce carbon emissions** and help carbon to be stored in the soil.

Carbon neutral agriculture Kerala

- The state government has decided to form an **organic agriculture mission in 2022** to ensure the production of safe food within the state.
- As part of the mission, farmers will be trained in agriculture practices that reduce emission of greenhouse gases like carbon dioxide.
- Further, **ecological engineering**, composting, increasing the level of organic carbon in the soil and carbon sequestration in soil will be given more thrust.
- Workshops on carbon neutral agriculture will be organised in every panchayat.

What is carbon neutral agriculture?

- Carbon farming is a system of agricultural management that helps the land **store more carbon and reduce the amount of greenhouse gases** that it releases into the atmosphere.
- For example, Indian farmers can manage their grazing lands to conserve and restore vegetation, including tree cover along waterways.
- Similarly, farmers can also **implement fertilizer reduction strategies**, such as applying compost or biochar, to reduce the amount of greenhouse gases tied up in vegetation.

Need of carbon farming

- Agriculture and climate change are closely related.
- Agriculture is regarded as **one of the main sources of carbon dioxide (CO₂)** and methane (CH₄), two of the potent greenhouse gases, however, it also holds a **great potential to sequester and store carbon** in plants, trees and soils.
- A **more carbon neutral agriculture is possible**, if proper farm management practices are adopted to optimise the carbon balance in farming systems.
- These can include practices aiming at **reducing livestock CH₄ emission**, practices that result in a reduced use of farm inputs (e.g. fuels, pesticides, fertilisers) or practices that help keep carbon stored in soils.

Climate Change 2022: IPCC Sixth Assessment Report

Context

- IPCC has recently reported the second part of the Sixth Assessment Report (AR 6 WGII) that lays focus on climate change impacts, risks and vulnerabilities and explores options to adapt.

About sixth assessment report

- The first part of the report was released in August 2021. It talked about the scientific basis of climate change.
- IPCC will release its third and final part of the report in April 2022.
- The first Assessment Report by IPCC had come out in **1990**.
- The reports were then released in **1995, 2001, 2007 and 2015**, which form the basis of the global response to climate change.

AR 6 WGII: Key findings

Impact on health

- IPCC has for the **first time included** the regional and sectoral impacts of climate change and the health impacts.
- For example, the report states that **Mumbai will be affected by sea-level rise**, while **Kolkata is at risk of storms**. It provides a clearer vision on what needs to be done regarding these threats, and was not done in previous reports.
- The report states that climate change and related extreme events will significantly increase **ill-health and premature deaths** from the near- to long-term.
- The report also says that that **vector-borne diseases** like dengue and malaria will increase.
- Besides, **mental health challenges**, including anxiety and stress, are expected to increase under further global warming in all assessed regions, particularly for children, adolescents, elderly, and those with underlying health conditions.

Impact on food system

- The report has cautioned that climate-related risks to agriculture and food systems in Asia will **further escalate** with the changing climate.
- As far as India is concerned, **rice production can witness a decrease** from 10 to 30 per cent whereas maize production can witness a decrease from 25 to 70 per cent assuming a range of temperature increase from 1 degree Celsius to 4 degrees Celsius.

Wet-bulb temperatures

- The report has also warned that if emissions continue to rise, wet-bulb temperatures will approach or **exceed the unsurvivable limit of 35 degrees Celsius** over much of India, with the majority of the country reaching wet-bulb temperatures of 31 degrees C or more.
 - Wet-bulb temperatures is a measure that combines heat and humidity.
- A wet-bulb temperature of 31 degrees Celsius is extremely dangerous for humans, while a value of 35 degrees Celsius is unsurvivable for more than about six hours, even for fit and healthy adults resting in the shade.
- Currently, wet-bulb temperatures in India rarely exceed 31 degrees Celsius, with most of the country experiencing maximum wet-bulb temperatures of 25-30 degree Celsius.

Impact on water stress

- The report further says that both climatic and non-climatic drivers such as socio-economic changes have created **water stress conditions** in both water supply and demand in all sub-regions of Asia.
- The international transboundary river basins of Amu Darya, Indus, Ganges and inter-state Sabarmati-river basin in India could face severe **water scarcity challenges** due to climate change.

Impact on economy

- The report highlights that, **high levels of warming** could cause a **global GDP decline of 10-23 per cent** by the end of the century, compared to a world without warming.
- Several major economies could see even larger economic declines because of climate change.
- According to a study cited in the report, if emissions are high, GDP losses by the end of the century could be up to 42 per cent in China and **92 per cent in India**.

Hydrogen-based Advanced Fuel Cell Electric Vehicle

Context

- Recently, Ministry of Road Transport & Highways has launched world's most advanced technology - developed **Green Hydrogen Fuel Cell Electric Vehicle (FCEV)** Toyota Mirai, first of its kind project in India which aims to create a **Green Hydrogen based ecosystem** in the country.

Key points

- **Toyota Kirloskar** Motor Pvt Ltd and International Center for Automotive Technology (ICAT) are conducting a Pilot Project to study and evaluate the world's most advanced Fuel Cell Electric Vehicle (FCEV) Toyota Mirai which runs on hydrogen, on Indian roads and climatic conditions.
- The Toyota Mirai was launched in 2014, was **one of the world's first** hydrogen fuel electric vehicles.
- This is a first of its kind project in India which aims to create a Green Hydrogen based ecosystem in the country by **creating awareness** about the unique utility of Green Hydrogen and FCEV technology.

What is FCEV?

- Fuel cell electric vehicles (FCEVs) are **powered by hydrogen**.
- They **only emit water vapor and warm air**.
- They are more efficient than conventional internal combustion engine vehicles and produce **no tailpipe emissions**.
- FCEVs use a propulsion system **similar to that of electric vehicles**, where energy stored as hydrogen is converted to electricity by the fuel cell.

FCEV India significance

- It is an important initiative which will promote clean energy and environmental protection by reducing dependence on fossil fuels and thereby make **India 'Energy Self-reliant' by 2047**.
- Fuel Cell Electric Vehicle (FCEV), powered by Hydrogen is **one of the best Zero Emission solutions**. It is completely environment friendly with no tailpipe emissions other than water.

What is green hydrogen?

- Green Hydrogen can be generated from **renewable energy and abundantly available biomass**. Introduction and adoption of technology to tap into the Green hydrogen's potential will play a key role in securing a clean and affordable energy future for India.

Why Hydrogen?

- Combusting one kilo of hydrogen releases **three times more energy** than a kilo of gasoline and **produces only water**.
- **Hydrogen fuel cells**, which is an electrochemical cell that converts the chemical energy of hydrogen and oxygen into electricity, has **only water as a waste product**.
- Fuel cells can **produce electricity continuously** for as long as hydrogen and oxygen are supplied.

Production of Hydrogen

- 96 percent of hydrogen is produced from fossil fuels via **carbon intensive processes**.
- Based on extraction methods, the hydrogen produced is classified as **'grey', 'blue', or 'green' hydrogen**.
- From fossil fuel, **'grey' hydrogen** can be produced, which releases a lot of carbon dioxide.
- When carbon dioxide (CO₂), given out during its production, is locked up through carbon capture and storage (CCS) processes, 'grey' hydrogen becomes **'blue' hydrogen**.
- Both grey and blue hydrogen are produced by the same processes, the only difference for 'blue' hydrogen being that the **CO₂ produced is sequestered**.
- Government is aiming to produce 'green' hydrogen, which is mostly produced from clean energy sources like renewables.
- The **'green' hydrogen** is released via **electrolysis of energy from renewable sources**.
- The hydrogen produced from this method gives rise to **no CO₂ emissions**, is **expensive** and **not commercially viable**

Steps taken by the government to promote hydrogen

- The central government has considered using **2000 megawatt solar and wind power** capacity for producing hydrogen.
- **Hydrogen auctions** will be conducted to cut down greenhouse gas emissions as industries will be encouraged to use the technology to store electricity and also prospectively operate vehicles.
- Businesses such as the **fertilizer and petroleum refineries** will be mandated to buy 10% of their requirements of hydrogen from domestic sources of green hydrogen.
- Launch of **National Hydrogen Energy Mission**.
 - Know about Green hydrogen, Grey hydrogen and Blue hydrogen from [here](#).
- National Thermal Power Corporation Limited (NTPC) has signed a MoU with Siemens to use the company's **renewable energy plants to produce green hydrogen**.
 - Similarly, the Indian Oil Corporation will establish a plant with a capacity to produce **one tonne of the hydrogen** on a daily basis.

India Cooling Action Plan

Context

- Recently, Ministry of Environment, Forest and Climate Change has informed that the government has taken various steps to implement the recommendation of various thematic areas of the ICAP.

Steps taken

- With regard to reduction of cooling and energy demand in **Space Cooling in building sector**, a list of action points have been finalised after mapping of the recommendations of the India Cooling Action Plan with the ongoing government programmes/ schemes of the various Ministries.
- Towards **promoting passive cooling in buildings**, Bureau of Energy Efficiency (BEE) has brought out the Energy Conservation Building Code (ECBC) for all large commercial (non-residential) buildings and Eco-Niwas Samhita (ECBC-R) for the residential buildings.
- Studies on promoting **non-Ozone Depleting Substances** (ODSs) and low Global Warming Potential based technologies in Cold Chain, Building sector and Public Procurement have been undertaken and reports have been published.
- To promote indigenous development of low global warming potential refrigerants, the Department of Science and Technology, Government of India has funded a research project to the Council of Scientific and Industrial Research (CSIR)- Indian Institute of Chemical Technology, Hyderabad.
- Indian Institute of Technology, Delhi, in collaboration with Bureau of Indian Standards has undertaken a simulation study for developing **safety standards for flammable refrigerants** in the Refrigeration and Air-conditioning sector.
- **Up-skilling and certification** of 43,450 Refrigeration and Air-conditioning (RAC) service technicians has been undertaken under the national skill qualification framework (NSQF) of the Pradhan Mantri Kaushal Vikas Yojana (PMKVY) of the Ministry of Skill Development and Entrepreneurship (MSDE). In addition, 29,000 RAC service technicians are being trained as part of implementation of Hydrochlorofluorocarbons (HCFCs) phase out Management Plans under the Montreal Protocol.

About ICAP

- The India Cooling Action Plan (ICAP) provides an **integrated vision towards cooling** across sectors encompassing steps like reduction of cooling demand, refrigerant transition, enhancing energy efficiency and better technology options by 2037-38.
- Government is intended to take such steps through **forging synergies** with on-going programmes/schemes of the Government.

Steps taken by the government

- India is a signatory to major global environmental conventions and treaties including, United Nations Framework Convention on Climate Change, United Nations Convention to Combat Desertification, Convention on Biological Diversity, Paris Agreement, Montreal Protocol, Stockholm Convention, Minamata Convention on Mercury, CITES, Convention on the Conservation of Migratory Species of Wild Animals, etc.
- India has taken ambitious targets in support of global environmental goals as evidenced in its
 - Nationally Determined Contributions for combating Climate Change under the Paris Agreement,
 - Ratification of the Kigali Amendment to the Montreal Protocol for phase down of Hydrofluorocarbons,
 - Restoration of 26 million hectares of degraded land by 2030 under the United Nations Convention to Combat Desertification and conserving 30% of land and oceans by 2030.
- India engaged constructively with all member states in the fifth United Nations Environment Assembly (UNEA 5.2) in 2022 to develop consensus on the resolution for driving global action on plastic pollution.



Mass Bleaching at Great Barrier Reef

Context

- Recently, the **Great Barrier Reef Marine Park Authority** of Australia has declared that the Great Barrier Reef is being devastated by another mass bleaching event.

Key points

- It is the **fourth time in six years** that such severe and widespread damage of coral reefs has been detected.
- Importantly, **only two mass bleaching events** had ever been recorded until 2016.
- Scientists are especially concerned because bleaching event has occurred in the same year as a La Niña weather phenomenon. Typically, in Australia, a **La Niña brings cooler temperatures**.
- Scientists are now fearful of the damage that could be **caused by the next El Niño**.

What is mass bleaching?

- Coral bleaching is a common **response of a coral under stress**. Small patches of bleached coral are not necessarily a cause for concern.
- However, mass bleaching events span tens or even hundreds (and sometimes thousands) of kilometres that can affect entire ecosystems and are a significant cause for concern for all the stakeholders involved.
- **Mass bleaching reason:** Mass bleaching events are primarily triggered by sea temperatures exceeding the normal summer maximum for prolonged periods (weeks).
- **Primary triggers:** High water temperature and bright sunlight.
 - Calm and clear conditions with minimal current can also exacerbate the stress and intensify bleaching.
 - Lack of wind and currents may result in less mixing of water layers, clearer seas, and deeper penetration of solar irradiance.

Mass bleaching: Why the environmental scientists are worried?

- The frequency and severity of mass-bleaching events have been **increasing over the last few decades**, causing reef degradation at a global scale.
- These events are expected to occur even more often as **sea-surface temperatures continue to rise** under global climate change.
- This is the **first time the reef has bleached under the cooling conditions** of the natural La Niña weather pattern, which shows the long-term warming trend of climate change.

Great Barrier Reef

- The Great Barrier Reef is a site of remarkable variety and beauty on the **north-east coast of Australia**.
- It contains the world's largest collection of coral reefs, with 400 types of coral, 1,500 species of fish and 4,000 types of mollusc.
- It also holds **great scientific interest** as the habitat of species such as the dugong ('sea cow') and the large green turtle, which are threatened with extinction.

Coral reefs significance:

Economic significance

- The value of goods and services provided by coral reefs is estimated at US\$2.7 trillion per year, including **US\$36 billion in coral reef tourism**.

Ecological significance

- Coral reefs support **at least 25% of marine species** and underpin the safety, coastal protection, wellbeing, food and economic security of hundreds of millions of people.
- Soft corals bend and sway amongst the craggy mountains of hard corals providing additional homes for fish, snails and other marine creatures.
- Coral reefs harbour the **highest biodiversity of any of the world's ecosystems**, making them one of the most biologically complex and valuable on the planet.

Massive Fire in Sariska Tiger Reserve

Context

- Recently, a **massive fire broke out in the Sariska Tiger Reserve**, Rajasthan, and Air Force helicopters equipped with water sprays are battling to bring it under control.

The story so far: Key points

- The fire was **first noticed on 27th March**. The next day, officials tried to get it under control, though with limited success.
- Moreover, **strong winds have only made things worse** as the blaze reached the hills. Authorities then called in the Disaster Management Department.
- On 29th March, Air Force Helicopters sprinkled water on affected areas and the fire in the hills was partially extinguished.
- At least nine tigers—of the **27 tigers Sariska has**—are known to move around in the area which has been affected by fire.

Reasons of fire in Sariska

- While the **cause of the fire is not known**, there has been an intense heat wave in the northern parts of the country in recent days.

Fire in Sariska tiger reserve

- The hills and narrow valleys of the **Aravalli range** dominate the landscape of Sariska, whose **forests are dry and deciduous**.
- Tropical dry forests are **fire prone** because they contain high fuel.
- This time the fire has **spread from the top of the hill**.
- The fire was proceeding towards the direction of tigers but the helicopters managed to extinguish the fire.
- One advantage in the context of tigers is that in tropical dry forest fires, **bigger animals can run away and escape the flames** and the main casualties are smaller animals such as reptiles.
- Moreover, there are **no villages in the area**, so the human loss is negligible.

About Sariska tiger reserve

- Sariska Tiger Reserve is located in the **Alwar district of Rajasthan**, and forms an important part of Aravali hills.
- The Sariska national park has populations of **leopards, Nilgai, Sambar**, chital etc.
- The Park also hosts a large population of **Indian peafowl**, crested serpent eagles, sand grouse, golden backed woodpeckers, great Indian horned owls, tree pies, vultures, among others.
- In **1955, Sariska was declared a wildlife sanctuary**, and then a **tiger reserve later in 1978**, making it a part of India's Project Tiger.

Minamata Convention

Context

- 4th Conference of Parties (COP 4) of Minamata Convention is currently under progress in Bali, Indonesia.

What is Minamata convention?

- Minamata convention on mercury is the **most recent global agreement** that aims to protect human health and the environment from the **harmful effects of mercury** and its compounds.
- The Minamata Convention on Mercury is an international environmental treaty, **adopted in 2013**.

- **What is Minamata?** Minamata is named after the bay in Japan where, in the mid-20th century, mercury-tainted industrial wastewater poisoned thousands of people, leading to severe health damage that became known as the "Minamata disease."
- The Minamata Convention entered into force on **16 August 2017**, on the 90th day after the date of deposit of the 50th instrument of ratification, acceptance, approval or accession.

Minamata COP

- Since the entry into force of the Minamata Convention in August 2017, the COP held its first meeting in September 2017, its second meeting in November 2018 and its third meeting from 25 to 29 November 2019 in Geneva.

Minamata Convention (Place)	Year
Geneva	2017
Geneva	2018
Geneva	2019
Bali	2022

Minamata Convention: Major highlights

- ban on new mercury mines,
- the phase-out of existing ones,
- the phase-out and phase-down of mercury use in a number of products and processes,
- control measures on emissions to air and on releases to land and water, and
- the regulation of the informal sector of artisanal and small-scale gold mining.
- The Convention also addresses interim storage of mercury and its disposal once it becomes waste, sites contaminated by mercury as well as health issues.

Minamata convention in India

- India **ratified the Minamata convention in 2018**.
- The approval includes ratification of the Minamata Convention on mercury along with flexibility for continued use of mercury-based products and processes involving mercury compound up to 2025.
- The Minamata Convention on Mercury will be implemented in the context of sustainable development with the objective to protect human health and environment from the anthropogenic emissions and releases of mercury and mercury compounds.
- The Convention protects the most vulnerable from the harmful effects of mercury and also protects the developmental space of developing countries. Therefore, the interest of the poor and vulnerable groups will be protected.

- The Minamata Convention on Mercury will further urge enterprises to move to mercury-free alternatives in products and non-mercury technologies in manufacturing processes. This will drive research & development, and promote innovation.

Mercury pollution

- Mercury is a **naturally-occurring heavy metal** that is found in air, soil, and water. Mercury pollution, however, is caused by human activities, such as **mining and fossil fuel combustion**.
- Mercury emitted into the air eventually settles into water or onto land where it can be washed into water.
- Once deposited, certain microorganisms can change it into **methylmercury**, a highly toxic form that builds up in fish, shellfish and animals that eat fish.
- Most human exposure to mercury is from eating fish and shellfish contaminated with methylmercury.
- Exposure to mercury threatens our health.
- Even **developing fetuses and young children** are seriously impacted by mercury pollution
- Besides humans, mercury pollution also harms **wildlife and ecosystems**.

Noise Pollution: Moradabad is World's Second Most Noisy City

Context

- Recently, UN Environment Programme (UNEP) has released the fourth edition of the Frontiers Report titled **Noise, Blazes and Mismatches: Emerging Issues of Environmental Concern**.

Noise pollution

- According to the report, Moradabad in Uttar Pradesh, at 114 db, is the **second-most noise polluted city globally**.
- Among the 13 south Asian cities that are highly noise polluted, five are in India.
- **Noisy cities of India:** Moradabad, Kolkata, Asansol, Jaipur, Delhi.
- The **highest noise pollution of 119 db has been recorded in Dhaka**, the capital of Bangladesh. It was followed by Moradabad in India, and the third place is Pakistan's capital Islamabad, where the noise pollution level has been recorded at 105 db.

When sound becomes noise pollution?

- It is to be noted that sounds with a frequency **over 70 db are considered harmful to health**.
- World Health Organization (WHO) had recommended a **55 db standard for residential areas in the 1999 guidelines**, while for traffic and business sectors, the limit was 70 db.

Noise pollution and public health

- Unwanted, prolonged and high-level sounds from road traffic, railways, or leisure activities **impair human health and well-being**.
 - This includes **chronic annoyance and sleep disturbance**, resulting in severe heart diseases and metabolic disorders such as diabetes, hearing impairment, and poorer mental health.
- Particularly affected are the **very young, the elderly and marginalized communities** near high traffic roads, and industrial areas and far from green spaces.
- A study in Korea showed that a 1 decibel increase in daytime sound **increased the risk of cardio (heart) and cerebrovascular** (related to blood flow to the brain) diseases by 0.17 to 0.66 per cent
- It is also a **threat to animals, altering communications** and the behaviour of various species, including birds, insects, and amphibians.

Steps needed

- Urban planners should prioritize the
 - **reduction of noise at the source**;
 - investments in **alternative mobility**; and
 - urban infrastructure that creates positive soundscapes such as **tree belts, green walls, green roofs**, and more green spaces in cities.

SIMBA: Software to Identify Asiatic Lion

Context

- Recently, Gujarat Forest Department has decided to use SIMBA software to **identify the Asiatic lions** for their proper management and conservation.

What is SIMBA?

- SIMBA or Software with Intelligent Marking Based identification of Asiatic lions is a **photo-identification software**, specifically designed to distinguish patterns or marks.
- Through this software, forest department will assign **different names to the lions** by identifying marks on their body parts.
- The **veterinary record** will also be maintained using this database.

How SIMBA works?

- Asiatic lions are known for their **unique whisker spots** on either side of their muzzle.
- According to some scientific studies, these precise patterns are **unique to a lion**, and do not change over time.

- SIMBA works with a **deep machine learning technique** that matches a point-pattern for pairwise comparisons that automates the individual identification, based on the variability in the individual's whisker spot pattern, the presence of scars on the face, notches on the ears, and other metadata of the photograph.
- The software also extracts the uniqueness from the photograph and can cluster similar patterns or marks within the embedding space of the machine learning.

