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CURRENT AFFAIRS Monthly

THE PULSE OF UPSC AT YOUR FINGER TIPS.

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Schemes

1) PAHAL Scheme

About the Scheme

- The PAHAL scheme aims to **reduce diversion and eliminate duplicate or bogus LPG connections.**
- The scheme was earlier launched in 2013 and was modified in 2015.
- Under the scheme, LPG cylinders are sold at market rates and entitled consumers get the **subsidy directly into their bank accounts.**
- It requires the **consumer to mandatorily have an Aadhaar number for availing LPG Subsidy.**

Why in News?

- The Ministry of Petroleum and Natural Gas has released the State/UT wise details of beneficiaries under the PAHAL Scheme.

2) USTAAD

USTTAD (Upgrading the Skills and Training in Traditional Arts/ Crafts for Development)

- The USTTAD Scheme was launched in 2015 to **preserve the rich heritage of traditional arts/crafts of minorities.**
- It is implemented by the **Ministry of Minority affairs.**
- The scheme aims at
    - capacity building and updating the traditional skills of master craftsmen/artisans
    - documentation of identified traditional arts/crafts of minorities; set standards for traditional skills
    - training of minority youths in various identified traditional arts/crafts through master craftsmen; and
    - develop national and international market linkages.

Eligible Trainees/Beneficiaries

- The trainee should belong to a minority community. However, to promote inter-community solidarity, **25% candidates belonging to BPL families of non-minority communities** may also be considered. In addition, 3% seats will also be reserved for **differently abled persons** belonging to minority communities.
- The trainee should be between **14-35 years of age**. Upper age limit may be relaxed for differently abled persons belonging to minorities.
- The minimum qualification of a trainee should be at least **Class V.** This may also be relaxed for differently abled persons belonging to minorities.
- More than one member of a family is eligible for training in the same art/craft form, provided she/he fulfills the eligibility criteria.

Why in News?

- The number of beneficiaries under the USTAAD scheme for the year 2016-17, 2017-18 and 2018-19 are 16,200, 3465 and 3465 respectively. The training during the last two years was not conducted due to Covid pandemic.

3) PM-DevINE

About the Scheme

- A new scheme called **Prime Minister's Development Initiative for North-East Region (PM-DevINE)** has been announced by the government in the **Union Budget 2022-23.**

- *Summary of Union Budget 2022-23 and Economic Survey 2021-22 are given in the links below:*
  - ✓ https://officerspulse.com/wp-content/uploads/bsk-pdf-manager/2022/03/Union-Budget-2022-23.pdf
  - ✓ https://officerspulse.com/wp-content/uploads/bsk-pdf-manager/2022/03/Economic-Survey-2021-22.pdf

- The scheme will **fund infrastructure and social development projects** based on felt needs of the North-East in the spirit of **PM GatiShakti** *(Refer Pulse October 2021 edition)*.
- PM-DevINE would be **executed through the North-Eastern Council.**
- The scheme **will not be a substitute for existing Central or State schemes.** It will enable livelihood activities for youth and women by filling the gaps in various sectors.
- An initial allocation of Rs.1,500 crore has been made for the scheme.

Why in News?

- An initial list of projects under PM-DevINE has been released by the government.

4) Pradhan Mantri Kaushal Vikas Yojana

About PMKVY

- Pradhan Mantri Kaushal Vikas Yojana (PMKVY) is the flagship scheme of the **Ministry of Skill Development & Entrepreneurship** implemented by **National Skill Development Corporation (NSDC).** The scheme was launched in 2015.
- It is implemented under the **Skill India Mission**.
- The objective of this programme is to **enable a large number of Indian youth to take up industry-relevant skill training** that will help them in securing a better livelihood.
- Individuals with prior learning experience or skills will also be assessed and certified under **Recognition of Prior Learning.**
- Skill training is based on the **National Skill Qualification Framework (NSQF)** and industry led standards.

Objectives of PMKVY

- To impart industry-related skills to the unemployed youth and school/college dropout;
- To provide financial and placement assistance to trained candidates.

PMKVY has three key components

- **Short Term Training (STT):** Under this component, training is given to unemployed youths or school/college dropouts in line with the National Skills Qualification Framework.
- **Recognition of Prior Learning:** Under this module, assessment and certification is given to applicants with existing skills or a prior learning experience.
- **Special Projects:** This module has been designed to create a platform that facilitates training for special job roles in government, corporate or industrial bodies.

About NSQF

- The National Skills Qualifications Framework is a **competency-based framework** that **organizes all qualifications according to a series of levels of knowledge, skills and aptitude.**
- These levels, graded from one to ten, are defined in terms of learning outcomes which the learner must

possess regardless of whether they are obtained through formal, non-formal or informal learning. NSQF in India was notified in **2013.**

- Under NSQF, the learner can acquire the **certification for competency** needed at any level through **formal, non-formal or informal learning**. In that sense, the NSQF is a **quality assurance framework.**

About NSDC

- National Skill Development Corporation is a **not-for-profit public limited company** incorporated in 2008.
- NSDC was set up by the **Ministry of Finance** as a **Public Private Partnership (PPP) model.** The **Government of India** through the Ministry of Skill Development & Entrepreneurship **holds 49% of the share capital** of NSDC, while the **private sector has the balance 51%** of the share capital.
- NSDC acts as a catalyst in skill development by providing funding to enterprises, companies and organizations that provide skill training.
- Its mandate is also to enable a support system which focuses on quality assurance, information systems and train the trainer academies either directly or through partnerships.

Why in News?

- The Ministry of Skill Development and Entrepreneurship has announced that since inception of PMKVY in 2015, 4.22 lakh candidates have been trained under Short Term Training (STT) and 7.17 lakh candidates have been oriented under Recognition of Prior Learning (RPL) in the North Eastern States.

5) Swatantrata Sainik Samman Yojana

About the Scheme

- The Swatantrata Sainik Samman Pension Scheme was launched in 1972 during the silver jubilee year of independence.
- It **grants pension to freedom fighters and their eligible dependents** if the freedom fighter had already expired.
- The monthly pension is considered a token of respect for the contribution of freedom fighters in the national freedom struggle.

Why in News?

- Government of India has approved the continuation of the Swatantrata Sainik Samman Yojana for Financial Years 2021-22 to 2025-26.

6) MSME Innovative Scheme

What's in the news?

- The **Ministry of MSME** has launched the MSME Innovative Scheme (Incubation, Design and IPR) to **promote and support untapped creativity of the MSME sector.**
- It will act as a **hub for innovation activities facilitating and guiding development of ideas into viable business propositions** which benefits society directly.
- The scheme is a holistic approach to unify, synergize and converge **3 sub-components and interventions** with a single purpose.
- 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 to create awareness amongst MSMEs about India's innovation and motivate them to become MSME Champions.

- Details of the sub-schemes are as under :-
    - **Incubation:** The primary objective of the scheme is to promote and support untapped creativity and 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 the Indian manufacturing sector and Design expertise/ Design fraternity on to a common platform. It aims to provide **expert advice and cost-effective solutions** 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 lakh 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 the 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 lakh 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 will be provided.

Initiatives

1) UPI123Pay

What's in the news?

- The **Reserve Bank of India** launched a new **Unified Payments Interface (UPI) payments solution for feature phone users** dubbed 'UPI123Pay'.
- **UPI**, which was introduced in **2016**, has become one of the most used digital payments platforms in the country. The volume of UPI transactions has already reached ₹76 lakh crore in the current year, compared to ₹41 lakh crore in FY21.
- However, at present, efficient access to UPI is available **largely via smartphones.**

How does the new solution work?

- The new UPI-based service is designed to bring the **digital payments platform closer to a significant number of feature phone mobile subscribers** in the country, which is estimated to be more than 40 crore.
- UPI123Pay will materially improve the options for such users to access UPI, who could earlier access the digital transactions platform through the **USSD-based process, using the short code of *99#,** which according to the RBI is not popular.
- The USSD-based process is considered **cumbersome**, with users required to send multiple messages and charged for the same, and not supported by all mobile service providers.
- With the UPI123Pay, feature phone users will be required to go through an **onboarding process** where they have to link their bank account to their feature phone and then **set a UPI PIN** using their debit card for authenticating transactions.
- Once they have completed this initial process, users will be able to use the new UPI facility for **person-to-person as well as merchant transactions,** among others, **through one of the four distinct payment options that don't require an internet connection.**
- The availability of the service on feature phones without an internet connection could help it penetrate into rural areas of the country, enhancing financial inclusion and digital adoption, while also driving payments' volumes on the platform.

How will users make payments without the internet?

- The new UPI payments system offers users **four options to make payments without internet connectivity: Interactive Voice Response (IVR), app-based functionality, missed call facility and proximity sound-based payments.**
- Using the **IVR option**, users would be required to initiate a secured call from their feature phones to a predetermined IVR number and complete UPI on-boarding formalities to be able to start making financial transactions like money transfer, mobile recharge, EMI repayment, balance check, among others.
- The **missed call facility** will allow users to access their bank account and perform routine transactions such as receiving, transferring funds, regular purchases, bill payments, etc., by giving a missed call on the number displayed at the merchant outlet. The customer will receive an incoming call to authenticate the transaction by entering UPI PIN.

- They could also **install an app** on their feature phone through which several UPI functions, available on smartphones, will be available on their feature phone, except scan and pay feature which is currently not available.
- Finally, they could utilise the **proximity sound-based payments option**, which uses sound waves to enable contactless, offline, and proximity data communication on any device.

2) Sagarmala Programme

About the Programme

- The Sagarmala project seeks to **develop a string of ports around India's coast.** The objective of this initiative is to promote "Port-led development" along India's 7500 km long coastline.
- It aims to develop access to new development regions and enhance connectivity with main economic centres and beyond through expansion of rail, inland water, coastal and road services.
- The **Union Ministry of Shipping** has been appointed as the nodal ministry for this initiative.
- To assist in implementation of the Sagarmala Programme, the **Sagarmala Development Company Limited** was incorporated in 2016 under the Companies Act, 2013 by the Ministry of Shipping.

Significance

- India is located along key international trade routes in the Indian Ocean and has a long coastline of around 7,500 km. Approximately **95% of India's merchandise trade (by volume) passes through sea ports.**
- Yet, **capacity constraints and lack of modern facilities** at Indian ports tremendously elongates the time taken to ship goods in and out of the country and has **held back India's share in world trade.** For example, Turnaround time (TAT) at major ports was approximately 2.5 days in 2018-19, whereas the global average benchmark is 1-2 days.
- In addition to this, **last mile connectivity to the ports** is one of the major constraints in smooth movement of cargo to/from the hinterland. Around 87% of Indian freight uses either road or rail for transportation of goods. A significant share of this cargo experiences **"idle time"** during its transit to the ports due to capacity constraints on highways and railway lines connecting ports to production and consumption centers.
- Although **water-borne transport** is much safer, cheaper and cleaner, compared to other modes of transportation, it **accounts for less than 6%** of India's modal split. By comparison, coastal and inland water transportation contribute to 47% of China's freight modal mix, while in Japan and US, this share is 34% and 12.4% respectively. Significant savings can be achieved by shifting movement of industrial commodities like coal, iron ore, cement and steel to coastal and inland waterways.

Vision of the Sagarmala Programme

- The vision of the programme is to reduce logistics cost for EXIM and domestic trade with minimal infrastructure investment. This includes:
    - 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

- Components of Sagarmala Programme are:
  - **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.

Why in News?

- The Ministry of Shipping has identified more than 800 projects at an estimated cost of around Rs 5.48 lakh crore as a part of the Sagarmala programme.
- These projects are spread across coastal states/Union Territories, including Andhra Pradesh, Maharashtra, Gujarat, Karnataka, Andaman & Nicobar Islands and Tamil Nadu.

3) psbloansin59minutes.com portal

About the Portal

- psbloansin59minutes.com is a new-age digital lending platform. Using the portal, MSMEs can get loan amount approval from **Rs. 1 Lakh to Rs. 5 Crore in less than 59 minutes** from Public and Private Sector Banks (PSBs), Non-Banking Financial Companies (NBFCs), etc.
- PSB59 platform was born from the insight that MSMEs found it hard to avail loans from formal banking channels due to the tedious application, documentation and verification processes.
- With PSB Loans in 59 minutes, the entire process of a Small Business Loan for MSMEs is expected to become super quick and hassle-free that too with minimal documentation.
- The portal, which was introduced in 2018, processes the loans **without human intervention till the stage of sanction or disbursement.** The platform integrates advanced technologies like Artificial Intelligence (AI) and Machine Learning (ML) to automate and digitize the lending

processes for borrowers and lenders.
- It should be noted that the portal only offers a platform for **speedier in-principle approval** by lenders onboarded on it. The final credit decision taken on loan applications sourced through the portal is taken by the lenders and monitoring of the accounts of sanctioned loans is also done by the lenders.

Why in News?

- Since the inception of the **psbloansin59minutes.com portal** in 2018, more than 2 Lakh proposals have been disbursed in the business loan category.

4) Sujalam 2.0 campaign

What's in the news?

- The **Union Ministry of Jal Shakti** has launched the **Sujalam 2.0 campaign for greywater management.** The first phase of the Sujlam campaign was launched in August 2021.
    - Greywater is **wastewater from non-toilet plumbing systems such as hand basins, washing machines, showers and baths.** The main difference between greywater and sewage (or blackwater) is the organic loading. Sewage has a much larger organic loading compared to greywater.
    - With proper treatment greywater can be put to good use. These uses include water for laundry and toilet flushing, and also irrigation of plants. Treated greywater can be used to irrigate both food and non-food producing plants. The nutrients in the greywater (such as phosphorus and nitrogen) provide an excellent food source for these plants.
- The objective of the campaign is to **manage greywater through people's participation.** Under the campaign, the government plans to mobilize communities, institutions like panchayats, schools, anganwadi to undertake greywater management.
- Over six lakh villages will see intense activity on Solid and Liquid Waste Management.

Environment

1) Harm in the name of good

Background

- 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.

India and Planting of Forests

- The Indian government has been spending billions of rupees in its efforts to increase the green cover through tree planting.
- Recently, the Central government, through the **National Afforestation and Eco-Development Board**, launched an ambitious ₹19,000 crore plan for an afforestation project to **rejuvenate 13 major rivers** which would increase 'forest' cover by 7,417.36 square kilometres in the vicinity of these rivers.

Unintended Impacts

- 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.
- It is argued that planting trees will help **store carbon and reduce pollution.** It is true that all trees — invasive species and native and non-native species — store carbon, but the **other benefits which are critical vary widely depending on the species planted and the location of plantation.**
- 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** 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 the Great Indian Bustard have failed because of this unscientific thinking.
- Similarly, the **Jayamangali Conservation Reserve,** another grassland habitat in **Karnataka**, hosted wolves. But now leopards are found there as the whole area has been planted with acacia, anjan, eucalyptus and tamarind trees.
- Other natural habitats such as woodland savanna, laterite grasslands, scrubland, wetlands and rocky outcrops that have evolved to support unique biodiversity have been systematically transformed from ecologically rich habitats into sterile landscapes due to tree planting.

Planting Native Species

- Though neem, peepal, banyan, and anjan may be native to India, they are **non-native to many parts of**

the country. Planting any kind of native tree species may probably help in urban settings but not in natural habitats.

- The aim should not be to only plant trees; it should be to **make tree-planting activities friendly to local biodiversity.** The native vegetation and the biodiversity 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.** We should also monitor and examine the outputs of such tree-planting or restoration initiatives.

