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Current Affairs (CONSOLIDATION)

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(PART – II)**

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Contents

Polity and Governance	1
● New India Literacy Programme	1
● Police Reforms in India	2
● Interchange Charge ONPPI Merchant Transactions	3
● Parole and Furlough	3
● Rabies	4
● Guillotine in Indian Legislative	4
● Sagar Manthan Dashboard	5
● QS World University Rankings by Subject-2023	5
● Multiple Indicator Survey-NSS 78 th Round Report 2020-2021	6
● Defence Acquisition Council	7
● Digital Public Infrastructure	7
● Overview of Indian Healthcare Sector	9
● Cattle Dehorning & Castration	10
● PM Formalization of Micro Food Processing Enterprises Scheme	11
● Institution Of Eminence Scheme	12
● Evergreening of Patent	13
● Global Hub for Green Ship Building by 2030	14
● Central Bureau of Investigation	15
● Special Courts	16
● Defamation Law and Disqualification of MPs	17
● National Strategy and Roadmap for Medical and Wellness Tourism	18
● Supreme Court Asks for Data on Humane Method of Execution	19
● India's Inland Water Transport	20
● Anticipatory Bail	21
● BCI Allows Foreign Lawyers to Practice in India	22
● Governor's Power to Call for Floor Test	23
● Net Neutrality	24
Economic Scenario	26
● City Finance Rankings 2022	26
● India's Sugar Exports	26
● SVB Financial Group Collapse	27
● PM MITRA Scheme and Textile Sector	28
● India Aims to Become Top Global Aviation Market by 2030	30
● IBC Reform: Distribution of Proceeds	30

- Startups in Emerging Technology 31
- Falling Long-Term Growth Prospects 33
- Inter-State Variations in Central Tax Distribution 34

International Relations36

- BIMSTEC 36
- SAARC 37
- UN Specialised Agencies: ILO, WHO and ITU 38
- UN Specialised Agencies: WIPO, WMO and IMO 39
- UN Specialised Agencies: IMF, WorldBank and UNESCO 40
- World Happiness Report 2023 41
- Vienna Convention 42
- Interpol’s Notices 42
- India and Maldives: 4th Defence Cooperation Dialogue..... 43
- Joint Anti-Submarine Warfare Drills 43
- India - Australia Critical Minerals Investment Partnership..... 44
- China, India and the Promise of the Power 45
- ICC Issues Arrest Warrant for Vladimir Putin 46
- Japan’s Official Development Assistance 46

Social Issues48

- National Policy on Older Persons in India 48
- World Tuberculosis Day 2023..... 48
- Right to Health..... 49
- Exclusion of ST Women from Hindu Succession Act 51
- Women and Men in India 2022 52
- Reservation for Women in Politics 52
- Rising Concerns over Freshwater Shortages 54
- World Athletics Bans Transgender Women 55

Science & Technology56

- ISRO Launch Vehicles..... 56
- Type-1 Diabetes..... 57
- Piezoelectric Effect 58
- Geomagnetic Storm..... 58
- Rare Planetary Alignment..... 59
- One Web India-2 Mission 60
- GPT-4 61
- Starberry-Sense 61
- Active Volcanoes on Venus..... 62
- Directed Energy Weapons and Hypersonic Weapons 63
- Push Development, Integration of Directed energy, Hypersonic Weapons: IAF Chief..... 64
- Green and Self-Powered Desalination Plant in Lakshadweep 64

Environment & Ecology	66
● India Ranks Fifth in National Contribution to Warming	66
● Rhinoceros	67
● Government to Re-examine Asiatic Lion Translocation Plan	68
● Earth Hour	68
● New Species of Moray Eel	69
● DNA Profiling of Elephants	69
● CAMPA Policy at odds with IPCC Report	71
● Coral Breach in Gulf of Mannar	72
● IPCC AR6 Synthesis Report	73
● International Day of Forests	74
● State of India's Environment Report 2023	75
● Heat Index	76
● Critical Assessment of Heat Action Plans	77
● Illegal Sand Mining in National Chambal Sanctuary	78
● Bharat 6G Project	79
Security	81
● UAPA Tribunal Upholds Centre's Decision to Ban PFI	81
● Khalistan Issue	82
● Global Terrorism Index 2023	84
● Inter-Services Organizations Bill, 2023	84
Art and Culture	86
● Hybrid Gamosas	86
● Ministry of Culture's Initiative to Promote of Art and Culture	86
● India's Traditional New Year Festivals	87
● Sandalwood Buddha Statue	88
Geography	90
● Daylight Saving Time	90
● Atmospheric Rivers	90
● Changing Western Disturbances	91
● Vernal Equinox	93
● Gandak River	94
● Africa's Rift Valley and the Creation of a New Ocean Basin	95
● International Day of Action for Rivers 2023	96
● Zojila Pass and Razdan Pass Reopen After Short Winter Closure	96
Miscellaneous	99
● World Happiness Report 2023	99
● Power Generating from Defunct Gold Mines	99
● CMR Release Guidelines for AI Use in the Health Sector	100

Rapid Fire Current Affairs	102
● India Exempts Import Duty on Rare Disease Drugs and Food.....	102
● ISRO Releases Global Earth Mosaic Captured by EOS-06 satellite	103
● Shyamji Krishna Varma.....	103
● Tiwa Tribes Celebrates Yangli Festival in Assam.....	103
● NGT Imposes Penalty on Kerala Govt. for Failing to Protect Ramsar Sites.....	103
● Saudi Arabia Joins Shanghai Cooperation Organization as a Dialogue Partner.....	103
● Indian Coast Guard's Regional Search and Rescue Exercise.....	104
● Upward Lightning	104
● SMILE and SHRESHTA Scheme.....	104
● Initiatives Against Cyber Crime	104
● Conducive Policy in J&K.....	105
● India and Romania Defence Cooperation.....	105
● Affinity Test can Never be Conclusive: SC	105
● Finance Bill, 2023.....	105
● New NCERT Textbooks & Panchaadi Way	106
● State of School Feeding Worldwide 2022	106
● First Cable-Stayed Railway Bridge of India	106
● Sacred Hopi Site in Arizona	107
● Women's World Boxing Championship.....	107
● Pradhan Mantri Ujjwala Yojana.....	108
● Radioactive Tsunami.....	108
● DigiClaim.....	108
● Abel Prize.....	108
● Sarus Crane.....	108
● Ram Manohar Lohia	109
● Lingayats, Vokkaligas' Share in Reservation	109
● Exercise Konkan 2023.....	109
● International Day for Elimination of Racial Discrimination	109
● Shaheed Diwas	110
● World Meteorological Day	110
● Sharda Peeth	110
● World Water Day.....	110
● INS Androth	110
● World Down Syndrome Day	111
● Substance Abuse in India.....	111
● World Sparrow Day	111
● herSTART	111
● Kalanidhi Awards 2023	111
● Enemy Properties	112
● Tamil Nadu TB Death Free Project (TN-KET).....	112

- Kudumbashree and Unnathi Programme..... 112
- Matua Mahamela 112
- Horseshoe Crabs Disappearing off Odisha Coast..... 112
- India moots Action Plan to Mark 2023 as Year of Tourism Development at SCO Meet..... 113
- President’s Colour to INS Dronacharya 113
- Research, Education and Training Outreach (REACHOUT) Scheme 113
- BIS Launches ‘Learning Science via Standards’ Series 114
- Atal Innovation Mission Launches ATL Sarthi..... 114
- Bumchu Festival: Sikkim 114
- Procedure for Inclusion of Communities in Scheduled Tribes List 114
- Parliamentary Standing Committee Flags cut in MGNREGS Budget 114
- IMD launched 7 Services on UMANG Mobile App..... 115
- O-SMART Scheme..... 115



Polity and Governance

Highlights

- New India Literacy Programme
- Police Reforms in India
- Interchange Charge ONPPI Merchant Transactions
- Parole and Furlough
- Rabies
- Guillotine in Indian Legislative
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- Anticipatory Bail
- BCI Allows Foreign Lawyers to Practice in India
- Governor's Power to Call for Floor Test
- Net Neutrality

New India Literacy Programme

Why in News?

Recently, the Minister of State for Education provided information about the **New India Literacy Programme (NILP)** in a written reply in the Rajya Sabha.

What is New India Literacy Programme?

➤ About:

- The Government has launched the Centrally Sponsored Scheme "**New India Literacy Programme (NILP)**" for implementation during five years from the FYs 2022-23 to 2026-27 with financial outlay of Rs.1037.90 crore.

➤ Aim:

- The scheme aims to cover a target of 5.00 crore non-literates in the age group of 15 years and above.

➤ The scheme has five components:

- **Foundational Literacy and Numeracy**
- Critical Life Skills
- Vocational Skills Development
- Basic Education

- Continuing Education

➤ Identification of Beneficiaries:

- Door-to-door surveys on a mobile app are conducted by surveyors in the States/UTs to identify beneficiaries.
- Non-literates can also register directly through a mobile app.

➤ Volunteerism for Teaching and Learning:

- The scheme is mainly based on volunteerism for teaching and learning, and volunteers can register through the mobile app.

➤ Implementation through Technology:

- The scheme is implemented predominantly through the online mode and is based on technology.
- The teaching and learning material and resources are available on the **DIKSHA platform** of NCERT and can be accessed through mobile apps.

➤ Dissemination of Foundational Literacy and Numeracy:

- Modes like TV, Radio, Samajik Chetna Kendra, etc. are also used for dissemination of Foundational Literacy and Numeracy.

➤ Eligibility:

- All non-literates above 15 years of age are eligible to avail of the benefits of the scheme.

Note:

➤ Need of NILP:

- As per Census 2011, the absolute number of non-literates of the country in 15 years and above age group is 25.76 crore (Male 9.08 crore, Female 16.68 crore).

- In consideration of the progress of persons certified as literates being to the tune of 7.64 crore under the **Saakshar Bharat programme** implemented during 2009-10 to 2017-18, it is estimated that currently around 18.12 crore adults are still non-literate in India.

Police Reforms in India

Police Reforms in India



CONSTITUTIONAL STATUS

- **Police and Public Order:** State subjects (7th Schedule)



NEED FOR REFORM

- Colonial Law
- Custodial Death
- Lack of Accountability
- Political Interference
- Poor Gender Sensitivity
- Communal/Caste Bias
- No Anti-Torture Law



RELATED DATA

- **Police-People Ratio:** 153 police/100,000 people (Global benchmark: 222 police /100,000 people)
- **Custodial Deaths:** 175 in 2021-2022 (as per MHA)
- **Women's Share:** 10.5% of entire force (India Justice Report 2021)
- **Infrastructure:** 1 in 3 police stations is equipped with CCTV (India Justice Report 2021)



IMPORTANT COMMITTEES/COMMISSION



RELATED INITIATIVES

- **SMART Policing** (pan-India)
- Automated Multimodal Biometric Identification System (**AMBIS**) (Maharashtra)
- **Real Time Visitor Monitoring System** (uses **AI and blockchain**) (Andhra Pradesh)
- **CyberDome** (Tech R&D Centre) (Kerala)



CHALLENGES WITH POLICING

- Low Police-Population Ratio
- Political Superimposition
- Unsatisfactory Police-Public Relations
- Infra Deficit
- Corruption
- Understaffed/Overburdened

WAY FORWARD

- ↑ Police Budget, Resources
- ↑ Recruitment Process
- Implement Measures to Reduce Corruption
- ↑ Skills of Policemen
- Better Representation (Women, Minorities)



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Note:



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Interchange Charge ONPPI Merchant Transactions

Why in News?

Recently, **National Payments Corporation of India (NPCI)** clarified that there are **no charges for bank account - to - bank account based UPI payments.**

- NPCI stated that an **interchange charge of 1.1% has been introduced on UPI transactions made through PPI instruments** above Rs 2,000, and there is **no charge to customers.**
 - Also, NPCI has permitted the **PPI wallets to be part of interoperable UPI ecosystem.**

What are Prepaid Payment Instruments?

- The **RBI** defines **PPIs** as **payment instruments that facilitate the buying of goods and services**, including the transfer of funds, financial services, and remittances, against the value stored within or on the instrument.
 - PPIs are in the form of **payment wallets (like Paytm Wallet, Amazon Pay Wallet, PhonePe Wallet, etc.)**, **smart cards, mobile wallets, magnetic chips, vouchers**, etc. As per the regulations, **banks and NBFCs can issue PPIs.**

What is National Payments Corporation of India?

➤ About:

- NPCI is an **umbrella organisation for all retail payments systems** in India. Its primary objective is to provide **safe, secure, and efficient retail payment systems in India.**
 - It aims to promote **digital payments and financial inclusion** in the country.

➤ Establishment:

- NPCI was established in **2008** under the guidance and support of **Reserve Bank of India (RBI) and Indian Banks' Association (IBA).**

➤ Ownership:

- NPCI is a **not-for-profit company**, and its ownership is shared by a **consortium of major banks in India.**

➤ Products and Services:

- NPCI offers a range of products and services, including **Unified Payments Interface (UPI), National Electronic Funds Transfer (NEFT), Immediate Payment Service (IMPS), Bharat Bill Payment System (BBPS), RuPay card**, and others.

Parole and Furlough

Why in News?

Recently, **Supreme Court of India** ruled that the period of parole granted to convicts during the **Covid-19 pandemic** to prevent overcrowding in prisons and avoid the risk of spread of infection, cannot be counted as part of their actual sentence period.

What is

Parole and Furlough?

➤ Parole:

- It is a system of **releasing a prisoner with suspension of the sentence.**
 - The release is conditional, usually subject to behavior, and requires periodic reporting to the authorities for a set period of time
- Parole is **not a right**, and is given to a prisoner for a specific reason, such as a death in the family or a wedding of a blood relative
- It may be denied to a prisoner even when he makes out a sufficient case, if the competent authority is satisfied that releasing the convict would not be in the interest of society.

➤ Furlough:

- It is similar to parole, but with some significant differences. It is given in cases of **long-term imprisonment.**
- The period of furlough granted to a prisoner is treated as **remission of his sentence.**
- Unlike parole, **furlough is seen as a matter of right for a prisoner**, to be granted periodically irrespective of any reason, and merely to enable the prisoner to retain family and social ties, and to counter the ill-effects of prolonged time spent in prison.

➤ Note:

- Both parole and furlough are considered as **reformatory processes.** These provisions were introduced with a view to **humanizing the prison system.**
- Parole and furlough are covered under the **Prisons Act of 1894.**

Note:

Rabies

Why in News?

Recently, the Ministry of Health and Family Welfare has launched the **National Rabies Control Programme (NRCP)** for prevention and control of **Rabies**.

What are the Objectives of NRCP?

- **Provision of rabies vaccine & rabies immunoglobulin** through national free drug initiatives;
- Training on appropriate **animal bite management**, prevention and control of rabies, surveillance and intersectoral coordination;
- Strengthening **surveillance of animal bites and rabies deaths reporting**;
- Creating **awareness about rabies prevention**.

What is Rabies?

- **About:**
 - Rabies is a **vaccine-preventable, zoonotic, viral disease**.
 - It is caused by a **Ribonucleic Acid (RNA) virus** that is present in the saliva of a rabid animal (dog, cat, monkey, etc).
 - It is invariably transmitted following a bite of an infected animal that leads to **deposition of the saliva** and the virus in the wound.
 - Once clinical symptoms appear, **rabies is virtually 100% fatal**. The death invariably occurs in four days to two weeks due to cardio-respiratory failure.
 - In up to 99% of cases, domestic dogs are responsible for rabies virus transmission to humans.
 - The incubation period varies from **2–3 months but may vary from 1 week to 1 year, or rarely even more**.
- **Treatment:**
 - Rabies can be prevented by vaccinating pets, staying away from wildlife, and seeking medical care after potential exposures before symptoms start.
- **Symptoms:**
 - The first symptoms of rabies may be similar to **flu and may last for a few days, which includes:**
 - Fever, Headache, Nausea, Vomiting, Anxiety, Confusion, Hyperactivity, Difficulty swallowing, Excessive salivation, Hallucinations, Insomnia.

What is the Status of Rabies in India?

- India is endemic for rabies, and accounts for **36% of the world's rabies deaths**.
- It causes 18 000-20 000 deaths every year. About 30-60% of reported rabies cases and deaths in India occur in children under the age of 15 years as bites that occur in children often go unrecognized and unreported.
 - In India, dogs are responsible for about 97% of human rabies, followed by cats (2%), jackals, mongooses and others (1%). The disease is endemic throughout the country.

What are the Initiatives to Deal with Rabies?

- The Central Government has framed the **Animal Birth Control (Dogs) Rules, 2023** which is to be implemented by the local authority to control the population of stray dogs. The main focus of the rules is on anti-rabies vaccination of stray dogs and neutering of stray dogs as means of population stabilization.
- The Government has launched '**National Action Plan For Dog Mediated Rabies Elimination (NAPRE)** from India by 2030'. The stray dog population control and management of stray dogs is the mandate of the local bodies.

Guillotine in Indian Legislative

Why in News?

The **ongoing stalemate in Parliament** has led to speculation that the government may **guillotine** the demands for grants and pass the **Finance Bill without any discussion**.

- This has led to confusion and questions about what exactly guillotine means in **legislative parlance**.

What is Guillotine?

- The term **guillotine** originally referred to an apparatus designed for **executions by beheading**.
 - It was introduced in **France during the French Revolution** to make **capital punishment** more reliable and less painful.
- In legislative parlance, **guillotine means to bunch together** and fast-track the **passage of financial**

Note:

business. It is a fairly common procedural exercise in Lok Sabha during the **Budget Session**.

- Once the **guillotine is applied**, any remaining demands for grants are put to vote without further discussion.
- This ensures that the **budget** is passed within the allocated time, and the government can continue its work without any delay.

What is the Guillotine Parliamentary Procedure?

- After the Budget is presented, Parliament goes into recess for about three weeks, during which time the **House Standing Committees** examine demands for grants for various Ministries and prepare reports.
 - After Parliament reassembles, the **Business Advisory Committee (BAC)** draws up a schedule for discussions on the Demands for Grants.
- Sometimes, given the limitation of time, the House cannot take up the expenditure demands of all Ministries; therefore, the BAC identifies some important Ministries for discussions; usually the **Ministries of Home, Defence, External Affairs, Agriculture, Rural Development and Human Resource Development**.
 - Once the House is done with these debates, the **Speaker applies the "guillotine", and all outstanding demands for grants (discussed or not) and undiscussed clauses of a bill/resolution are put to vote at once** in order to save time.

Sagar Manthan Dashboard

Why in News?

Recently, the **Ministry of Ports, Shipping and Waterways (MoPSW)** launched **Sagar Manthan** dashboard.

What is the Sagar Manthan Dashboard?

- **About:**
 - It is the **Real-time Performance Monitoring Dashboard** of MoPSW that will monitor and track the progress of their projects.
 - This new digital platform has integrated all the data related to the Ministry and other subsidiaries.
- **Features:**
 - Data visualization

- Real-time monitoring
- Improved communication
- Data-driven decision making
- Increased accountability

➤ **Significance:**

- The dashboard is a positive development towards **Digital India vision**.
- It will ensure the **timely completion of projects, informed decision-making**, increased efficiency & effectiveness of projects
- It will also **promote risk management, resource allocation**, and progress reporting.

QS World University Rankings by Subject-2023

Why in News?

Recently, QS World University Rankings 2023 by subject were released.

- Earlier in 2022, **QS World University Ranking 2023** was released.

What are the Key Highlights of the Report?

- **About:**
 - The rankings cover 54 academic disciplines, the India universities perform well in the fields of Computer Science, Chemistry, Biological Sciences, Business Studies, and Physics.
- **Global Rankings:**
 - Massachusetts Institute of Technology (MIT) of US is ranked **first** followed by University of Cambridge of UK, Stanford University of US respectively.
- **India's Performance:**
 - **Improvement:**
 - Led by its **Institutes of Eminence (IoE)**, India has improved its position in the **QS World University Rankings by Subject**, with 44 courses, in their respective subject categories, offered in the country's higher educational institutes ranked among the global top 100.
 - **Top Performing Institutions:**
 - **Saveetha Institute of Medical and Technical Science (in dentistry programme) - best performer among Indian institutes obtaining the 13th rank globally**

Note:

- IIT-Kanpur (Electrical engineering, ranked 87th), featuring in the top 100 categories for the first time
 - IIT-Madras (in Petroleum Engineering, ranked 21st)
 - IIT-Bombay (Mathematic, ranked 92nd)
 - IIT-Delhi (Electrical engineering, ranked 49th)
- Jawaharlal Nehru University (Sociology, ranked 68th)
- Comparison:
 - India is the second-most improved nation in Asia with its overall performance improving by 17.2% year on year, after Mainland China which improved by 21.9%.

QS World University Rankings by Subject 2023

Declared Institute of Eminence*	2023 entries	2022 entries	Improved	Declined	Unchanged	New
University of Delhi	27	26	7	12	6	2
Indian Institute of Technology Bombay	25	24	8	8	8	1
Indian Institute of Technology Kharagpur	23	22	10	3	8	2
Indian Institute of Science	18	18	6	4	8	
Indian Institute of Technology Madras	18	17	8	3	6	1
Indian Institute of Technology Delhi	17	17	7	4	5	1
Birla Institute of Technology and Science	10	10	5		5	
Banaras Hindu University	7	8		1	6	
Manipal Academy of Higher Education*	6	4	3		1	2
University of Hyderabad	5	4	1	2	1	1
O.P. Jindal Global University*	2	1		1		1
TOTAL	158	151	55	38	54	11

What is QS World University Rankings by Subject?

- QS is the world's leading provider of services, analytics, and insight to the global higher education sector.
- The QS World University Rankings by Subject are compiled annually to help prospective students identify the leading universities in a particular subject.
- This year's rankings include three new subjects: **data science**, **history of art**, and **marketing**.

Multiple Indicator Survey-NSS 78th Round Report 2020-2021

Why in News?

The **National Sample Survey Office (NSSO)** carried out the Multiple Indicator Survey (MIS) covering the entire country in its 78th round.

What is a Multiple Indicator Survey?