Benefits of SIMBA

- SIMBA allows the user to identify and search whether the individual already exists in the database or is a new inventory.
- The individual from the database also be filtered by **using additional information** like gender (male/female), name, microchip number, life-status (dead/alive), lactating (in case of female).
- SIMBA has a **user-friendly graphical interface** that helps to understand the available database easily.
- SIMBA will aid the efforts towards **conservation and management** of the species in the Asiatic lion landscape.

Asiatic Lions

- Asiatic lions are **endemic to the Gir forest** of Gujarat.
- It is **one of the 21 critically endangered** species identified by the MoECC for taking up recovery programmes.
- **Asiatic lions are slightly smaller than African lions**. Adult males weigh 160 to 190 kg, while females weigh 110 to 120 kg.
- There are approximately **600 Asiatic lions left** in the Gir Forest of Western India, their last remaining natural habitat.
- This small population survives in a tiny patch of forest where one disease epidemic or forest fire could wipe them out forever.
- The small population is steadily increasing but the species is listed as **Endangered** by the International Union for Conservation of Nature (IUCN), as it is still vulnerable to many threats.

Tigers in Sundarbans

Context

- Recently, a study by Wildlife Institute of India (WII) have suggested that the density of tigers in the Sunderbans may have **reached the carrying capacity** of the mangrove forests.

Key points

- **Availability of food and space** is the primary factor that determines how many tigers a forest can hold.
- So, low density of tigers in the Sundarbans is an inherent attribute of the **hostile mangrove habitat** that supports low tiger prey densities.

Carrying capacity of tiger

- In the region of **Terai and Shivalik hills** (for example Corbett tiger reserve), 10-16 tigers can survive in 100 sq km.
- The density decreases to 7-11 tigers per 100 sq km in the reserves of north-central Western Ghats such as **Bandipur tiger reserve**.
- This density further reduces to 6-10 tigers per 100 sq km in the dry deciduous forests, such as **Kanha tiger reserve**, of central India.

Carrying capacity of Sunderbans

- A joint Indo-Bangla study in 2015 pegged the tiger density at **2.85 per 100 sq km** after surveying eight blocks of the Sunderbans.
- The ongoing WII study indicates a density of **3-5 tigers in the Sunderbans**.
- The carrying capacity in the Sunderbans is “at **around 4 tigers**” per 100 sq km.

Consequences

- The study indicates that the increased density will lead to frequent dispersals and a surge in **human-wildlife conflict**.
- Perceived conflict can squeeze the tiger’s domain, and then tigers will be **bound to overstep** from time to time, leading to further conflict with no immediate winners.

World Air Quality Report 2021

Context

- Recently, IQAir has released the World Air Quality Report 2021 Delhi, and has ranked **Delhi as the most polluted capital** out of 107 capital cities in the world.

Key points

- **New Delhi city is topping the list for the fourth consecutive year.** Delhi topped a list of 92 capital cities in 2020, 85 such cities in 2019, and 62 such cities in 2018.
- On the list of capital cities, **Dhaka followed Delhi** in terms of the annual average PM2.5 concentration.
- **Not a single country** managed to meet the WHO’s air quality standard in 2021.
 - According to the WHO’s guidelines of September 2021, PM2.5 concentration level between 0-5 g/m3 is considered as a good air quality.

- However, all these cities have PM 2.5 levels at least **10 times more** than the approved limits.
- Moreover, smog rebounded in some regions after a Covid-related dip in numbers.

World air quality report India

- India was home to **11 of the 15 most polluted cities** in Central and South Asia in 2021.
- Delhi saw a 14.6% increase in PM2.5 concentrations in 2021 with levels rising to 96.4 µg/m3 from 84 µg/m3 in 2020.
- **No cities in India met** the WHO air quality guideline of 5 µg/m3.
- In 2021, 48% of India’s cities exceeded 50 µg/m3, or more than 10 times the WHO guideline.
- In India, the **major sources of air pollution** include vehicular emissions, power generation, industrial waste, biomass combustion for cooking, the construction sector, and episodic events like crop burning.

What is World Air Quality report?

- IQAir is a Swiss air quality technology company, which releases the air quality index encompassing **117 countries**, regions and territories around the world.
- The report is **based on PM2.5** air quality data from 6,475 cities in the 117 countries.
- The report draws data from government-operated monitoring stations as well as privately-owned ones, and monitoring stations operated by institutions.

Air pollution in the world: Why concerned?

- The report states that air pollution is now considered to be the **world’s largest environmental health threat**, accounting for seven million deaths around the world every year.
- Also, air pollution causes and aggravates many diseases, ranging from **asthma to cancer, lung illnesses and heart disease**.
- Moreover, the estimated daily economic cost of air pollution has been figured at \$8 billion (USD), or **3 to 4 per cent of the gross world product**.
- Exposure to these pollutants is **worsening the existing respiratory illnesses** such as asthma or allergies among the patients.

Key Recommendations

The report recommended a combined strategy from Government and the people to mitigate the effects of air pollution.

- **Government needs to take following steps** to reduce air pollution
 - Pass legislation to incentivize the use of clean air vehicles for personal and industrial use.
 - Invest in renewable energy sources.
 - Provide financial incentives, such as trade-in programs, to limit the use of internal combustion engines.
 - Provide subsidies to encourage the use of battery and human-powered transportation methods.
 - Expand public transportation and power with clean and renewable energy sources.
 - Build additional infrastructure to encourage pedestrian and bicycle traffic.
 - Strengthen and enforce emission limits for vehicles and industry.
 - Adopt new air quality standards based on the 2021 World Health Organization
- **Improve air quality guidelines:** By implementing forest management strategies to limit wildfires, and banning agricultural and biomass burning.

- **Expand the air quality monitoring framework:** By increasing the number of public air quality monitoring stations.
- **Limit exposure to air pollution:** By reducing activities outdoors when air quality is unhealthy, and Use air filters and air purification systems where possible, beside wearing face masks.
- **Lower air pollution footprint:** By choosing cleaner, greener modes of transport; lowering personal energy consumption; and reducing waste by recycling and upcycling.




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Science & Technology

Artemis Mission by NASA

Context

- Recently, Artemis 1 rocket reached a launch pad at NASA's Kennedy Space Center, making it a moon rocket reaching a launchpad for the **first time after 50 years**.

What is Artemis 1?

- Artemis is a moon mission to send people back to the moon, including the **first woman and first person of colour**, by 2025.

About Artemis mission

- The mission is of great significance because last time humans set foot on the moon was December 1972.
- NASA has created its **most powerful rocket ever**, called the Space Launch System, or SLS, to launch the Artemis mission.
- The Artemis mission will mark a big step in humanity's return to the moon.

Artemis mission NASA

- The uncrewed **Artemis 1** is expected to launch in May or June 2022 to mark the debut of NASA's huge Space Launch System (SLS) rocket.
- The new megarocket will send the Orion capsule on a roughly four-week journey around the moon.
- If all goes according to plan, the **Artemis 2** mission will follow in 2024, sending astronauts around the moon and back.
- Artemis 3** will put astronauts down on the moon, near the lunar south pole, with the help from SpaceX's Starship vehicle. This landmark mission is targeted for 2025 or 2026.
- NASA hasn't named the crew yet, but says a woman and person of color will be part of Artemis III.

Moon mission of NASA

- The Apollo program of the 1960s and 1970s carried **Neil Armstrong, Buzz Aldrin** and other Americans to the lunar surface.
- Now, the Artemis program — **named after Apollo's twin sister**, the goddess of the moon in Greek myth — could soon bring astronauts back to the moon after 50 years.

Jets of Plasma Occurring over Sun

Context

- Recently, scientists led by astronomers at the Indian Institute of Astrophysics, an autonomous institute of the Department of Science & Technology (DST), have unravelled the **science behind the jets of plasma** that occur just about everywhere in the sun's chromosphere.

Basics first

- What is jet of plasma:** It is the fourth state of matter consisting of electrically charged particles.
- What is sun's chromosphere:** It is the atmospheric layer just above the Sun's visible surface.
- What is photosphere:** The photosphere is the deepest layer of the Sun that we can observe directly.

About jets of plasma

- Plasma jets, or spicules, appear as **thin grass-like plasma structures** that constantly shoot up from the surface and are then brought down by gravity.
- The amount of energy and momentum that these spicules can carry is of **fundamental interest** in solar and plasma astrophysics.
- The processes by which plasma is supplied to the solar wind, and the solar atmosphere is heated to a million degrees Celsius, still remain a puzzle.

The experiment

- In trying to explore the underlying physics of spicule dynamics, the team turned to **an audio speaker**.
- A bass speaker responds to excitation at low frequencies like the rumbling sounds heard in movies.
- When a liquid is placed above such a speaker and the music is turned on, the free surface of the liquid becomes unstable beyond a particular frequency and starts vibrating.
- A beautiful example of "**Faraday excitation**" observed in nature is when droplets of water splashes on the back of a partially submerged male alligator during mating display.
- However, a fluid like paint or shampoo will result in unbroken jets when excited on a speaker since its long polymer chains give it directionality.
- The authors of the article realized that the physics underlying these paint jets must be analogous to the solar plasma jets.

Key findings

- Scientists found that the physics underlying paint jets when excited on a speaker is **analogous to the solar plasma jets**.
- The scientists elaborated that the plasma right below the visible solar surface (photosphere) is perpetually in a **state of convection**, much like boiling water in a vessel heated at the bottom.

- This is ultimately powered by the nuclear energy released in the hot-dense core.
- The convection serves almost periodic but strong kicks to the plasma in the solar chromosphere, the shallow semi-transparent layer right above the visible solar disk.
- The chromosphere is **500 times lighter** than the plasma in the photosphere.
- Therefore, these strong kicks from the bottom, not unlike alligator bellowing, shoot the chromospheric plasma outward at ultrasonic speeds in the form of thin columns or spicules.

Significance

- **Spicules come in all sizes and speeds.** The existing consensus in the solar community has been that the physics behind the short spicules is different from that of taller and faster spicules.
- The study **challenges this widespread belief** to show that solar convection can by itself form all kinds of jets - short as well as tall.

List of Technologies developed by DRDO

In news

- Defence Research & Development Organisation (DRDO) undertakes various R&D projects.
- The lab-wise details of projects sanctioned during last three years (1st January 2019 to 31st December 2021)) is as below:

List of Technologies developed by DRDO in last three years

S No.	Lab/Centre	Technology Developed
1	ADE	<ul style="list-style-type: none"> • Unmanned Aerial Vehicles • Cruise missiles • Flight simulator • Flying test bed • Mission Computer for fighter aircraft
2	ADRDE	<ul style="list-style-type: none"> • Parachutes, Brake parachutes and heavy drop systems for various Aero, navy and space
3	ASL	<ul style="list-style-type: none"> • Development of technology for Stealth Structures with Load Bearing Capability. • Design of Composite Shims based Flex Seals. • Developed High temperature Anti-Corrosive low friction Graphene base coating. • Developed Thermal Protection System for High Temperatures (@ 1800°C). • 4D C-SiC Hot Gas Valve Nozzles proven for 120 seconds duration. • Developed Indigenous Brake Discs for Mirage -2000 & ALH. • Ship based S/Ka dual band telemetry ground receiving stations developed and installed on DRDO Ships.
4	ARDE	<ul style="list-style-type: none"> • Advanced warhead Technology • KE Rod Technology • Multi Point Initiation Technology • Deep Penetration Warhead • Low L/D Shaped Charge Warhead • Ferroelectric Pulse Power Technology For Initiation Of Warheads
5	CAIR	<ul style="list-style-type: none"> • Technologies related to Artificial Intelligence and robotics in Maritime Situational Awareness, Geographical Information System, Multi Agent Robotics, Secure Handset/Mobile, Secure OS, Quantum Communication.
6	CHESS	<ul style="list-style-type: none"> • Multidisciplinary technology consisting of • 1. Optical Channel for combination of High-Power Fibre laser • 2. High precision Opto mechanical Technology • Laser based target Neutralization Technique • Spatial Beam Combination technology • Sensible Heat Storage based Thermal Management
7	CASDIC	<ul style="list-style-type: none"> • Mission Computer for Su 30
8	CABS	<ul style="list-style-type: none"> • Airborne Early warning and control systems and associated technologies.

S No.	Lab/Centre	Technology Developed
9	CFEES	<ul style="list-style-type: none"> Environmental & Explosive Safety Technology
10	CVRDE	<ul style="list-style-type: none"> Technologies for Next Generation Main Battle Tank (Multiple). Engine Technologies for AFVs (multiple). Automatic Transmission Technologies for AFVs (Multiple). Suspension and Running Gear Technologies for AFVs. Repair and Recovery Technologies for AFVs. Tele-operated and Autonomous Technologies for AFVs. Indigenous Landing Gear Technologies for UAVs. Indigenous Technologies for Aircraft quality Bearings. Technologies for Brushless DC Generator.
11	DEAL	<ul style="list-style-type: none"> Bandwidth efficient (low BT modulation/demodulation lossless text compression High code rate LDPC (Low density Parity check)
12	DLRL	<ul style="list-style-type: none"> GPS & GLONASS Satellite Navigational Receiver Jamming and Spoofing in L Band Detection, Location Fixing and Monitoring & Jamming of Communication Signals in HF & V/UHF Bands Digital Receivers, Digital Exciters & Wideband High-Power Amplifiers
13	DRDL	<ul style="list-style-type: none"> Two pulse Rocket propulsion system Solid Fuel Ducted Rocket Ramjet technology Liquid Propellant based Ramjet System End game system based on Laser Proximity Fuse Control guidance algorithms for various class of missiles Development of on the move Communication system, on the move tracking system, on the move command control system.
14	DRDE	<ul style="list-style-type: none"> NBC Haversack Mk II Chemical Agent Monitor (CAM) Automatic Chemical Agent Detector & Alarm (ACADA) Three Colour Chemical Detector Paper Mk II Personal Decontamination Kit Mk II NBC Canister Mk II First Aid Kit Type A (Mk II) First Aid Kit Type B (Mk II)
15	DMRL	<ul style="list-style-type: none"> Sm2Co17 magnets in large sizes (1-2 kg brick) with energy product of 28-30 MGOe and iHc of 12 - 20 kOe Developed temperature compensated Sm2Co17 magnets with near zero (10-25 ppm) temperature coefficient of remanence and energy product of 14-18 MGOe. Sm2Co17 magnets capable of working at 550oC with energy product of 6-10 MGOe and iHc of 5-8 kOe at 550oC (BLDC in extreme environments). Nd-Fe-B magnets with energy product of 40-45 MGOe and IHc of 10 - 15 kOe in operating temperature range of ~150oC. Microwave lossy materials (absorbers, buttons, terminations and severers etc.) for S & G band frequencies were developed. High conductivity AlN substrate materials bonded with copper single/both sides for electronic devices developed. Ferroelectric materials for electron emission cathode developed. Developed materials, coatings and related processes for applications involving extreme thermal, mechanical and oxidising environments as experienced in hypersonic cruise vehicles.

S No.	Lab/Centre	Technology Developed
		<ul style="list-style-type: none"> C-SiC composite, ZrB₂-SiC composite, high purity Nb and Nb alloy Cb752, metallic thermal protection system incorporating metallic honeycomb sandwiches and ceramic insulations, Ni base superalloy foam, and functionally graded material based on Ni base superalloy and yttria stabilised zirconia (YSZ) were developed. Developed oxidation resistant silicide coatings for Nb alloy, thermal barrier coatings for Ni base superalloy, oxidation resistant ZrB₂-SiC coatings for C-SiC and high emissive coatings for Ni base superalloys. Revised Total Technical Life (TTL) of transport aircraft engine from the present 7000 to 8000 hours based on Damage Tolerance concepts Developed tungsten heavy alloy penetrator rods of size 26 mm D., 600 mm L with mechanical properties as follows: <ul style="list-style-type: none"> Ultimate tensile strength :1600 MPa (min.) % plastic elongation to failure: 8-10% (min.) Charpy impact energy on: 100 J/cm² (average) unnotched specimen Demonstrated the ability to fabricate segmented/jacketed penetrators with tungsten heavy alloy as the core and steel as the jacket
16	DEBEL	<ul style="list-style-type: none"> Medical Oxygen Plant Individual Underwater Breathing (IUWBA) Physical Efficiency Test Monitor Air Sterilization Unit
17	DIPAS	<ul style="list-style-type: none"> Space Heating Device (Bukahari) Oxygenated Solar Shelter Ergonomically Designed Backpack (90 Ltrs) Cognobar and Quercetin Bar
18	DFRL	<ul style="list-style-type: none"> Terrain and Weapon Platform specific MREs for Army and Navy Frozen/Chilled Mutton/Chicken Test Kit
19	DIPR	<ul style="list-style-type: none"> Night Vision Human Performance Attributes (NVHPAs) Manuals and ComBAT Active App on Stress Management Crowd Behaviour Analysis Software (CBAS) for crowd management
20	DRL	<ul style="list-style-type: none"> Snake Repellent
21	DGRE	<ul style="list-style-type: none"> Development of Landslide forecasting model for a particular site. Terrain Contour mapping Weak Zone Susceptibility Mapping Trafficability evaluation by developing a suitable DSS Development of Operational Avalanche Forecast Models Design of Avalanche Control Structures Development of Snow Cover Model for different Snow Climatic Zones
22	DMSRDE	<ul style="list-style-type: none"> Bullet Proof Jacket as per GSQR 1438 Boot Antimine Infantry (BAMI) Anti-Personal Mine Blast Protective Suit (APMBPS) DMS HOTS Oil - I DMS HIDEEN Fuel PEGCOL-113 ECW Protective Goggles NBC Gloves NBC Overboot Gloves ECW Mounting and Support Equipment for Multi Spectral Camouflage Net Filtration Cartridge and Prefilters using nano-enabled technologies

S No.	Lab/Centre	Technology Developed
		<ul style="list-style-type: none"> Thermally Conducting Light Weight nano-composite based structures for damping applications (BLDC Motor) Development of Anti COVID-19 Personal Protective Equipment (PPE) Coverall Sanitizing Fluid “DefSen-2020”
23	DLJ	<ul style="list-style-type: none"> Indigenization of Microwave Chaff Cartridge 118/I for IAF Radiation Contamination Monitoring Systems for Indian Navy Thermal Targets for Strategic Weapon Systems Network of Radiation Monitoring Sensors for Strategic Locations CBRN Water Purification System Indigenization of Microwave Chaff Payload for Indian Navy Artificial Engineered Materials (AEM) and Radar Absorbing Structures (RAS) Radiation Detection Measurement & Control Unit (RADMAC-A) High Altitude Water Purification System (HAWPS) Flexi Life Saver Water Bottle SIGMA 3.0 Software
24	GTRE	<ul style="list-style-type: none"> Development of gas turbines for aero engines, cruise missiles and associated technologies
25	HEMRL	<ul style="list-style-type: none"> High Performance Solid Rocket Propellant (Specific Impulse ~250s) to increase payload and range of Rockets & Missiles. High performance Gun Propellant for improved armour penetration capabilities. Thermobaric composition for warhead to enhance lethality and performance Less Sensitive Explosive compositions for IM compliant munition. Tank protection technologies: Anti Thermal Anti Laser Smoke Grenades and Next Generation ERA(NGERA) Aircraft protection technologies: IR Flars (MTV Based) and Chaff cartridges Explosive Detection technologies: OPX Revilator for trace/micro detection.
26	IRDE	<ul style="list-style-type: none"> Raman spectroscopy based Explosive identification technique Digitised Libraries of Explosive Agents for quick identification Laser based Dazzling technique for non-invasive countermeasures Low power Laser based invisible deterrence technology Video based Remote controlled Day/Night Capability with Alarm laser based advanced surveillance device capable detection and location of Optical targets viz., NVD, CCD, LRF, Sniper Sight, Binoculars, etc. Retro reflector based optical assembly based on CATS Eye effect Sighting technology based on holography Sighting technology with Day/Night capability and Laser based target Designation for Tanks Visual Tracking based Laser Target neutralization Technology Sighting System for small rifles, Shoulder Fired Missiles Test jig for guided weapon performance evaluation before the firing of the missile. optical surveillance technologies for detection of Targets Target engagement technology for the terminal phase of missile.
27	INMAS	<ul style="list-style-type: none"> Bike Ambulance
28	ISSA	<ul style="list-style-type: none"> Systems Analysis Software Tool Mission Planning Software for HEAUV Air Direction Training Simulation System
29	LRDE	<ul style="list-style-type: none"> Rotating 4D phased Array Radar with Solid State T/r Modules Digital beamforming Technique Advanced Electronic counter counter measure features (ECCM) Modern generation coherent solid-state Radar designed for 24 x 7 operation