Natural Regeneration

- Another solution is to let forests come back on their own through protection. This is called **assisted natural regeneration** and is a cheaper and more effective method. Scientific studies have shown that natural regeneration **absorbs 40 times more carbon than plantations and hosts a lot more biodiversity.**
- But of utmost priority is the task of halting deforestation and protecting existing forests.

2) Microplastics

What are microplastics?

- Microplastics are tiny bits of various types of plastic found in the environment. The name is used to differentiate them from "macroplastics" such as bottles and bags made of plastic.
- There is **no universal agreement on the size of microplastics.** The U.S. NOAA (National Oceanic and Atmospheric Administration) and the European Chemical Agency define microplastic as **less than 5mm in length.**
- Microplastics are divided into two types: **primary and secondary.**
    - **Primary microplastics** are tiny particles designed for commercial use, such as cosmetics, as well as microfibers shed from clothing and other textiles, such as fishing nets. Microbeads (used in personal care products), plastic pellets, and plastic fibres are some of the examples.
    - **Secondary microplastics** are created when bigger plastics, such as water bottles, degrade. Exposure to external stimuli, namely the sun's rays and ocean waves, causes this disintegration.

Why in News?

- Microplastic pollution has been detected in human blood for the first time.
- The study, which examined blood samples from 22 volunteers, found microplastics in nearly 80% of them.
- The study looked at the most commonly used plastic polymers. These were **polyethylene tetraphthalate (PET), polyethylene** (used in making plastic carry bags), **polymers of styrene** (used in food packaging), **poly (methyl methylacrylate)** and **polypropylene**. They found a **presence of the first four types.**

Negative Impact of Microplastics

- Microplastics have been detected in **marine organisms** from plankton to whales, in **commercial seafood**, and even in **drinking water.** Standard water treatment facilities cannot remove all traces of microplastics.

- The recent discovery shows the particles can travel around the body and may lodge in organs. The **impact of microplastics on health is as yet unknown.**
- But researchers are concerned as **microplastics cause damage to human cells in the laboratory** and air pollution particles are already known to enter the body and cause millions of early deaths a year.
- The researchers point out that the **human placenta has shown to be permeable to tiny particles of polystyrene.**
- Oral administration of microplastics in **rats** led to accumulation of these in the liver, kidney and gut.
- A recent study found that microplastics can **latch on to the outer membranes of red blood cells** and may limit their ability to transport oxygen.

Initiatives related to reducing plastic pollution

- The **1972 London Convention on the Prevention of Marine Pollution by Dumping Wastes and Other Matter** was signed to regulate the dumping of waste materials into the sea in order to manage all causes of marine contamination and prevent pollution of the sea. The Collective aims to reduce the negative effects of plastics on our planet's ecological and social health.
- According to the **Plastic Waste Management Rules of 2016,** every local body must put up infrastructure for the segregation, collection, processing, and disposal of plastic waste.
- The **Extended Producer Responsibility concept** was introduced by the **Plastic Waste Management (Amendment) Rules 2018.**
- India committed in 2019 to **abolish all single-use plastic in the country by 2022.**
- The **Global Partnership on Marine Litter (GPML)** was established in response to a request made in the Manila Declaration at the 2012 Earth Summit. The GPML is a multi-stakeholder partnership that brings together all actors working to prevent marine litter and plastic pollution.

3) India Cooling Action Plan

About ICAP

- The India Cooling Action Plan (ICAP) was launched in 2019 by the **Ministry of Environment, Forests and Climate Change.** The ICAP provides a 20-year perspective and outlines actions needed to provide access to sustainable cooling.
- The plan describes cooling as a **"developmental need"** and seeks to address the rising demand in cooling, from buildings to transport to cold-chains, through sustainable actions.
- The overarching goal of ICAP is to provide **sustainable cooling and thermal comfort for all** while securing environmental and socio-economic benefits for the society. This will also help in reducing both direct and indirect emissions.
- The plan estimates that the national cooling demand would grow eight times in the next 20 years, which would result in a corresponding five to eight-fold rise in the demand for refrigerants that involve the use of Hydrofluorocarbons (HFCs).
- The Plan seeks to
  (i) reduce cooling demand across sectors by 20% to 25% by 2037-38,

(ii) reduce refrigerant demand by 25% to 30% by 2037-38,
(iii) Reduce cooling energy requirements by 25% to 40% by 2037-38,
(iv) recognise "cooling and related areas" as a thrust area of research under National Science and Technology Programme,
(v) training and certification of 100,000 servicing sector technicians by 2022-23, synergizing with Skill India Mission.

- As part of the ICAP, the government has also announced **targeted R&D efforts** aimed at developing low-cost alternatives to HFCs.

Benefits:

- Cooling is **linked to human health and productivity**. Linkages of cooling with **Sustainable Development Goals (SDGs)** are well acknowledged.
- The cross-sectoral nature of cooling and its use in development of the economy makes provision for cooling an important developmental necessity.
- The development of ICAP has been a multi-stakeholder inclusive process encompassing different Government Ministries/Departments/Organizations, Industry and Industry Associations, Think tanks, Academic and R&D institutions.

Why in News?

- The Ministry of Environment, Forest and Climate Change conducted an awareness programme of the India Cooling Action Plan.

4) Water management needs a hydro-social approach

Context

- In its Fourth assessment report (2007), the Intergovernmental Panel on Climate Change (IPCC) highlighted the link between societal vulnerability and modifications of water systems. It is globally estimated that the **gap between demand for and supply of freshwater may reach up to 40% by 2030** if present practices continue.
- 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:
    1. Water sources
    2. Water infrastructure
    3. Water services
    4. Water as an input to production
    5. Socio-economic development and sociocultural values of water.
- In this context, a **hydro-social cycle approach** provides an appropriate framework. It 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.

Inter-Basin Transfer Projects

- 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.
- The **National River Linking Project of India** which is under construction is one of the projects of IBT initiatives across the world.
- These projects, if executed, will create artificial water courses that are more than twice the length of

the earth's equator and will transfer 1,910 km3 of water annually.

- The World Wildlife Fund has suggested a cautious approach and the necessity to adhere to **sustainability principles** set out by the World Commission on Dams while taking up IBT projects.

Some of the Key Assumptions

- For instance, the **Ken Betwa river link project** (transferring water from the Ken river to the Betwa river, both tributaries of the **Yamuna**) which is a part of the National River Linking project raises larger questions about hydrological assumptions and the use and the management of freshwater resources in the country.
    1. The basic premise of IBT is to **export water from the surplus basin to a deficit basin.** However, there is contestation on the concept of the surplus and deficit basin itself as the exercise is substantially hydrological.
    2. **Water demand within the donor basin** by factoring present and future land use, especially cropping patterns, population growth, urbanisation, industrialisation, socio-economic development and environmental flow are hardly worked out.
    3. Besides this, **rainfall in many surplus basins has been reported as declining.** The **status of the surplus basin may alter** if these issues are considered.
    4. There is **concern about the present capacity utilisation of water resources** created in the country. By 2016, India created an irrigation potential for 112 million hectares, but the gross irrigated area was 93 million hectares. There is a 19% gap, which is more in the case of canal irrigation. The **average water use efficiency of irrigation projects in India is only 38%** against 50%-60% in the case of developed countries.

Grey Water Use

- The **agriculture sector uses a little over 90% of total water use in India.** In **Industrial plants, consumption is 2 times to 3.5 times higher per unit of production** of similar plants in other countries.
- Similarly, the **domestic sector experiences a 30% to 40% loss of water due to leakage. Grey water** is hardly used in our country. It is estimated that 55% to 75% of domestic water use turns into grey water depending on its nature of use, people's habits, climatic conditions, etc.
- The **discharge of untreated grey water and industrial effluents into freshwater bodies** is cause for concern. The situation will be further complicated if **groundwater is affected.**
- Apart from the inefficient use of water in all sectors, there is also a **reduction in natural storage capacity and deterioration in catchment efficiency.**
- The issues are source sustainability, renovation and maintenance of traditional water harvesting structures, grey water management infrastructure, groundwater recharge, increasing

water use efficiency, and reuse of water.

Planning Ahead

- Looking into these issues may not be adequate to address all the problems. Nevertheless, addressing these issues will help to reduce demand supply gap in many places, and the remaining areas of scarcity can be catered to using small-scale projects.
- A **hybrid water management system** is necessary, where (along with professionals and policy makers) the individual, a community and society have definite roles in the value chain.
- These measures are crucial to achieve the **Sustainable Development Goal 6 (SDG 6): water availability and sanitation for all by 2030**, focusing on the sustainable management of water resources, wastewater and ecosystems.

Flora & Fauna

1) Golden Langur

About Golden Langurs (Trachypithecus geei)

- Golden langurs are found in a small region of **western Assam** and in the neighboring foothills of the Black Mountains of **Bhutan**. These monkeys are endemic to the semi-evergreen and mixed-deciduous forests straddling India and Bhutan.
- The distribution of the species in Assam extends over 2,500 square kilometers, in the north of the bank of the Brahmaputra. The main population of golden langurs in Assam is in the **Manas Biosphere Reserve**.
- There are also some significant populations in isolated forests south of the Manas Biosphere Reserve such as the **Chakrashila Wildlife Sanctuary of Assam** and some other patches.
- Protection Status: IUCN Red List: **Endangered**; CITES: **Appendix I**; Wildlife Protection Act (1972): **Schedule I.**

Why in news?

- A recent study by scientists has suggested a significant decline in the habitat of Golden Langur, an endangered primate species that's distributed in the trans-boundary region of Bhutan and India.
- In recent years, studies have reported human-langur conflict cases, and the intensity of these cases is increasing because of enhanced human footprints in the habitat of the species.
- While recent community conservation programmes by the government yielded positive results for the Golden Langur population of Manas National Park, fragmented and isolated populations are still severely threatened.

Agriculture

1) Soil Health Card

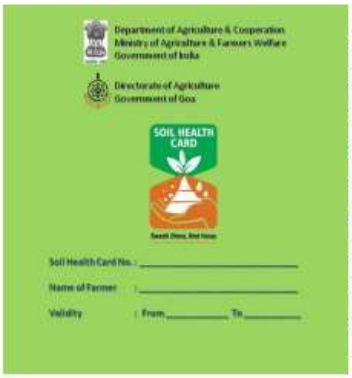
About the scheme

- The Soil Health Card (SHC) scheme is promoted by the **Ministry of Agriculture and Farmers' Welfare** to provide information to farmers on **nutrient status of their soil** along with recommendations on appropriate dosage of nutrients to be applied for improving soil health and its fertility.
- Launched in 2015, it is being **implemented through the Department of Agriculture of all the State and Union Territory Governments.**

Constituents of a Soil Health Card

- SHC is a printed report that a farmer will be handed over for each of his holdings.
- It will contain the status of his soil with respect to **12 parameters**, namely N, P, K (Macronutrients); S (Secondary- nutrient); Zn, Fe, Cu, Mn, Bo (Micronutrients); and pH, EC, OC (Physical parameters).

N - Nitrogen , P - Phosphorus, K - Potassium, S - Sulphur, Zn - Zinc, Fe - Iron,
Cu - Copper, Mn - Manganese, Bo - Boron, pH - potential of hydrogen, EC - Electrical Conductivity, OC - Organic Carbon.



SOIL HEALTH CARD			Name of Laboratory	
Farmer's Details			SOIL TEST RESULTS	
Name			S. No.	Parameter	Test Value	Unit	Rating
Address							
Village							
Sub-District							
District			1	pH			
PIN			2	EC			
Aadhaar Number			3	Organic Carbon (OC)			
Mobile Number			4	Available Nitrogen (N)			
Soil Sample Details			5	Available Phosphorus (P)			
Soil Sample Number			6	Available Potassium (K)			
Sample Collected on			7	Available Sulphur (S)			
Survey No.			8	Available Zinc (Zn)			
Khasra No. / Dag No.			9	Available Boron (B)			
Farm Size			10	Available Iron (Fe)			
Geo Position (GPS)	Latitude:	Longitude:	11	Available Manganese (Mn)			
Irrigated / Rainfed			12	Available Copper (Cu)			

Secondary & Micro Nutrients Recommendations		
Sl. No.	Parameter	Recommendations for Soil Applications
1	Sulphur (S)	
2	Zinc (Zn)	
3	Boron (B)	
4	Iron (Fe)	
5	Manganese (Mn)	
6	Copper (Cu)	
General Recommendations		
1	Organic Manure	
2	Biofertiliser	
3	Lime / Gypsum	

International Year of Soils 2015

Healthy Soils for a Healthy Life

Fertilizer Recommendations for Reference Yield (with Organic Manure)						
Sl. No.	Crop & Variety	Reference Yield	Fertilizer Combination-1 for N P K		Fertilizer Combination-2 for N P K	
1	Paddy (Dhaan)					
2						
3						
4						
5						
6						

- SHC will indicate the status of soil health of a farmer's holding. The SHC will also **indicate fertilizer recommendations and soil amendment required for the farm.**

Benefits of Soil Health Card

- Soil Health Card help the farmers in the following ways:
  i. The report generated through soil health card scheme encourages **judicious and balanced use of fertilizers.**
  ii. The report card also suggests **use of bio fertilizers, micronutrients and organic manures to increase soil fertility.**
  iii. Farmers training and demonstrations on farmers fields, under the scheme creates **awareness among the farmers to increase soil fertility.**
  iv. The SHC will monitor the soil of the farmers well and will give them a formatted report. So, they can **decide well which crops they should cultivate and which ones they should skip.**
  v. The authorities will **monitor the soil on a regular basis**. So, farmers need not worry if the nature of the soil changes due to certain factors and also they will always have updated data about their soil.
  vi. Apart from listing down measures required to improve the quality of the soil, experts are also employed to help farmers in carrying out the **corrective measures.**

Why in the news?

- The Ministry of Agriculture & Farmers' Welfare has released the state-wise number of soil testing laboratories set up under Soil Health Management (SHM) scheme since 2014-15.

Economy

1) Beyond record exports

Context

- Recently, the value of **India's outbound shipments in the financial year 2021-22 hit $400 billion, the highest ever.** By the time the year closes on March 31, another $10 billion worth of goods is expected to be shipped out.
- This would translate into a growth of about 41% from the pandemic-hit year of 2020-21, making it India's fastest exports growth rate since 2009-10.

How significant is the attainment of India's $400 billion exports target?

- India's outbound merchandise trade had clocked $303.5 billion in 2017-18, $330.1 billion in 2018-19 before slipping to $313.4 billion in 2019-20, when numbers were slightly dented due to the harsh national lockdowns imposed in the last week of that financial year.
- While **higher prices of commodities and oil** helped drive up the value of exports some of India's industrial sectors shone through as well. **Engineering exports,** for instance, have jumped 46.5% to cross $100 billion for the first time, even as **chemicals, cotton yarn, handloom products, and the apparel industry** have done well.
- India has managed to achieve its export target despite supply disruptions due to the pandemic, the challenging shortages of shipping containers and surging freight rates. Part of this could also be explained by the world shifting its **global procurement preferences to diversify their dependence on China** following the outbreak of the COVID-19 virus.
- India would hope to consolidate these gains and establish its credentials as a **credible alternative to China,** even as it could face stiff competition in some sectors from Asian peers such as Vietnam and Bangladesh.

What about imports and the trade deficit?

- Even as exports may rise nearly $120 billion this year, India's imports have shot up to record levels and could end up **nearly $200 billion over 2020-21's import figure of $393.6 billion**. The **trade deficit for the year could be around $190 billion**, sharply higher than the $102 billion recorded in the pandemic year.