- A MIS is a type of survey designed to collect data on a range of key **indicators related to the well-being of individuals, households, and communities**. The survey typically covers topics such as health, education, water and sanitation, nutrition, and child protection.

What are the Objectives of the MIS?

- To collect information for developing estimates of some important **Sustainable Development Goal (SDG)** indicators.
- To collect information Purchase/Construction of house(s)/ flat(s) by the household for residential purpose after 31.03.2014 and information on Migration.

What are the Key Findings?

- **Drinking Water Accessibility:**
 - Kerala, Manipur, Nagaland, and Jharkhand have less than 90% access to an improved source of drinking water.
 - Among major states, Assam, Jharkhand, Bihar, and Odisha are among the worst in access to tapped drinking water for both rural and urban households.
- **Access to an Exclusive Toilet:**
 - Among the major states Bihar, Jharkhand, and Odisha have the lowest proportion of rural households with access to an exclusive toilet.
- **LPG Connections for Cooking:**
 - In the states like Chhattisgarh, Odisha, West Bengal, Nagaland and Madhya Pradesh, for more than 70% of households, **firewood is the primary source of energy for cooking**. These states along with Jharkhand have less than 25% of households using **LPG for cooking**— the lowest among all states and UTs
- **Education, Employment, or Training:**
 - Among big states, Uttarakhand, Odisha, Kerala, and Delhi have the highest proportion (more than 20%) of men aged 15 to 24 who were not in education, employment, or training at the time of the survey.
 - For females, the proportion was highest in Uttar Pradesh, Assam, Odisha, Gujarat, West Bengal, and Bihar.

Note:

➤ Other Major Findings:

Sl No	Item Description	Percentage (all-India)		
		Rural	Urban	All*
1	Percentage of persons reported to have improved source of drinking water ¹	95.0	97.2	95.7
2	Percentage of persons reported access to improved latrine, among the persons who had reported access to latrine ²	97.5	99.0	98.0
3	Percentage of persons reported access to hand washing facility with water and soap/detergent within the premises	77.4	92.7	81.9
4	Percentage of households using clean fuel as primary source of energy for cooking ³	49.8	92.0	63.1
5	Percentage of persons of age 15-29 years were in formal and non-formal education and training for the 12 months preceding the survey	33.0	39.4	34.9
6	Percentage of persons of age 15-24 years not in education, employment or training (NEET) as on date of survey	30.2	27.0	29.3
7	Percentage of persons of age 18 years and above who used mobile telephone with active sim card during the three months preceding the date of the survey	67.8	83.7	72.7
8	Percentage of households in rural areas reported availability of all-weather roads within 2 km from the place of living	92.5	-	-
9	Percentage of households reported purchase/construction of any new house/flat after 31.03.2014	11.2	7.2	9.9
10	Percentage of households reported purchase/construction of new house/flat for the first time, among the households which reported purchase/construction of any new house/flat after 31.03.2014	47.5	57.9	49.9
11	Percentage of persons having current place of residence different from the last usual place of residence	26.8	34.6	29.1

*: Rural + Urban

Defence Acquisition Council

Why in News?

The **Defence Acquisition Council (DAC)** accorded **Acceptance of Necessity (AoN)** for capital acquisition proposals worth Rs 70,500 crore for the Armed Forces & **Indian Coast Guard** under 'Buy Indian-IDDm' (Indigenously Designed, Developed and Manufactured).

What are the Highlights of Acquisition Proposals?

- **Indian Navy:**
 - Out of the total proposals, **Indian Navy** proposals constitute more than Rs 56,000 crore, which largely

includes indigenous **BrahMos cruise missiles**, **Shakti Electronic Warfare (EW)** systems, **Utility Helicopters-Maritime** among others.

- **Air force:**
 - Long Range Stand-Off Weapon for the **Indian Air Force** gets a nod, which is to be integrated on **SU-30 MKI aircraft**.
- **Army:**
 - Also, 155mm/52 Caliber **Advanced Towed Artillery Gun System (ATAGS)**, along with High Mobility & Gun Towing Vehicles will be procured for the **Indian Army**.
- **Hindustan Aeronautics:**
 - Hindustan Aeronautics is a big beneficiary of this announcement by DAC, as it shall supply **Advance Light Helicopters MK-III** to the Indian Coast Guard. The Helicopter will be able to carry a suite of surveillance sensors which will enhance the surveillance capabilities, along with giving full night capability and Instrument Flight Rules capability for operations of the Indian Coast Guard.
- **The Medium Speed Marine Diesel Engine:**
 - Under the **Make-I category**, the Medium Speed Marine Diesel Engine will be manufactured indigenously.

What is the Defense Acquisition Council?

- The DAC is the **highest decision-making body in the Defence Ministry** for deciding on new policies and capital acquisitions for the three services (Army, Navy and Air Force) and the Indian Coast Guard.
- The Minister of Defence is the Chairman of the Council.
- It was formed, after the Group of Ministers recommendations on 'Reforming the National Security System', in 2001, post Kargil War (1999).

Digital Public Infrastructure

Why in News?

Public infrastructure has been a cornerstone of human progress, but it has plagued the previous generation, making it imperative for the third type of public infrastructure called **Digital Public Infrastructure (DPI)**, with more open and democratic principles built in it.

Note:



What is DPI?

- Digital public infrastructure (DPI) refers to blocks or **platforms such as digital identification, payment infrastructure and data exchange solutions** that help countries deliver essential services to their people, empowering citizens and improving lives by enabling digital inclusion.
- DPIs mediate the flow of people, money and information. First, the flow of people through a digital ID System. Second, the flow of money through a real-time fast payment system. And third, the **flow of personal information through a consent-based data sharing system** to actualize the benefits of DPIs and to empower the citizen with a real ability to control data.
 - These three sets become the **foundation for developing** an effective DPI ecosystem.
- Each DPI layer fills a **clear need and generates considerable value** across sectors.
- India, through **India Stack**, became the first country to develop **all three foundational DPIs, Digital identity (Aadhar), Real-time fast payment (UPI) and Account Aggregator** built on the **Data Empowerment Protection Architecture (DEPA)**.
 - DEPA creates a **digital framework that allows users to share their data** on their own terms through a third-party entity, who are known as Consent Mangers.

What are the Pillars of India's DPI Ecosystem?

- **Aadhaar:**
 - Aadhaar is a strategic policy tool for **social and financial inclusion**, public sector delivery reforms, managing fiscal budgets, increasing convenience and promoting hassle-free people-centric governance.
 - Aadhaar holders can voluntarily use their Aadhaar for private sector purposes, and private sector entities need not seek special permission for such usage.
- **DigiYatra:**
 - **DigiYatra** is a **Biometric Enabled Seamless Travel (BEST)** experience based on a **Facial Recognition System (FRS)**.
 - Air passenger traffic in India was estimated to be over 188 million in airports across India in the financial year 2022, out of whom over 22 million were international passengers.
- **DigiLocker:**

- **DigiLocker** has 150 million users, six billion stored documents, and done with a tiny budget of RS 50 crore over seven years.
- The users can store their documents such as insurance, medical reports, PAN card, passport, marriage certificate, school certificate and other documents in the digital format.

➤ UPI:

- **UPI (Unified Payment Interface)** has crossed **eight billion transactions per month** and transacts a value of USD 180 billion a month, or about a staggering 65% of India's GDP per annum.
- UPI is currently the biggest among the **National Payments Corporation of India (NPCI)** operated systems including National Automated Clearing House (NACH), Immediate Payment Service (IMPS), Aadhaar enabled Payment System (AePS), Bharat Bill Payment System (BBPS), RuPay etc.

What is India Stack?

- IndiaStack is a set of APIs (Application programming interface) that allows governments, businesses, startups and developers to utilize a unique digital Infrastructure to solve **India's hard problems towards presence-less, paperless, and cashless service delivery**.
- It aims to unlock the economic primitives of identity, data, and payments at population scale.
- The vision of India Stack is not limited to one country; it can be applied to any nation, be it a developed one or an emerging one.
- This project was conceptualized and first implemented in India, where its rapid adoption by billions of individuals and businesses has helped promote financial and social inclusion and positioned the country for the Internet Age.



How can DPI help

Boost India's Digital Infrastructure?

- **Independent Steward Institutions:**
 - A multiparty governance process through independent DPI institutions will be accountable to a **broad range of stakeholders rather than be**

Note:

controlled by a single entity or group. This can build trust and confidence in DPI.

➤ **Global Standards:**

- There is a need to develop global standards through a multilateral dialogue led by India.
- If standards originating from developed nations were transplanted to an emerging economies' context smaller countries **would simply be captive to dominant technology players.**

➤ **Sustainable Financing Models:**

- There is a need to develop **sustainable financing models** for developing DPI for the world.
- Currently backed by philanthropic funding, such models are at risk of becoming a tool of **philanthropic competition and positioning.**

➤ **New Playbook for Digital Infrastructure:**

- The world needs a new playbook for **digital infrastructure that mediates the flow of people, money and information.**
- This will facilitate countries looking to digitally empower their citizens.
- They can then rapidly build platforms that address the specific needs of people, while ensuring people are able to trust and use the platform – without fear of exclusion or exploitation.

Overview of Indian Healthcare Sector

Why in News?

Recently, in the Parliament House, various aspects of India's health and agriculture sectors, as well as their most recent updates, were discussed.

What are the Updates in Indian Health Sector?

➤ **Leprosy:**

- **India has eliminated Leprosy as a public health problem**, according to the **World Health Organization** criterion, there must be less than one case per 10,000 population at the national level, the criterion set in 2005 stated.
- With several interventions introduced under **the National Leprosy Eradication Programme** in the last few years, the number of new leprosy cases detected have **come down to 75,394 in 2021-22 from 125,785 in 2014-15.**

➤ **Menstrual Hygiene Scheme:**

- Currently, **26 states and Union Territories implemented the Menstrual Hygiene Scheme** with either the **National Health Mission (NHM) budget or combined budget of NHM and the state.**
- In 2021-22, approximately 3.49 million adolescent girls were provided sanitary napkin packs every month as per "**Health Management Information System**" (HMIS) data.
- The Department of Pharmaceuticals under the Union Ministry of Chemicals and Fertilizers implements the **Pradhan Mantri Bharatiya Janausadhi Pariyojna**, which is an important step in ensuring the health security for women.
 - Under the project, over 8,800 **Janaushidhi Kendras** have been set up across the country that provide **Oxo-biodegradable sanitary napkins named 'Suvidha'** at Rs 1 per pad.

➤ **Lifestyle Diseases:**

- The proportion of **Non-Communicable Diseases (NCDs)** have increased in India from 30.5 % in 1990 to 55.4 % in 2016.
 - The figures were quoted from 2017 Indian Council of Medical Research study report, **India: Health of the Nation's States — The India State-Level Disease Burden Initiative (2017).**

➤ **Gender Gap in India:**

- India's rank has improved on the **Global Gender Gap Index in 2022** compared with 2021.
 - The Global Gender Gap Report 2022 was released by the **World Economic Forum.**
 - The Global Gender Gap Report 2022 **ranks India at 135 out of 146 countries on the Global Gender Gap Index** with a score of 0.629 out of 1.

➤ **High Blood Lead Levels:**

- Research by government think tank **NITI Aayog** and the Council of Scientific and Industrial Research, found that 275 million children under 19 years of age in India have blood lead levels that are abnormally high that is, greater than five micrograms per deciliter.

➤ **Cancer due to Arsenic Contamination in Assam and Bihar:**

- Assam had an estimated 39,787 cancer cases and Bihar had 109,274 in 2022, according to the **ICMR National Cancer Registry Programme.**

Note:

- Prolonged use of arsenic contaminated water for drinking causes several diseases, **predominantly skin pigmentation, thickening, hard patches on the palms and soles of the feet (hyperkeratosis)**
- These occur after a minimum exposure of approximately five years and may be a precursor to skin cancer. In addition, long-term exposure to arsenic may also **cause cancers of the bladder and lungs.**

What are the Updates in Indian Agriculture Sector?

- The cultivable land area in India has declined 1,79,993 thousand hectares in 2019-20 from 1,80,624 thousand hectares in 2018-19, according to the latest Land Use Statistics-at a Glance 2010-11 to 2019-20.
 - The marginal decline in agricultural/cultivable land has been mainly due to **the diversion of land for non-agricultural purposes** such as urbanization, creation of infrastructure viz roads, airports, housing, etc.,
 - While there is shift in agricultural land for non-agricultural purposes, non-agricultural land is also being brought under agricultural uses through various schemes implemented by the government.

What are the Updates in Aquaculture?

- **India is the third largest fish-producing country**, contributing 8% to global fish production, and **ranks second in aquaculture production.**
 - Fish production in 2021-22 was 16.24 million Tonnes comprising marine fish production of 4.12 million Tonnes and 12.12 million Tonnes from aquaculture.

Cattle Dehorning & Castration

Why in News?

Recently, the central government has laid down the procedures for **Dehorning Cattle and Castration**, branding or nose-roping of any animal.

What is Dehorning and Castration of Cattle?

- Dehorning is the process of removing or **reducing the horns of cattle**, while **castration** is the **process of removing the testicles of male cattle**. Both practices are commonly performed on cattle for a variety of

reasons, such as to **improve safety for handlers and other animals, prevent injury, reduce aggression**, and improve meat quality.

- Dehorning can be done using several methods, including chemical or electrical methods, saws, and dehorning irons. In many cases, **dehorning is done when the animal is young to minimize pain** and discomfort.
 - The existing methods involve pushing a bull to the ground to use a castrator san painkiller.
- Castration is typically done to male cattle that will not be used for breeding purposes, as it can help to **reduce aggression and improve meat quality.**
 - The castration method involves crushing the blood vessels, nerves and vas deferens (a coiled tube that carries the sperm out of the testes) to cause the testicles to become defunct.

What are the New Rules?

- All procedures are to be carried out with the **involvement of a registered veterinary practitioner**, along with the mandatory use of general and local anaesthetics.
- The rules demand the **breeding of naturally hornless cattle over dehorning** and using face halters and other humane procedures for nose roping and preventing cold and hot branding on live tissues.
- The rules prescribe a **methodology for euthanasia for ill animals** to avoid a painful death.
- The issue is concerning as most dairy owners and farmers abandon their bulls on roads as it incurs extra cost or effort to sustain them.

What are the Related Existing Provisions?

- The Dehorning and Castration procedures were earlier undefined under **Sections 11 and subsection 3 of the Prevention of Cruelty to Animals Act 1960**, which made it difficult to prevent cruelty against animals.
 - Section 11 defined the acts that **amount to treating animals with cruelty.**
 - But subsection 3 allowed exceptions for animal husbandry procedures, which involve dehorning cattle and castration, branding and nose roping of animals in a prescribed manner.
- Section 3(c) of the law also offered exceptions in **“the extermination or destruction of any animal under the authority of any law** for the time being in force.

Note:

What is Prevention**of Cruelty to Animals Act, 1960?**

- The legislative intent of the Act is to “prevent the infliction of unnecessary pain or suffering on animals”.
- The **Animal Welfare Board of India (AWBI)** was established in 1962 under Section 4 of the Act.
- This Act provides for punishment for causing unnecessary cruelty and suffering to animals. The Act **defines animals and different forms of animals.**
- Discusses different forms of cruelty, exceptions, and killing of a suffering animal in case any cruelty has been committed against it, so as to relieve it from further suffering.
- Provides guidelines relating to experimentation on animals for scientific purposes.
- The **Act enshrines the provisions relating to the exhibition** of the performing animals, and offences committed against the performing animals.
- This Act provides for the limitation period of 3 months beyond which no prosecution shall lie for any offences under this Act.

PM Formalization of Micro Food Processing Enterprises Scheme

Why in News?

The **Ministry of Food Processing Industries (MoFPI)** is implementing a **centrally sponsored PM Formalisation of Micro Food Processing Enterprises Scheme (PMFME) Scheme** for providing **financial, technical, and business support** to **micro food processing enterprises** in India.

- This scheme is a part of the Atmanirbhar Bharat Abhiyan - **Vocal for Local Initiative in the food processing sector.**

What are the Features of the PMFME Scheme?

- **About:**
 - The PMFME scheme aims to **enhance the competitiveness of new and existing individual micro-enterprises** in the **unorganized segment** of the food processing industry and promote formalization of the sector.

- The PMFME scheme is operational for a period of five years from **2020-21 to 2024-25** with an outlay of Rs. 10,000 Crore.

Focus Areas:

- The scheme adopts the **One District One Product (ODOP)** approach to reap the benefit of scale in terms of procurement of inputs, availing common services and marketing of products.
- Other Focus areas include **Waste to wealth products, minor forest products and Aspirational Districts.**

Assistance Available under PMFME Scheme:

- **Support to Individual/Group Category Micro Enterprises:**
 - **Credit-linked capital subsidy of 35%** of the eligible project cost, with a maximum ceiling of Rs.10 lakh per unit.
- **Support to Self-Help Groups (SHGs) for Seed Capital:**
 - **Seed capital up to Rs. 40,000/- per member of SHG** engaged in food processing for working capital and purchase of small tools, subject to a maximum of Rs. 4 lakh per SHG.
- **Support for Common Infrastructure:**
 - **Credit-linked capital subsidy of 35%**, with a maximum of Rs. 3 crore, to support FPOs, SHGs, Cooperatives, and any Government agency for **setting up of common infrastructure.**
- **Capacity Building:**
 - The scheme envisages training for **Entrepreneurship Development Skilling (EDP+)**, a program modified to meet the requirements of the food processing industry and product specific skilling.
- **District Resource Persons (DRPs)** have been appointed to provide handholding support to micro food processing enterprises for the compliance of FSSAI and other statutory requirements.

What is the Status of the Food Processing Industry in India?

- **About:**
 - Food processing is a type of **manufacturing in which raw materials are processed into intermediate foods** or edible items using scientific knowledge and technology.

Note:

- It improves the **storability, portability, palatability, and convenience** of the finished product.
- **Significance:**
 - During the last five years ending FY21, the food processing industries sector has been growing at an **average annual growth rate of around 8.3%**
 - As per the latest **Annual Survey of Industries (ASI) 2019-20**, **12.2%** of persons in the registered manufacturing sector were employed in the food processing sector.
 - The value of agri-food exports, including processed food exports, was about **10.9 % of India's total exports** during 2021-22
- **Issues:**
 - **Lack of Infrastructure:** The food processing industry in India faces challenges with infrastructure, including **inadequate cold storage facilities**, transport facilities, and processing plants.
 - **Limited Access to Finance:** Many **small and medium-sized food processing** businesses in India struggle to access finance to invest in their operations and improve their products.
 - This limits their ability to expand and compete with larger players in the industry.
 - **Inadequate Quality Control:** There are concerns about the quality of food processing in India, particularly in relation to **food safety and hygiene standards**.
 - This is a major challenge for the industry, as it **affects consumer confidence and limits export opportunities**.
- **Government Initiatives:**
 - **100% Foreign Direct Investment (FDI)** approval under automatic route has been permitted for the food processing sector
 - A **Special Food Processing Fund** of Rs. 2000 crore was set up with **National Bank for Agriculture and Rural Development (NABARD)** to provide affordable credit for investments in setting up **Mega Food Parks (MFP)** as well as processing units in the MFPs.
 - In 2019, the coverage of the fund was extended to the setting up of **Agro-Processing Clusters** along with setting up of individual manufacturing units.

Institution Of Eminence Scheme

Why in News?

There are many Institutes which, after being selected for the **Institution of Eminence (IoE)** Status, are still waiting for the IOE status for more than three years.

What is the Institution of Eminence Scheme?

➤ **About:**

- The central Government formulated the IoE scheme to establish **20 prestigious educational institutions in the country**.
- It was introduced by the **University Grants Commission (UGC)** in 2017 that required the IoE scheme to **receive accreditation within five years of notification**.
- The status of 'Institute of Eminence' was launched to empower higher education institutions in India and **help them implement world-class teaching systems** to enhance affordable access to high-quality education.
 - Twenty institutions (10 Public and 10 Private Institutions) received the grant, and eleven among the selected ones got the **Institutions of Eminence status in April 2021**.

➤ **Objective:**

- **Excellence and Innovation:** To provide for higher education leading to excellence and innovations in such branches of knowledge as may be deemed fit at post-graduate, graduate and research degree levels.
- **Specialization:** To engage in areas of specialization to make distinctive contributions to the objectives of the university education system.
- **Global Rating:** To aim to be rated internationally for its teaching and research as a top hundred Institution in the world over time.
- **Quality Teaching and Research:** To provide for high quality teaching and research and for the advancement of knowledge and its dissemination

➤ **Criteria:**

- **Global/National Ranking:** Only those institutions which have appeared in any of the global/national ranks (e.g., **QS, NIRF**) shall be recommended for the IoE status. The Institutions should be among:

Note:

- Top 50 in the National Institutional Ranking Framework (NIRF) in their category.
- Top 500 in internationally recognised rankings like the Times Higher Education World University Rankings, QS.
- **Greenfield Proposals:** Only after exhausting the above criterion, if any slot remains vacant, shall consideration be given to yet to be established (Greenfield) proposals.
 - The term greenfield project generally refers to the initiation of a project without the need to consider any prior work.
 - The Greenfield Institutions would get a 3-year period to establish and operationalize the institution, and thereafter, EEC will consider giving IoE status to such institutions.
- **Benefits:**
 - **Autonomy:** Institutes with IOE tag will be given greater autonomy and freedom to decide fees, course durations and governance structures.
 - **Grant:** The public institutions under the IOE tag will receive a government grant of Rs 1,000 crore, while the private institutions will not get any funding under the scheme.


Evergreening of Patent

Why in News?

Recently, the **Indian Patent Office** rejected U.S. pharmaceutical giant Johnson & Johnson's (J&J) attempt for **Evergreening of Patent** on manufacturing of the anti-tuberculosis drug **Bedaquiline** in India beyond July 2023.

Vital intervention

Bedaquiline, manufactured by J&J, is a crucial anti-TB drug



- India has rejected J&J's appeal to extend its patent beyond July 2023
- Currently priced at around \$400 for a six-month treatment regimen, the prices are likely to fall
- After July, generic producers like Lupin and Macleods are likely to manufacture the drug
- Over 55,000 patients, in whom other drugs have stopped working, may benefit from Bedaquiline access
- Till March 2020, only a little over 10,000 patients received the drug

- Bedaquiline is a crucial drug in the **treatment of multidrug resistant TB patients** for whom the first-line drug treatment — using Isoniazid, Rifampicin, Pyrazinamide and Ethambutol — has stopped working.