S No.	Lab/Centre	Technology Developed
		<ul style="list-style-type: none"> • First Ground based radar with Dual Frequency of operation for operation in inclement weather conditions • Detection algorithms for small RCS targets (boats & dingies) in presence heavy sea clutters • Ultra-wide Band antenna technology • Step Frequency Continuous wave form technology • Low power signal and data processing Techniques • Clutter and data processing techniques for identification of buried objects • Ultra-wide Band antenna technology • Step Frequency Continuous wave form technology • Micro Doppler based processing for identifying object behind wall
30	NSTL	<ul style="list-style-type: none"> • Advanced Light Weight Torpedoes • Ship Launched • Air Launched • - Advanced Heavy Weight Torpedo (with Fibre Optic Communication) • MIGM (Multi Influence Ground Mine) • Subsurface Platforms - WFCS • Air platforms – AFCS • Submarine -Submarine Fired Decoy –SFD (MOHINI) • TORPBUSTER (MOHANASTRA) • Autonomous Underwater Vehicles • High Power Li-ion Battery Technology • SMART: Supersonic Missile Assisted Release of Torpedo
31	NPOL	<ul style="list-style-type: none"> • DIFAR Sonobuoy • Portable diver detection system • Near field acoustic calibration system • Expendable bathy thermograph • Fiber optic intrusion detection system • Underwater acoustic nodes • Underwater acoustic targets • Flank Array, Conformal Array & Towed Array Sonars for Submarines • High Frequency imaging Sonar
32	NMRL	<ul style="list-style-type: none"> • NMR-Indium free Aluminium Sacrificial Anode (NMR-IFASA) • NMR -Aluminium Anode for ship propeller (NMR-AASP) • NMR - Zinc sacrificial anode for fast moving Crafts and Jet propulsion system (NMR - ZSA) • NMR-IPR 1074 and NMR-IPR 1075 Rubber Roll • Porous Carbon Paper (NMR-PCP) • NMR-Mastic • (Damping of Structural Vibrations) • NMR- Anticorrosive and Antifouling Under Water Paint for application under Immersed Condition (NMR-AAUWP) • NMR- Corrosion resistant fuel cell catalyst for acid Fuel cells (NMR-CrCAT-FC) • Self-Cleaning Coating (NMR-SCC) • Rubber lining system for submarine battery pit compartments and its application technology (NMR-RLSBP) • Hydrophobic Potting material (NMR-HPM) • Besafe' Technology for accelerated bioremediation of marine oil spill (NMR-Besafe) • NMR-Radar Absorbing Paint (NMR-RAP) • Fuel Cell based Air Independent Propulsion Technology for Naval Submarines • (NMR-FCAIP)

S No.	Lab/Centre	Technology Developed
33	RCI	<ul style="list-style-type: none"> • Imaging Infrared (IIR) seeker • Ku-band RF Seeker • Ship Inertial Navigation Systems (INS-SA) • Land INS (LNAV) • Miniature High Dynamics Global Navigation Satellite System (GNSS) • On Board Computers (OBC) • Integrated Avionics Modules • Electro Mechanical Actuators • Electro Pneumatic Actuators • Electro Hydraulic Actuators • On board batteries (PSS) • Launcher Interface units • Missile Interface Units • Seeker Processing Modules • Data link systems (Tx & Rx) • Telemetry, Transponders and Tele Command Systems • MEMS Pressure Sensors • High Accuracy Quartz Accelerometers • Ring Laser Gyros (RLG) • Fiber Optic Gyros (FOG) • Radio Proximity Fuze (RPF) • Radio Altimeters • Ceramic /Composite Radomes • Antennas for Seekers / GPS / Altimeters/ Telemetry etc. • Environmental Test Facilities (ENTEST) • Hardware in Loop Simulation (HILS) • EMI /EMC test facility • Open Range RCS measurement Facility • Antenna Test Facility • Seeker test Facilities • System Integration (Mech. & Electrical)
34	R&DE(E)	<ul style="list-style-type: none"> • Composite Sonar Dome • Large Span Inflatable Hangar • Mobile Shelter-NBC • Unexploded Ordnance Handling Robot • Surveillance Remotely Operated Vehicle (SROV) • Confined Space Remotely Operated Vehicle (CSROV) • 46m MLC-70 Modular Bridge • Bar Mine Layer • Mountain Foot Bridge • Mine Field Marking Equipment Mk-II • Trawl Assembly for T-72 fr-90 Tanks • QRSAM Mobile Launcher Vehicle and Canister • MRSAM Mobile Launcher System
35	SAG	<ul style="list-style-type: none"> • Technologies for ensuring Communication Security and assuring trust in security products
36	SSPL, Delhi	<ul style="list-style-type: none"> • Technologies related to GaAS/GaN MMIC, IR Detectors, Semiconductor Laser Diodes, MEMS Devices, Acoustic Emission Sensor, SiC Crystal Growth etc.
37	TBRL	<ul style="list-style-type: none"> • Ultra-fine β-HMX and Fine RDX < 6 mm (surface mean) • Electronic Fuze for 81mm Mortar Bomb • Post Impact Delay Fuze for Air Delivered Bomb • Multi-Mode hand grenade • Bund Blasting Device (BBD) Mk-II

S No.	Lab/Centre	Technology Developed
38	VRDE	<ul style="list-style-type: none"> 65HP Rotary Engine for conventional Take- off and Lading UAV Development of Technologies for Autonomous Unmanned Ground Vehicle: DeTA-UGV 70Ton Tank Transporter for MBT Arjun MK-II
39	DYSL-QT	<ul style="list-style-type: none"> Quantum Technology
40	DYSL-AI	<ul style="list-style-type: none"> Artificial Engineering

“PARAM Ganga” Supercomputer | National Supercomputing Mission (NSM)

“PARAM Ganga” Supercomputer

In News

- Recently, the National Supercomputing Mission (NSM) has deployed “PARAM Ganga”, a supercomputer at IIT Roorkee.

“PARAM Ganga” Supercomputer

- Design and Development:** The “PARAM Ganga” system is designed and commissioned by C-DAC under Phase 2 of the build approach of the NSM.
 - Substantial components utilized to build this system are manufactured and assembled within India along with an indigenous software stack developed by C-DAC.
 - This is a step towards the Make in India initiative of the Government.
- Capacity:** “PARAM Ganga” Supercomputer has been built with a supercomputing capacity of 1.66 Petaflops.
- Importance:** “PARAM Ganga” Supercomputer will accelerate the research and development activities in multidisciplinary domains of science and engineering with a focus to provide computational power to user community of IIT Roorkee and neighbouring academic institutions.

Important Points about National Supercomputing Mission (NSM)

- Mandate:** National Supercomputing Mission (NSM) plans to build and deploy 24 facilities with cumulative compute power of more than 64 Petaflops.
- Parent Ministry:** National Supercomputing Mission (NSM) is being steered jointly by Ministry of Electronics & Information Technology (MeiTY) and the Department of Science and Technology (DST).
- Implementation:** The National Supercomputing Mission (NSM) is being implemented by Centre for Development of Advanced Computing (C-DAC) and Indian Institute of Science (IISc), Bangalore.
 - C-DAC has been entrusted the responsibility to design, development, deployment and commissioning of the supercomputing systems under the built approach of NAM.

- Under the build approach, C-DAC is building an indigenous supercomputing ecosystem in a phased manner.
- Performance:** Till now C-DAC has deployed 11 systems at IISc, IITs, IISER Pune, JNCASR, NABI-Mohali and C-DAC under NSM Phase-1 and Phase-2 with a cumulative compute power of more than 20 Petaflops.
 - Total 36,00,000 computational jobs have been successfully completed by around 3600 researchers across the nation on the NSM systems to date.
- Key Developments:** Some of the large-scale applications which are being developed under NSM include the following.
 - NSM Platform for Genomics and Drug Discovery.
 - Urban Modelling: Science Based Decision Support Framework to Address Urban Environment Issues (Meteorology, Hydrology, Air Quality).
 - Flood Early Warning and Prediction System for River Basins of India.
 - HPC Software Suite for Seismic Imaging to aid Oil and Gas Exploration.
 - MPPLAB: Telecom Network Optimization.

Venera D Mission

Context

- Recently, Roscosmos (Russian Space Agency) has informed that Russia has suspended the US from further participation in its Venus exploration mission Venera-D.

Key points

- The decision comes amid the implementation of new sanctions against Russia.
- With the decision, Russia has **ended NASA’s participation** in the long-delayed Venera D mission, which involved launching an orbiter and lander to Venus in 2029.

What is Venera D Mission?

- Venera-D will be the **first Venus probe launched by Russia**.
- Russia plans to send the Venera-D probe to Venus in November 2029.
- Initially, the spacecraft with orbital, landing, demonstration and atmospheric modules was planned as a Russia-US venture.
- In 2020, however, Roscosmos said that the Venera-D mission was going to be an independent national project and was not expected to attract significant international cooperation.
- Besides Venera D, Russia is also aiming to send a Venus exploration mission in June 2031, and another one in June 2034.

Venera D Mission objectives

- The objectives behind such mission are to **study the planet's atmosphere** and collect soil samples.
- During the Venera mission the composition and physical properties of the Venusian atmosphere would be measured at altitudes of up to 60 km above the surface.
- The **dark-side landing** would include IR imaging during descent, starting from 40-45 km altitudes.
- There are also plans to investigate the possible long-term operation of part of the science equipment on the planet's surface.

NASA Venus mission

- According to NASA, the US is planning two missions to Venus with launches expected sometimes between 2028 and 2030.
- Deep Atmosphere Venus Investigation of Noble gases, Chemistry and Imaging (**DAVINCI+**) consists of a probe that will descend into the Venus' shrouded atmosphere.
- A second mission dubbed Venus Emissivity, Radio Science, InSAR, Topography, and Spectroscopy (**VERITAS**) will orbit the planet with a synthetic aperture radar able to penetrate clouds that hide the planet's surface from astronomers on Earth.

Shukrayaan: India Venus mission

- India plans to launch a new orbiter, **Shukrayaan, to Venus in 2024**.
- The Shukrayaan orbiter will be the first mission to Venus by the India Space Research Organization (ISRO) and will study the planet for four years.
- Carrying several specialised instruments, Shukrayaan is set to launch on India's GSLV Mk II rocket, but it may go on the more powerful GSLV Mk III rocket to carry more instruments or fuel.

- If the spacecraft misses the 2024 deadline, then the next window for launch will be in mid-2026 when Venus and Earth realign. This is important for spacecraft fuel efficiency when visiting other planets.

Shukrayaan objective

- Shukrayaan-1 will investigate the surface and atmosphere of the planet.
- It will also investigate **how charged particles from the sun interact** with the Venusian atmosphere.

What is Web3: Making India a Global Web3 Development Hub

Context

- According to a recently released report by Xpheno, specialised staffing firm, there were **13,000 crypto related jobs** in India as of February 2022, which is 4.5 percent of the total active job openings.
- The report has led to discussions that entrepreneurs, developers, and startups in India will play a **critical role in building global apps** and platforms in the Web3, the third generation of the Internet.

What is Web3?

- Web3 is the **next version of the Internet**, where services will **run on blockchain**.
- Experts believe that Web3 will change how we use the internet.
- Some tech experts even believe that Web3 may break the world **free from monopolistic control** of a few tech giants.
- Since Web3 will run on blockchain technology, it will be a **decentralized online ecosystem** where web platforms will be owned by users and not by any centralised entity.

3 versions of Web

Web 1

- The early phase of the internet is called Web 1, or Web 1.0.
- Web1 is the brainchild of **Tim Berners-Lee**. The era of '**Read-Only Web**', lasted roughly from 1989 to 2005.
- It was a time when the internet was actually decentralised and one could navigate to individual static webpages, unlike now when we type a word in Google search and find thousands of pages related to the topic.
- In the first phase of the internet, the **only way to create a website was by writing codes**.

Web2

- Web 2, or Web 2.0, is what we are **living through now**.
- In comparison to Web1, Web2 is **more interactive with user-generated content** and interoperability.
- The internet is **centralised, mainly dominated by players** like Google, Facebook, Amazon, and is regulated in a limited way by the governments.
- Here, one **does not need to write codes** to create a webpage. Websites can be created just by buying a domain, creating a page and the website is live.
- In the tech world, Web 1 is usually called static web and Web 2 is called social web.

Web3

- According to Chris Dixon of venture capital firm a16z, Web3 combines the **best of both worlds**; the decentralised ethos of Web1 with the interaction of Web2.

Web3 jobs in India

- The report by Xpheno said that with huge demand, salaries are going as high as **Rs 78 lakh per annum** for people with close to 10 years of experience.
- A buzzword until recently, multiple projects have come up in just the last few months, and **more investments have been flowing** into the country.
- Reports say that Web3 can help India **contribute \$1.1 trillion to its GDP** in the next 11 years.

- With overlap in the skills, which includes blockchain, security engineer and machine learning experts, there is a huge demand for Web3 related jobs in the country.
- Experts believed that India is positioned uniquely to take the benefits from Web 3.0 as India has a **large pool of startups, developers**, and one of the **largest internet consumers** markets in the world.

Web3 criticism

- He idea of Web3 is not without criticism.
- Tesla CEO Elon Musk says **Web 3 is not real** and seems more marketing buzzword than reality.
- Even former Twitter CEO, Jack Dorsey has **questioned whether Web 3 will be as free** and open as many hopes. He said that people will not own Web 3. The VCs and their LPs do. It will never escape their incentives. It's ultimately a centralized entity with a different label.



Security

Colombo Security Conclave (CSC)

In news

- Recently, the fifth National Security Advisor (NSA)'s meet of the Colombo Security Conclave (CSC) was organized in the Maldives.

Key Facts about Colombo Security Conclave (CSC)

- About:** Colombo Security Conclave (CSC) was formed in 2011 as a trilateral maritime security grouping of India, Sri Lanka and the Maldives.
 - Mauritius was welcomed as the fourth member at the fifth NSA's meet of the Colombo Security Conclave (CSC).
- Colombo Security Conclave Member Countries:** Presently, it consists of four countries- India, Sri Lanka, Maldives and Mauritius.
 - Observers Countries:** Bangladesh and Seychelles participates as observer countries in the Colombo Security Conclave.
- Mandate:** Colombo Security Conclave (CSC) aims to increase the security cooperation, covering maritime safety and security, human trafficking, counter-terrorism and cyber security.
- Colombo Security Conclave (CSC) Secretariat:** A permanent CSC Secretariat is established in Colombo, Sri Lanka.
 - CSC Secretariat is responsible for coordinating all the activities of the CSC along with the implementation of the decisions taken at the NSA level.

Fifth Colombo Security Conclave (CSC)

- Inclusion of Fourth Member:** Mauritius was included as the fourth member of the Colombo Security Conclave (CSC).
- Invitation to other Countries:** Bangladesh and Seychelles attended the fifth NSA's meet of CSC as observers, and have been invited to join the group.
- Indian Proposals:** Indian National Security Adviser called for-
 - The institutionalisation of the Colombo Security Conclave (CSC)
 - The heads of the Coast Guards of the four member countries meet to discuss ways to address shared maritime security challenges, and
 - The formation of joint working groups to tackle drug trafficking and transnational organised crimes.

- Identification of Five Broad Areas for Cooperation:** The fifth Colombo Security Conclave (CSC) identified five broad areas of cooperation to strengthen regional safety and security. These are-
 - Maritime Safety and Security
 - Countering Terrorism and Radicalization
 - Combating Trafficking and Transnational Organized Crime
 - Cyber Security, Protection of Critical Infrastructure, and Technology
 - Humanitarian Assistance and Disaster Relief

Significance of Colombo Security Conclave (CSC)

- Promoting Regional Cooperation:** The Delhi-driven "minilateral" is being seen as India's outreach to the Indian Ocean to underline regional cooperation and shared security objectives.
- Countering Chinese Influence:** The CSC hopes to-
 - Restrict China's influence in an area of strategic importance, and
 - Reduce the Chinese footprint in the member countries, including the new and proposed additions.
- Avoid Conflict:** Colombo Security Conclave (CSC) will provide a cooperation platform to avoid conflict and ensure security and stability both inside and outside our borders.
- Crisis Management:** Geographical proximity of CSC countries allow them to be first responders for each other in crisis situations.
 - For example, the MT New Diamond and X-press Pearl ship fires in Sri Lankan waters that the Indian Coast Guard helped douse.

Exercise 'Eastern Bridge-VI'

Why Exercise 'Eastern Bridge-VI' in news?

- Recently, Exercise Eastern Bridge-VI (2022) was successfully conducted at Air Force Station Jodhpur from 21 to 25 February 2022.

What is Exercise 'Eastern Bridge-VI'?

- About:** Exercise Eastern Bridge-VI is a bilateral exercise between India and Oman. Sixth edition of Exercise 'Eastern Bridge-VI' was held recently in India.
- Participation:** Royal Air Force of Oman (RAFO) participated with Indian Air Force (IAF) in the Eastern Bridge-VI exercise.

What is the Objective of 'Eastern Bridge-VI'?

- 'Eastern Bridge-VI' is aimed at providing operational exposure and undertaking mutual exchange of best practices, towards enhancing operational capabilities of both the Air Forces.
- 'Eastern Bridge-VI' will also boost India-Oman cooperation in other areas, especially in the geo-strategic area.

Importance of 'Eastern Bridge-VI'

- The 'Eastern Bridge-VI' exercise provided an opportunity for fruitful interaction between IAF and RAFO elements through mutual exchange of experience and operational knowledge.
- Exercise 'Eastern Bridge-VI' also provided avenues of cultural exchanges between the personnel of both countries.

Exercise SLINEX

In news

- The Ninth Edition of India - Sri Lanka Bilateral Maritime Exercise SLINEX is scheduled at Visakhapatnam from 07 Mar to 10 Mar 2022.
- The eighth edition of SLINEX was conducted off Trincomalee in October 2020.

What is Exercise SLINEX?

- **About:** Exercise SLINEX is a naval exercise conducted between Sri Lanka Navy and Indian Navy. SLINEX series of bilateral maritime exercises were initiated in 2005.
- **Objective:** SLINEX aims to enhance interoperability, improve mutual understanding and exchange best practices and procedures for multi-faceted maritime operations between both navies.
- **Significance:**
 - SLINEX exemplifies the deep maritime engagement between India and Sri Lanka and has grown in scope over the years to strengthen mutual cooperation.
 - SLINEX is also in consonance with India's policy of 'Neighbourhood First' and Hon'ble PM's vision of 'Security and Growth for All in the Region (SAGAR)'.

Two Phases of Exercise SLINEX 2022

- **Phase 1:** The Harbour Phase of Exercise SLINEX 2022 would include professional, cultural, sporting and social exchanges.
- **Phase 2:** Exercise SLINEX 2022 during Sea Phase will include surface and anti-air weapon firing exercises, seamanship evolutions, aviation operations including cross deck flying, advanced tactical manoeuvres and special forces operations at sea.

- These will further enhance the high degree of inter-operability already existing between the two navies.
- **Participation:** In Exercise SLINEX, Sri Lanka Navy will be represented by SLNS Sayurala, an advanced offshore patrol vessel and the Indian Navy by INS Kirch, a guided missile corvette.
 - Other participants from the Indian Navy include-
 - INS Jyoti, a Fleet support tanker,
 - Advanced Light Helicopter (ALH),
 - Seaking and Chetak Helicopters and
 - Dornier Maritime Patrol Aircraft.

Exercise Lamitiye 2022 | India- Seychelles Joint Military Exercise

In News

- The 9th edition of India - Seychelles Joint Training Exercise LAMITIYE-2022 culminated on 31 March 2022 with a 48 hours validation exercise.
- LAMITIYE-2022 exercise commenced on 22 March 2022 at Seychelles Defence Academy, Seychelles.
- At Exercise LAMITIYE 2022, the Indian Army contingent will be represented by the 2/3 GORKHA RIFLES group (PIRKANTHI Battalion).

Key Facts about LAMITIYE-2022

- **Mandate:** LAMITIYE-2022 exercise, aiming towards co-existence in the Indo-Pacific Region, focused on enhancing interoperability for developing the capability-
 - To undertake joint operations in a semi urban environment,
 - Providing a platform for professional and cultural learning which in-turn broadened their cooperation
- Lamitiye 2022 themes were relevant for the planning and execution of operations based on scenarios in a Semi-Urban environment.

Key Points about Exercise LAMITIYE

- **About:** Exercise Lamitiye is a biennial training exercise between India and Seychelles.
 - **Beginning:** Exercise Lamitiye being conducted in Seychelles since 2001.
 - **Meaning:** Lamitiye is a Seychelles term which in Creole means friendship,
- **Aim:** Exercise Lamitiye aims to build and promote bilateral military relations in addition to exchanging skills, experiences and good practices between both armies.

Significance of LAMITIYE Exercise

- Exercise LAMITIYE is crucial and significant in terms of security challenges faced by both the Nations in the backdrop of current global situation and growing security concerns in the Indian Ocean Region.
- Exercise LAMITIYE will strengthened mutual confidence, inter-operability and enabled sharing of best practices between the Armed Forces.
- Exercise LAMITIYE will enhance the level of defence co-operation between the Indian Army and Seychelles Defence Forces (SDF).
- Exercise LAMITIYE will further manifest in enhancing the bilateral relations between the two nations.

Rashtriya Raksha University (RRU)

In News

- Recently, the Prime Minister dedicated a building of Rashtriya Raksha University to the nation and delivered its first Convocation address at Ahmedabad.

Key Facts about Rashtriya Raksha University

- **Background:** Government set up a national police university named Rashtriya Raksha University by upgrading the Raksha Shakti University.
 - Raksha Shakti University was established by the Government of Gujarat in 2010.
- **About:** Rashtriya Raksha University (RRU) was set up to meet the need for high quality trained manpower in various wings of policing, criminal justice and correctional administration.
 - Rashtriya Raksha University (RRU) commenced its operations from 1st October, 2020.
- **Significance:** The Rashtriya Raksha University will develop synergies with the private sector by leveraging knowledge and resources from the industry.