What are the risk factors for Indian exports in the coming year?

- Although **India's direct trade with Russia is not significant at about 1% of its trade basket,** the **Ukraine-Russia conflict may create some more opportunities** for Indian farm produce exports, especially for crops like wheat and maize.
- But this would be **offset by a sharp rise in India's energy import bill** as well as an **uptick in costs of importing edible oils** like sunflower oil, whose production is dominated by the two nations at war.
- **India imports 80% of its oil** and demand is likely to grow as the economic recovery picks up pace, provided the pandemic doesn't resurface. This could translate into a **'term-of-trade' shock,** with elevated trade and current account deficits and sustained pressure on the rupee even as monetary tightening in the developed world

may suck out dollars from emerging markets.

- Timely actions on the policy front could help create more export opportunities. First, a **swift conclusion of Free Trade Agreement pacts** being negotiated with countries like the U.K., Australia and Canada, could create easier market access in these large markets.
- Second, exporters await a **long-overdue revision of the Foreign Trade Policy for 2015-20,** that has now been extended into the first few months of 2022-23 as well.
- Third, a parliamentary committee has urged the government to **include Special Economic Zones and sectors such as pharma, steel, and chemicals under the Remission of Duties and Taxes on Export Products (RoDTEP) Scheme,** which finally kicked off last year after a significant delay.

Conclusion

- These could help balance out some of the bigger tectonic shifts in trading patterns from the European crisis, including a firming up of the COVID-induced inward-looking shift in nations' stance on globalisation.

2) Priority Sector lending norms

What is Priority Sector Lending?

- Priority Sector means those sectors which the Government of India and Reserve Bank of India consider as important for the development of the basic needs of the country and are to be given priority over other sectors. The banks are mandated to encourage the growth of such sectors with adequate and timely credit.
- Priority Sector includes the following categories:
    - **Agriculture**
    - **Micro, Small and Medium Enterprises**
    - **Export Credit**
    - **Education**
    - **Housing**
    - **Social Infrastructure**
    - **Renewable Energy**
    - **Others**
- Targets Under the Priority Sector Lending
    - **Domestic scheduled commercial banks** (excluding Regional Rural Banks and Small Finance Banks) and **Foreign banks with 20 branches and above**: 40 per cent of Adjusted Net Bank Credit or Credit Equivalent Amount of Off-Balance Sheet Exposure, whichever is higher.
    - **Regional Rural Banks** & **Small finance banks**: 75 per cent of Adjusted Net Bank Credit or Credit Equivalent Amount of Off-Balance Sheet Exposure, whichever is higher.
    - **Foreign banks with less than 20 branches**: 40 per cent of Adjusted Net Bank Credit or Credit Equivalent Amount of Off-Balance Sheet Exposure, whichever is higher, to be achieved in a phased manner by 2020.
    - **Sub-targets** are specified for certain sectors like **18% to agriculture with 8% to small and marginal farmers, 7.5% to micro units** and **12% to Advances to Weaker Sections.**

Changes Made

- In 2020, the RBI released revised priority sector lending guidelines

to augment funding to segments including start-ups and agriculture.
- According to the revised guidelines,
  - **Bank finance of up to ₹50 crore to start-ups**,
  - **loans to farmers both for installation of solar power plants for solarisation of grid-connected agriculture pumps**, and for **setting up compressed biogas (CBG) plants** have been included as fresh categories eligible for finance under the priority sector.
- The revised PSL guidelines have been framed to **address regional disparities** in the flow of priority sector credit. Higher weightage has been assigned to incremental priority sector credit in **'identified districts'** where priority sector credit flow is comparatively low.

Why in News?

- The RBI has published the updated list of eligible activities under Priority Sector Lending.

3) National Land Monetisation Corporation

What's in the news?

- The Union Cabinet has approved the setting up of a **new government-owned firm for pooling and monetising sovereign and public sector land assets.**
- The Special Purpose Vehicle (SPV) known as the **National Land Monetisation Corporation (NLMC)** is being formed with an initial authorised share capital of ₹5,000 crore and paid up capital of ₹150 crore under the administrative jurisdiction of the **Ministry of Finance.**
- The government will appoint a **chairman** to head the NLMC and hire **private sector professionals** with the expertise required for asset monetisation in areas such as real estate market research, legal due diligence, valuation, master planning, investment banking and land management.

Objectives

- The NLMC will **undertake monetisation of surplus land and building assets of Central public sector enterprises (CPSEs) as well as government agencies.**
- With **monetisation of non-core assets**, the government would be able to generate substantial revenues by monetising unused and under-used assets.
- The proposal is in pursuance of the **Budget announcements for 2021-22**, which included an ambitious **National Monetisation Pipeline** *(Refer Pulse August 2021 edition)* to garner revenues from public assets.
- The new corporation will also help carry out monetisation of assets belonging to public sector firms that have closed or are lined up for a strategic sale. As per the plan, the surplus land and building assets of such enterprises may be transferred to the NLMC, which will then manage and monetise them.
- Apart from executing the monetisation plan, the NLMC will **advise other government entities** to identify their non-core surplus assets and generate maximum value by monetising them in a professional and efficient manner.
- It is expected that NLMC will act as a repository of best practices in land monetisation, assist and provide technical advice to the government in implementation of asset monetisation programme.

What are non-core assets?

- The assets held by the government/public sector entities/statutory bodies broadly include operational/under-construction projects, land, buildings, investment in subsidiaries/joint ventures, etc.
- From amongst these, assets which are central to the business objectives of such entities and are used for delivering infrastructure services to the public/users are considered as **core assets.** The core assets include asset classes such as transport (roads, rail, ports, airports), power generation, transmission networks, pipelines, warehouses etc.
- The other assets, which generally include land parcels and buildings, can be categorised as **non-core assets.**
- For instance, according to the **Economic Survey 2021-2022,** CPSEs have put nearly 3,400 acres of land on the table for potential monetisation. They have referred this land to the **Department of Investment and Public Asset Management (DIPAM).**

What does monetisation mean?

- When the government monetises its assets, it essentially means that it is **transferring the revenue rights of the asset** (could be idle land, infrastructure, etc.) **to a private player for a specified period of time.**
- In such a transaction, the government gets in return an upfront payment from the private entity, regular share of the revenue generated from the asset, a promise of steady investment into the asset, and the title rights to the monetised asset.
- There are multiple ways to monetise government assets; in the case of land monetisation of certain spaces like offices, it can be done through a **Real Estate Investment Trust (REIT)** — a company that owns and operates a land asset and sometimes, funds income-producing real estate. Assets of the government can also be monetised through the **Public Private Partnerships (PPP) model.**
- There are different reasons why the government monetises its assets. One of them is to create **new sources of revenue.** The economy has already been hit due to the coronavirus pandemic and revenues are essential to fulfil the government's target of achieving a **$5 trillion economy.**
- Monetisation is also done to **unlock the potential of unused or underused assets** by involving institutional investors or private players.
- Thirdly, it is also done to **generate resources or capital for future asset creation,** such as using the money generated from monetisation to create new infrastructure projects.

What are the possible challenges for NLMC?

- The performance and productivity of the NLMC will **depend on the government's performance on its disinvestment targets.**
- Besides, the process of asset monetisation does not end when the government transfers revenue rights to private players, **identifying profitable revenue streams** for the monetised land assets, **ensuring adequate investment** by the private player and **setting up a dispute-resolution mechanism** are also important tasks.
- **Various litigations and lack of clear titles,** and **low interest among investors in remote land**

parcels are also considered as major challenges.

Way Forward

- The National Land Monetization Corporation has the potential to maximise benefits to the public. Careful planning is necessary to ensure this result.

4) IFSC GIFT City

Context

- The country's largest lender State Bank of India (SBI) has raised $500 million through its IFSC GIFT City branch.

About GIFT

- **The International Financial Services Centre (IFSC) at the Gujarat International Finance Tec-City (GIFT)** is a financial district located between Ahmedabad and Gandhinagar in Gujarat.
- The City was conceptualised as an **alternative to global financial hubs** such as Hong Kong, Singapore or London. Though the idea was mooted in 2007, work on the physical infrastructure started in 2012. It was only in 2015 that business regulations were introduced; 2017 saw the setting up of an international exchange.
- The GIFT City SEZ — with demarcations for domestic and export-oriented units — is the **only place in India to be designated as an IFSC.**
- IFSC is a **jurisdiction that provides financial services to non-residents and residents, to the extent permissible under the current regulations, in any currency except Indian Rupee.**
- Doing business inside the IFSC comes with the **benefit of a relaxed tax regime** — a 10-year tax holiday with no securities transaction tax, commodities transaction tax, or tax on long-term capital gains.
- The **Global Financial Centers Index report,** in March 2021, **placed the IFSC in GIFT City at the top among 15 centres globally,** which are likely to become more significant over the subsequent two to three years.

Slow Progress

- In recent years, the IFSC has seen a trickle of regulations or developments.
- The announcement of the **IFSC Authority (IFSCA)** in 2020 infused welcome energy to the project. The **IFSCA assumes responsibility as a unified regulator** — across realms overseen by the RBI, SEBI, IRDAI and the PFRDA. The nature of business in IFSCs requires a high degree of inter-regulatory coordination within the financial sector.
- Currently, more than 200 entities have taken up office space in the City.

Investor concerns

- Despite these incremental steps, **investors have been slow to take up offers.**
- Predominant among concerns for institutional investors have been that the **Indian currency has not become fully convertible**, that the country has **not been visibly consistent in its tax laws and their interpretation**, and that the **speed of dispute resolution has been less than satisfactory.**
- **India's rupee is currently partially convertible,** meaning that there is freedom to exchange currencies at market rates but when larger amounts are involved, approvals are necessary. A fully convertible currency would also not have authorities intervening in

markets to stem volatility or bring the rate to a certain level.
- On dispute resolution, Budget 2022 had proposed the setting up of an **International Arbitration Centre;** this aims to offer offshore investors in the IFSC an assurance on intent, given the uncertainty that comes with corporate litigation in India.

Cross-border insolvency

- Insolvency norms in the country were streamlined with the introduction of the **Insolvency and Bankruptcy Code;** but under this umbrella too, the **time taken for lenders to retrieve funds due to them** – even allowing for significant haircuts – is seen as a concern for investors.
- Legal experts have pitched for **cross-border insolvency norms** that meet the IFSC's requirements as a way to initiate broader insolvency reforms in the country. While there are some provisions on this count in the IBC, a stronger framework is needed to assure investors of intent.

UNCITRAL Model Framework

- In 2018, the Insolvency Law Committee had submitted to the government its recommendations for the adoption of the **'UNCITRAL Model Law on Cross Border Insolvency'.**
- Cross border insolvency proceedings are relevant for the resolution of distressed companies with assets and liabilities across multiple jurisdictions. Current provisions under the IBC do not allow Indian courts to address the issue of foreign assets of a company being subjected to parallel insolvency proceedings in other jurisdictions.
- The **UNCITRAL model** is the most widely accepted legal framework to deal with cross-border insolvency issues. It has been adopted by 49 countries, including the UK, the US, South Africa, South Korea and Singapore.
- Significantly, India can take some learnings from the Dubai International Financial Centre and the Abu Dhabi Global Market, which have adopted the UNCITRAL law even though the United Arab Emirates as a nation does not have a law yet to address cross-border insolvency. These are cited as examples for the IFSC to set the pace independently.

5) Participatory Notes

What are P-Notes?

- P-Notes or Participatory Notes are instruments **issued by a registered Foreign Institutional Investor (FII) to an overseas investor who wishes to invest in Indian stock markets without registering themselves** with the market regulator, the **Securities and Exchange Board of India (SEBI).**
- To invest in the Indian stock markets and to avoid the cumbersome regulatory approval process, investors trade participatory notes. They, however, **need to go through a due diligence process.**

What are the government & regulatory concerns?

- The primary reason why P-Notes are worrying is because of the **anonymous nature of the instrument** as these investors could be beyond the reach of Indian regulators.
- Further, there is a view that it is being used in **money laundering** with wealthy Indians, like the promoters of companies, using it to bring back unaccounted funds and to manipulate their stock prices.

What has SEBI done to regulate P-Notes?

- SEBI has taken a number of steps to tighten rules on P-Notes.
- From 2011, FIIs have had to follow **KYC norms and submit details of transactions.**
- In 2014, new rules on FIIs made it mandatory for those issuing P-Notes to submit a **monthly report** disclosing their portfolios.
- Also, SEBI has mandated that in addition to KYC, the **anti-money laundering rules (AML)** will also be applicable to P-Note holders.
- SEBI also issued norms on **transferability of P-Notes** between two foreign investors and increased the frequency of reporting by P-Note issuers.

Why in News?

- Investments in the Indian capital market through Participatory notes dropped to ₹87,989 crore at the end of January compared to ₹95,501 crore at December-end. Experts believe that foreign investors will continue with their negative stance amid the Ukraine crisis.

6) Govt clears 20% FDI in LIC under automatic route

About LIC

- The Life Insurance Corporation of India (LIC) is a **government-owned insurance and investment corporation in India.** It is India's largest insurance firm, with a huge customer base. LIC offers a varied range of insurance portfolios catering to various demands of its consumers.
- LIC was formed in **1956** under the **Life Insurance of India Act**, which **nationalised the insurance sector in India** and merged as many as 245 insurance companies to form the life insurance behemoth.
- The government of India back then had contributed a capital of **Rs 5 crore** on incorporation of the company. It is **100 per cent government-owned.**
- One of the reasons for the nationalisation of the insurance business was the **Industrial Policy Resolution of 1956** that intended to give control of 17 crucial sectors of the economy, including life insurance, to the State.
- The slogan of LIC is **'Yogakshemam Vahamyaham'** (your welfare is our responsibility), and is obtained from the Bhagavad Gita.
- The Government of India (GoI) has proposed **sale of a portion of the government's stake in LIC.** The GoI will retain control of the company.

Why in News?

- The Union Cabinet has cleared an amendment to the FDI Policy to **allow foreign direct investment (FDI) up to 20 per cent under the "automatic route" in the state-owned Life Insurance Corporation.**
- Under current rules, foreign investment is not allowed in the LIC, while **74% foreign direct investment is allowed in other private insurance companies.**
- The amendment would allow the government to raise the foreign direct investment limit in the LIC up to 20%, on par with the rule for **public sector banks.**
- This comes ahead of its proposed Initial Public Offer (IPO), which is expected to be the largest in the Indian capital markets so far.
- As per industry estimates, the government expects to mobilise Rs 63,000-66,000 crore from the

proposed share sale to meet its **disinvestment target of Rs 78,000 crore** for FY22.

FDI Regulations

- FDI under sectors is permitted either through **Automatic route or Government route.**
    - Under the Automatic route, the non-resident or Indian company does not require any approval from GoI.
    - Whereas, under the Government route, approval from the GoI is required prior to investment. Proposals for foreign investment under the Government route are considered by the respective Administrative Ministry/Department.
- The **Reserve Bank of India defines FDI as purchase of a stake in a listed company that's 10% or larger** by an individual or entity based abroad, or any foreign investment in an unlisted firm.

Organisations

1) BIMSTEC

Context

- The fifth summit of the now 25-year-old **Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC)** was recently hosted by Sri Lanka.
- The member-states adopted a long-overdue **BIMSTEC charter** that formalizes its structure and functioning.