Why was the Patent Application Rejected?

- J&J's patent application was for a **fumarate salt of a compound** to produce bedaquiline tablets.
- It was argued that J&J's method to produce a "solid pharmaceutical composition" of bedaquiline **doesn't require an "inventive step"**.
 - According to the Indian Patent Act 1970 Section 2(1) (ja), an 'inventive step' is an **invention that is "not obvious to a person skilled in the art"**.
- The current application **drew significantly from a previous patent**, which discussed a **similar compound on which bedaquiline is based**.
- The **Patents Act, 1970** has imposed certain 'restrictions' on patentability.
 - A patent cannot be granted on 'mere use of a known process, machine or apparatus **unless such known process results in a new product or employs at least one new reactant**'.
 - Section 3(d) of the Act does not allow '**evergreening**' of patents to prevent innovator pharma companies from extending the patent beyond the stipulated period of 20 years, to ensure that the monopoly does not extend forever.
- As of now it is still a patented product and there are no generic versions. However, after the expiry of the Bedaquiline patent, the drug makers can make the generic versions per the law.

What is Multi Drug Resistant TB (MDR-TB)?

- MDR-TB is a type of tuberculosis infection caused by bacteria that **are resistant to at least two of the most effective first-line drugs** for TB treatment, isoniazid and rifampicin.
- MDR-TB is caused by Mycobacterium tuberculosis, the same bacterium that causes regular TB, but is **much more difficult to treat**.
- MDR-TB develops when the bacteria that cause TB **mutate and become resistant to the standard drugs** used to treat the disease.
- This can occur when patients with **regular TB fail to complete their full course of treatment**, leading to incomplete eradication of the bacteria and providing the opportunity for the bacteria to develop resistance to the drugs used.

Note:

Why is the Rejection Notable?

- The rejection is expected to **lower the cost of bedaquiline by up to 80%**.
 - India has the largest population of people living with drug-resistant TB. J&J's patent on bedaquiline meant the **drug cost USD 400 (revised to USD 340 in 2020) per person**, plus the cost of other drugs.
- So far, the Indian government has directly procured the drug and distributed it through State-level TB programmes. After July 2023, **manufacturers of generic drugs in India will be able to produce generic versions of bedaquiline.**

What is the Evergreening of Patents?

- **About:**
 - The evergreening of patents is a practice of **tweaking drugs in order to extend their patent term** and thus their profitability.
 - The **Indian Patents Act 1970** introduced many provisions to prevent the mischievous practice of "evergreening" of patents.
 - This is to aid millions of people who can't afford the expensive modified drugs, as well as the **development of the domestic generic drug market.**
- **Concerns:**
 - The process does not produce any increase in the therapeutic efficacy of the drug. In many countries, minor reformulations can qualify for patent protection. The result is **that it prevents competition in the market and is considered harmful to the market and consumers.**
 - Companies extend the term of protection and **charge more for drugs** while defending costs incurred in research and development as no cost has been incurred for such compositions as it is only a minor combination or modification of existing drugs.
 - Due to the lack of generic drugs, the variety translates into an increase in the **cost of healthcare for consumers.**
 - The persistence of patents primarily affects consumers in underdeveloped and developing countries who cannot afford the brand name drugs that can save them from deadly diseases.

What is a Related Supreme Court Decision?

- A popular precedent in this regard is **Novartis vs Union of India case** in which the **Supreme Court (SC)** rejected an appeal filed by Novartis rejecting the patent and upheld that the beta crystalline form of Imatinib Mesylate was a new form of the known substance i.e., Imatinib Mesylate, wherein the efficacy was well known and rejected the patent.

Global Hub for Green Ship Building by 2030**Why in News?**

The Union Minister of Ports, Shipping & Waterways, has announced **India's plan to become a global hub for green ship building by 2030** with the launch of the **Green Tug Transition Programme.**

- This initiative aims to **reduce emissions** and move towards **sustainable development.**

What are India's Initiatives Related to the Shipping Sector?

- **National Centre of Excellence in Green Port & Shipping (NoCEGPS):**
 - India's first NoCEGPS is a collaboration between the **Ministry of Ports, Shipping & Waterways (MoPSW)** and the **Energy and Resources Institute.** It is in **Gurugram, Haryana.**
 - The centre is aimed at playing a crucial role in achieving the **UN's Sustainable Development Goal(14)** to sustainably manage and protect marine and **coastal ecosystems from pollution,** conservation, and sustainable use of ocean-based resources.
 - The centre will develop the **regulatory framework and alternative technology adoption roadmap for green shipping in India,** meeting the obligations under the **Paris Agreement.**
 - **NCoEGPS will act as a technological arm of MoPSW** for providing the needed support on Policy, Research and Cooperation on Green Shipping areas for Ports, DG Shipping, CSL and other institutions under the umbrella of MoPSW.
- **Green Tug Transition Programme:**
 - The **Green Tug Transition Programme** will start with '**Green Hybrid Tugs**' powered by **Green**

Note:

Hybrid Propulsion systems and subsequently adopting **non-fossil fuel solutions** like **Methanol, Ammonia, and Hydrogen**.

- The target is to have the initial Green Tugs working in all major ports by 2025, and **50% of all Tugs converted into Green Tugs by 2030**.

➤ **PM Gati Shakti:**

- The development of green logistics supply chains in the country has already accelerated through the **PM Gati Shakti - National Master Plan** for Multi-Modal Connectivity along with the Green Ports initiative.
 - The ports aim to **reduce carbon emissions per ton of cargo handled by 30% by 2030**.

➤ **The Green Voyage 2050 Project:**

- It is a partnership project between the **Government of Norway** and **International Maritime Organisation (IMO)** launched in May 2019 aiming to transform the shipping industry towards a **lower carbon future**.

Conclusion

- India's aim to become a **global hub for green shipbuilding by 2030** is a major endeavour towards a cleaner, greener environment. These initiatives will **accelerate India's development of green logistics supply chains** and reduce carbon emissions, achieving sustainable development.

Central Bureau of Investigation

Why in News?

The **Parliamentary Committee on Personnel, Public Grievances, Law and Justice**, in view of **withdrawal of general consent for CBI probe** by many states, has said that the **existing law governing the CBI** has "many limitations" and needs to be **replaced with a new legislation to define its status, functions, and powers**.

What is the Central Bureau of Investigation (CBI)?

➤ **About:**

- The CBI was established in 1963 and is governed by the **Delhi Special Police Establishment (DSPE) Act**.
 - It was established on the recommendations of **Santhanam Committee on Prevention of Corruption (1962–1964)**.

- Currently, **CBI functions under the Department of Personnel, Ministry of Personnel, Pension & Public Grievances** of the Government of India.

➤ **Functions:**

- Investigating cases of **corruption, bribery and misconduct of Central government employees** under the **Prevention of Corruption Act** against Indian public officials, public sector undertakings, corporations, and bodies that are owned or controlled by the Indian government.
- Investigating cases relating to **infringement of fiscal and economic laws**, that is, **breach of laws concerning export and import control**, customs and central excise, income tax foreign exchange regulations.
 - Example: **Fake Indian Currency Notes, Bank Frauds, Import Export & Foreign Exchange violations** etc.

➤ **Issues:**

○ **CBI v/s State Police:**

- CBI investigation in a particular state is subjected to **approval by the State Government**.
- The ruling party in a state, sometimes genuinely and many times on **flimsy grounds**, has **denied permission to the CBI to investigate matters**, thereby limiting the extent of investigations.

○ **Overlapping/Duplication:**

- Along with state police forces, the **Special Police Establishment (a division of CBI)** enjoys the **concurrent powers of investigation** and prosecution for offences that sometimes lead to **duplication and overlapping of cases**.

○ **Political Interference:**

- The **Supreme Court of India** has criticised the CBI for excessive political interference in its functioning, calling it a "**caged parrot speaking in its master's voice**".

What are the Findings Recommendations of the Parliamentary Committee?

➤ **Findings:**

○ **Withdrawal of General Consent:**

- **9 states have withdrawn the general consent** required for any investigation by the CBI, making the existing law governing the CBI ineffective.

Note:

○ Vacancies:

- **Vacancies in the CBI are not being filled up** at the required pace, hampering the quality of investigation and ultimately impacting the effectiveness and efficiency of the agency.
- A total of 1,709 posts are vacant in the CBI against its sanctioned strength of 7,295.
 - These vacancies in the cadres of executive ranks, law officers and technical officers will unquestionably **increase the pendency of cases, hamper the quality of investigation and ultimately impact the effectiveness and efficiency of the agency.**

➤ Recommendations:

○ Redefining the Status of CBI:

- The Committee recommends enacting a **new law to define the status, functions, and powers of the CBI** and to lay down safeguards to ensure objectivity and impartiality in its functioning.

○ Filling Up Vacancies on Quarterly Basis:

- The Committee recommends the **Director of CBI to monitor the progress made in filling up vacancies** on a quarterly basis and take necessary measures to ensure that the organisation is sufficiently staffed.

○ Reduce Dependence on Deputation:

- CBI should **reduce its dependence on deputationists** and strive to recruit permanent staff in the ranks of inspector of police and deputy superintendent of police.

○ Case Management System: CBI should maintain a **case management system which would be a centralised database** containing details of cases registered with it and the progress made at their disposal.

- CBI should also **publish case statistics** and annual reports on its website to ensure transparency and accountability.
- Details of cases registered with the CBI, the progress made in their investigation, and the final outcome should be made available in the **public domain.**

Special Courts

Why in News?

Recently, the **Supreme Court (SC)** has suggested a **State-specific approach** to setting up special courts for **speedy trial of legislators.**

- The SC said that a **“one-size-fits-all”** approach may not resolve the problem of long pendency of criminal cases involving MPs and MLAs because the **burden of cases is different for each state.**

What is the Background?

- In 2017, the SC had ordered that **special courts be set up across the country to fast-track the long-pending trials of lawmakers.**
- Following this, 12 special courts were set up across 11 States exclusively to try sitting MPs and MLAs.
- In September 2020, SC-appointed **amicus curiae (friend of the court)**, in his two reports, highlighted that despite the best efforts by the court to constitute special courts for trying cases against legislators, close to 4,442 criminal cases involving 2,556 sitting members of Parliament (MP) and members of legislative assemblies (MLAs) are pending.

What is a Special Court?

➤ About:

- A Special Court is a court with constrained purview, that **manages a specific field of law as opposed to a specific regional ward.**
- In India, there are various special courts that have been established to deal with specific types of cases. These courts have been set up to provide **speedy justice and to address the unique legal challenges** associated with certain types of cases.

➤ Jurisdiction:

- Special jurisdiction is the Courts' jurisdiction over certain types of cases such as bankruptcy, claims against the government, probate, family matters, immigration, and customs, or limitations on courts' authority to try cases involving maximum amounts of money or value. Special jurisdiction is also known as limited jurisdiction.
 - **Special Courts** only hear cases in a very narrow jurisdiction and the judges serve for a specific term, while the constitutional court's main

Note:

authority is to rule **on whether laws that are challenged are unconstitutional**, Example- whether they conflict with constitutionally established rights and freedoms.

➤ **Functioning:**

- The constitution of Special Courts and their functioning fall within the domain of the State and Union Territory Governments, who set up such courts as per their need and resources, in consultation with the **High Courts following Section 14 of The Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) (PoA) Amendment Act, 2015.**
 - The Act further engages a State Government to indicate for each region, a Court of Session to be a Special Court for the reason, in those Districts where a smaller number of cases under this Act are recorded. In this way, the State-wise status of the constitution of such Courts isn't looked after midway.
- Cases are bound to be discarded without preliminary hearing in extraordinary courts, and if there is a preliminary hearing, it is normally heard more quickly than in a court of a general locale.
- Exceptional courts, as a rule, don't adhere to the equivalent procedural guidelines that **general-purview courts follow**; regularly unique courts continue without the advantage or cost of lawyers or even law-prepared adjudicators.

Defamation Law and Disqualification of MPs

Why in News?

Recently, an **MP (Member of Parliament)** was sentenced to two years in jail in a **2019 Defamation Case over his remarks about another political leader** by the Surat Court.

- The case was filed under **Indian Penal Code (IPC) sections 499 and 500**, dealing with defamation.

What do IPC sections 499 and 500 say?

- **Section 499 of the IPC** elaborates on how defamation could be through words – spoken or intended to be read, through signs, and also through visible representations.

- These can either be published or spoken about a person with the intention of **damaging the reputation of that person**, or with the knowledge or reason to believe that the imputation will harm his reputation.

- **Section 500 stipulates** imprisonment of up to two years, with or without a fine, for someone **held guilty of criminal defamation.**

What Is Defamation?

➤ **About:**

- Defamation is the **act of communicating false statements about a person** that injure the reputation of that person when observed through the eyes of an ordinary man.
- Any false and unprivileged statement published or spoken deliberately, intentionally, knowingly with the intention to **damage someone's reputation is defamation.**
 - History of defamation can be traced in Roman law and German law. Abusive chants were capital punishment in Roman.

➤ **Defamation Law in India:**

- **Article 19 of the Constitution** grants freedom of speech to its citizens. However, Article 19(2) has imposed certain **reasonable exemptions to this freedom such as - Contempt of Court, defamation and incitement to an offense.**
- In India, defamation can both be a civil wrong and a criminal offense, depending on the objective they seek to achieve.
 - **A Civil Wrong** sees a wrong being redressed with monetary compensation, while a criminal law seeks to punish a **wrongdoer and send a message to others not to commit** such acts, with a jail term.
 - In a Criminal Offense, defamation has to be **established beyond reasonable doubt** but in a civil defamation suit, damages can be awarded based on probabilities.

➤ **Free Speech v/s Defamation laws:**

- It is argued that the defamation laws are a violation of **Fundamental Rights** guaranteed under **Article 19 of the constitution.**
 - The Supreme Court has ruled that the criminal provisions of defamation are **constitutionally valid and are not in conflict with the right to free speech.**

Note:

- The SC has also held that it is valid to treat **defamation as a public wrong** and that criminal defamation is **not a disproportionate restriction on free speech**, because protection of **reputation is a fundamental right** as well as a human right.
- The Court relied on the judgments of other countries and reaffirmed the right to reputation as a part of the **right to life under Article 21**.
 - Using the principle of ‘balancing of fundamental rights’, the court held that the right to freedom and speech and expression cannot be “allowed so much room that even reputation of an individual which is a constituent of Article 21 would have no entry into that area”.

What are the Previous Defamation Judgements?

- **Mahendra Ram Vs. Harnandan Prasad (1958)**: A letter written in Urdu was sent to the plaintiff. Therefore, he needed another person to read it to him. It was held that since the defendant knew the plaintiff does not know Urdu and he needs assistance, the act of the defendant **amounted to defamation**.
- **Ram Jethmalani Vs. Subramanian Swamy (2006)**: The High Court of Delhi held Dr. Swamy for defaming Ram Jetmalani by saying that he **received money from a banned organization** to protect the then Chief Minister of Tamil Nadu from the case of assassination of Rajiv Gandhi.
- **Shreya Singhal Vs. Union of India (2015)**: It is a landmark judgment regarding internet defamation. It held unconstitutional **Section 66A of the Information Technology Act, 2000** which punishes for sending offensive messages through communication services.

What Happens if a Lawmaker/MP is Convicted?

- The conviction may disqualify an MP if the offense for which he is convicted is listed in **Section 8(1) of the Representation of the People (RPA) Act of 1951**.
 - This section includes offences such as section 153A (offence of **promoting enmity between different groups** on ground of religion, race, place of birth, residence, language, etc., and doing acts prejudicial to maintenance of harmony) or section 171E (offence of **bribery**) or section 171F (offence of **undue influence or personation** at an election) and a few others.

- **Section 8(3) of the RPA** mandates that an MP can be disqualified if convicted and sentenced to at least 2 years of imprisonment.
 - However, the section also states that the disqualification takes effect only “**after three months have elapsed**” from the date of conviction.
 - Within that period, the convicted MP can file an **appeal against the sentence before the High Court**.

National Strategy and Roadmap for Medical and Wellness Tourism

Why in News?

India has been ranked **10th in the Medical Tourism Index (MTI)** for 2020-2021 out of 46 destinations of the world by the **Medical Tourism Association**.

- With an aim to improve medical tourism in the country, the Ministry of Tourism has formulated a **National Strategy and Roadmap for Medical and Wellness Tourism in 2022**.

What are the Key Pillars of the Strategy?

- The **National Strategy and Roadmap for Medical and Wellness Tourism** has identified the following key pillars for the development of medical-value travel in the country.
 - **Key Pillars:**
 - Developing a brand for India as a wellness destination.
 - Strengthening the **ecosystem for medical and wellness tourism**
 - Enabling digitalization by setting up **Online Medical Value Travel (MVT) Portal**
 - Enhancing **accessibility for Medical Value Travel**
 - Promoting **Wellness Tourism**
 - **Governance and Institutional Framework**
 - **Foreign Tourists Arrival** on medical purpose increases from **1.83 lakh** in 2020 to **3.04 lakh** in 2021.

What is Medical and Wellness Tourism?

- **About:**
 - **Medical and wellness tourism** refer to the practice of **travelling to another location to receive medical treatment** or to improve one’s health and wellbeing.

Note:

- These types of tourism are growing in popularity as **people become more interested in alternative healthcare options** and seek out high-quality medical care at a lower cost.
- **Issues related to Medical and Wellness Tourism in India:**
 - **Language and Cultural Barriers:** Many medical tourists may face language and **cultural barriers**, making it difficult to communicate effectively with healthcare providers.
 - This can lead to **misunderstandings and miscommunications** that could impact the quality of care received.
 - **Ethical Concerns:** There have been concerns about the exploitation of **vulnerable populations** in medical tourism, particularly **in the case of organ transplantation**.
- **Steps Taken for the Promotion of Medical and Wellness Tourism:**
 - **'Medical Visa'** has been introduced, which can be given for specific purposes to foreign travellers coming to India for medical treatment.
 - **'E- Medical Visa' and 'E-Medical Attendant Visa'** have also been introduced for **156 countries**.
 - The Ministry of Tourism provides financial Assistance under Market Development Assistance Scheme to Medical Tourism Service Providers accredited by **National Accreditation Board for Hospitals & Healthcare Providers (NABH)** for participation in Medical/ Tourism activities.

Supreme Court Asks for Data on Humane Method of Execution

Why in News?

The **Supreme Court of India** has asked the Centre to provide data that may lead to a more **dignified, less painful, and socially acceptable method of executing prisoners** other than death by hanging.

- The court even suggested the **formation of an expert committee** to relook at India's current method of **putting criminals to death**.

What are the Arguments

Around Execution of Prisoners?

- The court **clarified that it was not questioning the constitutionality of the death penalty** but rather the **method of execution**.
 - The government had said the mode of execution is a "matter of legislative policy," and the **death penalty is awarded only in the rarest of rare cases**.
- The court was hearing a petition challenging the constitutionality of death by hanging as a mode of execution.
 - **Section 354 (5)** of the **Code of Criminal Procedure** mandates that a person sentenced to death shall **"be hanged by the neck till he is dead"**.
 - It is argued that there is a need to evolve a **"humane, quick, and decent alternative"** and termed hanging as **"cruel and barbarous"** compared to lethal injection.
- However, the Centre had filed an affidavit in 2018 **supporting death by hanging and had not found the method of execution "barbaric, inhuman, and cruel" compared to firing squads and lethal injections**.

What is the Current

Provision of Death Penalty in India?

- Certain offences under **Indian Penal Code**, for which the offenders can be sentenced to punishment of death are:
 - **Murder (Section 302)**
 - **Dacoity with murder (Section 396)**
 - **Criminal Conspiracy (Section 120B)**
 - **Waging war against the Government of India or attempting to do so (Section 121)**
 - **Abatement of mutiny (Section 132) and others**.
- The term **death penalty** is sometimes used interchangeably with **capital punishment**, though imposition of the penalty is not always followed by execution, it can be **commuted into life imprisonment or pardoned by the President under Article 72 of Indian Constitution**.

Where does the Death

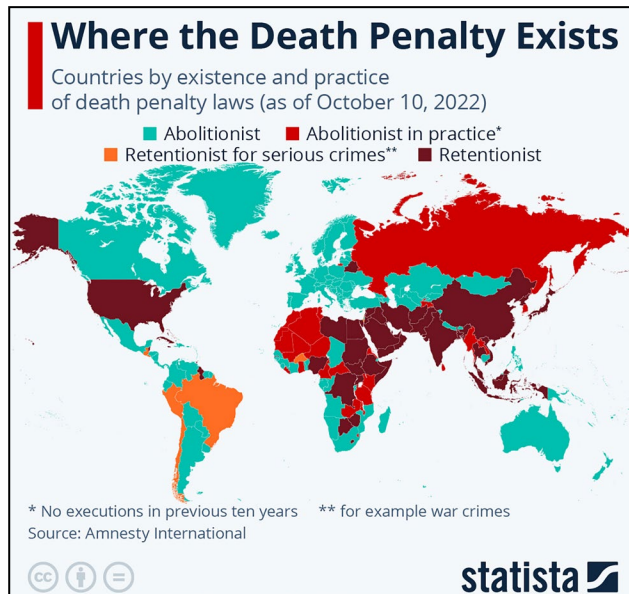
Penalty Exist in the World?

- According to **Amnesty International**, the **death penalty** continues to be quite widespread Asia, with

Note:

China, India, Thailand, Singapore and Indonesia, among others

- The death penalty is **rare in Europe and the Americas** – with the notable exceptions of **Belarus, Guyana, Cuba and the United States**.
- 110 countries and territories around the world have abolished the death penalty, most recently **Sierra Leone, Papua New Guinea and Equatorial Guinea**.



- Cheaper operating cost and relatively lesser fuel consumption
- Less polluting mode of transportation
- Lesser requirement of land relative to other modes of transportation
- More environment friendly mode of transportation
- Moreover, waterways can be **used for recreational purposes such as boating and fishing**.