- Rashtriya Raksha University would also set up Centres of Excellence in various fields relating to police and security.
- **Creating Synergy:** Gandhinagar area has National Law University, Raksha University and forensic science university.
 - There is a need for synergy between these institution through regular combined symposiums to create a holistic education in these related fields.

Courses offered at Rashtriya Raksha University

- **Academic Courses:** RRU offers academic programs from diploma to doctorate level in various areas of policing and internal security such as-
 - Police science and management,
 - Criminal law and justice,
 - Cyber psychology,
 - Information technology,
 - Artificial intelligence and cyber security,
 - Crime investigation,
 - Strategic languages,
 - Internal defence and strategies,
 - Physical education and sports,
 - Coastal and maritime security.
- **Present Status:** Currently, 822 students from 18 States are enrolled in these programs.



History, Art & Culture

'Sahityotsav' Festival | Festival of Letters 2022

In News

- 'Sahityotsav' Festival is planned to be organized by the Sahitya Academy of Ministry of Culture from 10th to 15th March 2022 in New Delhi.

What is 'Sahityotsav' Festival?

- 'Sahityotsav' Festival is the India's Festival of Letters of Sahitya Academy. 'Sahityotsav' Festival is India's most inclusive literature festival.
- Festival of Letters 2022 will be a part of the celebrations to commemorate 75th anniversary of India's Independence.
- 'Sahityotsav' Theme:** It will have one or the other theme pertaining to Independence or Independence movement.

Key Events in 'Sahityotsav' Festival

- The 'Sahityotsav' Festival will commence with the inauguration of Akademi Exhibition by Minister of State for Culture on 10th March 2022.
- The 'Sahityotsav' Exhibition will showcase Akademi's achievements and seminal events held in the previous year.
- 26 young writers representing 24 Indian languages recognized by Akademi will participate in **"The Rise of Young India" event** to be held on 10 March 2022.
- At 'Sahityotsav' Festival, there will be a special corner to display the books related to the India's Freedom Movement and other materials relevant to the Azadi Ka Amrit Mahotsav.
- The prestigious Sahitya Akademi Awards will be presented to the 24 Award winners on 11th March.

Sahitya Akademi Awards

- About:** Sahitya Akademi Awards is a literary honour that is conferred annually by Sahitya Akademi which is India's National Academy of letters.
- Awards:** 24 Sahitya Akademi awards are given annually to literary works in the languages the Sahitya Akademi has recognized.
 - Similarly, 24 awards are also given to literary translations from and into the languages of India.
- Language Category:** Sahitya Akademi Awards are given in 22 languages mentioned in the VIII Schedule of the Indian Constitution along with two other languages that is English and Rajasthani.
- Significance:** Sahitya Akademi Awards are the second-highest literary honour by the Government of India, after the Jnanpith award.

Bharat Bhagya Vidhata - Red Fort Festival

In news

- Recently, the ten-day mega Red Fort Festival - Bharat Bhagya Vidhata, kick started and will continue till 3rd April, 2022 at the iconic 17th-century monument, Red Fort in Delhi.

What is Bharat Bhagya Vidhata?

- About:** The Red Fort mega festival-Bharat Bhagya Vidhata is being organised as part of Azadi Ka Amrit Mahotsav by Ministry of Culture.
- Mandate:** The Red Fort festival is to commemorate the heritage of the country and culture of every part of India.
- Organizations Involved:** The Ministry of Culture, Government of India, along with Red Fort's "Monument Mitra", Dalmia Bharat Ltd. have conceptualized the mega event as a part of Azadi Ka Amrit Mahotsav.
- Key Planned Activities:** The Bharat Bhagya Vidhata festival will feature a wide range of experiences including-
 - "Matrubhumi" - Projection Mapping Show,
 - YATRA - A 360° immersive experience,
 - A Cultural Parade,
 - Khao Galli,
 - Live performances at Rang Manch,
 - Dances of India,
 - Anokhe Vastra,
 - Khel Manch and Khel Gaon and
 - Yoga on the Go

Importance of Bharat Bhagya Vidhata Festival

- The festival Bharat Bhagya Vidhata will help everyone to appreciate the diversity of India. More than 70 master craftsmen have displayed their craftsmanship at the venue.
- Red Fort Festival - Bharat Bhagya Vidhata promises a rich cultural treat to visitors and aims to promote heritage conservation and tourism.
- The festival is helping improve the livelihoods of artisans across the country in a culturally and economically sustainable manner by showcasing a variety of authentic arts, crafts and textiles from across the nation.

Bharat Bhagya Vidhata Festival

Some of the rich arts, crafts and textiles that is being showcased at the Red Fort Festival includes-

- **Gujarat:** Ajrakh, Patan Patola, Mashru, Bandhani and Bhujodi handlooms;
- **West Bengal:** Ikat sarees from Telangana; Tangail & Jamdani weaves;
- **Andhra Pradesh:** Mangalagiri and Uppada Pattu designs as well as its Etikoppaka and Kondapalli toys;
- **Kashmir:** Sozni Embroidery and paper mache
- **Weaves From Nagaland and Assam:** Chizami and Saneki;
- **Odisha:** Fabrics such as Kotpad, Bandha, Maheshwari, Chanderi as well its Dhokra and tribal jewellery and Pattachitra art;
- **Madhya Pradesh:** Bagh Prints, Chanderi and Bhil Pithora and Gond Tribal art Paintings;
- **Jharkhand:** Tussar Silk;
- **Maharashtra:** Paithani, Karvath Kati Prints, EcoKaari items and its infamous Warli Folk Art;
- **Rajasthan:** Pichwai & Phad Paintings and Dabu, Lehariya, Dastkar Ranthambhore and Shibori Prints as well as Patwa Jewellery, leather craft and Shyamota Black Pottery;
- **Bihar:** Madhubani art; Embroidaries include Sujani.

Rashtriya Sanskriti Mahotsav (RSM) 2022

In news

- Recently, the Governor of Telangana inaugurated the two-day Mega cultural extravaganza Rashtriya Sanskriti Mahotsava (RSM) at Warangal, Telangana on 29th March 2022.
- The National Cultural Festival of India, Rashtriya Sanskriti Mahotsav 2022 started at Rajamahendravaram, Andhra Pradesh on 26th March, 2022 under the Azadi Ka Amrit Mahotsav.

Key Events to be performed in Rashtriya Sanskriti Mahotsav (RSM) 2022

- The Mahotsav will have an auspicious beginning with the performance by local artists and choreographed folk performances.

- It will also witness classical Music performance by Hyderabad Brothers (Carnatic Vocals) and musical performance by Padmshri awardee Shri Darsham Mogulaiah, Ms. Mangali, playback singer and others.
- Folk artists perform impromptu throughout the day either on the stage or among the public.
- Apart from Folk troupes eminent Padma & Sangeet Natak Akademi awarded classical artists covering all genres have been performing every year at the Mahotsav.
- Special care is taken to choose artists reflecting regional flavour of the State where the Rashtriya Sanskriti Mahotsav is organised.

Rashtriya Sanskriti Mahotsav (RSM)

- **About:** Rashtriya Sanskriti Mahotsav (RSM), was conceptualized by the Ministry of Culture, Government of India in 2015.
 - The first Rashtriya Sanskriti Mahotsav was organized in the grounds of IGNC, New Delhi in November, 2015.
- **Objectives:** Rashtriya Sanskriti Mahotsav (RSM) aims to celebrate the spirit of Tradition, Culture, Heritage and Diversity of our incredible country. Other key objectives of Rashtriya Sanskriti Mahotsav-
 - To Preserve, Promote & Popularize the heritage of Indian Spirit & reconnect the new generation with our culture and
 - To showcase to the country and the world our soft power of unity in diversity.



The Editorials Corner

Heartening Milestone

Context

- According to the recently released data from Ministry of Commerce and Industry, India's exports for the first time crossed the USD 400 billion mark in a fiscal year.

Tone of the editorial

- The article talks about the relief brought by the news in this pandemic driven economy. Also, the article talks about the challenges that need to be dealt, to further consolidate our position in the global trade.

Remarkable achievement

- Given that the economy is still **struggling to recover from the bruising impact** of the COVID-19 pandemic, the record merchandise export brings the much-needed cheer.
- It is laudable that the key value-added sectors of **engineering goods and apparel** and garments have done well this year.
- The provisional data from Ministry of Commerce revealed that the engineering goods, in particular, have registered almost **50% year-on-year growth**, while ready-made garments saw an increase of 30%, in the April-February period.
- Importantly, **petroleum products were the standout performer** as the global surge in oil prices lifted the dollar value of overseas shipments of goods produced at India's refineries by 150% over the first 11 months of the fiscal.
- The fact that the export growth has been achieved against the backdrop of persistent **logistical challenges**, including container shortages and port congestion that have pushed up freight rates, is laudable and reflects the concerted effort made by the government in coordination with industry and the country's overseas missions.
- The role played by India's embassies and envoys needs a special mention in exploring new opportunities for Indian products, and if the current momentum in exports is to be sustained in the coming years, the **diplomatic corps will need to enlarge** their role in trade promotion.

Export challenges

However, the cheer should also be followed by the acknowledgement of the challenges faced by the domestic industries.

- **Imports have outpaced exports this year**, almost doubling the trade deficit in the April-February period to more than \$175 billion. The gap is even wider than the pre-pandemic year of 2019-2020
- While global inflation in commodity prices contributed to enlarging the value of both exports and imports, the fact that **project goods were the only item of import**, among the 30 broad categories listed by the Ministry that contracted over the 11-month period, is also cause for disquiet.
- The **lack of overseas purchases of capital goods** for new projects is a clear indicator that private Indian businesses are still wary of making fresh investments given the lack of momentum in personal consumption.
- The war in Ukraine and sanctions on Russia is now **posing fresh problems for exporters** seeking to ship goods to not only these countries but other markets in Europe as well.

Way forward

- Policymakers must go beyond stopgap measures such as enabling rupee-rouble trade and expedite ongoing negotiations on the raft of free trade agreements so as to at least help lower some of the tariff walls.

A Subregional Grouping That Must Get Back on Course

Context

- Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is going to be held in Sri Lanka, the current BIMSTEC chair.

What is BIMSTEC?

- BIMSTEC is a **seven-member organisation** that includes the littoral states of India, Bangladesh, Sri Lanka, Myanmar (Thailand is a member too) and the land-locked states of Nepal and Bhutan.
- It has **14 pillars for special focus**: trade and investment, transport and communication, energy, tourism, technology, fisheries, agriculture, public health, poverty alleviation, counter terrorism and transnational crime, environment and disaster management, people-to-people contact, cultural cooperation and climate change.

Bay of Bengal Maritime Dialogue

- Recently, a Bay of Bengal Maritime Dialogue (BOBMD) was organised by the Centre for Humanitarian Dialogue and the Pathfinder Foundation.
- It had membership from Sri Lanka, India, Bangladesh, Myanmar, Thailand and Indonesia.
- The dialogue called for stepped up efforts in areas such as environmental protection; scientific research; curtailing illegal, unreported, and unregulated (IUU) fishing, as well as the development of standard operating procedures that could govern interaction between fishing vessels of one country with maritime law enforcement agencies of another.

Maritime resource of Bay of Bengal

- BOBMD highlighted that the Bay of Bengal is home to a large network of beautiful yet **fragile estuaries, mangrove forests, coral reefs, sea grass meadows** and mass nesting sites of sea turtles.
- However, it is matter of concern that the **annual loss of mangrove** areas is estimated at 0.4% to 1.7% and coral reefs at 0.7%.
- Moreover, it is predicted that the **sea level will increase 0.5 metres** in the next 50 years. The effect of which can be seen from the fact that there have been 13 cyclonic storms in the last five years.
- The Bay is an important **source of natural resources for a coastal population** of approximately 185 million people.
- According to the Food and Agriculture Organization of the United Nations (FAO), the Bay of Bengal is one of **IUU fishing hotspots in the Asia-Pacific**.

Issues in Bay of Bengal

- Emergence of a **dead zone** with zero oxygen where no fish survive;
- Leaching of **plastic from rivers** as well as the Indian Ocean;
- **Destruction of natural protection** against floods such as mangroves;
- **Sea erosion**;
- Growing **population pressure** and industrial growth in the coastal areas and consequently, huge quantities of untreated waste flow.
- **Security threats** such as terrorism, piracy and tensions between countries caused by the arrests of fishermen who cross maritime boundaries are additional problems.

BIMSTEC summit: What to be focussed?

- The BIMSTEC Summit must create a **new regional mechanism** for coordinated activities on maritime issues of a transboundary nature.
- This mechanism must initiate urgent measures to **strengthen fisheries management**, promote sustainable fishing methods, establish protected areas and develop frameworks to prevent and manage pollution, especially industrial and agricultural waste as well as oil spills.
- There is also a need for **greater scientific research** on the impact of climate change in general and on fisheries in particular. At present, there is limited cooperation between countries of the region in marine research.
- The **use of modern technology** and improved fishing practices can go a long way in restoring the health of the Bay.

BIMSTEC summit: Priority areas

- **Marine environmental protection:** It must become a priority area for cooperation in the Bay of Bengal by strengthening enforcement and sharing information on best practices.
- **Regional protocols:** These need to be developed, along with establishing guidelines and standards on pollution control.
- **Home-grown solutions:** There is a need for home-grown solutions based on capabilities of local institutions. Also, there is a need to create regional frameworks for data collection.
- **Participatory approaches** must be evolved for near-real-time stock assessment and the creation of an regional open fisheries data alliance.
- The BIMSTEC summit must express **full support for both BOBP and BOBLME**.
 - The Bay of Bengal Programme (BOBP), an inter-governmental organisation based in Chennai, is doing good work to promote sustainable fishing.
 - A Bay Of Bengal Large Marine Ecosystem (BOBLME) project is being launched by the FAO with funding from the Global Environmental Facility (GEF) and others.
- **Curtail unsustainable fishing:** The summit should come up with the measures to curtail unsustainable as well as IUU fishing. Steps could include:
 - setting up an international vessel tracking system and making it mandatory for vessels to be equipped with automatic identification system (AIS) trackers;
 - establishing a regional fishing vessel registry system and publishing vessel licence lists to help identify illegal vessels;

- increasing monitoring, control and surveillance in IUU fishing hotspots;
- establishing regional guidelines on how to deter and prevent IUU practices;
- improving the implementation of joint regional patrols, and regional fishing moratoriums and outreach programmes targeted at fisherfolk.
- **Laws and policies** in littoral states must be harmonised and the humanitarian treatment of fishermen ensured during any encounter with maritime law enforcement agencies.

Way forward

- The summit must set in process regular meetings to tackle illegal and unsustainable fishing as well as **prevent the further environmental degradation** of the Bay of Bengal.

Clean Energy Must Use the Battery of a Circular Economy

Context

- In the recently announced Union Budget, the Finance Minister has emphasised on **the role of cleaner technologies** such as solar energy and batteries in India's future economic growth.
- Moreover, she also mentioned the importance of **transitioning to a circular economy** from the existing linear one.

Importance of circular economy

- **Waste management:** An efficient waste management ecosystem is necessary to manage the enormous waste generated by renewable energy projects in the coming decades.
- **Support to battery industries:** The prevalence of a circular economy could also partially insulate battery industries from potential supply chain shocks triggered by extraneous developments.
- **Employment opportunities:** It would also offer quality employment opportunities for the future generations as new jobs would be created across the entire value chain of waste management and recycling.
- **Socio-economic benefits:** The majority of India's recycling sector is informal and workers have to work in unsafe environments without standardised wages. So, workers in the informal sector could access various socio-economic benefits and look forward to an improved quality of life.

Steps needed

- **Revise electronic waste management rules:** Policymakers should revise existing electronic waste management rules to bring various clean energy components under their ambit. Moreover, the revised regulations should clearly define the responsibilities of various stakeholders involved in the renewable energy value chain.
- **Complete ban on dumping and burning:** At present, landfilling is the cheapest and most common practice to manage renewable energy waste, which is not environmentally sustainable. Studies show that the leaching of heavy metals such as lead and cadmium from solar photovoltaic modules could increase by 90% and 40%
- **Research and development:** The renewable energy industry should invest in the research and development of recycling technologies. Investments in research and development could help discover new ways of recycling that result in higher efficiency and a less environmentally damaging footprint.
- **Focus on finance:** The focus should be on the creation of innovative financing routes for waste management. The central government should nudge public and private sector banks to charge lower interest rates on loans disbursed for setting up renewable energy waste recycling facilities.
- **Quality control standards:** Both the Union and State governments should set stringent quality control standards for components used in their tenders. Such standards will prevent premature end-of-life of components, and consequent waste creation.
 - Substandard components generate considerable waste due to early life damage that is often irreplaceable, and the components often have to be discarded.



Reporting Cyber Attacks

Context

- In a recently held cyber security event, the Ministry of State indicated that Ministry of Electronics and Information Technology (MeitY) is likely to come out with new cyber security regulations.

Reporting cyber-crime: Key points

- The essence of the cyber security regulation will be to put the **onus on organisations to report any cyber-crime** that may have happened against them, including data leaks.
- Even **Data Protection Bill 2021** says that data fiduciaries should report any personal and non-personal data breach incident within 72 hours of becoming aware of a breach.
- Even the golden standard for data protection, namely the **European Union General Data Protection Regulation (EU GDPR)**, speaks about reporting data breach incidents within a stringent timeline.

Cyber-crime around the world

- It was predicted that Cyber-crime would inflict damages totalling \$6 trillion globally in 2021.
- If cyber-crime would have a country, it would be the **world's third-largest economy** after the U.S. and China.
- The ransomware attack against the **nationwide gas pipeline in 2021** in the U.S. virtually brought down the transportation of about 45% of all petrol and diesel consumed on the east coast.
- Hence, it is important that **government and state-owned enterprises should also report cyber-crime** so that corrective actions can be taken on the security of critical infrastructure of the nation.

Importance of cyber-crime reporting

- If incidences are reported, the **Indian Computer Emergency Response Team (CERT-In)** and others can alert organisations about the associated security vulnerabilities.
- Also, firms not yet affected can also take precautionary measures such as deploying security patches and improving their cyber security infrastructure.

Reasons for not reporting cyber-crime

- Firms are generally **reluctant to notify the breach incidents** to the regulators because any security or privacy breach has a negative impact on the reputation of the associated firms.

- According to a study conducted by Comparitech, the share prices for firms generally fall around 3.5% on average over three months following the breach.
- Moreover, in the long term, **breached companies underperformed** in the market.
- After one year, share price of breached firms fell 8.6% on average, resulting in a **poor performance in the stock market**.
- So, firms weigh the penalties they face for not disclosing the incidents versus the potential reputational harm due to disclosure, and decide accordingly.

Solutions

- **Data laws:** The data laws should deal with reporting of cyber-crime in a more comprehensive manner.
- **Cyber security audits:** Third party periodic security audits should be conducted in the firms. These audits should be comprehensive enough to identify such incidents that might not have been reported by the firm, or even by the state-agencies.
- **Common Criteria Testing Laboratories:** These bodies can be extended towards cyber security audits and assessments as well.
 - Common Criteria Testing Laboratories are the bodies set up by the MeitY to evaluate and certify IT security products and protection profiles as part of cyber security assurance initiatives.
- **Cyber security command centre:** Alike IBM in Bengaluru, other large firms can also be encouraged to set up such centres for protection of their firms' assets.

'Bharat Natyam' in Indian Diplomacy

In news

- Indian maneuvering in the ongoing Russia Ukraine war reminds us the turbulent times of 1990s when late Jyotindra Nath, then Foreign Secretary of India, managed to secure India interests.

Global Situation in 1990s and Indian Diplomacy

- **Dissolution of USSR:** On December 25, 1991, Soviet Union's General Secretary Mikhail Gorbachev resigned, the following day, the USSR was formally dissolved.
 - **Indian Challenge:** India had to set up new embassies to build new relationships with countries in Central Asia, the South Caucasus and Central Europe while maintaining its traditional ties with Moscow.

- India-Israel Relations:** In January 1992, India and Israel established full diplomatic relations, announcing the opening of embassies and exchanging Ambassadors for the first time.
 - This opened the door to a relationship that has blossomed into one of India's most significant strategic partnerships in the last three decades.
- UNSC Meeting 1992:** Prime Minister P.V. Narasimha Rao participated in the first-ever meeting of the United Nations Security Council at the summit level (India was a member in 1991-92).
 - On the sidelines, India and USA decided that in the changing world, India and the U.S. needed to have frank exchanges on issues that had divided them during the Cold War;
 - The issue identified was 'nuclear proliferation and disarmament', sowing the seeds of the dialogue that continued through ups and downs, leading to the path-breaking India-U.S. Civil Nuclear Cooperation Agreement in 2008.
- India-ASEAN Relations:** 'Look East' policy began to take shape as India and ASEAN embarked on a sectoral-dialogue partnership.
 - By the end of 1995, this had matured into a full-dialogue partnership and in 1996, India joined the security dialogue platform, the ASEAN Regional Forum.
 - Since 2002, the relationship has strengthened further with the annual India-ASEAN summit.
- On China and Taiwan:** In 1993, India China initiated the first of many confidence-building-measures, notably the Agreement on the Maintenance of Peace and Tranquility Along the Line of Actual Control in the India-China Border Areas.
 - It laid the foundation of the relationship for two decades.
 - Simultaneously, India and Taiwan negotiated to open economic and cultural centres;
 - Taiwan opened its office first in Mumbai in 1992 before shifting to Delhi while India established the India-Taipei Association office in 1995.