About BIMSTEC

- BIMSTEC is a multilateral regional organisation established with the aim of **accelerating shared growth and cooperation between littoral and adjacent countries in the Bay of Bengal region.**
- It has a total of **seven member countries- five from South Asia, including Bangladesh, Bhutan, India, Nepal, and Sri Lanka, and two from Southeast Asia, including Myanmar and Thailand.**
- It was founded in 1997 with the adoption of the **Bangkok Declaration**. BIMSTEC's headquarters is situated in **Dhaka.**
- The aim of the regional grouping was to revive the connectivity and common interests of the members of the Bay of Bengal region. The regional group constitutes a **bridge between South and South East Asia** and represents a reinforcement of relations among these countries.
- BIMSTEC is a **sector-driven organisation.** This means the goals or areas of cooperation are divided between members, for instance, out of the multiple sectors like trade, energy, transport, fishery, security, culture, tourism and so on, India was made responsible for areas like transportation, tourism and Counter-Terrorism earlier.

New Changes

- However, during the current summit, members decided on a **complete reorganisation of cooperation activities to streamline them into seven pillars**, as opposed to the earlier bifurcation of **14 sectors.**

- Each of the seven members will be in charge of one pillar of activity. India has been entrusted with the **security pillar;** this will include areas of counter Terrorism and Transnational Crime (CTTCC) Disaster Management and Energy.
- Until the current summit, BIMSTEC did not have a formal document or organisational architecture, which was adopted this time in the form of the **BIMSTEC Charter.**
- With charter in place, the leaders are now committed to promote the BIMSTEC partnership guided by the fundamental principles, shared values and norms that have steered the relations since its establishment in 1997.
- The summit also saw the signing of a number of agreements, including a Convention on Mutual Legal Assistance in Criminal Matters; a Memorandum of Understanding on Mutual Cooperation in the field of Diplomatic Training; and a Memorandum of Association on Establishment of BIMSTEC Technology Transfer Facility.
- BIMSTEC members also adopted a **Masterplan for Transportation Connectivity** which seeks to connect several major transport projects in India, Bangladesh, Myanmar and Thailand and establish a shipping network across the Bay of Bengal that will benefit the littoral states as well as the Bay of Bengal dependent states like Nepal and Bhutan.

Significance of BIMSTEC

- The BIMSTEC region hosts 22% of the world population or 1.68 billion people; and the member states have a combined GDP of US$3.697 trillion/per year.
- For India, BIMSTEC aligns with its **'Act East' policy** for greater regional cooperation in southeast Asia. It could also be seen as aligning with India's larger goal to **gain trade and security prominence in the Indian Ocean region** and to cater to the **concept of the 'Indo-Pacific' region,** a major focus of Quad countries.
- Another important factor for India in becoming a prominent leader in the Bay and maintaining peace and security is **China making inroads in the Indian Ocean Region** over the years. Besides, China today is involved in a widespread drive to build infrastructure in South and Southeast Asian countries, it has projects under its **Belt and Road Initiative (BRI)** in all BIMSTEC members except India and Bhutan.
- The idea of BIMSTEC also gained prominence at a time when the **need for an alternative regional-global organisation** is increasingly being felt because of the **dormant nature of South Asian Association for Regional Cooperation (SAARC) which has not met since November 2014.**
- BIMSTEC is also important owing to the **land and maritime trade potential** of the member countries.

Challenges and setbacks

- The first and major challenge is **lack of efficiency and sluggish pace of BIMSTEC's progress.** BIMSTEC secretariat also suffers from **inadequate financial and manpower assistance** for its operational activities.
- Besides, BIMSTEC members have a lot of ground to cover in terms of **transborder trade and connectivity. India's percentage of annual trade with BIMSTEC countries** as a percentage of its total foreign trade was in the double digits in the 1950s, but was **just 4% as of 2020.** Notably, it was also seen that a lot of the time,

BIMSTEC member countries don't import goods that are manufactured and exported by other members, instead importing from other non-member countries.

- While BIMSTEC members have **not adopted a Free Trade Agreement yet,** they are involved in multiple bilateral and multilateral free trade, preferential trade and economic cooperation agreements with other countries. A comprehensive BIMSTEC FTA can help to reduce barriers to trade and investment and assist the business to join global supply chains.
- Despite Bay of Bengal being an important source of natural resources, BIMSTEC members are **yet to build a shared and lucrative coastal shipment ecosystem** and also grapple with frequent detention of fishermen who cross territorial borders.
- In recent years, the progress of BIMSTEC has also been underscored by Bangladesh-Myanmar relations over the Rohingya refugee crisis, the India-Nepal border issue, and most recently, the political situation in Myanmar after the military junta took over in February last year.

Conclusion

- Efforts to overhaul the integration process in the BIMSTEC region require normative dialogues about the desirable and substantive form of regional architecture in this region.
- With the strong political will, time has come to realise the BIMSTEC dream.

Science and Technology

1) Project NETRA

What's in the news?

- With space junk posing an increasing threat to Indian assets in space, the **Indian Space Research Organisation (ISRO)** is building up its orbital debris tracking capability by deploying new radars and optical telescopes under the **Network for Space Objects Tracking and Analysis (NETRA) project.**

What NETRA hopes to achieve?

- The primary goal of NETRA is to **monitor, track, and defend national space assets while also serving as a centre for all space situational awareness (SSA) activities.**
- The initiative would provide India with its **own space situational awareness capabilities,** which is used to **predict dangers to Indian satellites from debris.**
- A **space debris tracking radar with a range of 1,500 km and an optical telescope** will be inducted as part of establishing an effective surveillance and tracking network under NETRA.
- The radar will be capable of detecting and tracking objects 10 cm and above in size. It will be **indigenously designed and built.**
- A **high-precision, long-range telescope in Leh and a radar in the North East** are both in the works.

What is space debris?

- Space debris encompasses **both natural meteoroid and artificial (human-made) orbital debris.** Meteoroids are in orbit about the sun, while most artificial debris is in orbit about the Earth.
- Orbital debris is any human-made object in orbit about the Earth that no longer serves a useful function. Such debris includes nonfunctional spacecraft, abandoned launch vehicle stages, mission-related debris, and fragmentation debris.
- There are approximately 23,000 pieces of debris larger than a softball orbiting the Earth. They travel at speeds up to 17,500 mph, fast enough for a relatively small piece of orbital debris to damage a satellite or a spacecraft.

What could be done?

- After a spacecraft's mission is over, it can be moved to a more secure orbit. That is, a high-altitude **"graveyard orbit"** over low-Earth space.
- Carrying out **'collision avoidance manoeuvres'** to avoid space debris.
- A recent study proposes using **powerful laser pulses from a high-efficiency fiber laser** to shoot down the debris. The pulses would knock objects into the Earth's atmosphere, where they would burn up.
- **Reusable spacecraft** can be developed.
- Creating spaceships that can endure the harsh conditions of space without dissolving.

Kessler syndrome

- This is a concept suggested by NASA scientist Donald Kessler in 1978, which states that if there is too much space junk in orbit, it might cause a chain reaction in which more and more objects crash, creating additional space junk in the process, until Earth's orbit becomes useless — a **Domino Effect.**
- For the previous two decades, 12 fragmentation incidents have occurred per year.

2) DigiLocker

About DigiLocker

- DigiLocker is a flagship initiative of the **Ministry of Electronics & IT (MeitY).** Linked to both Aadhaar card and cellphone numbers, DigiLocker eliminates the use of physical documents as part of the government's Digital India drive, since all data is stored in the cloud.
- One can upload scanned copies of their documents (PDF, JPEG or PNG format) and access it anywhere they want. One can also **e-sign** these uploaded documents, which works like self-attestation of physical documents.
- On the other hand, organisations like the CBSE, the Registrar Office or the Income Tax Department can also push electronic copies of documents and certificates directly into Citizens' e-lockers.
- The issued documents in DigiLocker system are **deemed to be at par with original physical documents** as per the Information Technology (Preservation and Retention of Information by Intermediaries providing Digital Locker facilities) Rules, 2016.
- DigiLocker is available both on **websites and mobile apps.**

Benefits of DigiLocker

- Benefits to Citizens
    - Important Documents Anytime, Anywhere.
    - Authentic Documents, Legally at Par with Originals.
    - Digital Document Exchange with the consent of the citizen.
    - Faster service Delivery of Government Benefits, Employment, Financial Inclusion, Education, Health.
- Benefits to Agencies
    - **Reduced Administrative Overhead:** Aimed at the concept of paperless governance. It reduces the administrative overhead by minimizing the use of paper and curtailing the verification process.
    - **Digital Transformation:** Provides trusted issued documents. Issued Documents available via DigiLocker are fetched in real-time directly from the issuing agency.
    - **Secure Document Gateway:** Acts as a secure document exchange platform like payment gateway between trusted issuer and trusted Requester/Verifier with the consent of the citizen.
    - **Real Time Verification:** Provides a verification module enabling government agencies to verify data directly from issuers after obtaining user consent.

Why in News?

- The Ministry of Electronics and Information Technology has said that around 494 crore digital documents have been made available in DigiLocker to date from various Government, Semi-Government, Private, and autonomous departments and institutions.
- Important documents for Government benefits, employment, financial inclusion, and education can be obtained through DigiLocker directly from the issuing agencies in real-time.

3) Indian Neutrino Observatory

About Indian Neutrino Observatory

- The Indian Neutrino Observatory (INO) is a **proposed underground particle physics research mega project.**
- The project was conceived in 2005 and a site under the **Bodi West Hills in Tamil Nadu's Theni district** was identified in 2009.
- The objective of the project was to **study neutrinos in a 1,200-metre deep cave.**
- The INO is proposed to be operated by seven primary and 13 participatory research institutes, spearheaded by the Tata Institute of Fundamental Research (TIFR) and the Indian Institute of Mathematical Sciences (IIMSc).

What are neutrinos?

- A neutrino is a **fundamental elementary particle**, and atmospheric neutrinos can be **studied when solar radiation hits the earth's atmosphere.**
- They are very **hard to detect as they hardly interact with other forms of matter due to their lack of electrical charge.**
- They are **produced in high-energy processes such as within stars and in supernovae.** On earth, they are produced by **particle accelerators and nuclear power plants.**
- Neutrino detectors are often built underground to isolate them from cosmic rays from space and any other sources of background radiation. Because neutrinos are so small, they barely interact with matter, passing through most atoms, and thus most matter, without interaction.
- So far, neutrino physics has been mostly limited to outer space sources, observing neutrinos from farther-away stars and galaxies. There are about 20 or so neutrino detectors, telescopes, and experiments around the world.

Significance

Properties of the sun

- The visible light that reaches us from the sun is emitted from the surface of the sun. The neutrinos which also take close to this time to reach us from the sun, known as **solar neutrinos,** were produced in the core of the sun. Therefore they give us information about the interior of the sun. Studying these neutrinos can help us **understand what goes on in the interior of the sun.**

Probing Early Universe

- Neutrinos interact very little with the matter around them, so they **travel long distances uninterrupted.** Since they take time to cross these distances, they are in effect uninterrupted for very long times. The extragalactic neutrinos we observe may be coming from the distant past. These inviolate messengers can give us a **clue about the origin of the universe and the early stages of the infant universe, soon after the Big Bang.**

Medical Imaging

- Apart from direct future uses of neutrinos, there are **technological applications** of the detectors that will be used to study them. For instance, X-ray machines, PET scans, MRI scans, etc., all came out of research into particle detectors. Hence the INO detectors may have applications in **medical imaging.**

Why in News?

- Recently, the Tamil Nadu government filed an affidavit in the Supreme Court stating that it would not permit the construction of the proposed Indian Neutrino Observatory in the Bodi West Hills site.

- The affidavit came in the wake of the National Tiger Conservation Authority (NTCA) providing a no-objection certificate (NoC) to the project.

Why is Tamil Nadu opposing the move?

- Tamil Nadu is opposing the move due to **ecological concerns**.
- The main concern mentioned in the affidavit is that the project falls exactly on the hill slopes of part of the Western Ghats, which align within it a significant tiger corridor, namely the **Mathikettan-Periyar tiger corridor.**
- The tiger corridor **connects the Periyar Tiger Reserve on the Kerala-Tamil Nadu border and the Mathikettan Shola National Park.**
- The TN government's affidavit states that even though experiments in the observatory would be conducted over a kilometer underground, construction activities like large-scale blasting, excavating, tunneling, and transportation, as well as safety and security measures around the facility, would affect tiger activity as well as the local ecology.

4) Mission Gaganyaan

About the Mission

- Announced by Prime Minister Narendra Modi in 2018, Gaganyaan is the **first Indian Human Space Flight Programme (HSP)** with the objective to demonstrate the capability to **send humans to low earth orbit** on board an Indian launch vehicle and bring them back to earth safely.
- The spacecraft, which is being developed by the **Indian Space Research Organisation (ISRO),** consists of a service module and a crew module, collectively known as the Orbital Module.
- With this, **India could potentially become the fourth country to send a man to space**, after the erstwhile USSR, the US and China.
- The first of the two pre-Gaganyaan flights with a **humanoid** will be launched soon along with some of the six shortlisted micro-gravity experiments.
- **GSLV Mk III**, the three-stage heavy lift launch vehicle, will be used to launch Gaganyaan as it has the necessary payload capability.
- Recently, the Government of India announced that the final crewed Gaganyaan mission will be launched in 2023.

Why in News?

- The current status of Gaganyaan programme is as follows:
    1. An **Astronaut training facility** has been commissioned in Bengaluru.
    2. The design of all systems and sub-systems for Gaganyaan has been completed. Realisation of the same is in different stages of progress.
    3. First phase of demonstration tests for Gaganyaan service module propulsion system has been completed.
    4. The MoU, Contracts and Implementation Arrangements (IA) related activities with both national and international agencies are progressing well.
    5. The activities related to development of microgravity experiments have commenced.

5) Solar Spicules

What are solar spicules?

- These are **jets of plasma**, **shooting out from the Sun's outer layer – the Chromosphere** – and making incursions into its atmosphere.
- Solar spicules rise like forests from the Sun's Chromosphere and pierce the Sun's atmosphere or Corona.
- A typical spicule may be 4,000-12,000 kilometres long and 300-1,100 kilometres wide.
- These are structures that are believed to **transport momentum to the solar wind** and to **provide heat to the solar Corona**, which, intriguingly, can be a million degrees Celsius hotter than the Chromosphere.

Why in News?

- A team of interdisciplinary researchers from India and the U.K. have explained the origin of 'spicules' on the Sun, using laboratory experiments as an analogy.
- The researchers used a blob of paint dancing on the surface of the mouth of an audio speaker as an analogous system. Normally, if one places a liquid in a petri dish on the mouth of a speaker and turns up the frequency of the sound passing through it, at some frequency, the liquid's free surface becomes unstable and starts vibrating. If the liquid is like paint or shampoo, instead of forming droplets, it will form long jets. This is because the fluid's **long polymeric chains give it a directionality.**
- The solar plasma can be imagined as threaded by magnetic field lines, much like the long chains in polymer solutions. This makes both the systems **anisotropic**, with properties varying with the direction in space.
- 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 chromosphere is 500 times lighter than the plasma in the photosphere. Therefore, these strong kicks from the bottom shoot the chromospheric plasma outward at ultrasonic speeds in the form of thin columns or spicules.