What is the Scope and Challenges of Inland Waterways in India?

➤ **About:**

- India has an extensive network of inland waterways, including rivers, canals, and backwaters, covering **over 20,000 kilometers in length**. Inland water transport has enormous potential in India as a mode of transportation for both passengers and cargo.
- Priority development of **National Waterway-1** was undertaken through the **Jal Vikas Marg Project (JVMP)**, which includes **Arth Ganga**, and they will give an economic boost of Rs 1,000 crore over the next five years.
- The inland waterways can play a crucial role in realising Prime Minister (PM) vision of making India a **zero-carbon emission country by 2070**.

➤ **Challenges:**

- **No Navigability throughout the Year:**
 - **Some rivers are seasonal** and do not offer navigability through the year. Around 20 out of the 111 identified national waterways have reportedly been found unviable.
- **Intensive Capital and Maintenance Dredging:**
 - All the identified waterways require intensive capital and maintenance dredging, which could be resisted by the local community on environmental grounds, including displacement fears, thereby posing implementation challenges.
- **Other Uses of water:**
 - Water also has important competing uses, viz. need for living as well as for irrigation, power generation etc. It would not be possible for the local government/others to overlook these needs.
- **Exclusive Jurisdiction of the Central Government:**

India's Inland Water Transport

Why in News?

Government intends to increase the share of Inland Water Transport (IWT) to 5% as per **Maritime India Vision (MIV)-2030**.

What is the IWT?

➤ **About:**

- Inland water transport refers to the transportation of people, goods, and materials via waterways such as **rivers, canals, lakes, and other navigable bodies of water** that are located within a country's boundaries.
- IWT is the **most economical mode of transportation**, especially for bulk cargo like coal, iron ore, cement, food grains and fertilizer. Presently, it remains **underutilized at a share of 2% in India's modal mix**.
- **Socio-Economic Benefits of IWT:**

Note:

- The exclusive jurisdiction of the Central Government is only in regard to shipping and navigation on inland waterways declared to be 'national waterways' by an act of Parliament.
- Utilisation/sailing of vessels, in other waterways, is within the ambit of the concurrent list or is in the jurisdiction of the respective state governments.

What is Maritime India Vision 2030?

➤ About:

- It is a **ten-year blueprint for the maritime sector** which was released by the Prime Minister at the **Maritime India Summit in November 2020**.
- It will supersede the **Sagarmala initiative and aims to boost waterways**, give a fillip to the shipbuilding industry and encourage cruise tourism in India.

➤ Policy Initiatives and Development Projects:

- **Maritime Development Fund:** A Rs. 25,000-crore fund, which will provide low cost, long-tenure financing to the sector with the Centre contributing Rs. 2,500 crores over seven years.
- **Port Regulatory Authority:** A pan-India port authority will be set up under the new Indian Ports Act (to replace the old Indian Ports Act 1908) for enabling oversight across major and non-major ports, enhance institutional coverage for ports and provide for structured growth of the ports sector to boost investor confidence.
- **Eastern Waterways Connectivity Transport Grid project:** It will aim to develop regional connectivity with Bangladesh, Nepal, Bhutan and Myanmar.
- **Riverine Development Fund:** Calls for extending low cost, long-term financing for inland vessels with the support of a Riverine Development Fund (RDF) and for extending the coverage of the tonnage tax scheme (applicable to ocean-going ships and dredgers) to inland vessels also to enhance the availability of such vessels.
- **Rationalisation of Port Charges:** It will make them more competitive, besides doing away with all hidden charges levied by ship liners to bring in more transparency.
- **Promotion of Water Transport:** For decongestion of urban areas, and developing waterways as an alternative means of urban transport.

What are the Related Government Initiatives?

- **Eastern and western Dedicated Freight Corridors (DFCs)**
- **Sagarmala Project**
- **Jal Marg Vikas Project**
- **PM Gati Shakti**
- **Inland Vessels Bill, 2021**

Anticipatory Bail

Why in News?

Recently, an MLA has been granted pre-arrest bail or **Anticipatory bail** by the High Court; a decision challenged in **Supreme Court** by the state **Lokayukta**.

What is Bail and What are its Types?

- **Definition:** Bail is the conditional/provisional release of a person held under legal custody (in matters which are yet to be pronounced by the Court), by undertaking a promise to appear in the Court as and when required. It signifies a **security/collateral deposited** before the Court for release.
 - In **Supt. and Remembrancer of Legal Affairs v. Amiya Kumar Roy Choudhry (1973) case**, the Calcutta High Court explained the **principle behind giving Bail**.
- **Types of Bail in India:**
 - **Regular Bail:** It is a direction given by the Court (any Court within the country) to release a person who is **already under arrest** and kept in police custody. For such Bail, a person can file an application under **Section 437 and 439** of the CrPC.
 - **Interim Bail:** Bail granted for a **temporary and short period** by the Court till the application seeking Anticipatory Bail or Regular Bail is **pending** before a Court.
 - **Anticipatory Bail or Pre-arrest Bail:** It is a legal provision that allows an accused person to apply for bail before being arrested. In India, pre-arrest bail is granted under section 438 of the Code of Criminal Procedure, 1973. It is **issued only** by the **Sessions Court and High Court**.
 - The provision of pre-arrest bail is discretionary, and the court may grant bail after considering the nature and gravity of the offence, the antecedents

Note:

of the accused, and other relevant factors. The court may also impose certain conditions while granting bail, such as **surrendering the passport, refraining from leaving the country, or reporting to the police station regularly.**

What are the Judicial Interpretations of Pre-Arrest Bail?

- The **Supreme Court (SC)** of India has held that the power to grant **pre-arrest bail is an extraordinary power to be exercised only in exceptional cases.**
- **Gurbaksh Singh Sibbia vs State of Punjab (1980) case:** SC ruled that “Sec. 438(1) should be interpreted in the light of **Article 21** (protection of life and personal liberty) of the Constitution.”
 - Granting of anticipatory Bail as a matter of right of an individual **should not** be limited by time.
 - The Court **could impose appropriate restrictions** on a case-by-case basis.
- **Salauddin Abdulsamad Shaikh vs State of Maharashtra (1995) case:** SC overruled its earlier judgment and held that “granting of anticipatory Bail **should be limited by time.**”
- **SS Mhetre vs State of Maharashtra & Ors (2010) case:** SC held that “**life/duration of an order granting anticipatory Bail could not be curtailed.**”
- **Sushila Aggarwal and others v. State (NCT of Delhi) (2020):** The Court held that **Anticipatory bail as a ‘general rule’ will not be limited to a fixed period of time.**

What are the Conditions for Granting an Anticipatory Bail in India?

- The person seeking anticipatory bail should have reason to believe that they **may be arrested for a non-bailable offense.**
- The court may also impose a **monetary bond**, which the person seeking anticipatory bail will have to pay if they **fail to appear before the court or violate the conditions imposed.**
- The person seeking anticipatory bail must make themselves **available for interrogation** by the **investigating officer as and when required.**
- The court may grant anticipatory bail for a limited period, and the person will have to **surrender to custody once the period expires.**
- It is important to note that the granting of **anticipatory bail is at the discretion of the court and is not an**

absolute right. The court will consider various factors, such as the nature and gravity of the offense, the antecedents of the person seeking anticipatory bail, and the likelihood of the person absconding or tampering with evidence, before deciding whether to grant anticipatory bail.

On What Grounds

Anticipatory Bail can be Cancelled?

- **Sec. 437(5) & Sec. 439 of CrPC** deal with the cancellation of anticipatory Bail. They imply that a Court which has the power to grant anticipatory Bail is also **empowered to cancel the Bail or recall the order** related to Bail upon appropriate consideration of facts.
- A **High Court or Court of Session** may direct that any person who has been released on Bail by it be arrested, and brought under custody after filing of an application by the complainant or the prosecution. However, a Court does **not have the power** to cancel the **Bail granted by the police officer.**
- Over the years, anticipatory Bail has acted as the protection (granted under **Sec. 438** of CrPC) to **safeguard a person against whom false accusation or charges have been made.** It ensures the release of such falsely accused person even before they are arrested.

Conclusion

- Pre-arrest bail is an important legal provision that safeguards the fundamental rights of individuals in India.
- The provision allows an accused person to apply for bail before being arrested for a non-bailable offence. The court **may grant bail after considering the nature and gravity of the offence, the antecedents of the accused,** and other relevant factors. The Supreme Court of India has laid down guidelines for granting pre-arrest bail, which require the court to consider various factors while granting bail.

BCI Allows Foreign Lawyers to Practice in India

Why in News?

Recently, the **Bar Council of India (BCI)** has notified **Rules for Registration and Regulation of Foreign Lawyers**

Note:

and Foreign Law Firms in India, 2022, allowing foreign lawyers and law firms to practice in India.

- However, it did **not allow them to appear before courts, tribunals or other statutory or regulatory authorities.**

What is the BCI Decision?

- For over a decade, **BCI was opposed to allowing foreign law firms in India.**
- Now, the BCI has reasoned that its move will address **concerns about the flow of Foreign Direct Investment in the country** and make India a hub of **International Commercial Arbitration.**
- The rules bring legal clarity to foreign law firms that currently operate in a very limited way in India.
- The BCI said it “resolves to implement these Rules **enabling the foreign lawyers and Foreign Law Firms to practice foreign law and diverse international law and international arbitration matters** in India on the principle of reciprocity in a well-defined, regulated and controlled manner.

What are the New Rules?

- The notification **allows foreign lawyers and law firms to register with BCI** to practice in India if they are entitled to practice law in their home countries. However, **they cannot practice Indian law.**
 - According to the Advocates Act 1961, **advocates enrolled with the Bar Council alone are entitled to practise law in India.** All others, such as a litigant, can appear only with the permission of the court, authority or person before whom the proceedings are pending.
- They shall be allowed to **practice transactional work /corporate work (Non-Litigious Practice)** such as joint ventures, mergers and acquisitions, **Intellectual Property** matters, drafting of contracts and other related matters on a reciprocal basis.
- They shall **not be involved or permitted to do any work pertaining** to the conveyancing of property, title investigation or other similar works.
- **Indian lawyers working with foreign law firms** will also be subject to the **same restriction of engaging only in “Non-Litigious Practice.”**

What is the Significance of the New Move?

- It is likely to pave the way for potential consolidation, especially for **firms dealing in the cross-border mergers and acquisitions (M&A) practice** in particular.

- Entry of foreign law firms will support in a big way the ambition of **India to be more visible and valuable in a global context**, especially on international trade and commerce.
- This will be a game changer for the mid-size firms and will also help the law firms in India to achieve **more efficiency in talent management**, IA, technology, domain knowledge in a global context, and management.

What is the Bar Council of India?

- The Bar Council of India is a **statutory body created by Parliament** under the **Advocates Act, 1961** to regulate and represent the Indian bar.
- It performs the regulatory function by **prescribing standards of professional conduct and etiquette and by exercising disciplinary jurisdiction** over the bar.
- It also sets standards for legal education and grants recognition to universities whose degree in law will serve as qualification for enrolment as an advocate.
- In addition, it performs certain representative functions by protecting the rights, **privileges and interests of advocates and through the creation of funds** for providing financial assistance to organize welfare schemes for them.

Governor's Power to Call for Floor Test

Why in News?

Recently, the **Supreme Court (SC)** has said that the **Governor** cannot call for a **Floor Test** on the basis of internal differences in the Party Members.

- The SC while hearing a case about a dispute between two factions in a political party, **discussed the powers and role of the Governor in calling for a trust vote.**

How can the Governor Call for a Floor Test?

- **About:**
 - **Article 174** of the Constitution authorizes the **Governor to summon, dissolve and prorogue the state legislative assembly.**
 - Article 174(2)(b) of the Constitution gives powers to the Governor to **dissolve the Assembly on the aid and advice** of the cabinet. However, the Governor can apply his mind when the advice

Note:

comes from a Chief Minister whose majority could be in doubt.

- According to **Article 175(2)**, the Governor can summon the **House and call for a floor test** to prove whether the government has the numbers.
- However, the Governor can exercise the above **only as per Article 163 of the Constitution** which says that the Governor acts on the aid and advice of the Council of Ministers headed by the Chief Minister.
- When the House is in session, it is the Speaker who can call for a floor test. But when the Assembly is not in session, the Governor's residuary powers under Article 163 allow him to call for a floor test.
- **Governor's Discretionary Power:**
 - **Article 163 (1)** essentially limits any discretionary power of the **Governor only to cases where the Constitution expressly specifies** that the Governor must act on his own and apply an independent mind.
 - The Governor **can exercise his discretionary power** under **Article 174**, when the chief minister has lost the support of the House and his strength is debatable.
 - Generally, when doubts are cast on the chief minister that he has lost the majority, **the opposition and the Governor would rally** for a floor test.
 - On numerous occasions, the courts have also clarified that when the majority of the ruling party is in question, **a floor test must be conducted at the earliest** available opportunity.

What are the SC's

Observations on the Governor's Floor Test Call?

- In 2016, the SC in **Nabam Rebia and Bamang Felix vs Deputy Speaker case** (the Arunachal Pradesh Assembly case) said that the power to summon the House is not solely vested in the Governor and **should be exercised with aid and advice of the Council of Ministers** and not at his own.
- The Court highlighted the facts that the Governor is not an elected authority and is a mere nominee of the President, **such a nominee cannot have an overriding authority over the representatives of the people**, who constitute the House or Houses of the State Legislature.
- **In 2020**, the Supreme Court, in **Shivraj Singh Chouhan & Ors versus Speaker**, Madhya Pradesh Legislative Assembly & Ors, upheld the powers of the Speaker to call for a floor test if there is a prima facie view that the government has lost its majority.

- The Governor is not denied the power to order a floor test where on the basis of the material available to the Governor it becomes evident that the issue as to whether the government commands the confidence of the House requires it to be assessed on the basis of a floor test.

What is a Floor Test?

- It is a term used for the test of the majority. If there are doubts against the Chief Minister (CM) of a State, **he/she can be asked to prove** the majority in the House.
 - In the case of a coalition government, the CM may be asked to move a vote of confidence and win a majority.
- In the absence of a clear majority, **when there is more than one individual stake to form the government**, the Governor may call for a special session to see who has the majority to form the government.
 - Some legislators may be **absent or choose not to vote**. The numbers are then considered based only on those MLAs who were present to vote.

Net Neutrality

Why in News?

The **Cellular Operators Association of India (COAI)**, which represents **Bharti Airtel, Vodafone Idea, and Reliance Jio**, the three major **telecom operators in India**, has been demanding that platforms such as **YouTube and WhatsApp** pay a share of revenue to make up for the network costs.

- This has reignited the debate around **net neutrality**.

What are the Arguments and Recent Developments on the Issue?

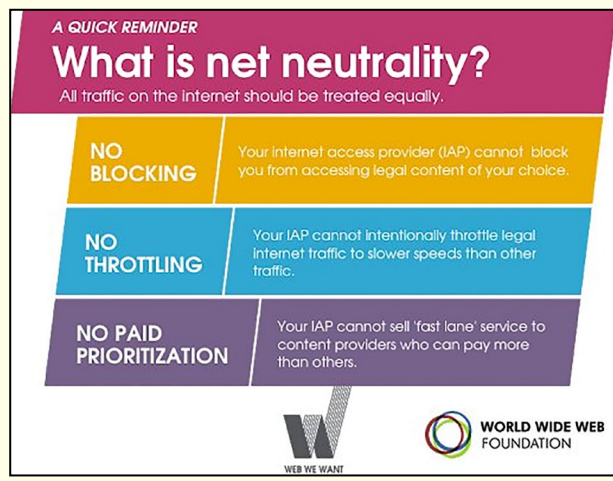
- **Telecom operators** are demanding payment for enormous usage on their networks.
 - **Telecom operators in the European Union** are also demanding similar usage fees from content providers.
 - Content providers argue that imposing such a fee, even on a limited number of large players, was a **distortion of the internet's architecture**.
- In 2016, the **Telecom Regulatory Authority of India (TRAI)** ruled in **favour of net neutrality**.

Note:

- In 2018, the **Department of Telecommunications** embedded the net neutrality concept into the **Unified Licence**, whose conditions all telecom operators and internet providers are bound by.

What is Net Neutrality?

- Net neutrality is the **principle that all internet traffic should be treated equally, without discrimination or preference given to any particular website, service, or application.**
- Net neutrality ensures that **everyone has equal access to information and services on the internet**, regardless of their financial resources or the size and power of the websites they use.
 - It is an important principle that helps to ensure a **level playing field** on the internet, and to **protect the free flow of information and ideas.**
- Without net neutrality, **Internet Service Providers** could potentially **use their market power to steer users towards certain websites and services**, or to limit access to others.



Who are the Different Stakeholders in the Internet Space?

- The stakeholders in the internet space are:
 - The **consumers** of any internet service
 - The **Telecom Service Providers (TSPs)** or **Internet Service Providers (ISPs)**,
 - The **Over-the-top (OTT) service providers** (those who provide internet access services such as websites and applications),
 - The government, who may regulate and define relationships between these players.

- Also, **TRAI is an independent regulator in the telecom sector**, which mainly regulates TSPs and their licensing conditions, etc.

How is Net Neutrality Regulated?

- Until now, net neutrality has **not directly been regulated in India** by any law or policy framework.
- Over the last year, there have been some developments with respect to the formulation of a net neutrality policy.
 - TRAI is working on **Differential Pricing for Data Services as well as Regulatory Framework for Over-The-Top Services (OTT).**
 - A Committee set up by the **Department of Telecommunications (DoT)** has also examined the issue of net neutrality.
- Also, Internationally, countries like the **USA, Japan, Brazil, Chile, Norway**, etc. have some form of law, order or regulatory framework in place that affects net neutrality.

What Will Happen if There is No Net Neutrality?

- **Monopolizing Internet:**
 - Without net neutrality, ISPs would have the ability to **shape internet traffic** to derive extra benefits from it.
 - This would give them the power to **charge companies like YouTube and Netflix for services that consume more bandwidth** compared to a normal website.
- **Discourage Innovation:**
 - Lack of net neutrality **could spell doom for innovation on the web. Startups would be at a disadvantage** compared to established players who have the resources to pay for faster access.
 - This could lead to a **web that is dominated by a few large players**, rather than an open and diverse ecosystem.
- **Package Plans for Consumers:**
 - The lack of net neutrality would also **mean that instead of free access, there could be "package plans"** for consumers.
 - For example, users may have to pay more to access international websites compared to websites based in their own country. This would create a **tiered internet system** where users who **pay more get better access to content.**

Note:

Economic Scenario

Highlights

- City Finance Rankings 2022
- India's Sugar Exports
- SVB Financial Group Collapse
- PM MITRA Scheme and Textile Sector
- India Aims to Become Top Global Aviation Market by 2030
- IBC Reform: Distribution of Proceeds
- Startups in Emerging Technology
- Falling Long-Term Growth Prospects
- Inter-State Variations in Central Tax Distribution

City Finance Rankings 2022

Why in News?

Recently, the Ministry of Housing and Urban Affairs has launched the 'City Finance Rankings 2022' under which **Urban Local Bodies (ULB)** in the country will be evaluated on the basis of their financial health.

What is City Finance Rankings 2022?

➤ About:

- All the Participating cities or **ULBs** will be evaluated on **15 indicators across three key municipal finance** assessment parameters, namely:
 - Resource Mobilization
 - Expenditure Performance
 - Fiscal Governance.
- The cities will be ranked at the national level based on their scores under any one of the following four population categories:
 - Above 4 million
 - Between 1-4 million
 - 100,000 to 1 million
 - Less than 100,000
- The top 3 cities in each population category will be recognized and rewarded at the national level as well as within each state/state cluster.

➤ Significance:

- It will help identify areas in the financial performance of the cities **where they can make further improvements.**

- It will motivate city/state officials and decision-makers to implement municipal finance reforms.
- It will enable them to deliver quality infrastructure and services, and hence a good quality of life to citizens.
- At a state- and national level, the rankings will highlight the outcomes achieved by municipalities and provide critical insights to key policymakers into the state of finances of urban local bodies.

India's Sugar Exports

Why in News?

India has gone from being a marginal sugar exporter five years ago to **No. 2 in the world, behind only Brazil**. Between 2017-18 and 2021-22, exports have soared from USD 810.9 million to USD 4.6 billion.

- **Sugar exports** may cross USD 5.5 billion in the current fiscal year.

What is the Status of the Sugar Industry in India?

➤ About:

- **Sugar industry** is an important **agro-based industry** that impacts the rural livelihood of about **50 million sugarcane farmers** and around 5 lakh workers directly employed in sugar mills.
- In **(Oct-Sep) 2021-22** India emerges as the **world's largest producer** and **consumer** of sugar and **world's 2nd largest exporter of sugar.**

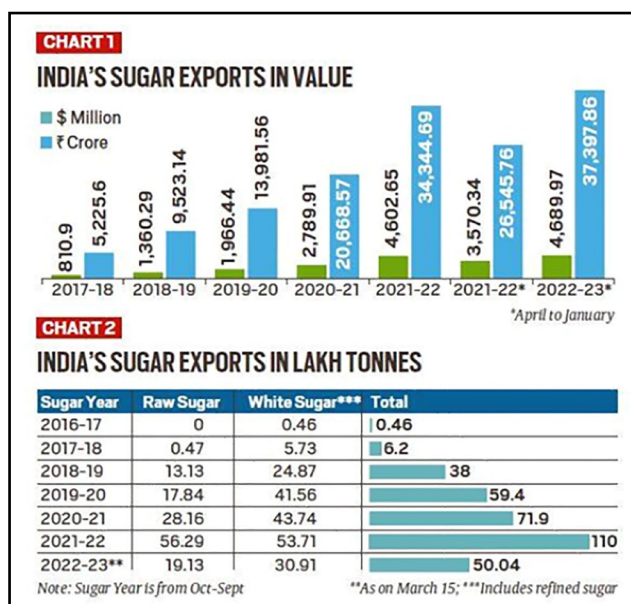
➤ Distribution:

Note:

- Sugar industry is broadly distributed over **two major areas of production**- Uttar Pradesh, Bihar, Haryana and Punjab in the north and Maharashtra, Karnataka, Tamil Nadu and Andhra Pradesh in the south.
 - South India has a **tropical climate** which is suitable for higher sucrose content giving a higher yield per unit area as compared to north India.
- **Geographical Conditions for the Growth of Sugar:**
 - **Temperature:** Between 21-27°C with hot and humid climate.
 - **Rainfall:** Around 75-100 cm.
 - **Soil Type:** Deep rich loamy soil.