India's stand in UNSC Votes on Russia-Ukraine War

- India's Stand:** The Indian government has chosen to 'abstain' in various UN voting on Russia Ukraine conflict, based on an assessment of its core interests.
- What it means:** A 'for' or 'against' vote is intended to convey a blunt message of 'support' or 'opposition'.
 - On the other hand, 'abstention' takes us into a grey zone because it is the middle path.
 - It can either be seen as fence-sitting (which is a sign of helplessness) or create space for diplomatic manoeuvre (which is a successful outcome).

- Balancing Act:** The West should feel satisfied that India 'abstained' because it perhaps expected India to oppose the West's draft proposals given New Delhi's traditional ties with Russia.
 - On the other hand, Russia should also feel satisfied at India's 'abstention' because it perhaps expected New Delhi to give in to western persuasion.

Conclusion: India's stand in the United Nations on the Ukraine war is an apt moment to reflect on the much-needed Dixit principle.

Reaping the Potential of the Female Workforce

Context

- The large-scale adoption of digital and smartphone technologies and the increased need for personal care have opened up a variety of job opportunities for women. However, we need a concerted effort to take advantage of this market opportunity.

Steps needed

- Increasing female labour force participation:** India's female labour force participation (FLFP) rate is the lowest among the BRICS countries. It must be increased not only to achieve economic growth but also to promote inclusive growth and achieve the Sustainable Development Goals.
- Investment in health care facilities:** Increased investment in better health and care facilities improve the well-being of India's people and hence their economic productivity, more particularly for women.
 - The care service sector, which includes health, education, and other personal care services, is more labour-intensive than sectors such as manufacturing, construction or other service sectors.
- Gig and platform economy:** The gig and platform economy offer flexibility and freelancing jobs. The ILO Global Survey (2021) have also noted that working from home or job flexibility are particularly important for women. However, owning a smartphone—a prerequisite for remote working—is still an issue for vast majority of women. Steps should be taken to boost women's employment in the gig and platform sector.
- Access to higher education and skill training:** Women and their families need to be motivated to take up higher education through incentives such as scholarships as well as transport and hostel facilities, to improve their employment outcomes.

Way forward

- Governments, skill training partners, private firms, corporates and industry associations as well as civil society organisations all need to come together to create enabling measures for women.

India's Food Response as 'Vasudhaiva Kutumbakam'

Tone of the Editorial

- The writer is the Representative and Country Director to India, United Nations World Food Programme (WFP). In this article, he discusses India's food response to the growing hunger crisis.

Context

- A few months ago, India had decided to partner with the UN World Food Programme (WFP) to export wheat to Afghanistan. Moreover, increasing hunger issues around in world is demanding proactive approach from the nations like India to come forward and help the needy ones.

Key points

- In 2019, 650 million people around the world suffered from chronic hunger — 43 million more than in 2014.
- Due to the COVID-19 pandemic, the number of people on the brink of starvation has doubled from 135 million people, pre-COVID, a year ago to 270 million.
- In his 2014 UN General Assembly address, our Prime Minister said, "India's traditional outlook sees the world as one family and that is linked to its Vedic tradition of Vasudhaiva Kutumbakam", which translates into 'Earth is One Family'.
- The number of people in need of urgent food assistance — estimated at 270 million in 2021 — because of the pandemic will grow significantly with the crisis in Afghanistan and the ongoing war in Ukraine.

India's mission

- **Afghanistan:** India's recent and ongoing humanitarian food assistance to the people of Afghanistan, through the United Nations Food Programme (where half of the population needs urgent food assistance to avert a famine) is an example of its commitment and commendable steps towards humanitarian crises.
- In the past two years, India has provided aid to several countries in **Africa and the Middle East/West Asia** to overcome natural calamities and the COVID-19 pandemic.

- **Sufficiency to assistance:** Over the years, India's ability to produce is expanding substantially. In 2020, India produced over 300 million tonnes of cereals and had built up a food stock of 100 million tonnes. The long journey from chronic food shortage to surplus food producer offers several valuable lessons for other developing countries in Asia, Africa, and Latin America in land reforms, public investments, institutional infrastructure, new regulatory systems, public support, and intervention in agri markets and prices and agri research.
- **Providing safety nets:** India is providing equity in food is its National Food Security Act (NFSA) 2013 that anchors the Targeted Public Distribution System (TPDS), the Mid-Day meals (MDM), and the Integrated Child Development Services (ICDS).

Way forward

- WFP and India can leverage this partnership to contribute to addressing food emergencies and strengthening humanitarian response, embodying the spirit of 'leave no one behind' and Vasudhaiva Kutumbakam.

Lines and Roles

Context

- Recently, tensions between Kerala CM and the Governor again put into limelight the role of governor vis-à-vis state governments in the constitutional affairs.

Reason for tussle between state government and governor

- The appointment of those who have been politically active in the recent past as Governors and the partisan role they play as agents of the Centre is one of the critical reasons behind such issues.
- Some Governors seem to be using the discretionary space available to them in 'aid and advice' clause to keep regimes on tenterhooks.
- Constitutional issues: Constitution fixes no time-frame for the Governors to act.
- Moreover, Article 163 empowers the governor to choose what is in their discretion and what is not, with the courts being barred from inquiring into whether any advice and, if so, what advice was given.

Aid and advice

- In 1974, a constitutional bench of Supreme Court held that the President and Governors shall “exercise their formal constitutional powers only upon and in accordance with the advice of their Ministers save in a few well-known exceptional situations” — “situations” also illustratively listed.
- Yet, there is the extraordinary situation of some Governors not acting upon requests to grant clemency or assent to Bills.
- In one instance in Tamil Nadu, governor reserved the Bill for presidential assent more because of obvious conflict with a central law.

Steps needed

- Though Sarkaria commission retained the powers of Governor under Article 163, it is time to relook the provision.
- Few of the situations like identifying areas of discretion, fixing a time-frame for them to act, and making it explicit that they are obliged to go by Cabinet advice on dealing with Bills can be considered.
- Regarding Bills, it is clear that the Constituent Assembly passed the provision for Governors to return Bills for reconsideration only on the express assurance that they have no discretion at all.
- In addition, as suggested by the M.M. Punchhi Commission, Governors role with the office of Chancellor in universities should be ended.

Realising the Potential of 'Maitri' and 'Mateship'

Context

- Australia is celebrating India’s 75 years of Independence by making the largest single investment in the bilateral relationship.

Tone of the editorial

- The writer is the Australian High Commissioner to India, and discusses the steps taken by Australia for a good bilateral relation between India and Australia.

Relation between India and Australia

- **Deep histories:** India and Australia are natural partners because both the countries have ancient and modern countries and cultures, vibrant and full of energy and optimism. Australia’s respect for India’s culture can be witnessed by Australia’s decision to return 29 culturally significant artefacts to India.

- **Similar words of friendship:** India says maitri, Australians say mateship. Both stand for respect, understanding and equality.
- **Virtual India Australia summit:** The two Prime Ministers held their Virtual Summit and took stock of the remarkable pace we are implementing the Australia-India Comprehensive Strategic Partnership.
- **Elevated relationships:** Both the countries took advanced practical actions on cyber and critical technologies, maritime affairs, defence ties, economic and business links and Quadrilateral cooperation.
- **Technology and research:** Australia support the development of technologies such as green hydrogen and ultra-low cost solar in India.
 - Also, Australia is establishing the Australia-India Centre of Excellence for Critical and Emerging Technology Policy — and a Consulate-General — in Bengaluru.
- **Future Skills Initiative:** Australia is investing in India’s talented young people through the new Future Skills Initiative between education and training providers and industry.
- **Geopolitical coherence:** Australia and India are working to ensure a peaceful and stable region.
 - Both the countries are committed to a free and open Indo-Pacific.
 - Australia is also advancing the cooperation from the Indian Ocean to the Pacific Islands.
 - Recently, Australia has also announced initiatives to enhance Australia’s engagement in the Northeast Indian Ocean in support of India’s natural leadership.
- **Defence partnership:** Both the countries are enhancing information sharing and operational cooperation.
 - Such arrangements also help us continue delivering quality humanitarian support to the region.

Shutdown this Misguided Energy Policy

Context

- On December last year, the Indian government informed Parliament that it plans **to build “10 indigenous reactors in fleet mode”** and had granted “in principle approval” for 28 additional reactors, including 24 to be imported from France, the U.S. and Russia.

Key points

- The **author considers the above policy misguided**, given the post-Fukushima global and national trends in the nuclear industry.
- The author is of the view that nuclear power is neither an economical source of electricity nor a viable route to meeting India’s climate goals.

Issues

- **Nuclear power plants are capital intensive** and recent nuclear builds have suffered major cost overruns.
- Renewable-energy technologies have become cheaper, thus providing a good and viable alternative.
 - In 2020, the International Energy Agency dubbed solar energy the “new king of electricity”.
- All over the world, countries are **cutting their nuclear capacity**; India, however, would have 650GW of installed capacity by 2050.
- **Unviable imports:** Even after 13 years of its conclusion, no new nuclear plant has been established.
- **Risks:** Nuclear disaster might leave large swathes of land uninhabitable — as in Chernobyl — or require a prohibitively expensive clean-up — as in Fukushima, where the final costs may exceed \$600 billion.
- **Questionable laws:** India’s liability law already largely protects them. For example: MNCs have been insisting multinational nuclear suppliers that they be indemnified of liability for the consequence of any accident in India.
- **Climate issues:** Climate change will increase the risk of nuclear reactor accidents.
 - Example: In 2020, a windstorm caused the Duane Arnold nuclear plant in the U.S. to cease operations.
 - The frequency of such extreme weather events is likely to increase in the future.

Way forward

- Government should unambiguously cancel its plans for a nuclear expansion as nuclear power is **not the right choice to “adapt” to climate change**.
- Nuclear energy is also not the appropriate choice for mitigating India’s carbon emissions since it **cannot be deployed at the necessary scale**.

Sealed Justice

In news

- In refusing to entertain ‘sealed covers’ submitted by the government or its agencies, the Supreme Court has made a noteworthy and welcome shift away from this unedifying practice.
- Recently, in the Muzaffarpur shelter home sexual abuse case, Chief Justice N.V. Ramana wondered why even an ‘action taken’ report should be in a sealed envelope.

Supreme Court’s Observation

- In the news channel Media One case, the Supreme Court has decided that it will examine the issue of ‘sealed cover jurisprudence’ while hearing the channel’s appeal.
- For now, the apex court has stayed the revocation order and allowed the channel to resume broadcasting.

Issues with the Practice of Sealed Covers

- **Expands the Discretion of Judges:** Courts have often justified entertaining material not disclosed to the parties by underscoring that it is to satisfy their conscience.
 - In some cases, courts have allowed such secret material to determine the outcome. For example-
 - Kerala High Court perused confidential intelligence inputs produced in a sealed envelope by the Union government to uphold the validity of orders revoking the broadcasting permission given to Malayalam news channel Media One.
 - This was done on the ground of national security.
- **Snatches Right to Know of Opposition:** In recent years, often the contents of the sealed cover withheld from lawyers appearing against the government, but being seen by the judges alone.
 - It means courts can rule in favour of the government without providing an opportunity to the affected parties to know what is being held against them.



- **Misuse of Broad and Vague provisions of Law:** The government usually justifies the submission of secret material directly to the court, citing national security or the purity of an ongoing investigation.

Undesirable Consequences of the Practice of Sealed Covers

- It compromises the defence of those accused of some crimes, especially those involving an alleged threat to national security, or money laundering and corruption.
- Undisclosed material is often used to deny bail, something the apex court criticised the Delhi High Court for doing in a case against former Union Minister P. Chidambaram.
 - It observed that recording a finding based on material kept in a sealed cover was not justified.
- The main mischief of the 'sealed cover' practice lies in the scope it gives the state to avoid deep scrutiny of the need and proportionality of its restrictions on freedom.

Conclusion:

- The use of material produced in a 'sealed cover' as an aid to adjudication is something to be strongly discouraged and deprecated.
- The Supreme Court must determine and circumscribe the circumstances in which confidential government reports, especially those withheld from the other side, can be used by courts in adjudication.

Centralising Tests

In news

- Recently, decision was taken to conduct a Common University Entrance Test (CUET) for admission in undergraduate program in all University Grants Commission (UGC) funded Central Universities (CUs) from 2022-23.
- This decision to conduct Common University Entrance Test (CUET) is being criticized by many.

Common University Entrance Test (CUET)

- **Background:** The Common University Entrance Test (CUET) proposal is influenced by the National Education Policy (NEP).
 - National Education Policy (NEP) advocates common entrance examinations by the National Testing Agency for undergraduate and graduate admissions and fellowships.
 - Over a dozen CUs admit students to undergraduate programmes using Central Universities Common Entrance Test (CUCET) scores.

- **About:** The proposed CUET, in 13 languages, seeks to make it mandatory for 45 CUs — there are 54 such institutions — to conduct admissions using a single national level test score.
- **Prior Recommendation:** In 1984, the Madhuri R. Shah Committee, looking into the working of CUs, recommended a national merit examination.
- **Expected Benefits:** CUET would spare aspirants from taking multiple entrance tests and also eliminate unfair advantage gained from disproportionate scores in class XII.

Associated Criticism of CUET:

- **Killing Diversity of Knowledge System:** Critics are evidently viewing this development through the prism of the present government's obsession with pushing the 'one nation, one standard' maxim in different sectors.
 - However, in 1984, the Madhuri R. Shah Committee, looking into the working of CUs, recommended a national merit examination.
- **Doubts over Reservation:** Many believe that the one Common University Entrance Test (CUET) will negatively affect the candidates who benefit from present reservation policy.
 - However, the UGC has clarified the existing scheme of reservations in individual universities would not be disturbed.
- **Fails to consider regional disparity:** the CUET may not qualify as a wholesome determinant of merit given the educational and regional disparities in India.
 - While a vast majority study in State Boards, the test would be based on the NCERT syllabus, followed largely in CBSE schools.
 - The policy limits the Class XII marks as a qualification benchmark and not a co-determinant of merit.
- **Concerns of States:** Education Ministers from Tamil Nadu, Meghalaya and Arunachal Pradesh have flagged some legitimate concerns.
 - In the North-east, the argument about the test possibly affecting the interest of State domiciles to secure admission in a university in the region cannot be ignored.
- **Creating Divide between Rich and Poor:** It has been sufficiently demonstrated that common entrance tests spawn the coaching industry and induce cost-heavy hybrid courses from class VI onwards.
 - This will result in creating a divide between the haves and have-nots.

Conclusion

- The idea of CUET needs to be dispassionately examined if prescribing a single entrance test as a sole determinant of merit, either for CUs or for the higher education system as a whole, is pragmatic.

China's Takeaways from the War

In News

- Like India, and on expected lines, China also abstained on the U.S.-sponsored United Nations Security Council (UNSC) Resolution condemning Russia for the invasion of Ukraine.
- However, China's reasons for abstaining from voting at the UNSC as well as its gains and expectations from the invasion are unique to its own situation.
 - In 2014 too, China decided to abstain when the last vote against Russian aggression in Crimea came up for vote in the UNSC as did the legitimacy of the Crimean referendum.

Russia Ukraine War- China's Strategic Position

- **Whether China knew about Russia's Intentions:** Many observers have noted that Russian President Vladimir Putin may have informed Chinese President Xi Jinping of his intentions when he visited Beijing for the opening of the Winter Olympics.
 - Mr. Xi may have suggested that Mr. Putin wait for the Winter Olympics to conclude before recognising Donetsk and Luhansk and sending "defensive forces" there followed by the outright invasion.
 - Chinese officials have denied such talks as being baseless.
- **Whether China did enough to discourage Russia:** Another question is whether China did enough to discourage Russia if it knew about Russia's intention.
 - China would have expected Russian action to be limited to the Donbas region, which includes Donetsk and Luhansk.
 - Moreover, by trying to engage the peace process, China would also like to avoid renewed criticisms of it being a selfish power.

How Russia Ukraine War would benefit China?

- **Reduced Attention from China:** As a consequence of Russian invasion of Ukraine, the West will possibly direct its attention away from China.
 - Thus, China will not remain the principal villain in the eyes of the liberal world, which it has been since-
 - It has been unilaterally been constructing islands in the South China Sea, and
 - Reports of human rights violations in Xinjiang have increased.

- **Strategic Advantages:** One might also see a reduction in China's 'wolf warrior diplomacy' as it senses an opportunity to mediate and create a stake in the settlement process.
 - Russia is imposing costs on the West by stretching its military budgets is also a good thing for China.
 - This will divert Europe's attention to its neighbourhood and away from the Indo-Pacific and possibly delay its engagements with the Quad.
- **Central Asian Countries:** Beijing also sees a pattern in Ukraine's engagement with Europe and fears its repetition in Central Asia where Russian and Chinese interests converge in keeping democratic interventions away.
 - The principal shared concern for China and Russia is that of externally instigated regime changes, which force democratisation in Central Asia and destabilise the region.
 - That is why China, while continuing to appeal to Russia to resolve its issues with Ukraine, has been rather stern vis-à-vis the U.S. by calling the latter's sanctions on Russia.
- **Tactical and Military Learning for China:**
 - The shock and awe and escalation matrix used by Russia could well be a template if China were to consider a military solution in Taiwan or in circumstances where it sees its core interests being violated.
 - China would also be studying Russian posturing and signalling, such as putting the nuclear deterrent forces on high alert, and the response from the U.S., the North Atlantic Treaty Organization, individual European countries and the UNSC.

Cohesion, Co-operation

In News

- Recently, the Prime Minister of India participated in the 5th BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation) Summit.
- 5th BIMSTEC Summit is hosted in virtual mode by Sri Lanka, the current chair of BIMSTEC.

Key Points about BIMSTEC Summit 2022

- **Adoption of the BIMSTEC Charter:** the Fifth BIMSTEC charter promises to re-energise the 25-year-old grouping at a time of growing global uncertainties.
 - The Charter is expected to help impart a more connected vision to the seven-member organization (BIMSTEC).

- **Leading the Security Pillar:** India has decided to lead the 'security pillar' out of the seven designated pillars of the revived BIMSTEC,
 - This has given India's regional aspirations a new orientation, away from the stalemated SAARC that has been unable to meet since November 2014.
- With his call for a BIMSTEC Free Trade Agreement, Prime Minister Narendra Modi has outlined India's vision to bolster trade connectivity in the grouping.
- **Comparative Advantage:** Unlike SAARC, which is burdened by India-Pakistan hostilities, BIMSTEC is relatively free of sharp bilateral disagreements and promises to provide India with a co-operative sphere of its own.
- Significance:

Thorny areas in the BIMSTEC Grouping

- **Delayed Decision:** BIMSTEC Charter took a long time before it was finalized, showing the inherent challenges faced by the BIMSTEC Grouping.
- **Rohingya Crisis:** It has weakened bilateral Bangladesh-Myanmar ties, with Dhaka seeking full repatriation of the refugees and Naypyidaw disinclined to respond positively to international pleas.

Way Forward

- BIMSTEC will require sustained bilateral and group-level discussions to prevent problems such as the Rohingya crisis from becoming impediments to the smooth delivery of economic and security outcomes.
- India too will have to ensure equally sustained political engagement with partners such as Nepal, Sri Lanka and Bangladesh to prevent any domestic political spill-over from affecting bilateral and group-level working relationships.
- **Sign a BIMSTEC Free Trade Agreement:** An FTA spanning the maritime resource-rich members such as Myanmar and Sri Lanka could bring dramatic gains for all members.
- **Learning from the failures:** The security- and trade-related lessons from the troubled SAARC and SAFTA experiences also ought to serve BIMSTEC well in the long run.
- A 'coastal shipping ecosystem' and an interconnected electricity grid, in addition to the adopted Master Plan for Transport Connectivity, have the potential to boost intraregional trade and economic ties.

Conclusion

- India will have to take a leadership role in assuaging any apprehensions among the smaller members of intragroup power imbalances.
- India should also strive to facilitate greater cross-border connectivity and flow of investments by lowering barriers to the movement of people and goods.

Five State Polls, Their Messages and Implications

In news

- The Bharatiya Janata Party (BJP) won four out of five state assembly elections in recently held state polls. With these wins, the BJP era appears to be in top gear and cruising.

BJP's Gain in Uttar Pradesh

- **Poor Opposition:** Samajwadi party though improved from its 2017 performance but it was no match for the BJP that kept its enormous advantage in the urban and semi-urban seats.
 - Even more, the BJP has gained in vote share from 2017.
- **No Anti-incumbency:** Despite, the Centre and State taken together with a nearly eight-year incumbency at the Centre and a full majority in Lucknow, BJP managed to win UP Elections 2022.
- **No effect of deep economic distress:** Despite poor economic performance of the state, incumbent Chief Minister, Yogi Adityanath, was returned to power, in a first since 1985.
 - Youth unemployment is among the highest in the country and has grown in the past five years, with 16 lakh fewer people employed in the State in 2022 than they were in 2017.
 - The much lower growth in the State's GDP, when compared to the 2012-2017 phase, and the meteoric price rise, impacting the food basket, are all matters of statistical record.
 - NITI Aayog ranked U.P. at the bottom of the multi-dimension poverty index.

Emergence of the AAP (Aam Admi Party)

- **Reimaging of Opposition:** The only Opposition party that has succeeded is the Aam Aadmi Party in Punjab.
 - The losers would include, other than the Congress, the Bahujan Samaj Party (BSP) and the Akali Dal.