6) Polio Vaccination

Polio

- Polio, or poliomyelitis, is a disabling and life-threatening disease caused by the **poliovirus**.
- The virus **spreads from person to person** and can infect a person's spinal cord, causing **paralysis.**
- Poliovirus is **very contagious.** It is transmitted by person-to-person spread mainly through the faecal-oral route or, less frequently, by a common vehicle (e.g. contaminated water or food) and multiplies in the intestine, from where it can invade the nervous system.
- There is **no cure for polio**, it can only be prevented by **immunization.**

Types and Vaccines

- There are **three wild types of poliovirus (WPV) – type 1, type 2, and type 3**. There are two vaccines used to protect against polio

disease, **oral polio vaccine and inactivated poliovirus vaccine**.

- The oral polio vaccine (OPV) involves a **weakened poliovirus which is orally administered.** It is used in many countries to protect against polio disease and has been essential to the eradication effort.
- Inactivated Poliovirus Vaccine (IPV) involves an **inactivated (killed) poliovirus administered via injection.**

Vaccine-derived poliovirus (VDPV)

- When a child is immunized with oral polio vaccine, the weakened vaccine-virus replicates in the intestine for a limited period, thereby developing immunity by building up antibodies.
- During this time, the vaccine-virus is also excreted. In areas of **inadequate sanitation**, this excreted vaccine-virus can spread in the immediate community, before eventually dying out.
- On rare occasions, if a **population is seriously under-immunized,** the vaccine-virus can genetically change into a form that can paralyse – known as a **vaccine-derived poliovirus (VDPV)** which causes Vaccine derived Polio.
- VDVP are usually observed in children with **primary immunodeficiency.** Such children are unable to mount an immune response and are, therefore, unable to clear the intestinal vaccine virus infection.
- This condition **doesn't happen with Inactivated Poliovirus Vaccine** as it doesn't contain live viruses. IPV involves an inactivated poliovirus administered via injection.

Eradication of Polio

- **Wild poliovirus type 2** and **Wild poliovirus type 3** have been declared as eradicated worldwide in 2015 and 2019 respectively.
- **Type 1 wild poliovirus** is still in circulation and is restricted to **Afghanistan and Pakistan.**

Why in the news?

- Several states have launched the Intensive Pulse Polio Immunization (IPPI) drive across the country.
- As a part of efforts to maintain high immunity against all polioviruses, India provides inactivated poliovirus vaccine (IPV) to all infants across the country under routine immunization.

7) Kavach

What's in the news?

- In a bid to make rail travel safer, the Ministry of Railways has introduced an **indigenously developed train collision avoidance system called Kavach,** which automatically brings a train to a halt when it detects an obstacle on the track.
- Indian Railways plans to install Kavach across 2,000 rail route networks in 2022-23 and over 4,000-5,000 rail route networks every subsequent year.
- Indian Railways plans to subsequently come out with tenders to deploy Kavach across the entire 68,446 km it operates.

What is Kavach?

- It is indigenously built Automatic Train Protection System in development since 2012, under the name **Train Collision Avoidance System (TCAS),** which got rechristened to **Kavach or "armour".**
- It is a **set of electronic devices and Radio Frequency Identification devices** installed in locomotives, in the signaling system as well the tracks, that communicate with each other using

ultra high radio frequencies to control the brakes of trains and also alert drivers, all based on the logic programmed into them.

- One of its features is that by continuously refreshing the movement information of a train, it is able to send out triggers when a loco pilot jumps signal, called **Signal Passed at Danger (SPAD),** a grave offense in railway operations with respect to safety, and the key to accidents like collision.
- The devices also continuously relay the signals ahead to the locomotive, making it **useful for loco pilots in low visibility, especially during dense fog.**
- Kavach was developed by the **Research Design and Standards Organisation (RDSO)** under Indian Railways in collaboration with private players.
- The indigenously-developed anti-collision technology is **SIL4 (Safety Integrity Level 4)-certified** which means there is the probability of a single error in 10,000 years.

What is new?

- In the new avatar, 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. Work is on to make the system such that it can be compatible with other already installed systems globally.
- It is considered as 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.

Reports and Indices

1) Frontiers Report 2022

What's in the news?

- The **UN Environment Programme (UNEP)** has released its 2022 edition of the **Frontiers report** titled **"Noise, Blazes and Mismatches: Emerging Issues of Environmental Concern".**
    - The UNEP Frontiers reports **draw attention to emerging issues of environmental concern.**
    - The issues presented in the report are considered 'emerging' based on new scientific information and knowledge, new methods of addressing existing issues, or mounting impacts of existing issues.
    - The issues presented in the Frontiers reports may be local and relatively small-scale today, but they have the potential to become issues of regional and global concern that impacts the environment and people's livelihoods considerably.

Highlights of the Report

- The 2022 edition delves into three issues:
    - **Noise pollution in cities,**
    - **The growing threat of wildfires and**
    - **Shifts in seasonal events** – such as flowering, migration and hibernation, an area of study known as **phenology.**
- These looming environmental threats could cause widespread ecological damage, and need to be urgently addressed.

Noise Pollution

- Terming noise pollution **"a raucous killer",** the report said that unwanted, prolonged, and high-level sounds from road traffic, railways, or leisure activities, **impair human health and well-being.**
- The report measured noise levels in 61 cities of the world. Bangladesh's capital **Dhaka** topped the list with a noise level of 119 decibels (dB). **Moradabad** in Uttar Pradesh has emerged as the second most noisiest city in the world, with Delhi, Kolkata, Asansol and Jaipur also exceeding **permissible noise limits of 70 decibels**.
- Chronic annoyance and sleep disturbance caused by traffic can result in **severe heart diseases and metabolic disorders** with the very young, and mostly affect the elderly and marginalized communities near busy roads.
- The report **encourages urban planners to prioritise noise reduction by investing in urban infrastructure** that creates positive soundscapes such as tree belts, green walls, and more green spaces in cities - also offering diverse health benefits.

Wildfires

- The report projected that **dangerous wildfires will likely become more frequent, intense, and longer lasting**, including in areas previously unaffected by fires.
- Wildfires are a natural phenomenon, but are becoming more dangerous and affecting larger areas. The UN report has attributed this to **climate change and human activities.** Climate change can prompt extreme wildfires, generating lightning that can ignite other fires, far beyond the fire front and creating a so-called **hazardous feedback loop.**

- **Long-term effects on human health** extend beyond those fighting wildfires, or the evacuated, or those who have lost homes, and exacerbate impacts among those with pre-existing illness, women, children, the elderly, and the poor.
- At the same time, **black carbon and other pollutants** generated from wildfires can contaminate water sources, speed up glacier melt, trigger landslides and turn rainforests into carbon sinks.
- The report calls for greater investment in reducing wildfire risks; developing prevention and response management approaches; and refinancing remote sensing capabilities.

Phenology

- Phenology is the timing of recurring life cycle stages, driven by environmental forces, and how species interacting within an ecosystem respond to changing conditions.
- Plants and animals in terrestrial, aquatic and marine ecosystems use temperature, day length or rainfall as cues for when to bear fruit, migrate or transform in other ways.
- However, **climate change disrupts these natural rhythms** as plants and animals are being pushed out of sync with their natural rhythms, leading to mismatches, such as when plants shift life cycle stages faster than herbivores.
- Meanwhile, local climatic cues that trigger migration for birds may no longer accurately predict conditions at their destination and resting sites along the route. And in crops, phenological shifts in **seasonal variations challenge food production.**
- The report flags the crucial importance of conservation goals, such as maintaining suitable habitats and ecological connectivity, strengthening the integrity of biological diversity, and coordinating international efforts along migratory routes.

About UNEP

- The United Nations Environment Programme is the leading environmental authority in the United Nations system.
- It promotes the coherent implementation of the environmental dimension of sustainable development within the United Nations system.
- Headquartered in Nairobi, Kenya, it was founded as a result of the **UN Conference on the Human Environment** (also known as the **Stockholm Conference**) in **1972.**

2) World Air Quality Report

About the Report

- The World Air Quality Report is prepared by **Swiss organization IQAir.**
- The report is based on **PM2.5 air quality data from 6,475 cities in 117 countries, regions and territories** around the world.
- IQAir endeavors to engage, educate, and inspire governments, researchers, NGOs, companies, and citizens to work together to improve air quality and create healthier communities and cities.

Why in News?

- Recently, the **World Air Quality Report 2021** was released giving an overview about the Global state of Air Quality in 2021.

Key Findings

- **No country met the latest WHO air quality guideline for PM2.5 in 2021.**
    - In 2021, the WHO tightened the global air quality norms and recommended that

average annual readings of small and hazardous airborne particles known as **PM2.5 should be no more than 5 micrograms (µg) per cubic metre,** saying that even low concentrations caused significant health risks.

- Concentration of PM2.5 was found to be within WHO standards in **only 222 out of 6,475 cities** covered in the report by IQAir.
- The **concentration in 93 per cent of the cities was 10 times the new guidelines.**
- **The top five most polluted countries in 2021 were:**
    - Bangladesh
    - Chad
    - Pakistan
    - Tajikistan
    - **India**
- **Air quality improved in China** in 2021, with more than half the cities covered recording lower pollution compared to the previous year.
- **Central and South Asia had some of the world's worst air quality in 2021** and was home to **46 of the world's 50 most polluted cities.**

Indian Scenario

- India was among the top five countries with the highest concentration of PM2.5, with **Delhi as the most polluted capital in the world**. The city recorded an increase of over 14 per cent in the concentration of PM2.5 in 2021 compared to 2020.
- Dhaka (Bangladesh), N'Djamena (Chad), Dushanbe (Tajikistan) and Muscat (Oman) followed Delhi in the list of polluted capital cities.
- **35 of the 50 cities with the worst air quality were in India** with Rajasthan's **Bhiwadi** topping the list followed closely by Uttar Pradesh's **Ghaziabad.**
- **None of the cities in India met the prescribed WHO air quality standards** of 5 micrograms per cubic meter.
- **India's annual average PM2.5 levels reached 58.1 µg/m3 in 2021**, ending a three-year trend of improving air quality.
- The report also revealed that **48 per cent of Indian cities exceeded 50 µg/m3 air quality level** which is well over 10 times the WHO guidelines.

Rank	City	2021
1	Bhiwadi, India	106.2
2	Ghaziabad, India	102
3	Hotan, China	101.5
4	Delhi, India	96.4
5	Jaunpur, India	95.3
6	Faisalabad, Pakistan	94.2
7	Noida, India	91.4
8	Bahawalpur, Pakistan	91
9	Peshawar, Pakistan	89.6
10	Bagpat, India	89.1

Rank	City	2021
11	Hisar, India	89
12	Faridabad, India	88.9
13	Greater Noida, India	87.5
14	Rohtak, India	86.9
15	Lahore, Pakistan	86.5
16	Lucknow, India	86
17	Jind, India	84.1
18	Gurugram, India	83.4
19	Kashgar, China	83.2
20	Kanpur, India	83.2

Why is air pollution a cause for concern?

- According to the report, air pollution is now considered to be the **world's largest environmental health threat,** accounting for seven million deaths around the world every year.
- Air pollution causes and aggravates many diseases, ranging from **asthma to cancer, lung illnesses and heart disease.**
- The estimated daily economic cost of air pollution has been figured at **$8 billion (USD), or 3 to 4 percent of the gross world product.**
- In India, 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.**

3) Export Preparedness Index 2021

About EPI

- Export Preparedness Index is prepared by the **NITI Aayog** in partnership with the Institute of Competitiveness (a research institute in Haryana).
- The report examines **export preparedness and performance of Indian states.** EPI also intends to identify challenges and opportunities; enhance the effectiveness of government policies; and encourage a facilitative regulatory framework.
- The structure of the EPI includes **4 pillars**: **Policy; Business Ecosystem; Export Ecosystem; Export Performance**. The rationale behind selection of each of them are given below:
    - **Policy:** A comprehensive trade policy provides a strategic direction for exports and imports.
    - **Business Ecosystem**: An efficient business ecosystem can help states attract

investments and create an enabling infrastructure for individuals to initiate start-ups.
    - **Export Ecosystem:** This pillar aims to assess the business environment, which is specific to exports.
    - **Export Performance:** This is the only output-based pillar and examines the reach of export footprints of States and Union Territories.
- The index also took into consideration **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.

Why in News?

- NITI Aayog has released its Export Preparedness Index for 2021.

Highlights of the Index

- **Gujarat** has been named India's top State in terms of export preparedness for the second year in a row.
- **Maharashtra, Karnataka, Tamil Nadu** were ranked second, third and fourth in the index, as coastal States with higher industrial activity and access to sea ports account for a majority of India's exports.
- **Haryana, Uttar Pradesh and Madhya Pradesh** have been ranked fifth, sixth and seventh in the overall index, but are the **top three performers in export preparedness among land-locked States.**
- **Uttarakhand, Himachal Pradesh and Tripura** have been ranked as the **top three Himalayan States** in export preparedness, while **Delhi, Goa and Jammu & Kashmir** have been rated the best performers in descending order in the **'Union Territories and City States' category.**
- The index identifies **three major challenges** to India's export promotion efforts. These are:
    - 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.

4) World Happiness Report 2022

About the Index

- The World Happiness Report is released by the **United Nations Sustainable Development Solutions Network (SDSN)**.
    - *SDSN was launched in 2012 by **UN Secretary-General Ban Ki-moon** to mobilize global scientific and technological expertise to promote practical problem solving for sustainable development and implement the Sustainable Development Goals (SDGs).*
    - *SDSN aims to accelerate joint learning and help to overcome the separation of technical and policy work by promoting integrated approaches to the interconnected economic, social, and environmental challenges confronting the world. SDSN works closely with United Nations agencies, multilateral financing institutions, the*

private sector, and civil society.

- The report presents a framework **gauging people's qualitative assessment of their lives, progress and well-being through quantitative indicators.**
- The parameters for assessment include **GDP per capita in terms of Purchasing Power parity (PPP), healthy life expectancy at birth, level of social support, generosity, perceptions on corruption and freedom to make life choices.**
- It assigns a happiness score on a **scale of zero to 10,** based on an average of data over a **three-year period.**
- The report aspires to prioritise discussions on happiness among governments and academics for assessment and establishment of social and economic objectives.

Why in News?

- The United Nations Sustainable Development Solutions Network has released its World Happiness Report 2022.

Highlights of the Report

- **Finland** has been named the world's happiest country for the fifth year running, in the World Happiness Report 2022. **Afghanistan** has been ranked as the unhappiest, closely followed by **Lebanon.**
- Following Finland, Denmark bagged the second rank, while Iceland and Switzerland stood at third and fourth rank.
- **India** ranked 136 among 146 countries in the Index, a marginal improvement as compared to its ranking of 139 a year ago.
- On average, there has been a **long-term moderate upward trend in stress, worry, and sadness** in most countries and a **slight long-term decline in the enjoyment of life.**
- Separately, it observed that experiences of balance, peace and calm are more prevalent in Western countries as compared to countries in East Asia. Further, the western countries also experience higher levels of satisfaction.
- This year the authors also used data from **social media** to compare people's emotions before and after the COVID-19 pandemic.
- Separately, **global benevolence increased 25% in 2021** compared to its pre-pandemic level. This was led by helping out strangers, alongside strong growth in donations and volunteering.

Polity

1) Who is a 'minority' in India?

Context

- The Supreme Court has announced that it will take up a petition **seeking identification of minorities at the state level** and **granting minority status to Hindus in states and union territories where their numbers have gone below other communities.**
- The petition referred to the **TMA Pai Ruling** in which the Supreme Court held that States can determine the status of a religious or linguistic minority.

What is the definition of minority under Indian laws?