What is the Status of Sugar Exports?

- **Background:**
 - Till 2017-18, India hardly exported any **raw sugar** (produced after the first crystallisation of cane juice).
 - It mainly shipped **plantation white sugar** (produced by refining of raw sugar) with 100-150 **ICUMSA value** (International Commission for Uniform Methods of Sugar Analysis). This was referred to as **low-quality whites or LQW** in international markets.
 - ICUMSA is a measure of purity. The lower the value, the more the whiteness.
- **Current Status:**
 - Out of **India's total 110 lakh tonnes (lt)** sugar exports in **2021-22**, raws alone accounted for 56.29 lt.
 - **The biggest importers of Indian raw sugar**



were **Indonesia** (16.73 lt), **Bangladesh** (12.10 lt), **Saudi Arabia** (6.83 lt), **Iraq** (4.78 lt) and **Malaysia** (4.15 lt).

➤ Reasons for Rising Exports:

- **Free of Bacterial Compound:** Indian raw sugar is **free of dextran**, a **bacterial compound** formed when sugarcane stays in the sun for too long after harvesting.
 - Indian cane is crushed within 12-24 hours of harvesting while it takes around 48 hours in Brazil.
- **High Sucrose Content:** Indian raw sugar has a **higher polarization (98.5-99.5%)** compared to other producers like Brazil, Thailand, and Australia, making it easier and cheaper to refine.
 - Polarisation is the **percentage of sucrose present in a raw sugar mass**.

➤ Cap on Exports:

- **Lower stocks and production dipping** in 2021-22 has **led the government to cap India's exports** in the current sugar year to 61 lakh tonnes to ensure domestic availability.
 - The government did it to ensure domestic availability and contain food inflation but **overseas markets once lost aren't easy to regain**.

SVB Financial Group Collapse

Why in News?

Recently, the **U.S. banking regulators** shut down the **Silicon Valley Bank (SVP) Financial Group**, causing **shockwaves in the startup community**.

- The collapse of Silicon Valley Bank was caused by the **US Federal Reserve's decision to raise interest rates**, leading to **less appetite for risk** and resulting in **investors pulling out their money to meet their liquidity needs**.

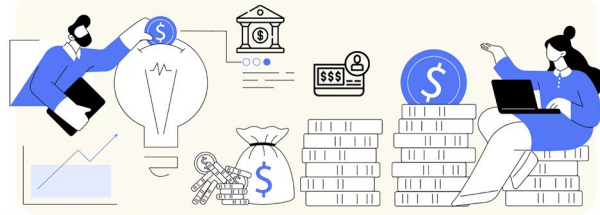
What led to the Decline of SVP Financial Group?

➤ Sequence of Event of Failure:

- Federal Reserve raises rates;
- Some SVB clients face cash crunch;
- SVB sells Bond portfolio at a loss;
- SVB Announces Stock Sale;
- Stock Sale Collapses;
- SVB goes into **Receivership**.

Note:

The Silicon Valley Bank (SVB) crisis explained



WHAT IS SVB?

The 1983-founded California-based SVB focusses on serving Silicon Valley startups

"IT PROVIDES MULTIPLE SERVICES TO VENTURE CAPITAL, PRIVATE EQUITY FIRMS IN ADDITION TO OFFERING PRIVATE BANKING SERVICES FOR HIGH NET-WORTH INDIVIDUALS"

HOW BIG IS IT?

SVB has business with nearly half of all the US venture-backed startups, and 44% of the US venture-backed tech, healthcare firms that went public last year

As of December 31, SVB had \$212 billion in assets

The bank's clients includes household names like Shopify, Pinterest, etc

Source: SVB, ET Research

➤ Causes of SVB's Failure:

- SVB sold substantially all of its **available-for-sale securities** at a USD **1.8-billion loss**, mostly in the form of **US Treasury securities**.
- It received a massive volume of deposits during the **tech boom of 2020-2021**, and invested the proceeds into long-term Treasury bonds while interest rates were low.
- However, with **interest rates rising**, the **market value of these Treasuries became substantially lower** than SVB paid, triggering withdrawal requests from depositors.

What are the Effects of SVB Failure?

➤ Bank Runs:

- The bank's failure is raising concerns about other banks. **Bank runs** can happen when **customers or investors panic and start pulling their deposits**. Perhaps the most immediate concern is that the failure of Silicon Valley Bank would **scare off customers of other banks**.

➤ Indian Startup:

- SVB was an important **lender to several Indian start-ups**, and its failure will **affect the withdrawal of money from their accounts**.
- SVB offered an easy way for start-ups in India to **park their cash as firms** could set up their bank accounts without needing a **United States Social Security Number** or **Income Tax Identification Number**.

PM MITRA Scheme and Textile Sector

Why in News?

The Centre has selected sites in Tamil Nadu, Telangana, Karnataka, Maharashtra, Gujarat, Madhya Pradesh and Uttar Pradesh to set up new textile parks under the **PM Mega Integrated Textile Regions and Apparel (PM MITRA) scheme**.

- The parks will be set up by 2026-27. The total outlay for the project is Rs 4,445 crore, though the initial allocation in the 2023-24 Budget is only Rs 200 crore.

What is the PM MITRA Scheme?

➤ About:

- PM MITRA Park will be developed by a **Special Purpose Vehicle** which will be owned by the Central and State Government and in a **Public Private Partnership (PPP) Mode**.
- Each MITRA Park will have an **incubation centre, common processing house and a common effluent treatment plant** and other textile related facilities such as design centres and testing centres.

➤ Implementation:

- **Special Purpose Vehicle:** An SPV owned by the Centre and State Government will be set up for each park **which will oversee the implementation** of the project.
- **Development Capital Support:** The Ministry of Textiles will provide financial support in the form of **Development Capital Support upto Rs 500 crore** per park to the park SPV.
- **Competitive Incentive Support (CIS):** A CIS upto Rs 300 crore per park to the units in PM MITRA Park shall also be **provided to incentivise speedy implementation**.
- **Convergence with other Schemes:** Convergence with other Government of India schemes shall also be facilitated in **order to ensure additional incentives to the Master Developer** and investor units.

What is the Significance of the Scheme?

- **Reduce Logistics Cost:**

Note:

- It will reduce logistics costs and **strengthen the value chain of the Textile Sector** to make it globally competitive.
- High logistics costs are considered a **key hurdle to India's goal of boosting textile exports**.
- **Employment:**
 - An investment of Rs 70,000 crore into these parks can **generate employment for about 20 lakh people**.
- **Attract FDI:**
 - The parks are crucial to attract **Foreign Direct Investment (FDI)**.
 - From April 2000 to September 2020, India's textile sector received Rs 20,468.62 crore of FDI, which is just 0.69% of the total FDI inflows during the period.
- **Competitiveness:**
 - This cluster-based approach will reduce **the increased wastage and logistical costs of the sector, and thus will improve the competitiveness of the country's textile sector**.

What is the Scenario of the Textile Sector of India?

- **Status:**
 - The textile sector is one of the critical sectors of the Indian economy, accounting for more than 2% of the total **GDP (Gross Domestic Product)** and more than 12 % of the manufacturing sector GDP.
 - The textile sector has a diverse value chain spread across fibre to readymade garments.
- **Potential:**
 - The sector is the **2nd largest provider of employment** in India, after **agriculture**.
 - It provides employment to an estimated 45 million people directly and to another 60 million indirectly through allied activities.
 - India is the **6th largest exporter of textile and apparel** in the world, with 4% share of the global trade in textiles and apparel.
 - India's textile and apparel exports (including handicrafts) stood at USD 44.4 billion in FY22, a 41% increase YoY.
 - India's textiles industry has around **4.5 crore employed workers including 35.22 lakh handloom workers** across the country.
- **Challenges:**

- **Decline in Production:**
 - The production of textiles as measured by the **Index of Industrial Production (IIP)** for textile has seen a consistent decline since March 2022.
 - The index value, which was 118.5 in March 2022, has fallen to 102.3 in October 2022.
- **Surge in Imports:**
 - In the period from April to November 2022, imports of textiles were valued at Rs 433 billion, same as last year they were valued at **Rs. 313 billion**.
 - India allowed duty-free import of readymade garments from Bangladesh under the **South Asian Free Trade Agreement (SAFTA)** in 2006, resulting in an increase in imports of apparels made with Chinese fabrics and yarns.
- **Exports Suffer:**
 - India suffers from the disadvantage of duties being imposed by the importing countries.
 - Countries like Bangladesh, Sri Lanka and African countries get **duty-free access and make India's textiles comparatively less competitive** in the international landscape.
- **Inverted Duty Structure:**
 - The Man-Made Fibre (MMF) value chain in the textile industry currently faces an **Inverted Duty Structure**, that is the tax on output, or the final product is lower than **taxes on inputs**, creating an **inverse accumulation of input tax credit**.
 - This is usually refunded by the government, creating a revenue outflow for the government, but also **blocks crucial working capital flow for businesses** in the meantime.

What are the Initiatives Related to the Textile Sector?

- **Amended Technology Upgradation Fund Scheme (ATUFS).**
- **Scheme for Integrated Textile Parks (SITP).**
- **SAMARTH Scheme.**
- **Power-Tex India.**
- **Silk Samagra Scheme.**
- **Jute ICARE.**
- **National Technical Textile Mission.**

Note:

India Aims to Become Top Global Aviation Market by 2030

Why in News?

India is poised to become the **world's leading aviation market**, surpassing the **United States and China** by the end of the decade.

- The **Civil Aviation Secretary in India** made an announcement of the country's plans for expanding air connectivity to **increase accessibility for the population** during the **CAPA India Aviation Summit**.

What is the Status of India's Aviation Sector?

➤ About:

- **India's Civil Aviation** is among the fastest-growing aviation markets globally and will be a major growth engine to make India a **USD 5 trillion economy by 2024**.
 - India is currently the world's **3rd-largest civil aviation market**.
- Over the past 6 years, India's domestic passenger traffic has grown at a **compound annual growth rate (CAGR)** of around **14.5%** and **international passenger traffic at around 6.5%**.
- India's domestic passenger traffic is projected to rise to **16 crores in the 2023-24 fiscal year** and to **35 crores by 2029-30**.

➤ Recent Government Initiatives Related to Aviation Sector:

- India's government aims to establish **6 major metropolitan cities** as international hubs for air travel.
- **National Civil Aviation Policy (NCAP) 2016**
- **UDAN Scheme**

➤ Challenges:

- **High Operating Costs:** One of the major challenges for the Indian aviation sector is the **high operating costs**. This is due to a number of factors such as **high fuel prices, airport charges, and taxes**.
 - For airlines, the increase in jet fuel prices represents a major challenge as this cost typically accounts for **20% to 25% of total operational costs**.

- **Infrastructure Constraints:** The Indian aviation sector also faces infrastructure constraints such as **limited airport capacity, lack of modernized air traffic control systems, and inadequate ground handling facilities**.
- **Regulatory Framework:** The Indian aviation sector also faces challenges related to the **regulatory framework**.
 - The sector is heavily regulated, and airlines have to comply with a number of rules and regulations through different windows, which can be **complex and time-consuming**.

IBC Reform: Distribution of Proceeds

Why in News?

The **Ministry of Corporate Affairs** has proposed several changes to the **Insolvency & Bankruptcy Code (IBC), 2016**.

What are the Suggested Changes in IBC?

- The Ministry recognizes that **some creditors are worried about not receiving a fair share of the money** when a company's debts are resolved.
 - To address this, it suggests creating a **fair system for dividing the money among creditors**.
- This would involve using a **specific formula to divide the money based on the size of each creditor's claim**.
 - Any surplus over the liquidation value shall be pro-rated amongst all the creditors in ratio of their unsatisfied claim.

What is Insolvency & Bankruptcy Code, 2016?

- The **Government implemented the IBC, 2016** to consolidate all laws related to insolvency and bankruptcy and to tackle **Non-Performing Assets (NPA)**, a problem that has been pulling the Indian economy down for years.
 - **Insolvency** is a situation where **individuals or companies are unable to repay their outstanding debt**.
 - **Bankruptcy**, on the other hand, is a situation whereby a court of competent jurisdiction has declared a person or other entity insolvent, having

Note:

passed appropriate orders to resolve it and protect the rights of the creditors. It is a legal declaration of one's inability to pay off debts.

- The IBC Covers all **individuals, companies, Limited Liability Partnerships (LLPs)** and partnership firms.
 - Adjudicating authority:
 - **National Company Law Tribunal (NCLT)** for companies and LLPs.
 - **Debt Recovery Tribunal (DRT)** for individuals and partnership firms.

How are Proceeds Distributed Among Creditors Under the IBC?

- A company has various creditors — **public sector banks, private lenders, non-banking financial companies, trade creditors, vendors, workmen, employees, governments, etc.**
 - The Code puts these creditors into different categories based on the **nature of debt**.
- **Banks, bond issuers, and lenders** are classified as financial creditors. Financial creditors are further **categorised as secured and unsecured creditors**, based on the security furnished by the borrower company.
- **Section 53** of the Code prescribes an order of priority in which proceeds will be distributed to **the creditors based on the liquidation value**.
- As per this waterfall mechanism, secured financial creditors rank the highest in the order of priority. They are **followed by unsecured financial creditors, government dues and, finally, operational creditors**.
 - Hence, financial creditors like banks have the first claim until exhaustion. **Proceeds may be extinguished at the level of financial creditors itself**, leaving almost nothing for other creditors in the waterfall mechanism.

What is the Jurisprudence on the Subject of Proceeds Distribution?

- The **Supreme Court** ruled on a case involving how to pay back creditors in the **Essar Steel India Limited case**.
 - The **National Company Law Appellate Tribunal (NCLAT)** had said that all creditors should be paid equally, regardless of whether they had security or not.
 - However, the **Supreme Court disagreed with the NCLAT and said that secured creditors should**

be paid back first because their security interest needs to be protected.

- **Section 30(4) of the Code allows for the Committee of Creditors** to consider the value of security interest when approving a resolution plan.
- The **United Nations Commission on International Trade Law (UNCITRAL) Legislative Guide on Insolvency Law** says that **secured creditors can receive payment based on the value of their security**, while unsecured and junior creditors may not receive anything.

Startups in Emerging Technology

Why in News?

Recently, the Government unveiled an **Action Plan for Startup India** which laid the foundation of Government support, schemes and incentives envisaged **to create a vibrant startup ecosystem in the country**.

What are Details of Programs to Support Startups?

- **Startup India Action Plan:**
 - The Action Plan comprises of 19 action items spanning across areas such as "Simplification and handholding", "Funding support and incentives" and "Industry-academia partnership and incubation".
- **Fund of Funds for Startups (FFS) Scheme:**
 - The Government has established FFS with a corpus of Rs. 10,000 crore, to meet the funding needs of startups.
 - **Department for Promotion of Industry and Internal Trade (DPIIT)** is the **monitoring agency** and Small Industries Development Bank of India (SIDBI) is the operating agency for FFS.
 - It has not only made capital available for startups at early stage, seed stage and growth stage but also played a catalytic role in facilitating raising of domestic capital, reducing dependence on foreign capital and encouraging home grown and new venture capital funds.
- **Credit Guarantee Scheme for Startups (CGSS):**
 - The Government has established the CGSS for providing credit guarantees to **loans extended to DPIIT recognized startups** by Scheduled Commercial

Note:

Banks, Non-Banking Financial Companies (NBFCs) and Venture Debt Funds (VDFs) under SEBI registered Alternative Investment Funds.

➤ **Ease of Procurement:**

- **Government e-Marketplace (GeM) Startup Runway** has been developed which is a dedicated corner for startups to sell products and services directly to the Government.

➤ **Support for Intellectual Property Protection:**

- The Government launched **Start-ups Intellectual Property Protection (SIPP)** which facilitates the startups to file applications for patents, designs and trademarks through registered facilitators in appropriate IP offices by paying only the statutory fees.
- The Government bears the entire fees of the facilitators for any number of patents, trademarks or designs, and startups only bear the cost of the statutory fees payable.
- **Startups are provided with an 80% rebate in filing of patents** and 50% rebate in filing of trademark vis-a-vis other companies.

➤ **Self-Certification under Labour and Environmental laws:**

- Startups are allowed to self-certify their compliance under 9 Labour and 3 Environment laws for a period of 3 to 5 years from the date of incorporation.

➤ **Income Tax Exemption for 3 years:**

- Startups incorporated on or after 1st April 2016 can apply for income tax exemption.
- The recognized startups that are granted an Inter-Ministerial Board Certificate are exempted from income-tax for a period of 3 consecutive years out of 10 years since incorporation.

➤ **International Market Access to Indian Startups:**

- This has been done through international Government to Government partnerships, participation in international forums and hosting of global events.
- Startup India has launched bridges with over 15 countries that provides a soft-landing platform for startups from the partner nations and aid in promoting cross collaboration.

➤ **Faster Exit for Startups:**

- The Government has notified Startups as 'fast track firms' enabling them to wind up operations **within 90 days vis-a-vis 180 days** for other companies.

➤ **Startup India Hub:**

- The Government launched a Startup India Online Hub in 2017 which is one of its kind online platforms for all stakeholders of the entrepreneurial ecosystem in India to discover, connect and engage with each other.

➤ **National Startup Advisory Council:**

- The Government in January 2020 notified the constitution of the National Startup Advisory Council **to advise the Government on measures needed to build a strong ecosystem** for nurturing innovation and startups in the country to drive sustainable economic growth and generate large scale employment opportunities.
- Besides the ex-officio members, **the council has a number of non-official members**, representing various stakeholders from the startup ecosystem.

➤ **Startup India Seed Fund Scheme (SISFS):**

- The Scheme aims to provide financial assistance to startups for proof of concept, prototype development, product trials, market entry and commercialization. Rs. 945 crore has been sanctioned under the SISFS Scheme for a period of 4 years starting from 2021-22.

➤ **National Startup Awards (NSA):**

- National Startup Awards is an initiative to recognize and reward outstanding startups and ecosystem enablers that are building innovative products or solutions and scalable enterprises, with high potential of employment generation or wealth creation, demonstrating measurable social impact.

➤ **States' Startup Ranking Framework (SRF):**

- States' Startup Ranking Framework is a unique initiative to harness the strength of competitive federalism and create a flourishing startup ecosystem in the country.
- The major objectives of the ranking exercise are facilitating states to identify, learn and replace good practices, highlighting the policy intervention by states for promoting startup ecosystems and fostering competitiveness among states.

➤ **Startup India Innovation Week:**

- The Government organises Startup India Innovation week around the National Startup Day i.e., 16th January.

➤ **TIDE 2.0 Scheme:**

Note:

- Technology Incubation and Development of Entrepreneurs (TIDE 2.0) Scheme was initiated by **Ministry of Electronics and Information Technology (MeitY)** in the year 2019 to promote tech entrepreneurship through financial and technical support to incubators engaged in supporting ICT startups using emerging technologies such as IoT, AI, Block-chain, Robotics etc.
- The Scheme is being implemented through 51 incubators through a three-tiered structure with an overarching objective to promote incubation activities at institutes of higher learning and premier R&D organisations.
- **Domain specific Centres of Excellence (CoEs):**
 - MeitY has operationalised 26 CoEs in diverse areas of national interest for driving self-sufficiency and creating capabilities to capture new and emerging technology areas.
 - These domain specific CoEs act as **enablers and aid in making India an innovation hub in emerging** through democratisation of innovation and realisation of prototypes.
- **SAMRIDH Scheme:**
 - MeitY has launched the ‘Start-up Accelerator Programme of MeitY for Product Innovation, Development and Growth (SAMRIDH)’ with an aim to support existing and upcoming Accelerators to further select and accelerate potential software product-based startups to scale.
- **Next Generation Incubation Scheme (NGIS):**
 - NGIS has been approved to support the software product ecosystem and to address a significant portion of **National Policy on Software Product (NPSP) 2019**.
- **Biotechnology Industry Research Assistance Council (BIRAC):**
 - An industry-academia interface agency of Department of Biotechnology, Ministry of Science & Technology is supporting biotech startups in all biotech sectors including clean energy and emerging technologies.
 - Project based funding is provided to startups and companies for product/technology development under its key Schemes including **Biotech Ignition Grant (BIG), Small Business Innovation Research Initiative (SBIRI) and Biotechnology Industry Partnership Programme (BIPP)**.

- Incubation support to the startups and companies is also provided through Bioincubators Nurturing Entrepreneurship for Scaling Technologies (BioNEST) Scheme.

Falling Long-Term Growth Prospects

Why in News?

Recently, the **World Bank (WB)** has released a report titled “**Falling Long-Term Growth Prospects: Trends, Expectations, and Policies**”, stating that the current decade (2020-2030) could be a lost decade for the whole world.

- The report uses a comprehensive database of multiple measures of potential growth.
- It examines trends in potential growth and its drivers, global and regional prospects for potential growth and investment over the 2020s, and a range of policy options to lift potential growth.

What are the Findings of the Report?

➤ Overview:

- Today nearly all the economic forces that drove economic progress are in retreat.
- There has been a protracted, broad-based decline in potential growth and its underlying drivers.
- The slowdown in potential growth is **expected to persist for the rest of this decade**.
- A decline in long-term growth prospects imperils the ability of **Emerging Market and Developing Economies (EMDEs)** to combat poverty, tackle climate change, and meet other key development objectives.

➤ Reasons for Slowdown:

- The biggest reason for the slowdown is that the EMDEs are in the midst of a prolonged period of weakness.