- **Challenging BJP:** AAP having as many Chief Ministers as the Grand Old Party, and parties such as the SP and others unable to mount an electoral challenge to the BJP.
 - This signals a blow to the whole universe of how politics was done before 2014, at least for the moment.

Conclusion

- These elections have proved that to counter the idea of Hindu nationalism or ensure that voters are enthused by harmony, or even a 21st century version of Indian nationalism, would need much more than smart electioneering or tactical plays.

Harm in the Name of Good

In news

- The UN General Assembly has proclaimed March 21 as the International Day of Forests to celebrate and raise awareness about the importance of forests.
- On this day, countries are encouraged to organise activities such as tree planting campaigns to help increase the green cover, conserve biodiversity, and fight climate change.

Issues with Present Plantation Drives

- **Lack of Ecosystem Approach:** Forests are complex ecosystems that are built over years due to the interplay of birds, mammals, reptiles, insects, amphibians, fungi, microorganisms, water, soil, environmental conditions, and other factors.
 - Unless these players are part of the rebuilding process, trees will remain as green cover rather than the enchanting, natural, complex ecosystems that they are.
- **Destruction of Ecologically Rich Habitats:** If wrong areas are selected for plantation, the natural habitat may get altered, which will cause habitat specialist species to become extinct.
 - This will make the local environment and ecosystem less resilient.
 - A classic example that we witness is the conversion of natural grasslands to wooded areas through tree planting.
 - The Great Indian Bustard, once nominated to be India's national bird, is now staring at extinction with fewer than 200 individuals.
 - This is because many areas where these large birds thrived have been lost due to tree planting.
 - The Ranibennur Wildlife Sanctuary in central Karnataka, which was designated to conserve this species, is an example of this unscientific thinking.

- The Jayamangali Conservation Reserve, another grassland habitat in Karnataka, hosted wolves.
- But now there are leopards there as the whole area has been planted with acacia, anjan, eucalyptus and tamarind trees.
- **Faulty Plantation Drives:** Some of these tree-planting campaigns claim to propagate native species. Native tree species is a very misused terminology in India.
 - Though neem, peepal, banyan, and anjan may be native to India, they are non-native to many parts of the country.
 - We tend to ignore this critical ecological criterion and take up planting of these species in all areas.
 - Planting any kind of native tree species may probably help in urban settings but not in natural habitats.

Restoring Natural Ecosystem of Forests

- **Making tree-planting activities friendly to local biodiversity:** If we want to restore forests, we need to first understand systematically the native vegetation and the biodiversity that play a critical role in forming these forests.
 - If we plant a range of locally found indigenous species, biodiversity will make a comeback.
 - There is a rule of thumb in the tree-planting world: One should plant the right tree in the right place. And some add, 'for the right reason'.
- **Monitoring the effectiveness:** We should also monitor and examine the outputs of such tree-planting or restoration initiatives.
- **Promoting Assisted Natural Regeneration:** Another solution is to let forests come back on their own through protection. This is called assisted natural regeneration and is cheaper and more effective method.
 - Scientific studies have shown that natural regeneration absorbs 40 times more carbon than plantations and host a lot more biodiversity.
- **Preserving Existing Biodiversity and Forest Ecosystems:** Our utmost priority is the task of halting deforestation and protecting existing forests.
- **Investing in Forestry and Wildlife Conservation:** A report by the Centre for Science and Environment says that the government has cut the budget for wildlife conservation by 47% between 2018 and 2021.
 - The government ought to increase its support for forests and other habitat protection.

Needed, an Indian Legislative Service

In News

- Dr. P.P.K. Ramacharyulu was appointed as the Secretary-General of the Upper House by M. Venkaiah Naidu, Chairman of the Rajya Sabha, on September 1, 2021.
- Ramacharyulu was the first-ever Rajya Sabha secretariat staff who rose to become the Secretary-General of the Upper House.
- A precedent — appointing the Secretary-General from 'outside' or bureaucracy, often retired — very hard to unfollow was made possible by the Chairman.
- It was both a well-deserving signal for long-serving staff of the Parliament secretariat and course correction to restore the legitimacy of their long-time demand.
- However, Ramacharyulu was replaced, by a former bureaucrat, P.C. Mody, in less than three months.

History of Secretary-Generals of Rajya Sabha

- Since the first Parliament in 1952, 11 Secretaries-General had served in the Rajya Sabha before Ramacharyulu.
 - Except for some of the lateral entry staff, who could become Secretaries-General, all the others were from the civil services or other services.
- In the first Parliament, the Rajya Sabha opted for the first Secretary (General) S.N. Mukherjee, a civil servant.
 - This was despite India having a legacy of the Legislative Assembly Department (Secretariat) attached to the Central Legislative Assembly since 1929.
 - However, S.N. Mukherjee's appointment as Secretary (General) could be justified as he had served in the Constituent Assembly Secretariat as Joint Secretary and chief draftsman of the Constitution.
- Similarly, Sudarshan Agarwal joined the Rajya Sabha as Deputy Secretary and became the fourth Secretary-General in 1981.
- Since 1993, all the Secretaries-General of the Rajya Sabha were from the civil service till the appointment of Ramacharyulu as the 12th Secretary-General.
- The appointment of P.C. Mody, a retired IRS officer as the 13th Secretary-General in the Upper House was for the first time.

Key Points about Secretary General

- **Constitutional Backing:** Article 98 provides the scope of separate secretariats for the two Houses of Parliament.
 - The principle, hence, laid in the Article is that the secretariats should be independent of the executive government.
- **Official Rank:** The Secretary-General, with the rank equivalent to the Cabinet Secretary, is the third most key functionary of the Rajya Sabha after the Chairman and the Deputy Chairman.
- **Perks and Privileges:** The Secretary-General also enjoys certain privileges such as freedom from arrest, immunity from criminal proceedings, and any obstruction and breach of their rights would amount to contempt of the House.
- **Key Responsibilities:** The Secretaries-General of both the Houses are mandated with many parliamentary and administrative responsibilities.
 - One of the prerequisites that demand the post of the Secretary-General is unfailing knowledge and vast experience of parliamentary procedures, practices and precedents.

Issues with Civil Servants being appointed as Secretary General of Parliament

- **Past Baggage:** Serving civil servants or those who are retired come with long-held baggage and the clout of their past career.
 - When civil servants are hired to the post of Secretary-General, this not only dishonours the purpose of ensuring the independence of the Secretariat but also leads to a conflict of interests.
- **Breach of Separation of Power:** Appointment of civil servants as secretary general breaches the principle of separation of power.
 - The officials mandated with exercising one area of power may not expect to exercise the others.
- **Compromises Reciprocal Supervisory Nature of Parliamentary Democracy:** In a parliamentary polity, one of the roles of Parliament is to watch over the executive's administrative behaviour.
 - In other words, Parliament has all the reasons for its surveillance of administration.
 - Parliament must have the technical and human resource competency that is on a par with the executive to be an effective body for providing meaningful scrutiny and to make the executive accountable.
 - A strong Parliament means a more answerable executive.
 - However, the bureaucracy persistently does not allow Parliament to be a competent and robust legislative institution.

Way Forward- Constituting an Indian Legislative Service

- **Need for an Indian Legislative Service:**
 - **Mammoth Law-Making Bodies:** There are thousands of legislative bodies in India, ranging from the panchayat, block panchayat, zila parishad, municipal corporations to State legislatures and Union Parliament at the national level.
 - Despite these mammoth law-making bodies, they lack their own common public recruiting and training agency at the national level.
- **Creating an Indian Legislative Service:** A common **Indian Legislative** service can build a combined and experienced legislative staff cadre, enabling them to serve from across local bodies to Union Parliament.
 - Presently, the Parliament and State legislative secretariats recruit their pool of bureaucrats separately.
 - Ensuring competent and robust legislative institutions demands having qualified and well-trained staff in place.
- **Constitutional Provision:** The Rajya Sabha can, under Article 312, pass a resolution, in national interest, to create an all-India service common to both the Union and the States. This enables Parliament to create such a service by law.

Conclusion- Creating an Indian Legislative service

- In the United Kingdom, the Clerk of the House of Commons has always been appointed from the legislative staff pool created to serve Parliament. It is high time that India adapts and adopts such democratic institutional practices.

Poverty Rose but Income Inequality Fell

Background

Over two-thirds of the country has been infected by COVID-19 and perhaps five million or so people have died, directly or indirectly, from the pandemic.

- Even though there has been a V-shaped recovery, output remains about 10% lower than 2019.
- In macroeconomic crises, including the oil shock of 1990-91 or the global liquidity crisis of 2007-08, many expect the poor to bear the brunt of the pain.

Key Findings about Poverty and Inequality During Pandemic

- Poor are the most vulnerable, without contractual protections and adequate safety nets. But there are signs that this pandemic has not followed that script.

- **Rise in Extreme Poverty:** It rose from 7.6% in November 2019 to 11.7% in July 2021.
 - Extreme Poverty: It is defined by the World Bank as the percentage of the population with an income below \$1.90.
- **Decline in Income Inequality:** In 2019, the average monthly income of households in the top 25% and bottom 25% of the income distribution was approximately ₹45,000 and ₹8,000, respectively, in urban areas, and ₹22,500 and ₹7,500, respectively, in rural areas.
 - While the average monthly income of the top quartile in urban areas fell almost 30%, to ₹32,500 by July 2021, the monthly income of the bottom quartile in July 2021 remained at pre-pandemic levels.
 - In rural areas, the top quartile income fell by perhaps 20%, while the bottom quartile income grew slightly during the same period.
 - The result is that inequality, measured as the percentage change in the income of the top quartile minus the income in the bottom quartile, fell by 15-20 percentage points.
- Richer households saw larger drops in income all along the income scale, in rural and urban areas, within each State, and even within caste groups.

Reason for decline in Inequality

- **Role of Government payments:** to the poor cannot explain the decline in inequality.
 - Households received roughly ₹400 per month in urban areas and nearly ₹500 per month in rural areas during the lockdown and the Delta wave.
 - Even when government transfers were netted out from income, income inequality fell by over 20% points by July 2021.
- **Decline in Business Profits:** It played a bigger role than transfers. The rich saw a larger decline in business income and depended more on that income than the poor.
 - While just 7% of a bottom quartile household's income is from a business, nearly 15% of a top quartile's household's income is from a business.
 - Unlike labour income, business income is volatile because it is susceptible to changes in demand, and thus to aggregate income.
- **Labour income:** Labour income is just over 65% and 80% of the income of the top 25% and bottom 25% of households.
 - These are larger shares than those of government transfers or business profits.
 - While the minimum amount that the poor were willing to accept to take a job fell roughly 40%, the minimum amount fell more than 45% for the rich.

- **Demand-fell in service sector:** The rich tend to work in the service sector, and demand for services fell more than demand for other sectors.
 - While 30% of workers in bottom quartile households work in the service sector, 45% of workers from the top quartile households do.
 - During the pandemic, consumer spending on services fell by 30%-40%, far more than the decline in spending on manufacturing or agriculture.
- **Manufacturing sector:** It employs a larger share of bottom quartile workers than top quartile ones: 35% versus 15%.
 - But manufacturing declined less than 20% during the pandemic.
 - The progressive contraction of demand for services swamped the regressive contraction of demand for manufacturing.

Conclusion

- The reduction in inequality would be a silver lining if it were accomplished by lowering poverty rather than reducing the income of the rich.

Unguided Missile

In News

- Recent accidental firing of a missile by India into Pakistan could have led to serious for both countries.
- This could have led to unintended escalation of tensions between the two nuclear-armed countries, but, fortunately, that did not happen.

Unguided Missile reached to Pakistan

- **India's Stand:** The Government of India has said the incident, on March 9, happened in the course of routine maintenance, due to a technical malfunction.
- **India's Response:** India has ordered a high-level Court of Inquiry. The Chargé d'affaires of the Indian High Commission in Islamabad was called twice by Pakistan to convey its concerns.
- **Pakistan's Stand:** Pakistan has alleged that the incident "indicates many loopholes and technical lapses of a serious nature in Indian handling of strategic weapons".
- **Pakistan's Demand:** Pakistan termed the inquiry as ordered by India as insufficient. It has demanded a joint probe.
 - It has also sought the involvement of the international community to promote "strategic stability in the region".

Possible Implications of the Missile Incident

- **Questioning India's Technical Capability:** India's global image of being a responsible nuclear power has been built over decades of restrained words and thoughtful action.
 - This incident frays that reputation and measures must be taken to restore the confidence of the international community in India.
- **Previous Incidents:** This accident also has echoes of another incident in February 2019.
 - A day after the Balakot air strike, as fighter jets of India and Pakistan were engaged in a dogfight near the LoC, an Mi-17V5 crashed in Budgam shortly after take-off from Srinagar killing its personnel onboard and a civilian on the ground.
 - The Court of Inquiry confirmed that it was shot by an Israeli-origin Spyder surface-to-air missile system of the IAF.

Conclusion

- India must leave no scope for any doubts about its capacity to handle nuclear and other military assets. That objective can be achieved without a joint probe with Pakistan or any international involvement, but the objective must be achieved nevertheless.

Water Management Needs a Hydro-Social Approach

Context

- Global Water System Project embodies global concern about the human-induced transformation of fresh water and its impact on the earth system and society.

Depleting freshwater resources

- Freshwater resources are under stress due to various human activities.
- If present practice continues, the gap between demand for and supply of fresh water may reach up to 40% by 2030.
- 2030 Water Resource Group in 2008 also recognises this problem and help achieve the SDG 6.
- The latest UN World Water Development Report, 2021, titled 'Valuing Water', has laid stress on the proper valuation of water by considering five interrelated perspectives
 - water sources;
 - water infrastructure;
 - water services;
 - water as an input to production;
 - socio-economic development, and sociocultural values of water.

- In this context, a hydro-social cycle approach provides an appropriate framework.

What is a hydro-social cycle?

- Hydro-social cycle repositions the natural hydrological cycle in a human-nature interactive structure and considers water and society as part of a historical and relational-dialectical process.

Issues

- Inter-basin transfer projects
 - Human intervention has influenced the freshwater systems through irrigation, river channel engineering and land use change, change in aquatic habitat.
 - The intra- and inter-basin transfer (IBT) of water is a major hydrological intervention to rectify the imbalance in water availability due to naturally prevailing unequal distribution of water resources within a given territory.
 - There are several IBT initiatives across the world.
 - The National River Linking Project of India is one of those under construction.
 - These projects, if executed, will create artificial water courses that are more than twice the length of the earth's equator.
- Budget 2022 mentions the Ken Betwa River link project.
 - This decision raises larger questions about hydrological assumptions and the use and the management of freshwater resources in the country.
- The agriculture sector uses around 90% of total water use in India. And in industrial plants, consumption is 2 times to 3.5 times higher per unit of production of similar plants in other countries.
- The discharge of untreated grey water and industrial effluents into freshwater bodies is cause for concern.
 - It is estimated that 55% to 75% of domestic water use turns into grey water.
- Apart from the inefficient use of water in all sectors, there is also a reduction in natural storage capacity and deterioration in catchment efficiency.

Way forward

- It is important to include less predictable variables, revise binary ways of thinking of 'either or', and involve non-state actors in decision-making processes.
- A hybrid water management system is necessary that includes individual, community and society with definite roles in the value chain.
- The challenge is not to be techno-centric but anthropogenic.

Fragmenting World Order, Untied Nations

Context

- Russian war on Ukraine is still going on and its impact on the world order needs to be focussed upon.

Issues for India

- India has refused to criticise Russia's action by **abstaining at the United Nations**. This decision would possibly impact India's relation with the West, especially with the US.
- The economic sanctions put by the US might lead to **unprecedented damage** to the domestic economy of India.
- Moreover, the crisis is having **following negative impacts on the global world order**.

Crumbling world order

- **UN and the Security Council:** Russia's actions in Ukraine have exposed the United Nations and the Security Council for their complete ineffectiveness.
 - Everyday bombing by Russia on Ukrainian cities and the western response of putting sanctions on Russia rather than bringing it under the United Nations, is a deep concern for the global order.
- **Undermining nuclear safeguards:** Russia has targeted areas near Chernobyl and shell buildings near the Zaporizhzhia nuclear power plant, which the Europe's largest nuclear plant is a worrying signal for a rule based global order.
 - Moreover, the fact that Ukraine and Libya, who have voluntarily given up their nuclear programmes, were invaded; and Iran and North Korea can anytime defy the global order because they have held on to their nuclear deterrents, speaks a lot about the nuclear non-proliferation regime's credibility.
- **Economic sanctions:** The arbitrary and unilateral sanctions imposed by the western countries overshadowed the international financial order set up under the World Trade Organization.
 - Moreover, the fact that the sanctions announced so far do not include some of Russia's biggest banks such as Sberbank and Gazprombank and energy agencies (in order to avoid the disruption of oil and gas from Russia), has also raised various questions about the credibility of such sanctions.
 - World is moving in the direction of non-dollar system as India is using a rupee-rouble mechanism for financing our imports from Russia, and Russian banks will now use the Chinese "UnionPay" for online transactions.

- **Isolation causing distress:** The western countries are aiming at isolating Russia, socially and culturally, which rails against the global liberal order.
 - Moreover, their acknowledgement that their fight is not with the Russian citizens is also not going well with their actions as most of their actions will hurt the average Russian citizen.

Way forward

- India must move with the like-minded nations to proactively uphold, strengthen and reinvent the global order that will make the world a safer place.

Tackling the Persistent Growth of China

Tone of the editorial

- The writer is a professor of economics at IIT Madras. In this article, he discusses how China has positioned itself to cause an unprecedented change in industrialisation.

Key points

- Despite trade wars and the COVID-19 crisis, China has achieved remarkable achievement when it comes to economic growth.
- In 2020, when other economies were struggling to cope with the effects of the novel coronavirus pandemic, China's manufacturing output increased from the previous year.
- According to official data from China's National Bureau of Statistics, China's economy grew by 8.1% in 2021, aided by growth in industrial production.
- While industrial production rose by 4.3% in December 2021 compared to 2020, fixed asset investment for 2021 grew by 4.9%, surpassing expectations of 4.8% growth.
- In 2021, overall retail sales grew by 12.5% from the prior year's contraction, and also bettered the levels in 2019.

No De-factorisation

- In 2021, experts believed that factories would move away from China—the factory of the world.
- The reason for the above inference were the combined effects of COVID-19, geopolitical tensions and high tariffs.

- This shift in the global supply chain would have led to significant change in the geo-political relations as China accounts for about 30% of global manufacturing.
- However, this presumed shift could not occur as the Chinese economy seems to have recovered from a short-lived pandemic blip.

China's advanced manufacturing

- China is stimulating overall growth by catalysing the industrial sector, pursuing a radical shift in its approach.
- China is using its increasingly skilled labour force and strategic raw materials to enhance its already highly developed manufacturing capabilities.
- This is pushing industrialisation toward 'advanced manufacturing' and higher levels of automation, which have been boosted by its world-beating adoption of artificial intelligence (AI).
- The effect of such a strategy is that Chinese manufacturing is moving toward a new kind of predominance in growing sectors that are less exposed to lower cost competition.
- The recent economic recovery has been aided by a massive adoption of artificial intelligence.

Way forward

- It might take years for the rest of the emerging economies to shift gears to move to the present phase of industrial production in China.
- As an early mover, 'China is laying the groundwork for setting itself up to be a leader'.