- The expression "minorities" appears in some Articles of the Constitution, but is **not defined anywhere.**

What does the Constitution say about minorities?

- **Article 29**, which deals with the "Protection of interests of minorities", says that "any section of the citizens residing in the territory of India or any part thereof having a distinct language, script or culture of its own shall have the right to conserve the same".
    - "No citizen shall be denied admission into any educational institution maintained by the State or receiving aid out of State funds on grounds only of religion, race, caste, language or any of them".
- **Article 30** deals with the "right of minorities to establish and administer educational institutions".
    - It says that all minorities, whether based on religion or language, shall have the right to establish and administer educational institutions of their choice.
- **Article 350 (A)** says there shall be a **Special Officer for linguistic minorities** to be appointed by the **President.** It shall be the duty of the Special Officer to investigate all matters relating to the safeguards provided for linguistic minorities under this Constitution and report to the President upon those matters at such intervals as the President may direct.

Who is a minority in India?

- Currently, only those communities notified under **section 2(c) of the National Minorities Commission Act, 1992**, by the central government are regarded as minority.
- In the exercise of its powers under the Section 2(c) of the NCM Act, the Centre in 1993, notified five groups — **Muslims, Christians, Sikhs, Buddhists and Parsis** — as 'minority' communities. **Jains** were added to the list in 2014.

2) AFSPA withdrawal from parts of Northeast

What's in the news?

- The Government of India has **significantly reduced the footprint of the Armed Forces Special Powers Act (AFSPA), 1958, in the Northeast,** withdrawing it entirely from 23 districts in **Assam**; and partially from seven districts in **Nagaland**, six districts in **Manipur**, and one district in **Assam**.
- AFSPA now remains in force in **parts of these three states as well**

as in parts of Arunachal Pradesh and Jammu & Kashmir.

Why is the decision significant?

- AFSPA, which has been called draconian, gives **sweeping powers to the armed forces.** For example, it allows them to open fire, even causing death, against any person in contravention to the law or carrying arms and ammunition, and gives them powers to arrest individuals without warrants, on the basis of "reasonable suspicion", and also search premises without warrants.
- It **can be imposed by the Centre or the Governor of a state, on the state or parts of it, after these areas are declared "disturbed" under Section 3 of AFSPA.**
- The Northeast has lived under the shadow of AFSPA for nearly 60 years, creating a feeling of alienation from the rest of the country.
- The move is expected to help demilitarise the region; it will lift restrictions of movements through checkpoints and frisking of residents.

How did the AFSPA come about?

- The British colonial government had on August 15, 1942, promulgated the Armed Forces Special Powers Ordinance to **suppress the Quit India movement.**
- It was the foundation for four ordinances, including one for the "Assam disturbed areas" invoked in 1947 to deal with Partition-induced internal security challenges. The Armed Forces (Assam and Manipur) Special Powers Act, 1958, followed the Assam Disturbed Areas Act of 1955 to **deal with the uprising in the Naga Hills and adjoining areas.** The Act was replaced by the AFSPA for wider application. A **similar Act specific to Jammu and Kashmir** was enacted in 1990.

Why is the latest move significant?

- The decision to withdraw AFSPA has come as the result of a combination of circumstances.
- Over the last two decades, various parts of the Northeast have seen a **reduction in insurgencies**. A number of major groups were already in **talks with the Indian government.**
- For example, in Nagaland, all major groups — the NSCN (I-M) and Naga National Political Groups (NNPGs) — are at advanced stages of concluding agreements with the government.

What has made AFSPA unpopular among the people?

- In Nagaland, 60 years of living under the AFSPA regime has had **psychological consequences, trauma and alienation of the people.** Critics said that the use of force and AFSPA furthered the feeling of alienation of the Naga people, **solidifying Naga nationalism.**
- Various incidents of violence have been recorded in the Northeastern states, as AFSPA gives sweeping powers to security forces.

Attempts to repeal AFSPA

- In 2000, the activist **Irom Sharmila** began a hunger strike that would continue for 16 years against AFSPA in Manipur.
- In 2004, the then central government set up a five-member committee under **former Supreme Court Justice Jeevan Reddy**, which submitted its report in 2005 recommending the repeal of AFSPA, calling it "highly undesirable", and saying it had become a symbol of oppression.

- Subsequently, the **Second Administrative Reforms Commission**, headed by **Veeerapa Moily**, endorsed these recommendations.

3) Real Estate (Regulation & Development) Act, 2016

About the Act

- The real estate (regulation and development) Act 2016 was enacted with the main purpose to establish the state level regulatory authorities called **Real Estate Regulatory Authority** for regulation and promotion of the real estate sector.
- The Act has the following objectives:
    - To protect the interest of the allottees and ensure their responsibility;
    - To maintain transparency and reduce the chances of fraud;
    - To implement Pan-India standardization and bring about professionalism;
    - To enhance the flow of correct information between the home buyers and the sellers;
    - To impose greater responsibilities on both the builders and the investors;
    - To enhance the reliability of the sector and thereby increase confidence amongst the investors.
- Residential real estate projects, with some exceptions, need to be **registered with RERAs**. Promoters cannot book or offer these projects for sale without registering them. Real estate agents dealing in these projects also need to register with RERAs.
- On registration, the promoter must upload details of the project on the website of the RERA. These include the site and layout plan, and schedule for completion of the real estate project.
- **70% of the amount** collected from buyers for a project must be maintained in a separate bank account *(escrow account)* and must only be used for construction of that project.
- The Act establishes state level tribunals called **Real Estate Appellate Tribunals.** Decisions of RERAs can be appealed in these tribunals.

Why in News?

- 28 States/ Union Territories (UTs) have set up a Real Estate Appellate Tribunal and 30 States/UTs have set up the Real Estate Regulatory Authority under Real Estate (Regulation & Development) Act, 2016 (RERA).

4) National Commission for Scheduled Tribes

About NCST

- The National Commission for Scheduled Tribes (NCST) was established by **amending Article 338** and **inserting a new Article 338A** in the Constitution through the **Constitution (89th Amendment) Act, 2003.**
- By this amendment, the erstwhile National Commission for Scheduled Castes and Scheduled Tribes was replaced by two separate Commissions namely- **(i) the National Commission for Scheduled Castes (NCSC), and (ii) the National Commission for Scheduled Tribes (NCST)**.
- The **term of office of Chairperson, Vice-Chairperson and each**

member is three years from the date of assumption of charge.
- The **Chairperson** has been given the **rank of Union Cabinet Minister**, and the Vice-Chairperson that of a Minister of State and other Members have the rank of a Secretary to the Government of India.

Functions of the Commission

1. To investigate & Monitor matters relating to Safeguards provided for STs under the Constitution or under other laws or under Govt. Order, to evaluate the working of such Safeguards.
2. To inquire into specific complaints relating to Rights & Safeguards of STs;
3. To participate and Advise in the Planning Process relating to Socio-economic development of STs, and to Evaluate the progress of their development under the Union and any State;
4. To submit report to the President annually and at such other times as the Commission may deem fit, upon/ working of Safeguards, Measures required for effective implementation of Programmers/ Schemes relating to Welfare and Socio-economic development of STs;
5. To discharge such other functions in relation to STs as the President may, subject to the provisions of any law made by Parliament, by rule specify.

Powers of the Commission

- For Investigation and Inquiry, the Commission is **vested with powers of a civil court having authority to:**
    - Summon and enforce attendance of any person and examine on oath;
    - Discovery & production of any documents;
    - Receive evidence on affidavits;
    - Requisition any public record or copy thereof from any court or office;
    - Issue Commissions for examination of witnesses and documents; and
    - Any matter which President, by rule, may determine.

Why in News?

- The Standing Committee on Social Justice and Empowerment in its report to the Parliament has submitted that the **National Commission for Scheduled Tribes has been dysfunctional for the past four years and has not delivered a single report to Parliament.**
- The commission is vested with all the powers of a civil court while investigating any matter on inquiring into any complaint relating to deprivation of rights and safeguards for the Scheduled Tribes.
- The Standing Committee expressed dismay over the **near paralysis of the commission's working due to manpower and budgetary shortage.**
- In the financial year 2021-22, NCST has met only four times. Its rate of pendency of resolution of complaints and cases that it receives is close to 50%.

5) Karnataka High Court's hijab verdict

What's in the news?

- In its judgment upholding restrictions on Muslim women wearing hijabs in educational institutions, the Karnataka High Court held that wearing the headscarf is **not an "essential religious practice" in Islam.**

- The court dismissed the petitions challenging an order on school uniforms by the Government Pre-University (PU) College for Girls in Udupi that banned the hijab, as well as the Karnataka government order that extended its support to the restriction.

What does the 'essential religious practice' test mean?

- **Article 25** of the Constitution guarantees the "freedom of conscience and the right freely to profess, practise and propagate religion". However, **this right isn't absolute and is subject to public order, morality, health, and other fundamental rights.**
- While Article 25 itself does not read any other condition into the protection of this right, courts, over the years, have ruled that the **right would protect only "essential religious practices"** and not all religious practices. So, this test decides which religious practices are protected under the Constitution.
- Courts have adopted varied approaches to the test over the years. In some cases , they relied on **religious texts to determine essentiality**, in others on the **empirical behaviour of followers**, and in a few, on whether the practice in question **existed at the time the religion originated.**

Previous Instances

- In 2004, the Supreme Court applied the test of essential religious practices in deciding whether the **Tandava dance was an essential rite of the Ananda Marga Faith.** It ruled that the faith had come into existence in 1955, while the Tandava dance was adopted only in 1966. The court, therefore, ruled that since the faith had existed before the adoption of the dance, the latter **cannot be considered an essential feature of the faith.**
- In 2016, the Bombay High Court **permitted women to enter the sanctum sanctorum of the Haji Ali Dargah**, ruling that the Haji Ali Dargah Trust's decision to exclude them was illegal and unconstitutional. In its judgment, the court ruled that the Trust had failed to place any material on record to demonstrate that the exclusion of women from dargahs was an "essential feature" of Islam.
- More recently, in 2017, the Supreme Court ruled that **triple talaq was not an essential practice of Islam** and could not be offered constitutional protection under Article 25.
- A year later in 2018, the Supreme Court in the **Sabarimala case** rejected the claim of 'Ayyappans' (pilgrims) that the exclusion of women between the age of 10 and 50 from entering the temple constituted an essential practice.

Why the court held that hijab isn't an essential part of Islam?

- As for the Karnataka High Court judgment, it has held that wearing the hijab does not constitute an essential religious practice under Islam — which means it can be regulated by the state.
- To reach this conclusion, the court referred to a commentary on the Quran and held that there is **no "Quranic injunction" or mandate on wearing the hijab.**
- The court therefore concluded that wearing of hijab by Muslim women does not form a part of essential religious practice in Islamic faith.

Future of the test uncertain

- The essential religious practices test has, however, faced criticism on several occasions. **Justice D.Y. Chandrachud** in the Sabarimala

case had lamented that "compulsions nonetheless have led the court to don a theological mantle".

- The future of the test is also uncertain at the moment. This is after the Supreme Court, while considering review petitions in the Sabarimala case, referred seven questions to a larger bench.
- A nine-judge bench is set to re-evaluate the "essential religious practice test", among other issues related to Constitutional morality, and the interplay between freedom of religion under the Constitution and other fundamental rights.

International Relations

1) SWIFT

What's in the news?

- The U.S., Europe and several other western nations have decided to exclude Russia from the **Society for Worldwide Interbank Financial Telecommunication (SWIFT), an international network for banks to facilitate smooth money transactions globally.**
- This could be the strongest economic sanction against Russia over its military moves in Ukraine, as it will potentially cut off the country from receiving international payments.

What is SWIFT?

- SWIFT is a **messaging network used by banks and financial institutions globally for quick and faultless exchange of information pertaining to financial transactions.**
- The **Belgium-headquartered** SWIFT connects more than 11,000 banking and securities organisations in over 200 countries and territories.
- Each participant on the platform is assigned a **unique eight-digit SWIFT code or a bank identification code (BIC).** If a person, say, in New York with a Citibank account, wants to send money to someone with an HSBC account in London, the payee would have to submit to his bank, the London-based beneficiary's account number along with the eight-digit SWIFT code of the latter's bank. Citi would then send a SWIFT message to HSBC. Once that is received and approved, the money would be credited to the required account.
- SWIFT is **merely a platform that sends messages and does not hold any securities or money.** It provides **standardised and reliable communication to facilitate the transaction.** While SWIFT **does not actually move money,** it operates as a middleman to verify information of transactions by providing secure financial messaging services.

What happens if one is excluded from SWIFT?

- If a country is excluded from the most participatory financial facilitating platform, its **foreign funding would take a hit, making it entirely reliant on domestic investors.** This is particularly troublesome when institutional investors are constantly seeking new markets in newer territories.
- Prior to this, only one country had been cut off from SWIFT — **Iran.** It resulted in it losing a third of its foreign trade.
- An alternative system would be cumbersome to build and even more difficult to integrate with an already expansive system. SWIFT, first used in 1973, went live in 1977 with 518 institutions from 22 countries, its website states. SWIFT itself had replaced the much slower and far less dynamic **Telex**.

How is the organisation governed?

- SWIFT claims to be **neutral**. Its shareholders, consisting of 3,500 firms across the globe, elect the **25-member board**, which is responsible for oversight and management of the company.
- It is **regulated by G-10 central banks** of Belgium, Canada, France, Germany, Italy, Japan, The Netherlands, the United Kingdom, the United States, Switzerland, and Sweden, alongside the European Central Bank. Its **lead overseer is the National Bank of Belgium.**

- The **SWIFT oversight forum** was established in 2012. The G-10 participants were joined by the **central banks of India**, Australia, Russia, South Korea, Saudi Arabia, Singapore, South Africa, the Republic of Turkey, and the People's Republic of China.
- In 2021, the SWIFT financial messaging platform had recorded an average of 42 million messages per day.

2) RCEP

About RCEP

- 15 Asia-Pacific nations have signed the Regional Comprehensive Economic Partnership (RCEP) which covers over 2.2 billion people and accounts for 30 per cent of the world's economy. It came into force on January 1 this year.
- The signatory countries include **10 Association of Southeast Asian Nations (ASEAN) members** — Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand and Vietnam — and their five trade partners — **Australia, China, Japan, South Korea and New Zealand.**
- The purpose of RCEP was to make it easier for products and services of each of these countries to be available across this region. The agreement also includes rules on intellectual property, telecommunications, financial and professional services, and e-commerce.
- Described as the **largest regional trading agreement** to this day, RCEP was originally being **negotiated between 16 countries — ASEAN members** and six countries namely **Australia, China, Korea, Japan, New Zealand and India.**
- Negotiations to chart out this deal had been on since 2013, and India was expected to be a signatory.

India's Exit

- However, in 2019, **India announced its decision to not join RCEP.**
- This came amid concerns that elimination of tariffs would open India's markets to imports, which in turn could harm local producers.

Concerns of India

- **Imbalance in the negotiations between goods and services** was the main concern for India. Member countries pressured India to commit to **zero tariffs on more than 90 percent** of tradable goods with few exemptions.
- However, they were reluctant to India's proposal to allow **free movement of Indian skilled professionals** in the RCEP region.
- Indian industries were also worried that with RCEP allowing a wide range of goods to import at zero tariffs, **Chinese goods will flood India**. It will cause serious damage to the "Make in India" programme.
- India has **trade deficits with most of the RCEP countries,** and some experts feel that India has been unable to leverage its existing bilateral free trade agreements with several RCEP members to increase exports.