TABLE A.1 Actual GDP growth (percent)

Country group	Period	Growth	Country group	Period	Growth	Country group	Period	Growth
EMDEs	2000-10	6.0	EMDEs	2000-09	5.9	EMDEs	2000-08	6.3
	2011-21	4.4		2010-19	5.1		2011-19	4.9
	2022-24	3.6		2022-24	3.6		2022-24	3.6
MICs	2000-10	6.3	MICs	2000-09	6.1	MICs	2000-08	6.5
	2011-21	4.6		2010-19	5.3		2011-19	5.0
	2022-24	3.6		2022-24	3.6		2022-24	3.6
LICs	2000-10	6.0	LICs	2000-09	5.9	LICs	2000-08	6.0
	2011-21	4.8		2010-19	5.4		2011-19	5.2
	2022-24	4.9		2022-24	4.9		2022-24	4.9

Source: World Bank.

Note:



- The World Bank has looked at a whole set of fundamental drivers that determine economic growth and **found that all of them have been losing power.**
- These fundamental drivers include things like capital accumulation (through investment growth), labor force growth, and the growth of total factor productivity (which is the part of economic growth that results from **more efficient use of inputs and which is often the result of technological changes**) etc.
- **Observations about India:**
 - Although India has also lost its growth momentum over the past two decades, it **is and will likely remain a global leader** when it comes to growth rates.
 - India falls under the **South Asia Region (SAR)**, which is expected to be fastest growing among emerging market and developing economies for the remainder of this decade.
 - SAR includes countries like Afghanistan, Pakistan, Sri Lanka, Nepal and Bangladesh etc.
 - Output in the region is on track to grow by about 6.0 % a year between 2022 and 2030, faster than the 2010's annual average of 5.5 %.

What are the Recommendations to boost Potential Global Growth?

- **Monetary Fiscal and Financial Frameworks:**
 - Robust macroeconomic and financial policy frameworks **can curb the turmoil** in business cycles.
 - Policymakers should **prioritize taming inflation, ensuring financial-sector stability**, reducing debt, and restoring fiscal prudence.
- **Scale up Investments:**
 - Transportation and energy, **climate-smart agriculture** and manufacturing, and land and water systems.
 - In the above-mentioned areas, **sound investments aligned with key climate goals could enhance potential growth** by up to 0.3 % per year.
- **Reduce Trade Costs:**
 - Trade costs effectively **double the cost of internationally traded goods** today.
 - Countries with the highest shipping and logistics costs could cut their trade costs in half by adopting the trade-facilitation and other practices of countries with the lowest shipping and logistics costs.
- **Capitalize on Services:**

- The services sector could become the new engine of economic growth.
- Exports of digitally delivered professional services related to information and communications technology climbed to more than 50% of total services exports in 2021, up from 40% in 2019.
- **Increase Labor Force:**
 - About half of the expected slowdown in potential **GDP (Gross Domestic Product)** growth through 2030 will be attributable to changing demographics.
 - This change includes a shrinking working-age population and declining labor force participation as societies age.
 - Boosting overall labor force participation rates by the best ten-year increase on record could increase global potential growth rates by as much as 0.2 percentage point a year by 2030.

Inter-State Variations in Central Tax Distribution

Why in News?

Critics argue that the **15th Finance Commission** formula is skewed in favour of some states, resulting in wide **inter-state variations**.

- **Tamil Nadu gets back only 29 paise for every one rupee it gives to the Centre**, while **Uttar Pradesh gets ₹2.73** and **Bihar gets back ₹7.06**.

How Taxes are Distributed Among States?

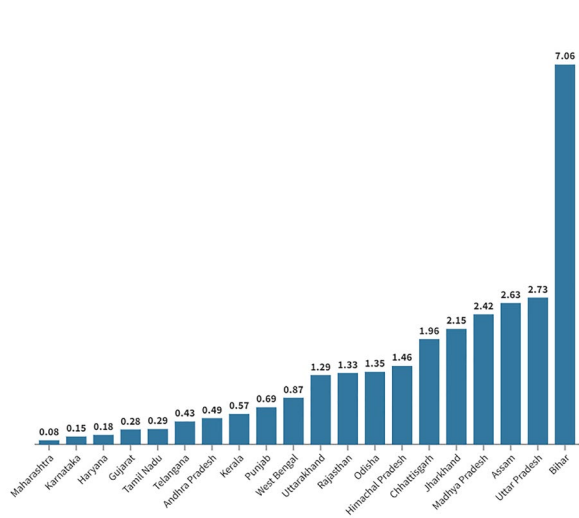
- **About:**
 - The **Centre collects taxes from states and distributes it among them based on the Finance Commission's (XVFC) formula.**
- **XVFC Formula:**
 - The **XVFC formula is based on each state's needs (population, area and forest and ecology), equity (per capita income difference), and performance (own tax revenue and lower fertility rate).**
- **Weightage:**
 - Needs are given **40% weightage, equity 45%, and performance 15%.**
 - The XVFC introduced the **fertility rate component to reward states** that have reduced fertility levels, but this has a **lower weightage than equity and needs.**

Note:

➤ Arguments:

- Critics argue that this formula **favours some northern states**, as the population is given higher weightage.
 - The southern states' share has **consistently declined in successive Finance Commissions**.
- Some argue that transfers enable a state to provide comparable levels of services and ensure **horizontal equity**.
 - However, others contend that the **formula should not adversely impact a state's efficiency and progress**.

The amount in ₹ each State got for every rupee they contributed to Central taxes in 2021-22



What is the 15th Finance Commission?

➤ About:

- The **Finance Commission (FC)** is a constitutional body that determines the **method and formula for distributing the tax proceeds between the Centre and states**, and among the states as per the constitutional arrangement and present requirements.

➤ Constitutionality:

- Under **Article 280 of the Constitution**, the **President of India** is required to constitute a **Finance Commission** at an interval of five years or earlier.

➤ 15th Finance Commission

- The **15th Finance Commission** was constituted by the President of India in **November 2017**, under the chairmanship of **NK Singh**.
- Its recommendations will cover a period of five years from the year **2021-22 to 2025-26**.
 - The government accepted the **15th Finance Commission's recommendation to maintain the States' share in the divisible pool of taxes to 41% for the five-year period starting 2021-22**.



Note:



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International Relations

Highlights

- BIMSTEC
- SAARC
- UN Specialised Agencies: ILO, WHO and ITU
- UN Specialised Agencies: WIPO, WMO and IMO
- UN Specialised Agencies: IMF, WorldBank and UNESCO
- World Happiness Report 2023
- Vienna Convention
- Interpol's Notices
- India and Maldives: 4th Defence Cooperation Dialogue
- Joint Anti-Submarine Warfare Drills
- India - Australia Critical Minerals Investment Partnership
- China, India and the Promise of the Power
- ICC Issues Arrest Warrant for Vladimir Putin
- Japan's Official Development Assistance

BIMSTEC

BIMSTEC
Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation

Members: 7
Significance: Hosts 22% of the world population, accounts for 3.8 trillion of GDP

Formation: 6th June 1997 (Bangkok Declaration)
Secretariat: Dhaka, Bangladesh

BHUTAN

- India is Bhutan's largest trade partner
- Mutually Beneficial Hydropower Cooperation: Mangdechhu, Kholongchhu, Chukha hydropower Projects
- India's grant assistance to Gyalsung Project
- Integration of Bhutan's DrukRen with India's National Knowledge Network

NEPAL

- Shares border with 5 Indian states (Uttarakhand, Uttar Pradesh, West Bengal, Sikkim and Bihar)
- Bharat Gaurav Tourist Train connecting India's Ayodhya and Nepal's Janakpur
- Major Issues: Territorial Disputes (Kalapani, Limpiyadhura and Lipulekh)
- Military Exercise: Surya Kiran (Army)

MYANMAR

- Only Southeast Asian country that shares a land border with north-eastern India
- The 2021 coup returned Myanmar to military rule
- India's Development Assistance: India-Myanmar-Thailand Trilateral Highway, Kaladan Multi-Modal Transit Transport (KMMTT), Sittwe port
- Major Issue: Rohingya Crisis

SRI LANKA

- India is Sri Lanka's third largest export destination
- India is the first country to officially back Sri Lanka's debt restructuring programme at IMF
- Major Issue: Fishermen crossing maritime boundary
- Important Exercises: Mitra Shakti (Army), SLINEX (Naval)

BANGLADESH

- Shares the longest border of over 4,096 km with India
- Largest trading partner in South Asia
- Water Sharing Agreements: Kushiyara river (2022), Ganga Water Treaty (1996)
- Major Issues: Teesta River Water Dispute
- Military Exercises: SAMPRITI-X (Military Training), Bongosagar (Naval)

THAILAND

- Thai Language is written in script derived from Southern Indian Pallava alphabet
- Hinduism, Buddhism – both religions of Indian origin being popular in Thailand
- Convergence of India's 'Act East' policy with Thailand's 'Act West' policy
- Military Exercises: MAITREE (Army), SIAM BHARAT (Air Force), Indo-Thai CORPAT (Naval)

Drishhti IAS

Note:

SAARC

SAARC

South Asian Association for Regional Cooperation



- **Members:** 8
- **Estd. by signing SAARC Charter in Dhaka (Dec 1985)**
- **HQ:** Kathmandu, Nepal
- **9 Permanent Observers to SAARC:** Australia, China, EU, Iran, Japan, S. Korea, Mauritius, Myanmar and US
- **Comprises 3% of the world's area, 21% of the world's population and 3.8% of the global economy**
- **Agreements under SAARC:** SAPTA, SAFTA, SATIS, SAARC University

AFGHANISTAN

- ▣ It is India's gateway to the oil and mineral-rich Central Asian republics.
- ▣ Salma Dam in Afghanistan is aka Afghanistan-India Friendship Dam.
- ▣ From 2002 to 2021, India spent USD 4 bn in development assistance in Afghanistan, building high-visibility projects (highways, hospitals, Parliament building, rural schools, and electricity transmission lines).
- ▣ Afghanistan becoming a safe haven for terrorism is direct threat to India's national security.

NEPAL

- ▣ Shares border with 5 Indian states (Uttarakhand, Uttar Pradesh, West Bengal, Sikkim and Bihar)
- ▣ Bharat Gaurav Tourist Train connecting India's Ayodhya and Nepal's Janakpur
- ▣ Major Issues: Territorial Disputes (Kalapani, Limpiyadhura and Lipulekh)
- ▣ Military Exercise: Surya Kiran (Army)

BHUTAN

- ▣ India is Bhutan's largest trade partner.
- ▣ Mutually Beneficial Hydropower Cooperation: Mangdechhu, Kholongchhu, Chukha hydropower Projects.
- ▣ India's grant assistance to Gyalshung Project.
- ▣ Integration of Bhutan's DrukRen with India's National Knowledge Network

PAKISTAN

- ▣ Indo-Pak diplomatic relations are quite limited with periodic attempts to improve relations often failing.
- ▣ India revoked Pakistan's Most Favoured Nation (MFN) status following the Pulwama terrorist attack (2019).
- ▣ Indus Water Treaty 1960 is often cited as one of the most successful intl. treaties in South Asia.
- ▣ Major issues: Cross-border terrorism, Kashmir issue, CPEC affecting India's Sovereignty

BANGLADESH

- ▣ Shares the longest border of over 4,096 km with India.
- ▣ Largest trading partner in South Asia.
- ▣ Water Sharing Agreements: Kushiya river (2022), Ganga Water Treaty (1996).
- ▣ Major Issues: Teesta River Water Dispute.
- ▣ Military Exercises: SAMPRITI-X (Military Training), Bongosagar (Naval).

MALDIVES

- ▣ India is Maldives 2nd largest trading partner.
- ▣ Exercises with India - Ekuverin, Dosti, Ekatha and Operation Shield.
- ▣ Greater Male Connectivity Project by an Indian company is the largest-ever infra project in Maldives.
- ▣ Major Issues:
 - ▣ Maldives an important 'pearl' in China's String of Pearls.
 - ▣ Increasingly Maldivian drawn towards Pak-based terrorist groups.
 - ▣ India being projected as the bully and a big brother - 'India Out' Campaign

SRI LANKA

- ▣ India is Sri Lanka's third largest export destination.
- ▣ India is the first country to officially back Sri Lanka's debt restructuring programme at IMF.
- ▣ Major Issue: Fishermen crossing maritime boundary.
- ▣ Important Exercises: Mitra Shakti (Army), SLINEX (Naval)



Note:

UN Specialised Agencies: ILO, WHO and ITU

UN SPECIALISED AGENCIES

UNSAAs are 15 autonomous international organizations working with the UN

Part III
ILO, WHO
and ITU

ILO



The only tripartite (govt., trade unions, employers) and the 1st affiliated UNSA

- Estd. - 1919 (Treaty of Versailles)
- Headquarters - Geneva, Switzerland
- Functions -
 - » Set labour standards
 - » Develop policies & programmes for promoting decent work for all
- Member States - 187 (India a founding member + permanent member of ILO Governing Body)
- International Labour Conference -
 - » Meets annually in Geneva
 - » aka International Parliament of Labour
- ILO Declaration on Fundamental Principles and Rights at Work 1998 (Principles) -
 - » Freedom of Association and The Right to collective bargaining
 - » Elimination of forced or compulsory labour
 - » Abolition of child labour
 - » Elimination of discrimination in respect of employment and occupation



WHO

WHO became functional on April 7, 1948 (now celebrated as World Health Day)

- Estd. - 1948
- Headquarters - Geneva, Switzerland
- Functions -
 - » Provides leadership on global health matters
 - » Shaping health research agenda
 - » Monitoring, assessing health trends
- Member States - 194 (incl. India)
- WHO's regional office for SE Asia is located in New Delhi
- World Health Assembly - WHO's decision-making body, held yearly at Geneva
- Major Initiatives -
 - » UN Decade of Healthy Ageing (2021–2030)
 - » UN Decade of Action on Nutrition (2016-2025)
 - » GLASS Initiative (AMR)
 - » WHO 1+1 Initiative (2019) (TB)

ITU



- Estd. - 1865
- Headquarters - Geneva, Switzerland
- Functions -
 - » Facilitate intl. connectivity in communication networks
 - » Allocate global radio spectrum and satellite orbits
- Member States - 193 (India a regular member since 1952)
- Important Publication -
 - » Global Cybersecurity Index (GCI)



Note:

UN Specialised Agencies: WIPO, WMO and IMO

UN SPECIALISED AGENCIES

UNSA are 15 autonomous international organizations working with the UN

Part IV
WIPO, WMO
and IMO

WIPO



- Estd. - 1967 (joined UN in 1974)
- Headquarters - Geneva, Switzerland

*World Intellectual
Property Day - 26th April*

- Functions -
 - » Encourage creative activity, promote the protection of intellectual property (IP) throughout the world
 - » Shape balanced intl. IP rules
- Members - 193 (India joined in 1975)

- WIPO Treaties that India has ratified/acceded-
 - » Paris Convention (industrial property)
 - » Berne Convention (for Literary and Artistic Works)
 - » WIPO Performance and Phonograms Treaty
 - » Budapest Treaty
 - » Madrid Protocol for the International Registration of Marks
 - » Marrakesh Treaty (for Published Works by Visually Impaired Persons)
 - » WIPO Copyright Treaty
 - » Washington Treaty (IP for Integrated Circuits)
 - » Nairobi Treaty (for Olympic Symbol)
- Publication - Global Innovation Index



WMO

- Estd. - 1873 (originated from Intl. Meteorological Organization - Vienna International Meteorological Congress)
- » Became a UNSA by WMO Convention 1950

WMO is a UNSA for meteorology, operational hydrology & geophysical sciences

- Headquarters - Geneva, Switzerland

- Functions -
 - » Coordinate activities of National Meteorological/Hydrological Services in Member States
 - » Predictions concerning locust swarms, transport of pollutants (nuclear, toxic substances, volcanic ash)
- Member States - 193 (incl. India)

World Meteorological Day - 23rd March

IMO



- Estd. - 1948 (Convention on International Maritime Organization held in Geneva)
- Headquarters - London, United Kingdom
- Functions -
 - » Improve safety and security of intl. shipping
 - » Prevent pollution from ships
 - » Also involved in legal matters (liability, compensation issue)

- Member States - 174 (India joined in 1959)
- Important Treaties India has Ratified:
 - » MARPOL (1973) and its Protocols
 - » International Convention for the Safety of Life at Sea (SOLAS, 1974)

IMO lists India among the 10 states with the largest interest in intl. seaborne trade



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Note:

UN Specialised Agencies: IMF, WorldBank and UNESCO

UN SPECIALISED AGENCIES

UNSAAs are 15 autonomous international organizations working with the UN

Part V
IMF,
World Bank
and
UNESCO

INTERNATIONAL MONETARY FUND

- Estd. - 1944 (UN Bretton Woods Conference following Great Depression 1930s)
- Headquarters - Washington, DC, USA
- Functions -
 - » Global financial assistance
 - » Facilitate international trade
 - » Financing for developing countries
 - » Promotion of exchange rate stability
- Member States - 190 (India a founding member)

India's FM is the ex-officio Governor on the Board of Governors of IMF

- Special Drawing Rights (SDR) -
 - » IMF's intl. reserve asset to supplement the official reserves of its member countries (not a currency)

Currencies in SDR Basket - \$, €, £, ¥ (Yen) and CN¥ (Renminbi)

- IMF Quotas -
 - » Reflects a member country's relative position in world economy (India – 2.75%)
 - » Denominated in SDRs
- Flagship Publications -
 - » World Economic Outlook
 - » Global Financial Stability Report
 - » Fiscal Monitor
 - » External Sector Report

World Bank Group (WBG)

- Estd. - Same as IMF
- Headquarters - Washington, DC, USA

5 Institutions of WBG (estd.)

- International Bank for Reconstruction and Development (IBRD) aka World Bank (1944)
- International Finance Corporation (IFC) (1956)
- International Development Association (IDA) (1960)
- International Centre for the Settlement of Investment Disputes (ICSID) (1966)
- Multilateral Guarantee Agency (MIGA) (1988)

Functions

- Provide loans, credits, and grants
- Investment, advice, asset management to companies/govts.
- Low/No-interest loans to Low-income countries
- Settle investment-disputes
- Insure lenders/investors against political risks

Membership of IMF is a prerequisite for membership of IBRD

- Twin Goals of WBG -
 - » Ending extreme poverty by 2030
 - » Boosting shared prosperity of the poorest 40% of the population in all countries

- Member States - 189 (India a founding member of IBRD, IFC & IDA)
- » Ending extreme poverty by 2030

India is not a member of ICSID; claims it biased towards developed countries

- Major Publications -
 - » Human Capital Index
 - » World Development Report

UN Educational, Scientific and Cultural Organization (UNESCO)

- Estd. - 1945 [proposed by CAME (Conference of Allied Ministers of Education)]
- Headquarters - Paris, France
- Areas of Specialisation -
 - » Educational development (pre-school to higher education)
 - » Protecting heritage, fostering creativity
 - » Science for a sustainable future
- Global Priorities of UNESCO -
 - » Africa
 - » Gender Equality
- Member States - 193 (incl. India) + 11 Associate

USA is not a UNESCO member

- Important Initiatives -
 - » World Heritage Convention and WHS List (India has 40 WHS)
 - » Man and the Biosphere (MAB) Programme
 - » International Geoscience and Global Geoparks Programme (IGGP)
 - » Convention on Intangible Cultural Heritage (ICH)

India has served twice as a member of ICH Committee

- Important Reports -
 - » UNESCO Science Report
 - » Global Education Monitoring Report
 - » UNESCO State of the Education Report for India: Children with Disabilities



Note:

World Happiness Report 2023

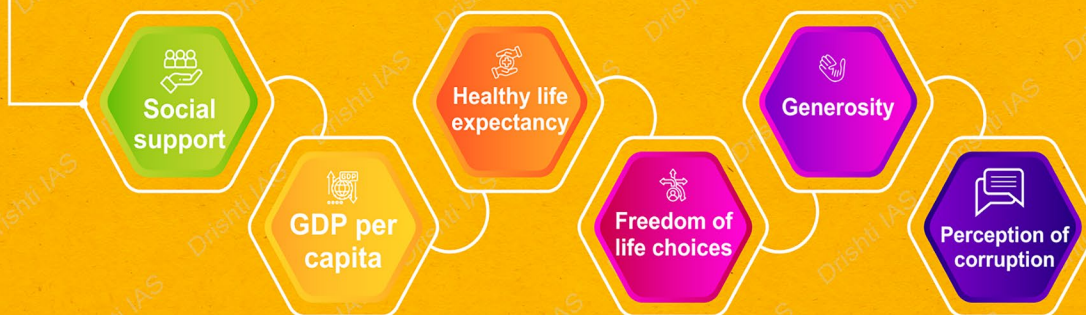
WORLD HAPPINESS REPORT 2023

First published in 2012, WHR is based on people's own assessment of their happiness + certain socioeconomic data

PUBLISHED BY

- UN Sustainable Development Solutions Network

6 KEY FACTORS



HAPPINESS SCORE

- 0-10 (10 being best)
- Based on an avg of **data of a 3-year period**

World Happiness Day - 20th March

GLOBAL PERFORMANCE

- Finland - World's happiest country (6th time in a row)
- Ukraine** - Performance improved despite the War (92nd), Russia ranked 70th
- Top 5 Countries:** Finland > Denmark > Iceland > Israel > Netherlands
- Afghanistan** - Bottom spot since 2020

Dystopia (in contrast to Utopia) - An imaginary country that has the world's least-happy people

INDIA'S RANK

- 126 out of 137** (2022 ranking - 136/146)
- Below **China** (74), **Pakistan** (108), **Sri Lanka** (112), **Myanmar** (117), **Bangladesh** (118) and **Nepal** (119)



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Note:

Vienna Convention

Why in News?

After pro-Khalistan people took down the Indian flag at the **High Commission in London**, the Indian government summoned the “senior-most” UK diplomat, Deputy High Commissioner and reminded her of **the basic obligations of the UK Government under the Vienna Convention**.

What is the Vienna Convention on Diplomatic Relations?