BILINGUAL

Mission CSAT Batch

for UPSC & State PSC

Starts Apr 11, 2022 | **10 AM to 12 PM**

Practice Questions

SET - 01

1. Consider the following statements regarding Polar Science and Cryosphere Research (PACER) scheme
1. it comprises the Antarctic program, Indian Arctic program, Southern Ocean program and Cryosphere and Climate program
 2. it is implemented successfully through Department of science and technology
- Which of the statements given above is/are correct?
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
2. Which of the following are dedicated military communication satellite of Indian military-
1. Rukmini
 2. GSAT-7B
 3. CARTOSAT
 4. RISAT
- Select correct code:
- (a) 1 and 2 (b) 3 and 4
(c) 1,2 and 3 (d) 1,2,3 and 4
3. Consider the following statements regarding Export Preparedness Index (EPI)
1. it is released by Ministry of commerce and industry
 2. *Most of the Coastal States are the best performers.*
 3. *The list was topped by Gujrat*
- Which of the statements given above is/are correct?
- (a) 1 and 2 (b) 2 and 3
(c) 1 and 3 (d) 1,2 and 3
4. "H2Ooooh! – Waterwise program for the Children of India" initiative is launched by
- (a) UNEP (b) UNESCO
(c) UNDP (d) NITI Ayog
5. Rezang La Pass is located in-
- (a) Ladakh (b) Sikkim
(c) Arunachal Pradesh (d) Jammu Kashmir
6. Consider the following statements regarding NIPUN BHARAT mission
1. It aims to cover the learning needs of children in the age group of 3 to 9 years.
 2. A five-tier implementation mechanism will be set up at the National- State- District- Block- School level in all States and UTs.
 3. NIPUN BHARAT mission will work under the aegis of Samagra Shiksha Abhiyan.
- Which of the statements given above is/are correct?
- (a) 1 and 2 (b) 2 and 3
(c) 1 and 3 (d) 1,2 and 3
7. Consider the following statements regarding "Dare2eraD TB"
- (a) It is an TB eradication programme of Ministry of family and health welfare
 - (b) It is Data-Driven Research to Eradicate TB launched by the Department of Biotechnology,
 - (c) It is an TB eradication programme of WHO
 - (d) It is an international coalition of high TB incident countries that aims to eliminate TB.
8. Which of the following statements regarding Remission of Duties and Taxes on Exported Products (RoDTEP) scheme is incorrect?
- (a) The scheme was announced as a replacement of the Merchandise Exports from India Scheme (MEIS).
 - (b) It was announced by the Ministry of Finance
 - (c) The scheme would refund to exporters the embedded central, state and local duties or taxes that were so far not being rebated or refunded
 - (d) All of the above are correct
9. Consider the following statements regarding Mission 25 Tonne
1. It aims to Reduce the release of CO₂ in urban areas to minimize urban heat island effect.
 2. It has been launched by Ministry of environment forest and climate change
- Which of the statements given above is/are correct?
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
10. Which of the following statements regarding Tuberculosis (TB), is incorrect?
- (a) It is caused by a virus and most often affects the lungs.
 - (b) TrueNat is an indigenous molecular diagnostic tool for TB, based on polymerase chain reaction (PCR) test.
 - (c) The highest burden of TB patients in the world is in India
 - (d) All are correct

SOLUTIONS

1. **(a):** Polar Science and Cryosphere Research (PACER) scheme comprising the Antarctic program, Indian Arctic program, Southern Ocean program and Cryosphere and Climate program is implemented successfully through National Centre for Polar and Ocean Research (NCPOR), an autonomous institute under the Ministry of Earth Sciences.
2. **(a):** The Defence Ministry on Tuesday approved the long awaited GSAT-7B satellite, which is likely to be used by the Indian Army for communication.
GSAT-7 (Rukmini) and GSAT-7A are India's only two dedicated military satellites made for the Navy and IAF respectively.
Currently, the force uses GSAT-7A (also known as 'Angry Bird'), which was launched in 2018. Known as Rukmini, the GSAT-7 is the primary communication link for all naval operations. Rukmini was the first military communication satellite developed by the Indian Space Research Organisation (ISRO) for the Indian Defence forces, with the Indian Navy being the primary user. Built on September 29, 2013, The heaviest satellite being launched by GSLV with an indigenously developed cryogenic stage, GSAT-7A provides services to the users in Ku-band over the Indian region.
ISRO will be launching a few more military satellites this year that will be focussed on surveillance, sources added. India currently uses the CARTOSAT and RISAT series of satellites for this purpose.
3. **(b):** NITI Aayog, in partnership with the Institute of Competitiveness, released the second edition of Export Preparedness Index (EPI) 2021 recently. This edition has shown that most of the 'Coastal States' are the best performers, with Gujarat as the top-performer followed by Maharashtra, Karnataka, Tamil Nadu, Haryana, Uttar Pradesh, Madhya Pradesh, Punjab, Andhra Pradesh and Telangana as the top 10 performers.
The EPI's primary goal is to instil competition among all Indian states ('Coastal', 'Landlocked', 'Himalayan', and 'UTs/City-States') to bring about favourable export-promotion policies
4. **(b):** On the occasion of World Water Day, National Mission for Clean Ganga, UNESCO and other partners released three animation films under its initiative "H2Ooooh! – Waterwise program for the Children of India". The films are based on the stories submitted by school students focusing on protection and conservation of Indian Rivers. The initiative was launched by UNESCO in July 2021, jointly with the National Mission for Clean Ganga (NMCG) and others
5. **(a):** November 18 this year marked the 59th anniversary of the Battle of Rezang La.
Where is Rezang La?
Rezang La is a mountain pass on the Line of Actual Control in Ladakh. It is located between village of Chushul and the Spanggur Lake that stretches across both Indian and Chinese territories. It had also been the site of a heroic battle on 18 November 1962.
6. **(d):** The vision of the NIPUN Bharat Mission is to create an enabling environment to ensure the universal acquisition of foundational literacy and numeracy, so that every child achieves the desired learning competencies in reading, writing, and numeracy by the end of Grade 3, by 2026-27. It aims that by 2026-27, every Class 3 child should be able to read with understanding at the rate of at least 60 words per minute, be able to read and write numbers up to 9999 and solve simple multiplication problems.
NIPUN Bharat will be implemented by the Department of School Education and Literacy and a five-tier implementation mechanism will be set up at the national- state- district- block- school level in all states and UTs, under the aegis of the centrally sponsored scheme of Samagra Shiksha.
For this purpose, ₹2,688 crores have been set aside under the existing Samagra Shiksha scheme for 2021-22.
Note that:
Samagra Shiksha is an overarching program for the school education sector extending from pre-school to class 12. The scheme has been prepared with the broader goal of improving school effectiveness. It subsumes the three **Schemes of Sarva Shiksha Abhiyan (SSA), Rashtriya Madhyamik Shiksha Abhiyan (RMSA), and Teacher Education (TE).**

7. (b): Union Minister of Science & Technology announced the launch of Data-Driven Research to Eradicate TB- “Dare2eraD TB” by the Department of Biotechnology, M/o Science & Technology, on the occasion of World TB Day (March 24). Dare2eraD TB will be the umbrella TB program of DBT comprising of following key initiatives: InTGS – Indian Tuberculosis Genomic Surveillance Consortium. InTBK Hub- Indian TB Knowledge Hub- Webinar Series. Host Directed therapies against TB and developing an evidence-based regimen for treating extra-pulmonary Tuberculosis.
8. (b): The scheme was announced in 2020 as a replacement for the Merchandise Export from India Scheme (MEIS), which was not compliant with the rules of the World Trade Organization. The scheme would refund to exporters the embedded central, state and local duties or taxes that were so far not being rebated or refunded and were, therefore, placing India’s exports at a disadvantage. It was announced by the Ministry of Commerce & Industry.
9. (d): The Minister of Railways Shri Suresh Prabhakar Prabhhu while presenting the Railway Budget 2016-17 in the Parliament launched this mission
Mission 25 Tonne – It aims to increase revenue by augmenting carrying capacity. To achieve this 10-20% freight loading will be done through 25-tonne axle-load wagons in 2016-17 and target movement of 70% of freight traffic on high axle load wagons by FY19-20. Recently under this Three new wagons have been designed with 25T axle load, which are having approximately 12% to 17% increase in carrying capacity over equivalent lesser axle load (22/22.9T) wagons.
10. (a): It is caused by Mycobacterium tuberculosis (bacteria) and it most often affects the lungs. India has 30 percent of the world’s TB cases, which is the highest in the world, followed by Indonesia and China. TrueNat is an indigenous molecular diagnostic tool for TB. It is a polymerase chain reaction (PCR)-based test that, by assaying the genes present in the TB bacteria, can not only detect the presence of the bacteria but can also detect drug resistance with the use of chips.

SET - 02

1. Recently World Happiness Report, 2022 was released by?
(a) United Nations Sustainable Development Solutions Network (UN - SDSN)
(b) World Economic Forum (WEF)
(c) United Nations Development Programme (UNDP)
(d) United Nations Educational, Scientific and Cultural Organisation (UNESCO)
2. Which of the following statement regarding the Arctic council is incorrect?
(a) It is a high-level intergovernmental body set up by the Ottawa declaration in 1996.
(b) It deals with the security issues besides the climate change related to the countries which have territories in arctic circle which are also part of this forum
(c) India has an observer status in the arctic council
(d) Currently, Russia holds the chair of Arctic council
3. Consider the following statements regarding Kamikaze
1. it is a loitering munition
2. It shares the characteristics of both cruise missiles and unmanned combat aerial vehicles (UCAVs).
Which of the statements given above is/are correct?
(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
4. Consider the following statements regarding Pradhan Mantri Fasal Bima Yojana (PMFBY)
1. Under the scheme, there is a uniform insurance premium of only 2% to be paid by farmers for all Kharif crops and 1.5% for all Rabi crops.
2. The enrolment under the scheme is made voluntary for all farmers.
3. It aims to ensure the flow of credit in the agriculture sector
Which of the statements given above is/are correct?
(a) 1 and 2 (b) 2 and 3
(c) 1 and 3 (d) 1,2and 3

5. Consider the following statements regarding Man Booker International Prize
1. It is awarded for Best book in English or in English translation only
 2. It is awarded only to writers from the Commonwealth nations.
 3. It is not given posthumously
- Which of the statements given above is/are correct?
- (a) 1 and 2 (b) 2 and 3
(c) 1 and 3 (d) 1,2and 3
6. The term “Syllipsimopodi Bideni”, recently seen in the news, is mentioned, in reference to:
- (a) Fossil of dinosaur
(b) A gecko found in Nilgiri hills of Western Ghats
(c) A species of Flower in the Himalayas
(d) Primordial octopus with ten arms
7. Consider the following statements
1. The nodal agency for hallmarking silver in India is ISI
 2. Hallmarking in India is available for the jewelry of only two metals—gold and silver.
- Which of the statements given above is/are correct?
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
8. Which of the following suggests and identifies the public sector enterprises for strategic disinvestment to the Cabinet?
- (a) Niti Aayog
(b) Department of Public Enterprises (DPE)
(c) Ministry of Finance
(d) Cabinet Committee on economic affairs
9. Consider the following statements
1. In India, about 10 percent of domestic surface transport takes place via Inland Waterways.
 2. There are total of 10 operational inland waterways in India
- Which of the statements given above is/are correct?
- (a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
10. Consider the following statements regarding International court of justice
1. The ICJ consists of a panel of 15 judges.
 2. The tenure of each judge is 5 years
 3. All 193 UN members are automatically parties to the court's statute
- Which of the statements given above is/are correct?
- (a) 1 and 2 (b) 2 and 3
(c) 1 and 3 (d) 1,2and 3

SOLUTIONS

1. **(a):** Published by the United Nations Sustainable Development Solutions Network, World Happiness Report evaluates levels of happiness by taking into account factors such as GDP, social support, personal freedom, and levels of corruption in each nation.
- India continued to fare poorly in the world happiness index, with its position marginally improving to 136 as against last year's 139.
 - Finland topped the list for the fifth time in a row
 - Afghanistan was named the most unhappy country in the world, ranking last on the index of 146 countries.
2. **(b):** Currently, Russia holds the Arctic council's rotating chairmanship for 2021-2023.
- Arctic Council:**
- It is a high-level intergovernmental body set up by the Ottawa declaration in 1996.
 - The Arctic Council brings together countries with Arctic territories to collaborate on matters that affect the region's residents. It does not deal with security issues.
- Countries of the Arctic Council said recently they would boycott future talks in Russia over its Ukraine invasion, throwing international cooperation in the region into upheaval at a time when climate change is opening it up to resource exploitation.
 - Member states of the council are Canada; Denmark; Finland; Iceland; Norway; Russia; Sweden; and the United States.
 - India was conferred observer status in 2013.
3. **(c): Kamikaze drone :**
- A loitering munition is also known as a suicide drone or kamikaze drone is a weapon system category in which the munition loiters (waits passively) around the target area for some time and attacks only once a target is located. These are unmanned aircraft that are part of the tranche of weapons that are being sent by the US to Ukraine to assist their fight against Russia.
- Loitering munitions fit in the niche between cruise missiles and unmanned combat aerial vehicles (ucavs), sharing characteristics with both.

4. (d): Pradhan Mantri Fasal Bima Yojana (PMFBY) :

- It was launched in 2016 to provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crops as a result of natural calamities, pests & diseases.
- Under the scheme, there is a uniform premium of only 2% to be paid by farmers for all Kharif crops and 1.5% for all Rabi crops. In the case of annual commercial and horticultural crops, the premium to be paid by farmers is 5%.
- The balance premium, vis-à-vis the actuarial rate based on statistical risk assessment, is paid as a subsidy to the companies and shared between the Centre and the states on a 50:50 basis.
- In order to ensure a more efficient and effective implementation of the scheme, the central government recently has approved the revamping of the Pradhan Mantri Fasal Bima Yojana (PMFBY).
- PMFBY has until now been a voluntary scheme only for non-loanee farmers, while mandatory for those availing crop loans from banks. Under the new guidelines, enrolment is made 100% voluntary for all farmers from the 2020 Kharif season.

Aims of this scheme:

1. To provide insurance coverage and financial support to the farmers in the event of failure of any of the notified crops as a result of natural calamities, pests & diseases.
2. To stabilize the income of farmers to ensure their continuance in farming.
3. To encourage farmers to adopt innovative and modern agricultural practices.
4. **To ensure the flow of credit to the agriculture sector.**

5. (c): Man Booker International Prize is an international literary award hosted in the United Kingdom.

The introduction of the International Prize to complement the Man Booker Prize was announced in June 2004.

Whereas the Man Booker Prize was open only to writers from the Commonwealth, Ireland, and Zimbabwe, the International Prize was open to all nationalities who had work available in English including translations.[6] The award was worth £60,000 and given every two years to a living author's entire body of literature, similar to the Nobel Prize for Literature.

6. (d): It is the oldest ancestors of the group of animals that includes octopuses and vampire squids had not eight but 10 arms which were discovered in the USA.

Vampyropods are soft-bodied cephalopods typically characterized by eight arms and an internalized chitinous shell or fin supports. Because they lack hard structures, Vampyropoda are not well represented in the fossil record. The new study is based on a vampyropod fossil from the collections of the Royal Ontario Museum.

7. (b): The Bureau of Indian Standard (BIS) defines hallmarking as the “accurate determination and official recording of the proportionate content of precious metal in precious metal articles.” BIS operates a gold and silver hallmarking scheme in India Hallmarking in India is available for the jewelry of only two metals—gold and silver.

8. (a): NITI Aayog identifies CPSEs for strategic disinvestment and advice on the mode of sale, percentage of shares to be sold of the CPSE, and method for valuation of the CPSE to the cabinet.

9. (d): There are 111 officially notified Inland National Waterways (NWS) in India identified for the purposes of inland water transport, as per The National Waterways Act, 2016.

Out of the 111 NWS, 106 were created in 2016. In several countries, IWT accounts for a substantial share as a percentage of the total: 32 percent in Bangladesh, 20 in Germany, 14 in the U.S. and 9 in China.

By contrast, in India, only 0.15 percent of domestic surface transport is accounted for by IWT, compared with 68 percent for road and 30 percent for rail

10. (c): The International Court of Justice (ICJ);

- It is also known as the **World Court** and is one of the six principal organs of the United Nations (UN).
- The ICJ is the successor of the Permanent Court of International Justice (PCIJ), which was established in 1920 by the League of Nations.
- The ICJ consists of a panel of 15 judges elected by the UN General Assembly and Security Council for a 9-year term and can be re-elected.

- ICJ judges are expected to exercise judicial functions independently without adhering to the diplomatic stance of their nominating States.
- As stated in Article 93 of the UN Charter, all 193 UN members are automatically parties to the court's statute.

Additional info:

- Non-UN members may also become parties to the court's statute under the Article 93(2) procedure, which was used by Switzerland in 1948 and Nauru in 1988, prior to either joining the UN.



SET - 03

- Arrange the following event in the correct chronology sequence
 - Lahore resolution of Purna swaraj
 - Dandi march
 - August Offer
 - First round table conference
 Select correct code:

(a) 1-2-4-3	(b) 2-3-1-4
(c) 1-3-4-2	(d) 1-2-3-4
- Consider the following statements regarding Unified District Information System for Education Plus (UDISE+)
 - It is a system of online data collection from schools and colleges.
 - It has been launched by the Ministry of education.
 Which of the statements given above is/are correct?

(a) 1 only	(b) 2 only
(c) Both 1 and 2	(d) Neither 1 nor 2
- Which of the following statements regarding Chilika is incorrect?
 - Chilika is Asia's largest and world's second-largest lagoon.
 - Mangalajodi recognized as globally important for the conservation of bird population is a part of Chilika
 - Chilika Lake was designated the first Indian wetland of international importance
 - It is the largest freshwater lake in India
- Consider the following statements regarding National Crime Records Bureau (NCRB)
 - It is a statutory body working under the aegis of the Ministry of home affairs
 - It was established on the recommendations of Sathnam committed
 - NCRB has the responsibility of implementing of the Inter-operable Criminal Justice System (ICJS).
 Which of the statements given above is/are correct?

(a) 1 and 2	(b) 2 and 3
(c) 3 only	(d) 1, 2 and 3
- Theyyam is a popular ritual form of dance worship, it belongs to which of the following state? Kerala

(a) Tamil Nadu	(b) Andhra Pradesh
(c) Odisha	(d) Kerala
- Consider the following statements
 - Electronic nicotine delivery systems (ENDS) commonly known as e-cigarettes do not contain tobacco.
 - They are not harmful to health and are completely safe.
 Which of the statements given above is/are correct?

(a) 1 only	(b) 2 only
(c) Both 1 and 2	(d) Neither 1 nor 2
- The recently launched 'Bahini scheme' is related to?
 - Providing financial support to handicrafts associated self-help groups
 - Providing entrepreneurial skills to college dropouts
 - Providing innovative teaching aids to teachers in schools
 - Installation of vending machines to provide free sanitary pads.

8. Which of the following statement is incorrect about the depreciated currency?
- (a) It occurs when the exchange rate is cut down by its government against any foreign currency
 (b) It leads to an increase in debt service liability,
 (c) It can cause Mark-to-market, problems
 (d) All are correct
9. Pochampalli Saree is the traditional heritage of Poochampalli village which has also been accorded as the Best World Tourism Village tag awarded by the United Nations World Tourism Organisation (UNWTO). It is located in-
- (a) Telangana (b) Tamilnadu
 (c) Kerala (d) Karnataka
10. Consider the following statements
1. The Protection of Civil Rights Act, 1955 prohibits all kinds of manual scavenging in India
 2. Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 provides for a rehabilitation mechanism for manual scavengers
- Which of the statements given above is/are correct?
- (a) 1 only (b) 2 only
 (c) Both 1 and 2 (d) Neither 1 nor 2

SOLUTIONS

1. (a): • The Congress Party in the Lahore session of December 1929, passed the Purna Swaraj resolution. It was proclaimed on **26 January 1930** and decided that civil disobedience was the way to achieve it.
- From Sabarmati Ashram on the **12 March 1930** that Gandhi launched the famous Dandi march 241 miles from the Ashram (with 78 companions) in protest of the British Salt Law, which taxed Indian salt in an effort to promote sales of British salt in India
 - The first round table conference started on **November 12th, 1930** as There were increasing demands of granting dominion status to India among a certain section of the British polity.
 - The August Offer (**1940**) was an offer made by Viceroy Linlithgow in 1940 promising the expansion of the Executive Council of the Viceroy of India to include more Indians, the establishment of an advisory war council, giving full weight to the minority opinion, and the recognition of Indians' right to frame their own constitution
2. (b): The UDISE+ system of online data collection from the schools was developed by the Department of School Education & Literacy in the year 2018-19. It was aimed to overcome the issues related to the erstwhile practice of manual data filling in paper format and subsequent feeding on the computer at the block or district level in the UDISE data collection system since 2012-13. In the UDISE+ system, improvements have been made particularly in the areas related to data capture, data mapping, and data verification.
3. (d): Chilika Lake is a brackish water lake, with lagoonal characteristics, spread over the Puri, Khurda, and Ganjam districts of Orissa state on the east coast of India.
- It is situated at the mouth of the Daya river which flows into the Bay of Bengal. In 1981, Chilika Lake has designated the first Indian wetland of international importance under the Ramsar Convention.
 - Chilika is Asia's largest and world's second-largest lagoon.
 - Mangalajodi is recognized as globally important for the conservation of the bird population. The Odisha government has proposed to ban the movement of mechanized fishing boats in the Mangalajodi area on the banks of Chilika lake — an important bird area (IBA) —
4. (c): National Crime Records Bureau (NCRB) headquartered in New Delhi, was set up in 1986 under the Ministry of Home Affairs to function as a repository of information on crime and criminals so as to assist the investigators in linking crime to the perpetrators. Accepting the recommendations of the National Police Commission - 1977, the Ministry of Home Affairs constituted a Task Force in 1985 to work out the modalities for setting up the National Crime Records Bureau (NCRB). The Government accepted the recommendations of the Task Force and constituted the NCRB via government Resolution dated 11.3.1986. The responsibility of implementation of the Inter-operable Criminal Justice System (ICJS) has also been given to the NCRB. ICJS is a national platform for enabling integration of the main IT system used for the delivery of Criminal Justice in the country.

5. **(d):** Theyyam is a popular ritual form of dance worship in Kerala and Karnataka. Theyyam consists of thousand-year-old traditions, rituals, and customs
6. **(a):** According to WHO, Electronic nicotine delivery systems (ENDS) and electronic non-nicotine delivery systems (ENNDS), commonly known as e-cigarettes, do not contain tobacco and may or may not contain nicotine, but are harmful to health and undoubtedly unsafe
7. **(d):** The Sikkim government is set to announce a scheme (Bahini) to install vending machines to provide free sanitary pads. This is the first time that a state government has taken a decision to cover all girls studying in Classes 9-12.
8. **(a):** Currency depreciation is a fall in the value of a currency in terms of its exchange rate versus other currencies and is market-driven. In the foreign exchange market, when the exchange rate of a domestic currency is cut down by its government against any foreign currency, it is called devaluation. It means official depreciation is devaluation. Devaluation was done by RBI in 1991 to set the stage for rupee convertibility
New term mark-to-market, problems:
 In mark-to-market, problems may occur when market-based measurements do not give the true value of an underlying asset. Problems occur mainly when a company or financial institution is forced to calculate the selling prices of its assets and liabilities during unfavorable conditions, such as a financial crisis.