Opportunities for India

- Despite these concerns, RCEP will offer India an opportunity to engage with China.
- It will give India a chance to **stall some of its unfair practices** such as giving subsidies unethically and stalling Indian products, such as pharmaceuticals, on the pretext of quality control.
- RCEP will give Indian exporters a window to be a **part of global value chains.**

- Also, there are concerns that India's decision would **impact its bilateral trade ties with RCEP member nations**, as they may be more inclined to focus on bolstering economic ties within the bloc.
- The move could potentially leave India with **less scope to tap the large market that RCEP presents** —the size of the deal is mammoth, as the countries involved account for over 2 billion of the world's population.

What's in the news?

- Japan has conveyed that it still has not given up hope that India might reconsider joining the Regional Comprehensive Economic Partnership (RCEP) that it quit in 2019.
- The Japanese Government said that India will be treated exceptionally as a founding member and if India is willing to negotiate its re-entry to RCEP, Japan would be happy to take a lead on that.

3) Geneva Conventions guidelines during wartime

Context

- Russia's armed invasion of Ukraine has set off a steady escalation in hostilities on Ukrainian soil. As the evidence of casualties in the civilian population continues to mount, the world will increasingly look to the Geneva Conventions, a set of principles outlining norms for combatant behaviour during a war, for standards to which the invading Russian forces can be held.

What are the Geneva Conventions guidelines during wartime?

- The Geneva Conventions are a **set of four treaties, formalised in 1949,** and **three additional protocols**, the first two of which were formalised in **1977** and the third in **2005,** which **codify widely accepted ethical and legal international standards for humanitarian treatment of those impacted by any ongoing war.**
- The focus of the Conventions is the **treatment of non-combatants and prisoners of war, and not the use of conventional or biological and chemical weapons,** the use of which is governed respectively by the **Hague Conventions and the Geneva Protocol.**
    - The **First Geneva Convention** protects wounded and sick soldiers on land during war. This convention extends to medical and religious personnel, medical units, and medical transport.
    - The **Second Geneva Convention** protects wounded, sick and shipwrecked military personnel at sea during war.
    - The **Third Geneva Convention** applies to prisoners of war, including a wide range of general protections such as humane treatment, maintenance and equality across prisoners, conditions of captivity, questioning and evacuation of prisoners, transit camps, food, clothing, medicines, hygiene and right to religious, intellectual, and physical activities of prisoners.
    - The **Fourth Geneva Convention**, which most imminently applies to the invasion of Ukraine by Russian military forces, protects civilians, including

those in occupied territory. The other Geneva Conventions were concerned mainly with combatants rather than civilians. This convention also spells out the **obligations of the occupying power vis-à-vis the civilian population** and outlines detailed provisions on humanitarian relief for populations in occupied territory.

Which countries are signatories?

- The Geneva Conventions have been ratified by **196 states, including all UN member states.** The three Protocols have been ratified by 174, 169 and 79 states respectively.

To what extent have the Geneva Conventions been upheld worldwide in recent years?

- In 2019, **Amnesty International,** a human rights advocacy group, noted that there has been a blatant disregard for civilian protection and international humanitarian law in armed conflicts where four of the five permanent members of the UN Security Council are parties — Russia, the U.S., the U.K. and France.
- It underscores the grim fact that the Geneva Conventions, even when backed by rulings of the International Criminal Court (ICC), **cannot be enforced by third parties to any conflict**. However, they have in the past proved effective at **raising global awareness of human rights violations** across conflict zones, and in some cases **led to sanctions or trade embargoes against the belligerents.**

4) What does revoking Russia's 'most favoured nation' status mean?

What's in the news?

- The United States, the European Union, Britain, Canada and Japan have decided to revoke Russia's "most favoured nation" (MFN) status over its invasion of Ukraine.

What is 'most favoured nation' status?

- The **World Trade Organization's 164 members commit to treating other members equally** so they can all benefit from each other's lowest tariffs, highest import quotas and fewest trade barriers for goods and services. This **principle of non-discrimination is known as most favoured nation (MFN) treatment.**
- Say, for example, that the United States levies a 13 per cent tariff on imported leather gloves. MFN status means that gloves imported from France, China, Brazil and Russia would all be taxed at that same rate.
- MFN status has been a baseline for global trade, ensuring that countries within the World Trade Organisation are treated on a similar footing, with **some exceptions** such as when members strike **bilateral trade agreements or when members offer developing countries special access to their markets.**
- For **countries outside the WTO**, such as Iran, North Korea, Syria or Russian ally Belarus, **WTO members can impose whatever trade measures they wish without flouting global trading rules.**

Removal of MFN status

- There is **no formal procedure for suspending MFN treatment** and it is not clear whether members are obliged to inform the WTO if they

do so. **India suspended Pakistan's MFN status** in 2019 after a suicide attack by a Pakistan-based Islamist group killed 40 police. Pakistan never applied MFN status to India.

What does losing MFN status mean?

- Revoking Russia's MFN status sends a strong signal that the United States and its Western allies do not consider Russia a economic partner in any way, but it does not in itself change conditions for trade.
- It does formally allow the Western allies to increase import tariffs or impose quotas on Russian goods, or even ban them, and to restrict services out of the country. They could also overlook Russian intellectual property rights.

Art and Culture

1) Padma Awards

About Padma Awards

- The Padma Awards are one of the highest **civilian honours** of India presented by the **President of India.**
- The Awards are given in three categories: **Padma Vibhushan** (for exceptional and distinguished service), **Padma Bhushan** (distinguished service of higher order) and **Padma Shri** (distinguished service).
- Padma Vibhushan is highest in the hierarchy of Padma Awards followed by Padma Bhushan and Padma Shri.
    - Highest civilian award of the country is **Bharat Ratna.**
- The award seeks to **recognize achievements in all fields of activities or disciplines where an element of public service is involved.**
- All persons without distinction of race, occupation, position or sex are eligible for these awards. However, **Government servants** including those working with PSUs, **except doctors and scientists**, are **not eligible for these Awards.**
- The Padma Awards are conferred on the recommendations made by the **Padma Awards Committee**, which is constituted by the Prime Minister every year.
- The nomination process is **open to the public.** Even **self-nomination** can be made.
- The Padma Awards were instituted in 1954. It is announced every year on the occasion of **Republic Day** except for brief interruptions during the years **1978 and 1979 and 1993 to 1997.**
- The award comprises a **Certificate issued under the hand and seal of the President and a Medallion. No cash allowance** or any facility/benefit in terms of concession etc. in rail/air travel is attached to these awards.
- The award **does not amount to a title and cannot be used as a suffix or prefix** to the awardee's name.

Why in News?

- The Padma awards were conferred recently by the President of India.

Related Information

About Bharat Ratna

- Bharat Ratna is the **highest civilian award** of the country.
- It is awarded in **recognition of exceptional service/performance of the highest order in any field of human endeavour.**
- The **recommendations for Bharat Ratna are made by the Prime Minister to the President of India.**
- The number of Bharat Ratna Awards is **restricted to a maximum of three** in a particular year.
- On conferment of the award, the recipient receives a **certificate signed by the President and a medallion.** The Award **does not carry any monetary grant.**
- In terms of **Article 18 (1)** of the Constitution, the **award cannot be used as a prefix or suffix to the recipient's name.** However, should an award winner consider it necessary, he/she may use the expression: 'Awarded Bharat Ratna by the President' or 'Recipient of Bharat Ratna Award' to indicate that he/she is a recipient of the award.

2) Ancient Nalanda University

About the University

- Nalanda was an acclaimed Mahavihara, a large Buddhist monastery in the ancient kingdom of **Magadha** (modern-day **Bihar**) in India. It includes stupas, shrines, viharas and important art works in stucco, stone and metal.
- The establishment of Nalanda was formed by the **Emperor Kumar Gupta** in the **5th century A.D.** It engaged in the organized transmission of knowledge over an uninterrupted period of 800 years till the 12th century CE.
- It was a completely residential university believed to have 2,000 teachers and 10,000 students.
- The profound knowledge of Nalanda's teachers attracted scholars from places as distant as **China, Korea, Japan, Tibet, Mongolia, Turkey, Sri Lanka, and South East Asia.**
- The university was largely focused on **Buddhist studies**, but it also offered courses in **fine arts, medicine, mathematics, astronomy, politics, grammar, logic, epistemology, science and the art of combat.** The medium of instruction was given in **Sanskrit.**
- Despite the fact that it covered all Buddhist sects, **Mahayana Buddhism** was the dominant focus.
- **Nagarjuna (Madhyamika Shunyavad) and Aryabhatta**, the astronomer, are two of Nalanda's most famous scholars.
- **Hiuen Tsang (Xuanzang),** a Chinese traveller, visited Nalanda University during **King Harsha's reign** and gave a thorough account of the university.
- **I Tsing**, a Chinese scholar, stated that Nalanda housed 2,000 students and was supported by funds from 200 villages.
- The university reached its zenith during the **reign of Harshavardhana and the Pala emperors.**
- The institution was a focus of academic activity until 1197 AD, when Turkish ruler **Qutbuddin Aibak's general Bakhtiyar Khilji** destroyed it.
- The ancient university has been designated as a **UNESCO World Heritage Site** *(Refer Pulse July 2021 edition).*

Why in News?

- A process is under way to translate and publish hundreds of original Buddhist manuscripts from Nalanda University, saved during the burning of the ancient university in the 12th and 13th centuries by Bakhtiyar Khilji's army and later brought back to India from Tibet by traveller, freedom fighter and monk **Rahul Sankrityayan.**

Defence

1) Exercise Varuna

What's in the news?

- The 20th edition of the **Bilateral Naval Exercise between Indian and French Navies – 'VARUNA'** was recently conducted in the Arabian Sea.
- The Bilateral Naval Exercises between the two Navies were initiated in 1993.

2) Exercise Dharma Guardian

What's in the news?

- Exercise Dharma Guardian, an **annual exercise between Indian Army and Japanese Ground Self Defence Force**, was recently concluded in Karnataka.
- Dharma Guardian covered a vast spectrum – from cross training and combat conditioning in the field environment to sports and cultural exchanges.

3) Exercise SLINEX

What's in the news?

- The ninth edition of **India-Sri Lanka Naval Exercise, SLINEX,** has commenced at Visakhapatnam, Andhra Pradesh.
- SLINEX aims at enhancing inter-operability, improving mutual understanding and exchanging best practices and procedures for multi-faceted maritime operations between both navies.

4) Hypersonic Technology

What are hypersonic weapons?

- A hypersonic missile is a weapon system which flies **at least at the speed of Mach 5** i.e. five times the speed of sound and is **manoeuvrable**.
- The manoeuvrability of the hypersonic missile is what **sets it apart from a ballistic missile** as the latter follows a set course or a ballistic trajectory. Thus, unlike ballistic missiles, hypersonic missiles **do not follow a ballistic trajectory and can be manoeuvred to the intended target.**
- The two types of hypersonic weapons systems are **Hypersonic Glide Vehicles (HGV) and Hypersonic Cruise Missiles (HCM).**
    - The HGV are launched from a rocket before gliding to the intended target while HCM is powered by air breathing high speed engines or 'scramjets' after acquiring their target.
    - The HGV leaves the Earth's atmosphere and then plunges back into it. To fool the enemy's radar, this hypersonic vehicle glides through the upper layers of the atmosphere, through a random series of curves and turns.
    - HCM is not as fast as HGV, but is designed to fly low and at extremely high speed. This is to take the enemy by surprise. And there is hardly any time for the enemy to hit back.

What are the advantages of hypersonic missiles?

- Hypersonic weapons can enable **responsive, long range strike options against distant, defended or time critical threats** (such as road mobile missiles) when other forces are unavailable, denied access or not preferred.
- Hypersonic weapons could **challenge detection and defence** due to their speed, manoeuvrability

and low altitude of flight. Ground based radars or terrestrial radars **cannot detect hypersonic missiles until late in the flight of the weapon.** This delayed detection makes it difficult for the responders to the missile attack to assess their options and to attempt to intercept the missile.

India and Hypersonic technology

- India became the **fourth country** to have demonstrated this technology after **the USA, Russia and China.**
- India is also developing an **indigenous, dual capable (conventional as well as nuclear) hypersonic cruise missile** as part of its Hypersonic Technology Demonstrator Vehicle programme and has successfully tested a Mach 6 scramjet in 2019 and 2020.
- A **hypersonic version of the BrahMos supersonic cruise missile (BrahMos-II)**, a joint development of India and Russia, is also under development.

Significance

- Hypersonic technological advancements are significant in maintaining a **minimum credible deterrence.**
- It can provide **advanced security** as they are tough to be detected.
- As interception is tough, it gives a **strategic advantage** during war.
- As the speed is high, it can avoid interception and can have **increased efficiency** over hitting the target.
- The technology that is needed to develop hypersonic technology can be used for **developing other scientific discoveries** that can help our country.

Why in News?

- The Russian Ministry of Defence has announced that it had used a hypersonic missile **(Kinzhal aviation missile system)** for the first time in the ongoing conflict with Ukraine.

5) How dependent is India on Russia's weapons?

Context

- Russia's invasion of Ukraine has long-term implications for India, most significantly on the decades-old defence trade between the two.
- New Delhi has been trying to walk a fine line, negotiating its relationships with the United States and other Western nations on one side, and the historically deep and strategic ties with Russia on the other, even as its stand is becoming incrementally critical to Russia as its forces continue to fight in Ukrainian cities.

How strong are Indian and Russian defence ties?

- India was reliant, almost solely on the **British, and other Western nations** for its arms imports immediately after Independence.
- But this dependence weaned, and by the 1970s India was importing several weapons systems from the **USSR**, making it **country's largest defence importer for decades** when it came to **both basic and sophisticated weapons systems.**
- In fact, it has provided **some of the most sensitive and important weapons platforms** that India has required from time to time including nuclear submarines, aircraft carriers, tanks, guns, fighter jets, and missiles.
- The legacy of buying weapons from Russia has made India somewhat dependent on it, and even though India has tried to expand the base of countries from which it buys new military systems, Russian-origin weapons still have the lion's share.

- According to one estimate, the **share of Russian-origin weapons and platforms across Indian armed forces is as high as 85 per cent.**
- **Russia is the second largest arms exporter** in the world, following only the United States. **For Russia, India is the largest importer, and for India, Russia the largest exporter** when it comes to arms transfer.

Is India trying to expand its weapons base?

- Over the last few years there has been a conscious effort to expand the weapons platform bases to not only other countries, but also domestically as well.
- According to the **Stockholm International Peace Research Institute (SIPRI)**, an independent research body, **Russia was the largest arms supplier to India in both 2011–15 and 2016–20.** However, **Russia's deliveries dropped by 53 per cent** between the two periods and its **share of total Indian arms imports fell from 70 to 49 per cent.**
- In 2011–15 the USA was the second largest arms supplier to India, but in 2016–20 India's arms imports from the USA were 46 per cent lower than in the previous five-year period, making **the USA the fourth largest supplier** to India in 2016–20.
- **France and Israel** were the second and third largest arms suppliers to India in 2016–20.