- The Convention was adopted on **14th April 1961 by the United Nations Conference on Diplomatic Intercourse and Immunities** held in Vienna, Austria. India has ratified the convention.
- It entered into **force on April 24, 1964, and is nearly universally ratified**, with Palau and South Sudan being the exceptions.
- It sets out the **special rules – privileges and immunities** – which enable diplomatic missions to act without fear of coercion or harassment through enforcement of local laws and to communicate securely with their sending Governments.
- It makes **provision for withdrawal of a mission** – which may take place on grounds of economic or physical security – and for breach of diplomatic relations which may occur in response to abuse of immunity or severe deterioration in relations between sending and receiving States.
 - A “**receiving State**” refers to the host nation where a diplomatic mission is located.
- In either of these cases – or where permanent missions have not been established – a framework is provided for the interests of each sending State to be protected in the receiving State by a third State.
- It affirms the concept of “**inviolability**” of a diplomatic mission, which has been one of the **enduring cornerstones of international diplomacy**.
- Basically, the security of any **High Commission or Embassy** is the **responsibility of the host nation**. While diplomatic missions can also employ their own security, ultimately, the host nation is **accountable for security**.
 - The difference between high commission and embassy is basically where they are situated.

Commission applies to **Commonwealth member states** whereas Embassy applies to the rest of the world.

Interpol's Notices

Why in News?

Interpol, the global police body, has **removed the red notice** against **Mehul Choksi**, a fugitive wanted by India in the **USD 2 billion Punjab National Bank fraud case**.

- However, the Interpol red notice removal **doesn't affect India's investigations** or extradition request.

What is Interpol?

- The **International Criminal Police Organisation (Interpol)** was set up in **1923**, as a secure **information-sharing platform** that facilitates **criminal investigation of police forces across the globe** through collection and dissemination of information received from various police forces.
 - It is headquartered in **Lyon, France**.
- Interpol has **195** member countries.
 - India became member since **15th October 1949**.
- It keeps **track of the movements of criminals and those under the police radar** in various regions and tips off police forces which had either sought the Interpol's assistance or which in its opinion will benefit from the particulars available with it.
 - It aims to promote the widest-possible **mutual assistance between criminal police forces**.
- **All contact of a country's law enforcement agency with Interpol** is through the highest investigating body of the land.
 - The **Central Bureau of Investigation (CBI)** assumes **this role in India** with one of its senior officers heading its exclusive **Interwing (the National Central Bureaus)** for collation of information and liaison with the world body

What are Interpol Notices?

- **About:**
 - Its notices are **international requests for cooperation or alerts** allowing police in member countries to share **critical crime-related information**.

Note:

- Notices are issued by the **General Secretariat** at the request of a member country's **INTERPOL National Central Bureau** and are made available for all our member countries to consult in our Notices database.

➤ **Different Notices:**



India and Maldives: 4th Defence Cooperation Dialogue

Why in News?

Recently, **India and the Maldives** conducted the 4th Defence Cooperation Dialogue (DCD) in Male.

- The DCD is the highest institutionalised interactive mechanism between the two countries. It charts the future course of relations between both Armed Forces.



What are the Areas of Cooperation Between India and Maldives?

- **Tourism:**
 - **Tourism** is the mainstay of Maldivian economy. The country is now a major tourist destination for some Indians and a job destination for others.

- In August 2021, **Afcons**, an Indian company, signed a contract for the largest-ever infrastructure project in Maldives which is the **Greater Male Connectivity Project (GMCP)**.

➤ **Security Partnership:**

- Defence cooperation extends to the areas of Joint Exercises - **"Ekuverin"**, **"Dosti"**, **"Ekatha"** and **"Operation Shield"** (began in 2021).
- India provides the largest number of training opportunities for **Maldivian National Defence Force (MNDF)**, meeting around **70%** of their defence training requirements.

➤ **Rehabilitation Centre:**

- Signing of an **USD 80-million** contract for the **Addu reclamation** and shore protection project.

➤ **Infrastructure:**

- In 2022, the **National College for Policing and Law Enforcement (NCPLE)** was inaugurated by India's External Affairs Minister.
 - NCPLE is the largest grant project executed by India in Maldives.

Joint Anti-Submarine Warfare Drills

Why in News?

Recently, joint **anti-submarine warfare** drills are being held by the **United States, Canada, India, Japan, and South Korea**.

- As a part of it, the exercise named **Sea Dragon 23** was started on **March 15, 2023** and it aims to strengthen the alliance between the countries to **tackle threats** from China and North Korea.

How China is

Expanding its Maritime Domain?

- China's navy is taking part in joint search and rescue exercises in the **Gulf of Oman** with **Iran and Russia**.
- China's dispute with Japan over tiny islands in the **East China Sea** has also heated up, with both sides accusing the other of **violating their maritime territory**.
- China is holding **Security Bond-2023** exercises with other nations as well.

Note:



What is**Sea Dragon 23?**

- **Sea Dragon 23** is a coordinated anti-submarine warfare exercise being held between the US, Japan, Canada, South Korea, and India.
- The exercise aims to achieve high levels of synergy and coordination between the friendly navies based on their **shared values and commitment to an open, inclusive Indo-Pacific region**.
- The **Indian Navy** is represented by a **P81 aircraft**, along with **P8A** of the US Navy, **P1** from the **Japanese Maritime Self Defence Force**, **CP 140** from the Royal Canadian Air Force, and **P3C** from the RoKN.

India - Australia Critical Minerals Investment Partnership

Why in News?

Recently, India and Australia have reached a **significant milestone in working towards investment in critical minerals projects** to develop supply chains between the two countries.

What are Critical Minerals?

- **About:** Critical minerals are **elements that are the building blocks of essential modern-day technologies** and are at risk of supply chain disruptions.
- **Examples:** Copper, **lithium, nickel, cobalt, and rare earth elements** are critical components in many of today's rapidly expanding clean energy technologies, ranging from wind turbines and power grids to electric vehicles. As the transition to clean energy accelerates, demand for these minerals will skyrocket.
- **Indian Policy:** India's Department of Science and Technology, in collaboration with the Council on Energy, Environment and Water, drafted the **Critical Minerals Strategy for India in 2016**, with a focus on India's resource requirements till 2030.
 - The Indian Critical Minerals Strategy has **identified 49 minerals that will be vital for India's future economic growth**.

**What are the Key Highlights of the Critical Minerals Investment Partnership (CMIP)?**

- **Two lithium and three cobalt projects** are among the five target projects that CMIP has chosen for thorough due diligence.
 - Australia produces almost half of the world's lithium and is the **second-largest producer of cobalt and the fourth-largest producer of rare earths**.
- The Partnership's investments will aim to **create new supply chains supported by essential minerals processed in Australia**, which will support India's efforts to reduce emissions from its energy network and establish itself as a hub of manufacturing, including for electric vehicles.
- Together, the two countries are dedicated to **reducing emissions, ensuring energy security, and expanding the global markets** for essential minerals and clean technology.

How have the India-Australia Trade Relations been so far?

- **Cordial Relations:** India and Australia have excellent bilateral relations that have undergone transformational evolution in recent years, developing into a friendly partnership on a positive track.
 - This is a unique partnership defined by shared values such as **parliamentary democracies, Commonwealth traditions, increased economic engagement**, long-standing people-to-people ties, and increased high-level interaction.
- **India-Australia Comprehensive Strategic Partnership:** It was launched during the **India-Australia Leaders' Virtual Summit** in June 2020, and it is the foundation of India and Australia's bilateral relations.
- **Trading Partners:** India-Australia bilateral trade in both goods and services is expected to reach USD

Note:

27.5 billion in 2021 consisting largely of raw materials, minerals and intermediate goods.

- **Others:** India and Australia are partners in the trilateral **Supply Chain Resilience Initiative (SCRI)** arrangement along with Japan which seeks to enhance the resilience of supply chains in the **Indo-Pacific Region**.
 - Further, India and Australia are also members of the **QUAD grouping (India, the US, Australia, and Japan)**, to enhance cooperation and develop partnerships across several issues of common concern.

What are Countries Around the World doing About Critical Minerals Supply?

- **United States:** In 2021, the US ordered a review of vulnerabilities in its critical minerals supply chains and found that an over-reliance on foreign sources and adversarial nations for critical minerals and materials posed national and economic security threats.
- **India:** It has set up **KABIL or the Khanij Bidesh India Limited**, a joint venture of three public sector companies, to ensure a consistent supply of critical and strategic minerals to the Indian domestic market.
 - It ensures the mineral security of the nation; it also helps in realizing the overall objective of import substitution.
- **Other Countries:** In 2020, the US, Canada, and Australia launched an **interactive map of critical mineral deposits** intending to help governments to identify options to diversify the sources of their critical minerals. UK's critical minerals strategy' sets out the government's plans for improving the resilience of critical minerals supply chains and increasing our security of supply. Through this strategy, the UK will: accelerate the growth of UK's domestic capabilities.

China, India and the Promise of the Power

Why in News?

With India's presidency of the **Shanghai Cooperation Organisation (SCO)** and the **G-20**, its focus is also on China.

What are the Focus Areas of China's Development?

- **Steady Growth:**
 - In 2022, China's economy grew by 3%.
 - China's **GDP (Gross Domestic Product)** increased to 121 trillion yuan (approximately USD 18 trillion), registering an **annual growth rate of 5.2% over the past five years**.
- **People's Well-Being:**
 - As a result of continued efforts of the past eight years, China has **historically resolved absolute Poverty**, with the alleviation of close to 100 million rural residents from poverty.
 - Over 70% of the government's expenditure went toward ensuring people's well-being.
- **Win-Win Cooperation:**
 - In the period 2013-2021, China's contribution to global economic growth averaged 38.6%, higher than that of **G7 countries combined (25.7%)**.
 - Ever since the Chinese President proposed the **Global Development Initiative (GDI)** in a speech at the **United Nations General Assembly** in 2021, more than 100 countries have **expressed their support and over 60 countries have joined the Group of Friends of the GDI**.

What is the Scenario of Trade between India and China?

- China is **India's second biggest trading partner** after the US.
- China and India are important trading partners, with bilateral trade volume reaching USD 135.984 billion in 2022.
- Though there is a trade deficit, **India's import of equipment and materials from China does reduce the overall cost of "Made-in-India" products**, benefits Indian downstream industries and consumers, enhances the competitiveness of Indian exports, and in turn facilitates India's integration into global industrial and supply chains.
- The Chinese market is open to India, and the **Chinese side is happy to see more high-quality Indian goods, cultural and other products entering the Chinese market**.
- Investments by Chinese enterprises have **created a large number of jobs for the Indian people and contributed to India's economic development**.

Note:

ICC Issues Arrest Warrant for Vladimir Putin

Why in News?

The **International Criminal Court (ICC)** issued an arrest warrant for war crimes for **President Vladimir Putin** and a second Russian official.

- This is the first time that the ICC has issued an arrest warrant against one of the **five permanent members of the United Nation Security Council**.

Why did the ICC Issue an Arrest Warrant against Putin?

- ICC issued an arrest warrant against Russian President Vladimir Putin for the alleged **war crime of unlawfully deporting and transferring children** from occupied areas of Ukraine to the Russian Federation.

What is ICC?

- On 17 July, **1998 Rome Statute was adopted by 120 States** in direction of creating a more just world.
- On 1 July, **2002 Rome Statute took effect upon ratification by 60 states, officially establishing the ICC**. Since it has no retroactive jurisdiction, the ICC deals with crimes committed on or after this date.
- The Rome Statute, grants the **ICC jurisdiction over four main crimes**:
 - **The crime of Genocide**
 - **Crimes against Humanity**
 - **War crimes**
 - **Crime of Aggression**
- The Court is participating in a **global fight to end lawlessness**, and through **international criminal justice**, the Court aims to hold those responsible accountable for their crimes and to help prevent these crimes from happening again.
- The ICC is the **world's first permanent international criminal court**.
- Currently, **123 countries** are party to the Rome Statute, **India is not a party to Rome Statute along with US and China**.
- The ICC was established to prosecute the most heinous offenses only when a country's own legal machinery

fails to act. Unlike the **International Court of Justice (ICJ)**, which deals with **countries and inter-state disputes**, the ICC prosecutes individuals.

How is ICC Different from ICJ?

- Unlike the International Court of Justice, the **ICC is not part of the United Nations system**, with the UN-ICC relationship being governed by a separate agreement.
- The ICJ, which is among the **UN's 6 principal organs**, mainly hears disputes between nations. It was established in 1945 and is seated at The Hague (Netherlands).

Does the ICC have the Power to Prosecute Russia?

- As of March 2023, **Russia is not a party to the Rome Statute**, and therefore, the **ICC has no jurisdiction over crimes committed on its territory**. However, the ICC can investigate and prosecute crimes committed by individuals from other countries who committed the alleged crimes on the territory of a **state party to the Rome Statute**.
- Ukraine is also not a State Party to the Rome Statute, but it has **twice exercised its options to accept ICC's jurisdiction** over alleged crimes under the Rome Statute, occurring on its territory, **under Article 12(3) of the Statute**.
 - **Article 12(3) states** that if the acceptance of a state that is not a party to the statute, the **state may accept the jurisdiction of the court** for a crime concerned, by **making a declaration to the Registrar and cooperating without any delay or exception**.

Japan's Official Development Assistance

Why in News?

- Recently, Japan has approved **Official Development Assistance (ODA)** to India, for a few Key projects.
- **India and Japan** have had a long and fruitful history of bilateral development cooperation since 1958. In the last few years, the economic cooperation between India and Japan has steadily progressed.

Note:



What are the Key Projects under ODA?

- **Patna Metro Rail Construction Project:**
 - Rs. 5,509 crores have been approved for Patna Metro Rail Construction Project (I).
 - It aims to cope with the increase of traffic demand in Patna by constructing the new metro corridor, thereby contributing to **improvement of the urban environment** and development of the economy as well as mitigation of **Climate Change**.
- **Forest and Biodiversity Conservation in West Bengal:**
 - Rs. 520 crores approx. have been approved for the Project for Forest and Biodiversity Conservation for Climate Change Response in West Bengal.
 - It aims to mitigate and adapt to climate change, conserve and restore ecosystems by **ecosystem-**

based climate change measures, biodiversity conservation and restoration, thereby contributing to sustainable socio-economic development in the State.

- **Rajasthan Water Sector Livelihood Improvement Project:**
 - Rs. 1,055.53 crores have been approved for **Rajasthan Water Sector Livelihood Improvement Project (II)**.
 - It aims to improve **livelihoods of farmers as well as promote gender mainstreaming** in agriculture and irrigation sector in the State, by improving water use efficiency and agriculture productivity, through improvement of existing irrigation facilities and agriculture support services.

What are the Other ODAs to India from Japan?

- Delhi Metro is **one of the most successful examples of Japanese cooperation** through the utilization of ODA.
- India's **Western Dedicated Freight Corridor (DFC)** project is funded by a soft loan provided by Japan International Cooperation Agency under Special terms for economic partnership (STEP).
- Besides, Japan and India had committed to build **High-Speed Railways in India by introducing Japan's Shinkansen System**.
- **India Japan Nuclear Deal 2016** will help India build the six nuclear reactors in southern India, increasing nuclear energy capacity ten-fold by 2032.



Note:



drishti

Social Issues

Highlights

- National Policy on Older Persons in India
- World Tuberculosis Day 2023
- Right to Health
- Exclusion of ST Women from Hindu Succession Act
- Women and Men in India 2022
- Reservation for Women in Politics
- Rising Concerns over Freshwater Shortages
- World Athletics Bans Transgender Women

National Policy on Older Persons in India

Why in News?

The Ministry of Social Justice and Empowerment implements a **Central Sector Scheme** of Integrated Programme for Senior Citizens (IPSrC).

What are the Initiatives

Related to Welfare of Senior Citizens in India?

- **National Policy on Older Persons (NPOP):**
 - The **National Policy on Older Persons (NPOP)** was announced in 1999 to reaffirm the commitment to ensure the well-being of older persons.
 - The **Policy envisages State support to ensure financial and food security**, health care, shelter and other needs of older persons, equitable share in development, **protection against abuse and exploitation**, and availability of services to improve the quality of their lives.
- **Rashtriya Vayoshri Yojana (RVY):**
 - It is a **Central Sector Scheme** funded by the **Senior Citizens' Welfare Fund**.
 - The scheme provides aids and assistive living devices to senior citizens belonging to **BPL category** or **those who earn less than 15000/- per month** and suffer from **age-related disabilities such as low vision, hearing impairment, loss of teeth, and loco-motor disabilities**.
- **Elderline:**
 - The **National Helpline for Senior Citizen (14567)-Elderline** has been set up by the Ministry to address the grievances of elders in 2021.

- The helpline has been launched across the country and offers **services to senior citizens** through a toll-free number.

➤ **Seniorcare Ageing Growth Engine (SAGE):**

- It is an initiative launched in **2021** to encourage **innovative start-ups to develop products, processes, and services for the welfare of the elderly**.
- Under this initiative, innovative start-ups are identified and provided with equity support of up to Rs.1 crore per project while ensuring that the **total Government equity in the start-up does not exceed 49%**.

➤ **Atal Vayo Abhyuday Yojana:**

- The Ministry has also included awareness generation/sensitization programs with school/college students for strengthening inter-generational bonding under the umbrella scheme of **Atal Vayo Abhyuday Yojana**.
- It aims to provide **information and educational material to individuals**, families, and groups for better understanding of the aging process.

World Tuberculosis Day 2023

Why in News?

World Tuberculosis (TB) Day is observed on **24th March** every year to spread awareness about the disease and how best to combat it.

- India aims to make the nation **TB-free by 2025**, whereas the **Global Target for TB elimination is 2030**.
- **Theme for 2023: Yes! We can end TB!**

Note:

Why is World TB Day

Observed and What is its Significance?

- On this day in **1882**, **Dr. Robert Koch** announced the **discovery of *Mycobacterium tuberculosis*** that causes TB, and his discovery opened the way towards diagnosing and curing this disease.
- Even today TB is one of the world's deadliest infectious killers. As per **WHO (World Health Organisation)**, every day, over 4100 people lose their lives to TB and about 28,000 people fall ill with this disease. Deaths from tuberculosis have risen in 2020 for the first time in more than a decade.
 - According to the WHO, in **2020, around 9,900,000 people fell ill with TB and died**, around 1,500,000. Since the year 2000, 66,000,000 lives have been saved by efforts taken globally to end TB.
 - India accounts for **roughly 28%** of TB cases in the world, as per the **Global TB Report 2022**.
- Therefore, **World TB Day is observed to educate people around the world** about the disease TB and its impact.

What is Tuberculosis?

- **About:**
 - Tuberculosis is an infection caused by ***Mycobacterium tuberculosis***. It can practically affect **any organ of the body**. The most common ones are lungs, pleura (lining around the lungs), lymph nodes, intestines, spine, and brain.
- **Transmission:**
 - It is an airborne infection that spreads through **close contact with the infected**, especially in **densely populated spaces** with poor ventilation.
- **Symptoms:**
 - Common symptoms of active lung TB are cough with sputum and blood at times, chest pains, weakness, weight loss, fever and night sweats.
- **Treatment:**
 - TB is a treatable and curable disease. It is treated with a **standard 6-month course of 4 antimicrobial drugs** that are provided with information, supervision and support to the patient by a health worker or trained volunteer.
 - Anti-TB medicines have been used for decades and strains that are **resistant to 1 or more of the medicines have been documented** in every country surveyed.

- **Multidrug-resistant tuberculosis (MDR-TB)** is a form of TB caused by bacteria that do not respond to isoniazid and rifampicin, the 2 most powerful, first-line anti-TB drugs.
 - MDR-TB is treatable and curable by using second-line drugs such as Bedaquiline.
- Extensively **drug-resistant TB (XDR-TB)** is a more serious form of **MDR-TB** caused by bacteria that do not respond to the most effective second-line anti-TB drugs, often leaving patients without any further treatment options.

What are the Initiatives to Combat TB?

➤ Global Efforts:

- The WHO has launched a joint initiative "Find. Treat. All. #EndTB" with the **Global Fund and Stop TB Partnership**.
- WHO also releases the **Global Tuberculosis Report**.

➤ India's Efforts:

- **National Strategic Plan (NSP)** for Tuberculosis Elimination (2017-2025), The Nikshay Ecosystem (National TB information system), Nikshay Poshan Yojana (NPY- financial support), **TB Harega Desh Jeetega Campaign**.
- Currently, two vaccines VPM (Vaccine Projekt Management) 1002 and MIP (Mycobacterium Indicus Pranii) have been developed and identified for TB, and are under **Phase-3 clinical trial**.
- In 2018 **Nikshay Poshan Yojna** was launched, which aimed to support every **Tuberculosis (TB) Patient by providing a Direct Benefit Transfer (DBT) of Rs 500** per month for nutritional needs.

Right to Health

Why in News?

Recently, the Rajasthan Government has passed the **Right to Health Bill**, which gives every resident of the state the right to avail free services at **all public health facilities**.

What are the Key Features of the Bill?

- Free healthcare services, including **consultation, drugs, diagnostics, emergency transport, procedure** and emergency care, will be provided at all public health institutions and select private facilities subject to conditions specified in the rules.

Note:

- The Bill makes it mandatory for the hospitals to provide treatment in emergency cases without waiting for medico-legal formalities and give medicines and transport facilities without charging money.
- The implementation of the law is expected to do away with out-of-pocket expenditure and bring **transparency and accountability within the health care system**.

What is the Right to Health?

- **About:**
 - Right to health refers to and means the **most attainable levels of health that every human being is entitled to**.
 - The origin of the right to health dates as far back as 1946 when the first international organization, **World Health Organisation (WHO)** came into existence to formulate health terms as human rights.
 - The right to health is an **essential component of human dignity**, and it is the responsibility of governments to ensure that this right is protected and promoted for all **individuals, regardless of their gender, race, ethnicity, religion, or socioeconomic status**.
 - **Part IV of the Constitution under the Directive Principles of State Policy (DPSP)** ensures **social and economic justice to its citizens**. Therefore, Part IV of the Constitution directly or indirectly **relates to public policy in terms of health**.
- **Related Provisions in India:**
 - **International Conventions:** India is a signatory of the **Article 25** of the **Universal Declaration of Human Rights (1948)** by the **United Nations** that grants the right to a standard of living adequate for the health and well-being to humans including food, clothing, housing and medical care and necessary social services.
 - **Fundamental Rights: Article 21** of the Constitution of India guarantees a fundamental right to life & personal liberty. The right to health is inherent to a life with dignity.
 - **DPSP:** Articles 38, 39, 42, 43, & 47 put the obligation on the state in order to ensure the effective realization of the **right to health**.
 - **Judicial Pronouncements: Supreme Court** in Paschim Banga Khet Mazdoor Samity case (1996) held that in a welfare state, the primary duty of

the government is to secure the welfare of the people and moreover it is the obligation of the government to provide adequate medical facilities for its people.