A sharp depreciation in local currency would mean a corresponding increase in debt service liability, as a more domestic currency would be required to buy the same amount of foreign exchange for debt service payments. This would lead to erosion in profit margin and have 'mark-to-market' implications for the corporate. There would also be a 'debt overhang' problem, as the volume of debt would rise in local currency terms.

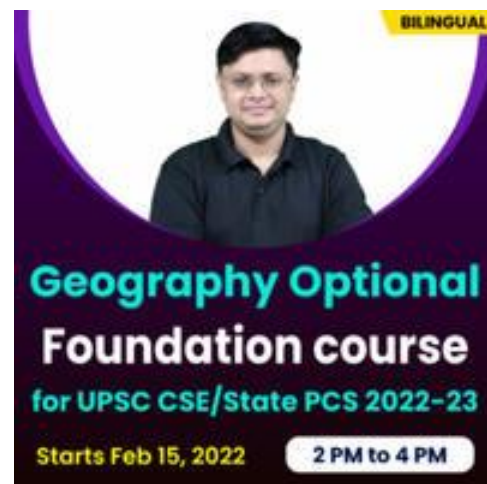
9. **(a):** These are Silk and cotton sarees with intricate motifs from the state of Andhra Pradesh. Pochampally, currently located in Telangana has been catapulted onto the global stage after bagging the 'Best World Tourism Village' tag awarded by United Nations World Tourism Organisation (UNWTO).
10. **(b):** Statement 1 is wrong as it only prohibited forced manual scavenging. Statement 2 is right
 Manual scavenging is the practice of removing human excreta by hand from sewers or septic tanks. India banned the practice under the Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013 (PEMSR). The Act recognizes manual scavenging as a "dehumanizing practice," and cites a need to "correct the historical injustice and indignity suffered by the manual scavengers."

SET - 04

1. Consider the following statements regarding DigiSaathi' helpline
- 'Digisaathi' will assist the callers/users with all their queries on digital payments via website and chatbot.
 - It is launched by the Ministry of Electronics and Information technology
- Which of the statements given above is/are correct?
- (a) 1 only (b) 2 only
 (c) Both 1 and 2 (d) Neither 1 nor 2

2. Consider the following statements regarding VVPAT
- It contains the name of the voter along with the candidate for whom the vote has been cast and the symbol of the party/individual candidate.
 - The VVPAT slip is displayed only for 10 seconds before it gets shredded into the sealed box.
 - In the case of general elections, VVPAT slips of five EVMs in each Assembly segment of a Parliamentary Constituency would be subject to physical counting.
 - In-State Assembly elections, the VVPAT verification would extend to five random EVMs in each Assembly constituency

- Which of the statements given above is/are correct?
(a) 3 and 4 (b) 1 and 2
(c) 2 and 3 (d) 1,2,3 and 4
3. Consider the following statements regarding National Mission on Edible Oils – Oil Palm (NMEO-OP)
1. It is a Centrally Sponsored Scheme to reduce heavy dependence on imports for edible oils
 2. Under NMEO-OP, the government aims to bring 10 lakh ha land under oil palm by 2025-26 to touch
 3. It has a special focus on the Northeast region and the Andaman and Nicobar Islands
- Which of the statements given above is/are correct?
(a) 1 and 2 (b) 2 and 3
(c) 1 and 3 (d) 1,2 and 3
4. Consider the following statements regarding Swatantrata Sainik Samman Yojana (SSSY)
1. Under this Freedom Fighters and their eligible dependents will be given a monthly pension
 2. Ministry of Home Affairs has launched this scheme
- Which of the statements given above is/are correct?
(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
5. Which of the following statement regarding The Maternity Benefit (Amendment) Act, 2017' is incorrect?
- (a) Maternity benefit in India applies to all shops and establishments with 10 or more employees.
 - (b) It extended the period of maternity benefit from 12 weeks to 26 weeks for adoptive and commissioning mothers.
 - (c) All pregnant women are entitled to 26 weeks of paid leave
 - (d) The Act is applicable to all establishments employing 10 or more than 10 persons
6. Consider the following statements regarding Startup Village Entrepreneurship Programme (SVEP):
1. The programme seeks to develop a pool of community resource persons who are local and support entrepreneurs setting-up rural enterprises.
 2. This scheme has been launched by SIDBI
- Which of the statements given above is/are correct?
(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
7. Consider the following statements regarding National Supercomputing Mission (NSM)
1. The Mission plans to build and deploy facilities with cumulative compute power of more than 64 Petaflops.
 2. Under this CDAC has developed a compute server "Rudra" and high-speed interconnect "Trinetra", the major sub-assembly required for supercomputers.
- Which of the statements given above is/are correct?
(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
8. Consider the following statements regarding PARAM Ganga
1. It is an entirely indigenous Flood Early Warning and Prediction System for River Basins of India.
 2. It is designed by IIT Roorkee under the National Supercomputing system
- Which of the statements given above is/are correct?
(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2
9. Donate a Pension initiative launched recently by
- (a) Ministry of Personnel, Public Grievances and Pensions
 - (b) Ministry of Labour and Employment
 - (c) Ministry of Home Affairs
 - (d) Ministry of Health and Family Welfare
10. Consider the following statements regarding Solar plasma jets
1. These are plasma streams constantly ejecting from the Sun's chromosphere
 2. These jets rise and fall back without the influence of the Sun's gravity
- Which of the statements given above is/are correct?
(a) 1 only (b) 2 only
(c) Both 1 and 2 (d) Neither 1 nor 2



SOLUTIONS

1. **(a):** The RBI launched DigiSaathi which will assist callers with all their queries on digital payments via website and chatbot facility. It is a 24x7 helpline for digital payments that has been set up by the National Payments Corporation of India (NPCI). The helpline christened 'Digisaathi' will assist the callers/users with all their queries on digital payments via website and chatbot.
2. **(a):** A VVPAT is intended as an independent verification system for voting machines designed to allow voters to verify that their vote was cast correctly and to provide a means to audit the stored electronic results. It contains the name of the candidate for whom the vote has been cast and the symbol of the party/individual candidate.
EVM The machine has a transparent window through which the printed slip is displayed to the voter for seven seconds. After the printed slip is displayed to the voter, it falls into a sealed ballot compartment within the machine. Thus, it's like checking a paper ballot against an electronic vote.
Supreme Court's April 18, 2019 directions for VVPAT verification: In case of general elections, VVPAT slips of five EVMs in each Assembly segment of a Parliamentary Constituency would be subject to physical counting. In-State Assembly elections, the VVPAT verification would extend to five random EVMs in each Assembly constituency.
3. **(d):** India is the largest importer of edible oil, over half of which is made up of palm oil imports from countries such as Malaysia and Indonesia. The National Mission on Edible Oil-Oil Palm (NMEO-OP) hopes to end India's dependency on imports for cooking oil.
it is a new Centrally Sponsored Scheme with a special focus on the Northeast region and the Andaman and Nicobar Islands.
Assistance to seed gardens especially for North-East and Andaman regions will be provided
Under NMEO-OP, the government aims to cover an additional 6.5 lakh ha under oil palm by 2025-26 to touch 10 lakh ha. Also, production of palm oil is targeted to increase to 11.20 lakh tonnes by 2025-26 and 28 lakh tonnes by 2029-30
4. **(c):** The Central government has approved the continuation of the Swatantrata Sainik Samman Yojana (SSSY), under which freedom fighters and their eligible dependents are given pension and other financial benefits, till 2025-26.
Nodal Agency-MHA
5. **(c): The Maternity Benefit Act:**
 - The act applies to all establishments employing 10 or more employees.
 - The Maternity Benefit Act originally provided a maternity benefit of 12 weeks. In 2017, the law was amended to extend the period to 26 weeks.
 - The Act applies to all establishments which are factories, mines, plantations, Government establishments, shops and establishments under the relevant applicable legislation, or any other establishment as may be notified by the Central Government.
 - As per the Act, to be eligible for maternity benefit, a woman must have been working as an employee in an establishment for at least 80 days in the past 12 months
 - Maternity leave of 12 weeks to be available to mothers adopting a child below the age of three months from the date of adoption as well as to the "commissioning mothers". The commissioning mother has been defined as a biological mother who uses her egg to create an embryo planted in any other woman.
 - Under the Maternity Benefit Amendment Act, this benefit could be availed by women for a period extending up to a maximum of 8 weeks before the expected delivery date and the remaining time can be availed after childbirth. For women who are having 2 or more surviving children, the duration of paid maternity leave shall be 12 weeks (i.e. 6 weeks before and 6 weeks after the expected date of delivery)
6. **(a): Startup Village Entrepreneurship Programme (SVEP):**
 - It is Implemented by Deendayal Antyodaya Yojana –National Rural Livelihoods Mission (DAY-NRLM), Ministry of Rural Development, as a sub-scheme since 2016.

- The focus of the scheme is to Provide self-employment opportunities with financial assistance and training in business management and soft skills while creating local community cadres for the promotion of enterprises
 - Entrepreneurship Development Institute of India (EDII), Ahmedabad is the technical support partner of SVEP.
 - The programme seeks to develop a pool of community resource persons – enterprise promotion (CRP-EP) who are local and support entrepreneurs setting-up rural enterprises.
7. (c): • The National Supercomputing Mission (NSM) is being steered jointly by the Ministry of Electronics & Information Technology (MeiTY) and the Department of Science and Technology (DST) and implemented by the Centre for Development of Advanced Computing (C-DAC) and the Indian Institute of Science (IISc), Bangalore.
- C-DAC has been entrusted the responsibility to design, development, deployment and commission the supercomputing systems under the building approach of Mission.
 - The Mission plans to build and deploy 24 facilities with cumulative compute power of more than 64 Petaflops

- Under the building approach, C-DAC is building an indigenous supercomputing ecosystem in a phased manner, which is leading to indigenously designed and manufactured supercomputers. It has designed and developed a compute server "Rudra" and high-speed interconnect "Trinetra" which are the major sub-assemblies required for supercomputers.
Source: <https://www.livemint.com/>
8. (d): NSM has now deployed "PARAM Ganga", a supercomputer at IIT Roorkee, with a supercomputing capacity of 1.66 Petaflops. The system is designed and commissioned by C-DAC under Phase 2 of the build approach of the NSM.
Substantial components utilized to build this system are manufactured and assembled within India along with an indigenous software stack developed by C-DAC, which is a step towards the Make in India initiative of the Government.
9. (b): Union Labour and Employment Ministry has launched the 'Donate-a-Pension' campaign under Pradhan Mantri Shram Yogi Maan-Dhan (PM-SYM) scheme.
It is an initiative under (the PM-SYM) pension scheme where citizens can donate the premium contribution of their immediate support staff such as domestic workers, drivers, helpers etc.
10. (a): Solar plasma jets, or spicules, are powerful plasma streams constantly ejecting from the Sun's chromosphere (an atmospheric layer above the Sun's visible surface). These jets rise and fall back under the influence of the Sun's gravity, which is 20 to 30 times greater than Earth. Some jets are so energetic that they propel into the solar corona and beyond.

SET – 05

1. Consider the following statements regarding International Telecommunication Union
1. It is a specialized agency of UN
 2. The Global Network Resiliency Platform (REG4COVID) to address the strain experienced by telecommunication networks in a covid pandemic is launched by ITU.
 3. It provides suitable orbital slots for satellites
- Which of the statements given above is/are correct?
 (a) 1 and 2 (b) 2 and 3
 (c) 1 and 3 (d) 1,2 and 3

2. Consider the following pairs
1. 'Accommodative' Stance- expand the money supply as inflation is not the immediate concern
 2. 'Neutral stance' -interest rate can move to either side as inflation and growth is equally important
 3. Hawkish stance-hike interest rates as the top priority are to keep the inflation low
- Which of the pair/s given above is/are correct?
 (a) 1 and 2 (b) 2 and 3
 (c) 1 and 3 (d) 1,2 and 3

3. Which of the following statements regarding United Nations human right commission (UNHRC) is correct or incorrect?
 (a) Members are elected to this assembly by the UN General assembly.
 (b) India is currently a member of UNHRC.
 (c) Members of the Council serve for a period of two years
 (d) Members of the Council are not eligible for immediate re-election after serving two consecutive terms.
4. Consider the following statements regarding acute radiation syndrome (ARS)
 1. ARS occurs when a person is exposed to a high dose of radiation
 2. It can occur due to cancer therapy.
 3. It can cause DNA damage
 Which of the statements given above is/are correct?
 (a) 1 and 2 (b) 2 and 3
 (c) 1 and 3 (d) 1, 2 and 3
5. Consider the following statements
 1. There are the 22 languages presently in the eighth schedule to the Constitution.
 2. Article 351 provides for the promotion and spread of the Hindi language by the state in the country
 3. Oriya is a classical language
 Which of the statements given above is/are correct?
 (a) 1 and 2 (b) 2 and 3
 (c) 1 and 3 (d) 1, 2 and 3
6. Which of the following rivers fall in the black sea-
 1. Danube
 2. Don
 3. Dnieper
- Select correct code:
 (a) 1 and 2 (b) 2 and 3
 (c) 1 and 3 (d) 1, 2 and 3
7. Arrange the following from north to south
 1. Sea of Azov
 2. Black sea
 3. Sea of Marmara
 4. Aegean sea
 Select correct code:
 (a) 1-2-3-4 (b) 3-2-1-4
 (c) 1-2-4-3 (d) 3-2-4-1
8. Consider the following statements regarding Asian Infrastructure Investment Bank
 1. India and Japan are the founding members of AIIB
 2. The membership of AIIB is currently open for Asian countries only.
 3. Japan holds the highest amount of voting share with the AIIB followed by China
 Which of the statements given above is/are **incorrect**?
 (a) 1 and 2 (b) 2 and 3
 (c) 1 and 3 (d) 1, 2 and 3
9. Consider the following statements regarding Kavach Technology:
 1. It is an indigenously developed Automatic Train Protection System
 2. It is compatible with 4G Long Term Evolution (LTE) technology
 Which of the statements given above is/are correct?
 (a) 1 only (b) 2 only
 (c) Both 1 and 2 (d) Neither 1 nor 2
10. Zaporizhzhia nuclear power plant recently seen in news is located in-
 (a) Iran (b) North Korea
 (c) UAE (d) Ukraine

SOLUTIONS

1. **(d):** The **International Telecommunication Union** is a specialized agency of the United Nations. Established on 17 May 1865 as the **International Telegraph Union**, making it the oldest UN agency. It also develops and manages space-related assignment or allotment plans and provides mechanisms for the development of new satellite services by locating suitable orbital slots. In the immediate aftermath of the COVID-19 pandemic, the ITU-D launched the Global Network Resiliency Platform (REG4COVID) to address the strain experienced by telecommunication networks, which are vital to health and safety of people. The platform pools experiences and innovative policy and regulatory measures.
2. **(d): Accommodative'**
 An accommodative stance means the central bank is prepared to expand the money supply to boost economic growth. The central bank, during an accommodative policy period, is willing to cut the interest rates. A rate hike is ruled out. It is adopted when growth needs policy support and inflation is not the immediate concern.

Neutral'

A 'neutral stance' suggests that the central bank can either cut-rate or increase rate. This stance is typically adopted when the policy priority is equal to both inflation and growth. The interest rate can move to either side depending on incoming data.

Hawkish stance :

A hawkish stance indicates that the central bank's top priority is to keep inflation low. During such a phase, the central bank is willing to hike interest rates to curb the money supply and thus reduce the demand. A hawkish policy also indicates a tight monetary policy.

3. (c): The Council is made of 47 Member States, which are elected by the majority of members of the General Assembly of the United Nations through direct and secret ballot .

Members of the Council serve for a period of three years and are not eligible for immediate re-election after serving two consecutive terms. India is currently a member of UNHRC, The Council's Membership is based on equitable geographical distribution. Seats are distributed as follows:

- African States: 13 seats
- Asia-Pacific States: 13 seats
- Latin American and Caribbean States: 8 seats
- Western European and other States: 7 seats
- Eastern European States: 6 seats

4. (c): ARS occurs when a person is exposed to a high dose of radiation that was able to reach internal organs or the entire body was exposed. Sources of such radiation can occur accidentally or intentionally. They may involve nuclear reactors, cyclotrons, certain devices used in cancer therapy, nuclear weapons, or radiological weapons.

The cells that are most affected are generally those that are rapidly dividing.^[3] At high doses, this causes DNA damage that may be irreparable
Source: <https://www.newsweek.com/what-nuclear-weapons-russia-declares-deterrent-forces-high-alert-set-off-1683114>

5. (d): Assamese, Bengali, Gujarati, Hindi, Kannada, Kashmiri, Konkani, Malayalam, Manipuri, Marathi, Nepali, Oriya, Punjabi, Sanskrit, Sindhi, Tamil, Telugu, Urdu, Bodo, Santhali, Maithili, and Dogri are the 22 languages presently in the eighth schedule to the Constitution.

Article 351 of the Constitution provides that it shall be the duty of the Union to promote the spread of the Hindi language to develop **Classical language -Kannada, Malayalam, Odia, Sanskrit, Tamil, and Telugu.**

6. (c): Don river falls in sea of Azov not black sea.



7. (a): Region of conflict between Ukraine and Russia



8. (d): Asian Infrastructure Investment Bank (AIIB) is a multilateral development bank with a mission to improve social and economic outcomes in Asia and beyond. Its membership is not limited to Asian countries. Established in 2016 The bank currently has 103 members which include members from Europe Latin America, Oceania, and North America.

AIIB mainly focuses on infrastructure projects in the Asia-Pacific region
India is a founding member, Japan is not.
China, India, and Russia are the three largest shareholders of AIIB, taking 30.34%, 8.52%, 6.66% stake respectively. Their voting shares are 26.06%, 7.5%, and 5.92% respectively.

9. (c): Kavach, is a indigenously developed Automatic Train Protection System .
India wants to position Kavach as an exportable system, a cheaper alternative to the European systems in vogue across the world.

While now Kavach uses Ultra High Frequency, work is on to make it compatible with 4G Long Term Evolution (LTE) technology and make the product for global markets.

Once rolled out, it may be the world's cheapest Automatic Train Protection System with the cost of rollout pegged at around Rs 30 lakh to 50 lakh per kilometer, a fourth of the cost of equivalent systems globally.

10. (d): Russia has recently seized this nuclear plant.

It is located in Ukraine.

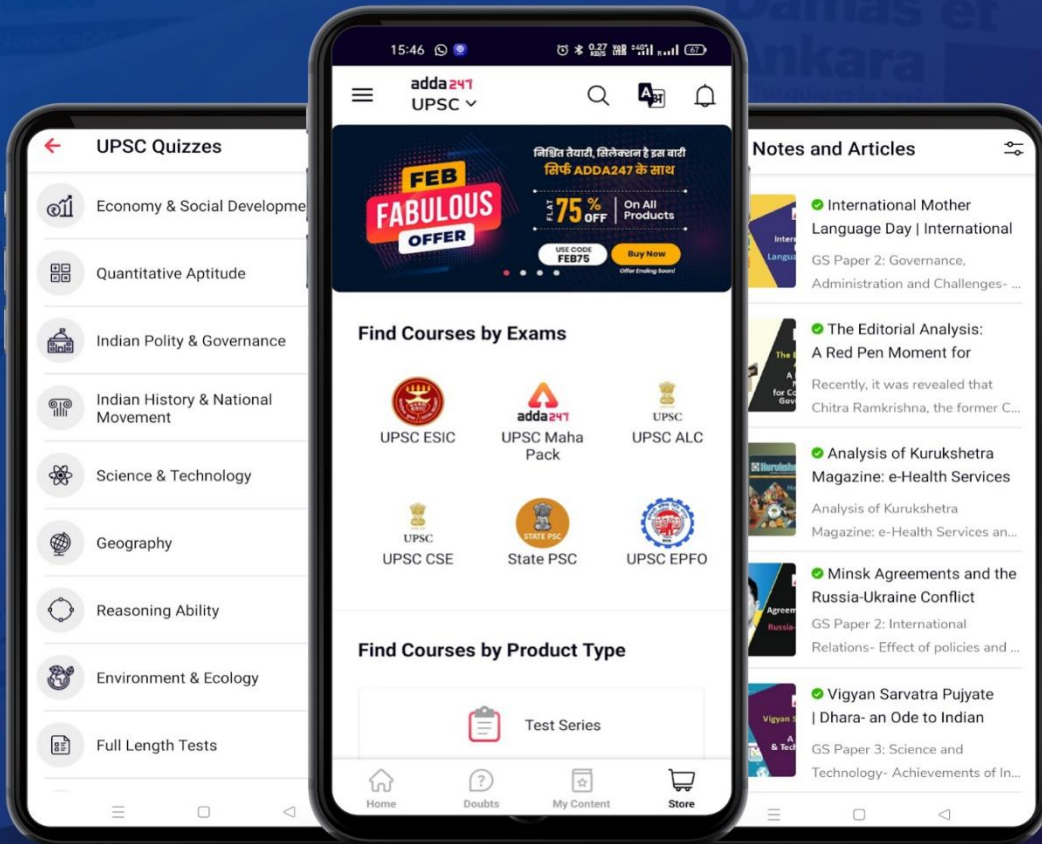
It is the largest in Europe. It is among the 10 largest in the world.

It was built by the Soviet Union.

It is located on the southern shore of the Kakhovka Reservoir on the Dnieper River.



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