Measures taken to reduce imports

- The Defence Ministry is periodically publishing the **negative import list** — also known as the **'positive indigenisation list'**— comprising complex systems, sensors, simulators, weapons and ammunition which can be only purchased from indigenous sources. It is planned to be implemented progressively with effect from December 2021 to December 2025.
- The **liberalisation of foreign direct investment** in defence manufacturing, raising the limit under the **automatic route to 74%,** should open the door to more joint ventures of foreign and Indian companies for defence manufacturing in India.
- The Ministry of Defence launched **Mission Raksha Gyan Shakti** in 2018 with the aim to inculcate Intellectual Property (IP) culture in the Indian defence manufacturing ecosystem.
- The **Defence Procurement Procedure (DPP) 2020** acts as a potential catalyst for the Atmanirbhar Bharat Abhiyaan in the sector of defence manufacturing. The DAP hopes to provide a boost to the Make in India efforts in the field– especially to MSME's.
- The **Department of Defence Production** has created the **SRIJAN Portal** (srijandefence.gov.in), an indigenization webpage that provides information about defence equipment and items that can be taken up for indigenisation by private sector companies.

Way Forward

- It is important for India to diversify its base, to not become too reliant on any single nation, as it can become a leverage that can be exploited by that nation.

6) Man-Portable Air-Defence Systems (MANPADS)

What's in the news?

- The United States approved a $800-million arms package for Ukraine, which would include US-made Stinger Missiles, which are a type of shoulder-fired Man-Portable Air-Defence Systems (MANPADS).

What are MANPADS?

- Man-Portable Air-Defence Systems are **short-range, lightweight and portable surface-to-air missiles** that can be fired by individuals or small groups to destroy aircraft or helicopters. They help shield troops from aerial attacks and are most effective in targeting low-flying aircrafts.
- MANPADS can be shoulder-fired, launched from atop a ground-vehicle, fired from a tripod or stand, and from a helicopter or boat.
- Most MANPADS have **passive or 'fire and forget' guidance systems,** meaning the operator is not required to guide the missile to its target, enabling them to run and relocate immediately after firing.
- The missiles are **fitted with Infrared (IR) seekers** that identify and target the airborne vehicle through heat radiation being emitted by the latter.

Concerns around MANPADS

- According to the **Global Organised Crime Index,** Ukraine is believed to have one of the largest arms trafficking markets in Europe. While it has long been a key link in the global arms trade, its role has only intensified since the beginning of the conflict in eastern Ukraine.
- After the annexation of Crimea by Russia in 2014, weapons supplied by other countries to aid Ukraine ended up in the wrong hands in multiple cases. Reports indicate that weapons in the state arsenal were illicitly acquired and smuggled by criminal and non-state rebel groups.
- Thus, observers fear that sending lightweight ground-based MANPADS to Ukraine may contribute to intensifying the network of illegal weapon trade.
- In other conflict-hit states as well, there is widespread evidence of MANPADS ending up with non-state and terrorist groups; the most prominent cases being Syria, Libya and Afghanistan.

Related Information

Global Organized Crime Index

- The Global Organized Crime Index is the first tool of its kind designed to assess levels of organized crime and resilience to organized criminal activity. It includes in its **rankings all the UN member states.**
- It is released by the **Global Initiative Against Transnational Organized Crime,** an independent civil-society organization, headquartered in Geneva, Switzerland.
- It evaluates UN member states according to two metrics: according to their **criminality** on a score from 1 to 10 (lowest to highest organized crime levels), which in turn is based on their criminal markets score and criminal actors score; and according to their **resilience to organized crime**, from 1 to 10 (lowest to highest resilience levels).

Miscellaneous

1) Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021

Background

- In 2021, citing instructions from the Supreme Court and the concerns raised in Parliament about social media abuse, the government framed the **Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules 2021** in exercise of powers under the Information Technology Act, 2000.
- The rules apply to **publishers of news and current affairs** (including websites, portals and YouTube news channels), **publishers of online curated content** (commonly called OTT platforms which stream content such as web series and films) and **social media intermediaries** (which primarily enables online interaction between two or more users)**.**
    - To encourage innovations and enable growth of new social media intermediaries without subjecting smaller platforms to significant compliance requirements, the Rules make a **distinction between social media intermediaries and significant social media intermediaries.** This distinction is based on the **number of users on the social media platform.**
    - Government is empowered to notify the threshold of the user base that will distinguish between social media intermediaries and significant social media intermediaries. The Rules require the significant social media intermediaries to follow certain **additional due diligence.**
- **Part II** of the rules relates to social media intermediaries and would be administered by the **Ministry of Electronics & Information Technology. Part III** relates to digital news publishers and OTT platforms and would be administered by the **Ministry of Information & Broadcasting.**

What are the key proposals that the guidelines make for social media intermediaries?

- **Section 79 of the Information Technology Act 2000** provides a **"safe harbour"** to intermediaries that host user-generated content, and **exempts them from liability for the actions of users** if they adhere to government-prescribed guidelines.
- The new guidelines prescribe an **element of due diligence to be followed by the intermediary**, failing which the safe harbour provisions would cease to apply to these platforms such as Twitter, Facebook, YouTube, and WhatsApp.
- They also prescribe a **grievance redressal mechanism** by mandating that the intermediaries, including social media platforms, should establish a mechanism for receiving and resolving complaints from users.
- Intermediaries shall **remove or disable access withing 24 hours of receipt of complaints** of contents that exposes the private areas of individuals, show such individuals in full or partial nudity

or in sexual act or is in the nature of impersonation including morphed images etc. Such a complaint can be filed either by the individual or by any other person on his/her behalf.

Do the guidelines lay the rules for removal of content from social media?

- In essence, the rules lay down **10 categories of content that the social media platform should not host.**
- These include content that "threatens the unity, integrity, defence, security or sovereignty of India, friendly relations with foreign States, or public order, or causes incitement to the commission of any cognizable offence or prevents investigation of any offence or is insulting any foreign States"; "is defamatory, obscene, pornographic, paedophilic, invasive of another's privacy, including bodily privacy; insulting or harassing on the basis of gender; libellous, racially or ethnically objectionable; relating or encouraging money laundering or gambling, or otherwise inconsistent with or contrary to the laws of India", etc.
- The rules stipulate that upon receipt of information about the platform hosting prohibited content from a court or the appropriate government agency, it **should remove the said content within 36 hours.**

Additional due diligence to be observed by significant social media intermediary

- A **significant social media intermediary** shall appoint a **Chief Compliance Officer** who shall be responsible for ensuring compliance with the rules.
- A significant social media intermediary shall appoint a **nodal contact person** for 24x7 coordination with law enforcement agencies.
- Further, these platforms will need to publish a **monthly compliance report** mentioning the details of complaints received and action taken on the complaints, as well as details of contents removed proactively by the significant social media intermediary.
- Significant social media intermediaries which provide messaging as a primary service must enable the **identification of the first originator** of the information on its platform and it must be **disclosed if required by an order from the Court or the government.** Such order will be passed for specified purposes including investigation of offences related to sovereignty and security of the state, public order, or sexual violence.

Rules for Digital news media & OTT platforms

- The rules establish a **three-tier grievance redressal framework** for news publishers and OTT platforms on the digital media.
- The first tier of the regulatory mechanism is grievance redressal by the **company itself**; the second level involves a **self-regulatory body** that will be headed by a retired judge of a high court or the Supreme Court. The third-tier will comprise an **inter-ministerial committee** and will be headed by a joint secretary-level officer from the Ministry of Information and Broadcasting.
- The rules also establish a **Code of Ethics** for digital news media and OTT platforms. For publishers of news and current affairs, the following existing codes will apply: (i) norms of journalistic conduct formulated by the Press Council of

India, and (ii) programme code under the Cable Television Networks Regulation Act, 1995.

- For online publishers of curated content, the **Rules prescribe the code of ethics.** This code requires the publishers to: (i) classify content in specified age-appropriate categories, restrict access of age-inappropriate content by children, and implement an age verification mechanism, (ii) exercise due discretion in featuring content affecting the sovereignty and integrity of India, national security, and likely to disturb public order, (iii) consider India's multiple races and religions before featuring their beliefs and practices, and (iv) make content more accessible to disabled persons.
- For OTT service providers such as YouTube, Netflix, etc., the government has prescribed **self-classification of content into five categories based on age suitability** which includes "U", "U/A 7+", "U/A 13+", "U/A 16+" and "A"**.**

Why in News?

- The Information & Broadcasting (I&B) Ministry has approached the Directorate of Information and Public Relations (DIPR) of all the State and Union Territory governments to initiate an awareness drive for sensitising their officials to the code of ethics and procedure, and safeguards in relation to the digital media.
- Part-III of the Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021, which was notified by the Central government in February 2021, relates to the digital news publishers and Over The Top (OTT) platforms. It is administered by the Information & Broadcasting Ministry.

2) Working women too, with a dream of good childcare

Context

- According to a **2018 study by the International Labour Organization (ILO), more than 95% of India's working women are informal workers** who work in labour-intensive, low-paying, highly precarious jobs/conditions, and with no social protection.
- The World Health Organization bulletin says that **"women's informal work is central to the feminisation of poverty".**
- The **Maternity Benefit (Amendment) Act, 2017** more than doubled the duration of paid maternity leave for women employees to **26 weeks** and made **crèche facilities** mandatory for establishments employing 50 or more women. However, these benefits are **mostly enjoyed by formal sector women workers, constituting less than 5% of the women workforce.**
- There are **three ways** to enable women to take up more productive paid work and improve their maternal and child health outcomes:
    1. Extending the Integrated Child Development Services (ICDS) infrastructure;
    2. Revitalizing national crèche schemes, and
    3. Improving maternity benefits.

Expansion of the ICDS

- Anganwadi centres under the ICDS provide **maternal and child nutritional security, a clean and safe environment, and early childhood education,** thus

facilitating the ability of women to re-enter work post-childbirth.
- However it **does not cater to children under the age of three and it functions only for a few hours a day,** making it inconvenient to send and pick up children during work hours.
- **Early intake of children** in the Anganwadi centres can allow mothers to work and converge with the National Education Policy 2020 mandate that acknowledges quality **Early Childhood Care and Education for children in the 0-6 age group.**

Revitalize the Crèche Scheme

- The **National Creche Scheme** lays out specific provisions for working women but has suffered diminished government funding.
- Public crèches can be operated at **worksite clusters** such as near industrial areas, markets, dense low-income residential areas, and labour nakas (informal roadside labour market). Crèches closer to the workplace allow for timely breastfeeding and attending to emergencies. This model has been tested successfully by the **Self-Employed Women's Association (SEWA)**, a trade union, in some Indian cities.
- Where work occurs at a single site, such as a garment factory or construction site, **worksite crèches** will help; as seen in the construction site crèches run by Aajeevika Bureau (Ahmedabad) and Mobile Creches (Delhi).
- The funds collected under the **construction cess** can be earmarked for running crèches at construction sites.

Improving Maternity Benefits

- **Tamil Nadu (Dr. Muthulakshmi Maternity Benefit Scheme)** has an expansive and ambitious scheme offering ₹18,000 in cash and kind for two live births.
- The **Pradhan Mantri Matru Vandana Yojana (PMMVY)** limits the benefit to the first birth and has also reduced the amount to **₹5,000.**
- The cash transfers under the PMMVY are insufficient, by both evaluations on the ground and the National Food Security Act (NFSA) benchmark, as well as for nutrition needs and wage compensation.
- The compensation, which is lower than the minimum wages, is inadequate in postponing the mother's return to work for the first six months.
- The amount also does not match an inflation-adjusted NFSA benchmark (nearly ₹9,400 in 2022).

Way Forward

- The lack of affordable and quality childcare services and maternity benefits increase the burden on informal women workers, aggravating gender and class inequalities.
- It is imperative that we consider affordable and quality childcare infrastructure as an employment-linked benefit and as a public good.

3) India unveils Arctic Policy

What's the news?

- The Government of India has unveiled India's Arctic Policy titled **'India and the Arctic: building a partnership for sustainable development',** with an aim to combat climate change and protect the environment.

10 Key points

1. India's engagement with the Arctic began when it signed the **Svalbard Treaty** in 1920 in Paris between Norway, the US, Denmark, France, Italy, Japan, the Netherlands, Great Britain, and Ireland, and the British

overseas Dominions and Sweden concerning Spitsbergen. Ever since then, India has been closely monitoring all the developments in the Arctic region.

2. India initiated its **Arctic research program in 2007** with a focus on climate change in the region. It also seeks to study the **linkages between polar regions and the Himalayas. IndArc,** the country's first multi-sensor moored observatory was deployed in Kongsfjorden in 2014.
3. India also focuses on conducting research on the dynamics and mass budget of Arctic glaciers and sea-level changes, carrying out an assessment of the flora and fauna of the Arctic.
4. The relevance of the Arctic for India can be explained under **scientific research, climate change, environment, economic and human resources, geopolitical and strategic resources.**
5. India is one of the 13 countries holding the **observer status** in the **Arctic Council,** a high-level intergovernmental forum that addresses issues faced by the Arctic governments and the indigenous people of the region. Eight Arctic States — **Canada, Denmark, Finland, Iceland, Norway, Russia, Sweden and the US** — form the Arctic Council.
6. India's Arctic policy aims to **enhance the country's cooperation with the Arctic.** It also seeks to combat climate change, as the rapidly-transforming region is warning three times faster.
7. The Indian Arctic policy is built on **six central pillars:** science and research, environmental protection, economic and human development, transportation and connectivity, governance and international cooperation, and national capacity building. Under the banner of science and research, the Indian government hopes to build its research capabilities in the region by strengthening existing facilities, such as the **Himadri Arctic station in Svalbard.**
8. The region holds immense geopolitical importance as the Arctic is **projected to be ice-free by 2050** and world powers making a beeline to exploit the region rich in natural resources. Besides **metals and minerals**, the region is also known to have **huge oil reserves** and is expected to emerge as a **key sea transport lane** in the future. India maintains that all human activity in the region should be sustainable, responsible, transparent and based on respect for international laws.
9. The adverse effects of the Arctic are not just **impacting the availability of mineral and hydrocarbon resources, but also transforming global shipping routes.**
10. According to the Ministry of External Affairs, India can play a constructive role in **securing a stable Arctic.**

4) Maternal Mortality Rate drops in India

What's in the news?

- According to the **latest Sample Registration System (SRS) special bulletin on maternal mortality in India (2017-19),** brought out by the **office of the Registrar General of India,** the **Maternal Mortality Ratio (MMR) of India has declined by 10 points.**
- It has declined from 113 in 2016-18 to **103 (per one lakh live**

births) in 2017-19. The country 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.

- With this persistent decline, India was on the verge of achieving the **National Health Policy (NHP) target of 100/lakh live births by 2020** and on track to achieve the **Sustainable Development Goal (SDG) target of 70/ lakh live births by 2030**.
- The **number of States that have achieved the SDG target has now risen from five to seven** -- Kerala (30), Maharashtra (38), Telangana (56), Tamil Nadu (58), Andhra Pradesh (58), Jharkhand (61), and Gujarat (70).

Kerala's Achievement

- The bulletin notes that **Kerala** has yet again emerged on top when it comes to maternal and child health, with the State recording the **lowest Maternal Mortality Ratio of 30** in the country.
- Kerala's achievement is a result of a decade of sustained efforts at properly assessing the cause of maternal mortality in the State and taking up targeted initiatives to tackle each of these.
- It developed the **Quality Standards in Obstetric Care** and focussed on the **management of some of the common causes of maternal deaths** -- postpartum haemorrhage (PPH), pregnancy-induced hypertension (PIH), sepsis, and amniotic fluid embolism.

Related Information

Registrar General of India

- The office of Registrar General and Census Commissioner of India was founded in 1961 by the **Ministry of Home Affairs** for arranging, conducting and analysing the results of the demographic surveys of India, including census and linguistic survey.