- Also, in its landmark judgment in **Parmanand Katara Vs Union of India (1989)**, Supreme Court had ruled that every doctor whether at a government hospital or otherwise has the professional obligation to extend his services with due expertise for protecting life.

➤ **Significance:**

- **Right Based Healthcare Services:** The people are **entitled to the right to health**, and it creates a compulsion for the government to take steps toward this.
- **Wide Access to Health Services:** Enables everyone to access the services and **ensures that the quality of those services is good enough to improve the health** of the people who receive them.
- **Reduce Out of Pocket Expenditure:** Protects people from the financial consequences of paying for health services out of their own pockets and reduces the risk of people getting pushed into poverty.

What are the Challenges Related to Right to Health in India?

- **Inadequate Healthcare Infrastructure:**
 - Despite recent improvements, India's healthcare infrastructure remains inadequate, particularly in rural areas.
 - **India has 1.4 beds per 1,000 people**, 1 doctor per 1,445 people, and 1.7 nurses per 1,000 people. Over 75% of the healthcare infrastructure is concentrated in metro cities, where only **27% of the total population resides—the rest 73% of the Indian population lack even basic medical facilities**.
- **High Disease Burden:**
 - India has a high burden of communicable and non-communicable diseases, including **tuberculosis, HIV/AIDS, malaria, and diabetes**.
 - Addressing these diseases requires significant investment in healthcare infrastructure and resources.
 - According to a report by Frontiers in Public Health, more than 33% of the individuals are **still suffering from infectious diseases** out of the total ailing population in India.

Note:

- The per capita out-of-pocket (OOP) expenditure on infectious diseases is INR 7.28 and INR 29.38 in **inpatient and outpatient care**, respectively.
- **Gender Disparities:**
 - Women in India face significant health disparities, including limited access to healthcare, higher rates of maternal mortality, and gender-based violence.
 - According to the **World Economic Forum** 2021, India consistently ranks among the five worst countries in the world for the health and survival of females.
 - Women from poor households account for over 2,25,000 lesser hospital visits than men between 2017 and 2019 for nephrology, cardiology, and oncology services alone,
- **Limited Health Financing:**
 - India's health financing system is limited, with low levels of public spending on healthcare. This limits the government's ability to invest in healthcare infrastructure and resources, and it can lead to inadequate healthcare services for individuals.
 - **Government of India spent 2.1% of GDP on healthcare in FY23.** This is much lower than the average health spending share of the GDP — at around 5.2% — of the Lower- and Middle-Income Countries (LMIC).

Exclusion of ST Women from Hindu Succession Act

Why in News?

A **Member of Parliament** has urged the government to issue a notification that would include **women from the Scheduled Tribe** community in the **inheritance rights** provisions of the **Hindu Succession Amendment Act, 2005**.

- **Section 2(2)** of the Act excludes these women, which results in the **denial of their equal rights** to inherit their father's or **Hindu Undivided Family (HUF)** properties.

What are the Issues

Highlighted Around Inheritance Rights?

- The **Hindu Succession Act, 1956**, was amended in 2005 to grant daughters equal rights to **inherit their father's** or **HUF properties**.

- The **Member of Parliament (MoP)** stated that exclusion of women from the Scheduled Tribe in this act is discriminatory based on gender and is against **Article 14 of the Constitution of India**, which advocates for **equality before the law**.
 - Additionally, MoP argue that **women from Scheduled Tribes are a more disadvantaged group** due to historic oppression and lack of access to education, employment, and property.
- The MoP has urged the Government to issue a notification that would include Scheduled Tribe women in the ambit of the **Hindu Succession Act**, except in **cases where the customs of a particular Scheduled Tribe give women an advantageous position**.

What is Hindu Succession Act, 1956?

About:

- The **Mitakshara school of Hindu law** codified as the **Hindu Succession Act, 1956** governed **succession and inheritance of property** but only recognised males as legal heirs.

Applicability:

- It **applies to everyone who is not a Muslim, Christian, Parsi or Jew** by religion.
 - **Buddhists, Sikhs, Jains** and followers of **Arya Samaj, Brahmo Samaj**, are also considered Hindus for this law.
- Traditionally, **only male descendants of a common ancestor** along with their mothers, wives and unmarried daughters are considered a **joint Hindu family**. The legal heirs hold the family property jointly.

Hindu Succession (Amendment) Act, 2005:

- The **1956 Act was amended in September 2005** and **women were recognised as coparceners** for property partitions arising from 2005.
 - **Section 6 of the Act** was amended to make a **daughter of a coparcener also a coparcener by birth** "in her own right in the same manner as the son".
- It also gave the **daughter the same rights and liabilities** "in the coparcenary property as she would have had if she had been a son".
- The law applies to **ancestral property and to intestate succession** in personal property, where **succession happens as per law and not through a will**.

Note:

Women and Men in India 2022

Why in News?

Recently, the Ministry of Statistics and Programme Implementation has released **Women and Men in India 2022** report.

What are the Findings of the Report?

➤ Sex Ratio:

- The **sex ratio** at birth went up by three points to 907 in 2018-20 from 904 in 2017-19.
- India's sex ratio (females per 1,000 males) is expected to improve to **952 by 2036**, up significantly from 943 in 2011.

➤ Labour Force Participation:

- India's Labour Force Participation Rate for those above 15 years of age has been on the rise since 2017-2018. However, **women are severely lagging behind men**.
 - The rate was 77.2 for males and 32.8 for females in 2021-22, with no improvement in this disparity over the years.
- Less participation is due to social **factors, educational qualifications and gender discrimination** in terms of wages and opportunities in the workplace.

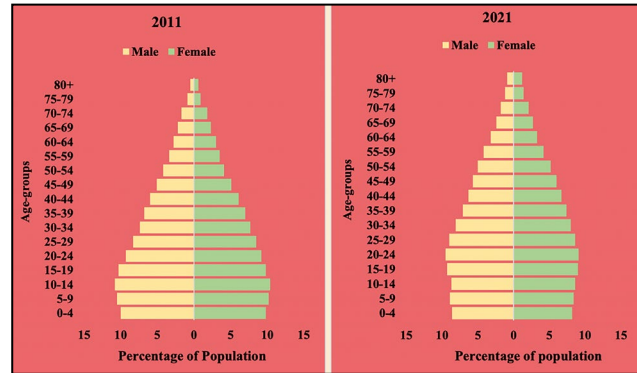
➤ Population Growth:

- The population growth, already **on a downward trend from 2.2% in 1971 to 1.1% in 2021**, is projected to fall further to 0.58% in 2036.
- In absolute figures, this translates into 1.2 billion people with 48.5% female population as per **Census 2011** to an expected 1.5 billion in 2036 with a marginal improvement in the female population share (48.8%).

➤ Age of Sex Structure:

- India's age and sex structure, as per which the population under 15 years of age is expected to decline and the **population above 60 years is expected to increase by 2036**.
- Accordingly, **the population pyramid will undergo a shift as the base of the pyramid in 2036 would narrow down**, while the middle would be broadened.
 - The age and sex structure of a country's population can affect gender issues in a variety of ways. Age structure impacting various aspects

of societies is determined primarily by trends in fertility and mortality.



➤ Access to Health Information and Services:

- Lack of access to resources and decision-making power, restrictions on mobility, etc make access to **health information and services more difficult for women** and girls than men and boys.

➤ Fertility Rate:

- The age-specific **fertility rate** for the 20-24 year and 25-29 years age group between 2016 and 2020 reduced from 135.4 and 166.0 to 113.6 and 139.6 respectively.
 - This is likely a function of **economic independence by attaining proper education** and securing a job.
- The same indicator for the 35-39 years age group increased from **32.7 in 2016 to 35.6 in 2020**.
 - The mean age for marriage has improved marginally up from 22.1 years in 2017 to 22.7 years in 2020.

Reservation for Women in Politics

Why in News?

A political party recently called for the long-delayed Women's Reservation Bill to be introduced in **Parliament**.

- The **Rajya Sabha** passed the **Women's Reservation Bill** on 9 March 2010. However, the **Lok Sabha** never voted on the bill. The bill lapsed since it was still pending in Lok Sabha.

What is the Background of the Reservation for Women in Politics in India?

- The issue of reservation for women in politics **can be traced back to the Indian national movement**.

Note:

In 1931, in their letter to the British Prime Minister, submitting the **official memorandum jointly issued on the status of women** in the new Constitution by three women's bodies, leaders Begum Shah Nawaz and **Sarojini Naidu**.

- The **National Perspective Plan for Women** recommended in 1988 that reservation be provided to women right from the **level of the panchayat to that of Parliament**
 - These recommendations paved the way for the historic enactment of the **73rd and 74th amendments to the Constitution** which mandate all State governments to reserve **one-third of the seats for women** in Panchayati Raj Institutions and **one-third** of the offices of the chairperson at all levels of the Panchayati Raj Institutions, and in urban local bodies, respectively. Within these seats, **one-third are reserved for Scheduled Caste/ Scheduled Tribe women**.
 - Many States such as Maharashtra, Andhra Pradesh, Bihar, Chhattisgarh, Jharkhand and Kerala have made legal provisions to ensure **50% reservation for women in local bodies**.

What is Women Representation Bill?

- **About the Bill:**
 - The Women's Reservation Bill proposes to reserve **33% of seats in the Lok Sabha and State Legislative Assemblies for women**.
 - Reserved seats may be allotted by rotation to different constituencies in the state or union territory.
 - Reservation of seats for women shall cease to **exist 15 years after the commencement of this Amendment Act**.
- **Need:**
 - According to **Global Gender Gap Report 2022**, **India ranks 48th out of 146 in Political Empowerment** (Percentage of Women in Parliament and in Ministerial Positions) dimension.
 - Notwithstanding its rank, its **score is quite low at 0.267**. Some of the best-ranking countries in this category score much better. For instance, **Iceland is ranked 1 with a score of 0.874** and **Bangladesh is ranked 9 with a score of 0.546**.
 - Women's right to self-representation and self-determination;

- The various surveys do indicate that **women representatives from Panchayati Raj have worked commendably in the development and overall well-being of society** in villages and many of them would definitely want to work on the larger scale, however, they face various challenges in the political structure prevalent in India.

➤ **Arguments Against the Bill:**

- Women are **not a homogeneous community say like, a caste group**. Therefore, the same arguments made for caste-based reservations cannot be made for women.
- Reserving seats for women is opposed by some who claim that doing so violates the **Constitution's guarantee of equality**. If there is a reserve, they claim, women won't be competing on merit, which could decrease their status in society.

➤ **Arguments in Favour of the Bill:**

- Affirmative action is necessary to better the condition of women, as political parties are inherently patriarchal.
- Women are **still under-represented in Parliament**, and reservations will ensure that women form a strong lobby to fight for issues that are often ignored.
- More women in decision-making positions are needed to **address the high percentage of crimes against women, low participation of women in the workforce**, low nutrition levels, and skewed sex ratio.

What is the Status of Women Representation in Politics in India?

➤ **Prior to Independence:**

- Patriarchal **social norms** and mindsets have historically allowed **women to be marginalized** and exploited in India.
- Beginning of social reforms and involvement in the struggle for freedom: The Indian freedom movement, which began with the **swadeshi in Bengal (1905-08)**, also saw the **impressive participation of women**, who organized political protests, mobilized resources, and held leadership positions in those movements.

➤ **Post Independence:**

- India's Constitution stipulated that all political, social, and economic spheres would **treat men and women equally**.

Note:



- At present, only about **14.4% of the members of the Indian Parliament are women**, the highest so far. According to the Inter-Parliamentary Union, India has a fewer percentage of women in the lower House than its neighbors such as Nepal, Pakistan, Sri Lanka, and Bangladesh.
- As per the latest **Election Commission of India (ECI)** data as of October 2021, **Women represent 10.5% of the total members of the Parliament.**
- The scenario for women **Members of Legislative Assemblies (MLAs)** across all state assemblies in India is even worse, with the national average being a pitiable 9%. In the last 75 years of independence, women's representation in Lok Sabha has not even increased by 10%.

What are the Criteria to Evaluate Women's Political Participation in India?

- **Women as Voter:**
 - Almost as **many women as men cast ballots in the most recent Lok Sabha election in 2019**, marking a turning point in India's journey **towards gender equality in politics** and what has been dubbed a "quiet revolution of self-empowerment." There are many reasons for the growing participation, notably during the 1990s.
- **Women as Candidates:**
 - Generally, the proportion of female candidates in parliamentary elections has increased over time but has remained low when compared to male candidates. **Less than 9% of the 8,049 candidates** running in the 2019 Lok Sabha elections **were female.**

How can Women's Representation in Politics be Improved in India?

- Women's representation in politics in India **has been a topic of discussion for several years**, and although progress has been made, there is still a long way to go. Here are some ways forward to improve women's representation in politics in India:
 - **Reservation of Seats:** The **reservation of seats for women in local bodies and legislative assemblies** has been a successful way to increase women's representation in politics. More such reservation policies could be implemented to provide women with more opportunities to participate in decision-making processes.
 - **Increasing Awareness and Education:** Creating awareness among women about their rights and

the importance of their participation in politics is essential. **Educational programs and awareness campaigns** can help to increase women's political participation.

- **Addressing Gender-based Violence and Harassment:** **Gender-based violence and harassment** are major obstacles to women's participation in politics. Addressing these issues through policy and legal measures can create a safer and more supportive environment for women in politics.
- **Reforms in the Electoral Process:** Reforms such as introducing **proportional representation and preferential voting systems** can help to increase women's representation in politics by ensuring that more women get elected.
- These are only a few approaches to increase the number of women in Indian politics. To effect long-lasting change, **a multifaceted strategy addressing multiple challenges is required.**

Rising Concerns over Freshwater Shortages

Why in News?

Recently, a global study released by **Circle of Blue** and **World Wide Fund for Nature (WWF)** analysed **attitudes towards freshwater shortages** by surveying almost **30,000 people from 31 countries.**

- People in **Argentina, South Korea, Vietnam, Colombia, Germany and Peru** reported the largest increases in concerns about water shortages over the past few years.

What are the Major Highlights of the Report?

- **30%** of people claim to be greatly impacted by **freshwater shortages.**
- Strong concerns about freshwater shortages have increased from **49% in 2014 to 61% in 2022**, among 17 countries consistently tracked.
- People in **urban areas (32%) are more likely to be greatly affected by a lack of freshwater** than those in **rural (28%) or towns and suburban areas (26%).**
- 38% of people said they have been "greatly" personally affected by **climate change.**
- People who claimed to be personally affected by climate change viewed **drought** as the most concerning impact of it.

Note:

What is the Status of Freshwater Shortage in India?

➤ About:

- India's freshwater crisis is constant. Although India has **16% of the world's population**, the country possesses only **4% of the world's freshwater resources**.
- According to **NITI Aayog**, a large number of Indians face high to extreme water stress.
- **North India, the most populated belt of the nation** is going to face grievous **irreversible fresh water scarcity by 2060** since the availability of the vital resource will decline on account of **climate change**.

➤ Issues:

- **Rising Water Pollution:** There is a large amount of **domestic, industrial, and mining waste** that is **discharged into water bodies**, which can lead to waterborne illnesses.
- Moreover, **water pollution** can lead to **eutrophication**, which can significantly impact aquatic ecosystems.
- **Overexploitation of Groundwater:** **256 of 700 districts** in India have reported critical or overexploited groundwater levels, according to the **Central Ground Water Board (2017)**.
- **Wells, ponds and tanks are drying up as groundwater resources** come under increasing pressure due to over-reliance and unsustainable consumption. This has **escalated the water crisis**.
- **Potential Rural-Urban Conflict:** Cities are rapidly **expanding as a result of rapid urbanisation**, and a large influx of migrants from rural areas has increased the per capita use of water in cities, which is causing **water to be transferred from rural reservoirs to urban areas to meet the deficit**.
- Considering the downward trend of water level in urban areas, it is likely that **cities will rely heavily on rural areas** for raw water supply in the future, which may spark the **rural-urban conflict**.

What are the Current Government Initiatives Related to Water Management?

- **National Water Policy, 2012**
- **Pradhan Mantri Krishi Sinchayee Yojana**
- **Jal Shakti Abhiyan- Catch the Rain Campaign**
- **Atal Bhujal Yojana**

World Athletics Bans Transgender Women

Why in News?

World Athletics, the governing body for athletics, has announced a **ban on transgender women from competing in elite female competitions** if they have gone through **male puberty**.

- The council has also imposed **stricter regulations on athletes with Differences in Sex Development (DSD)** by reducing the **maximum amount of plasma testosterone** for athletes in half, from **5 to 2.5 nanomoles** per litre.

What are the Major Points Related to the Ban?

- According to **World Athletics**, the **ban on transgender women** competing in elite female competitions is based on the need to **protect the female category**.
- The tighter rules will impact **DSD athletes** such as **Caster Semenya, Christine Mboma, and Francine Niyonsaba**.
 - At the **2020 Olympics**, **Semenya and Niyonsaba were both barred from the 800m race and turned their attention to the 5,000m**, while **Mboma won silver in the 200m**.
- Swimming's world governing body, **World Aquatics**, has also **banned transgender women from elite competition** if they have experienced any part of male puberty.

What is DSD?

- It is a condition in which an **individual's physical sex characteristics do not align with typical male or female development**.
 - This can include various genetic, hormonal, or anatomical differences, leading to conditions such as **intersex or ambiguous genitalia**.
- In the context of athletics, **DSD athletes may have naturally high levels of testosterone**, which has been a subject of controversy and regulation in sports.
 - **For instance, DSD athletes have male testes but do not produce enough of the hormone Dihydrotestosterone (DHT) that is necessary for the formation of male external genitalia.**



Note:

Science & Technology

Highlights

- ISRO Launch Vehicles
- Type-1 Diabetes
- Piezoelectric Effect
- Geomagnetic Storm
- Rare Planetary Alignment
- OneWeb India-2 Mission
- GPT-4
- Starberry-Sense
- Active Volcanoes on Venus
- Directed Energy Weapons and Hypersonic Weapons
- Push Development, Integration of Directed energy, Hypersonic Weapons: IAF Chief
- Green and Self-Powered Desalination Plant in Lakshadweep

ISRO Launch Vehicles

ISRO LAUNCH VEHICLES

BACKGROUND

◆ First rocket developed by ISRO - SLV (Satellite Launch Vehicle)

◆ Successor of SLV - Augmented Satellite Launch Vehicle (ASLV)

Polar Satellite Launch Vehicle (PSLV)

◆ About

- The **Workhorse of ISRO**
- 3rd gen, 4-Stage launch vehicle (1st, 3rd stages - solid fuel; 2nd, 4th stages - liquid fuel)

◆ Capacity

- Delivers **earth-observation/remote-sensing satellites**
- Used to launch satellites of lower mass (~1400 Kg)

◆ 4 Variants:

- PSLV-CA • PSLV-QL • PSLV-DL • PSLV-XL

◆ Launches Satellites in

- Low inclination LEO • Sub-GTO • GTO

◆ Important Launches

- First successful launch - October 1994
- Chandrayaan-1 (2008)
- Mars Orbiter Spacecraft (2013)

PSLV is 1st Indian launch vehicle to be equipped with liquid stages



Geosynchronous Satellite Launch Vehicle (GSLV)

◆ About

- 4th Gen, 3-staged launched vehicle
- Much more powerful rocket, carries satellites much deeper into space
- Has an **indigenous Cryogenic Upper Stage**

◆ Capacity

- Delivers **communication-satellites**
- Carries heavier satellites (~2200 kg to GTO)
- Carries 10,000-kg satellites to LEO

◆ Launches Satellites in

- Primarily Geosynchronous Transfer Orbit (GTO) (~36000 Km altitude)

◆ Important Launches:

- Chandrayaan-2 • Upcoming Gaganyaan



Launch Vehicle Mark-III

◆ About

- Aka **GSLV Mk-III**
- 3-stage launch vehicle (2 solid propellant and 1 core stage comprising liquid and cryogenic stages)

◆ Capacity

- 4,000-kg of satellites into GTO
- 8,000 kg of payloads into LEO

◆ Launches Satellites in

- GTO • Medium Earth orbit (MEO)
- LEO • Missions to moon, sun

Mk-III versions have made ISRO entirely self-sufficient in launching its satellites



Small Satellite Launch Vehicle (SSLV)

◆ About

- Developed specifically for **small and micro-satellites**

◆ Capacity

- Satellites up to 500 kg

◆ Launch Limit

- 500 km planar orbit (LEO) from Satish Dhawan Space Centre



Note:

Type-1 Diabetes

Why in News?

The **National Commission for Protection of Child Rights (NCPCR)** has written to all States and Union Territories, suggesting that children with **Type 1 diabetes (T1D)** are provided with proper care and required facilities.

What is T1D?

➤ About:

- T1D is a chronic condition in which the **pancreas produces little or no insulin**, which is a hormone needed to regulate blood sugar levels. This type of diabetes **usually occurs in children and young adults**, although it can occur at any age.
 - According to data from the International Diabetes Federation Atlas 2021, India has the **world's highest number of children and adolescents living with Type 1 Diabetes Mellitus (T1DM)**, at over 2.4 lakh, in the southeast Asia region.
- It is an **autoimmune disorder**, which means that the body's immune system **mistakenly attacks and destroys the insulin-producing cells** in the pancreas. The exact cause of this condition is not known, but **genetic and environmental factors** are thought to play a role.

➤ Treatment:

- Type 1 diabetes typically require insulin injections or an insulin pump to manage the blood sugar levels.

➤ Complications in Children:

- Complications of type 1 diabetes in children can include hypoglycemia (low blood sugar), hyperglycemia (high blood sugar), ketoacidosis (a potentially life-threatening condition that occurs when the body breaks down fat for energy instead of glucose), and **long-term complications such as eye, kidney, nerve, and cardiovascular damage**.

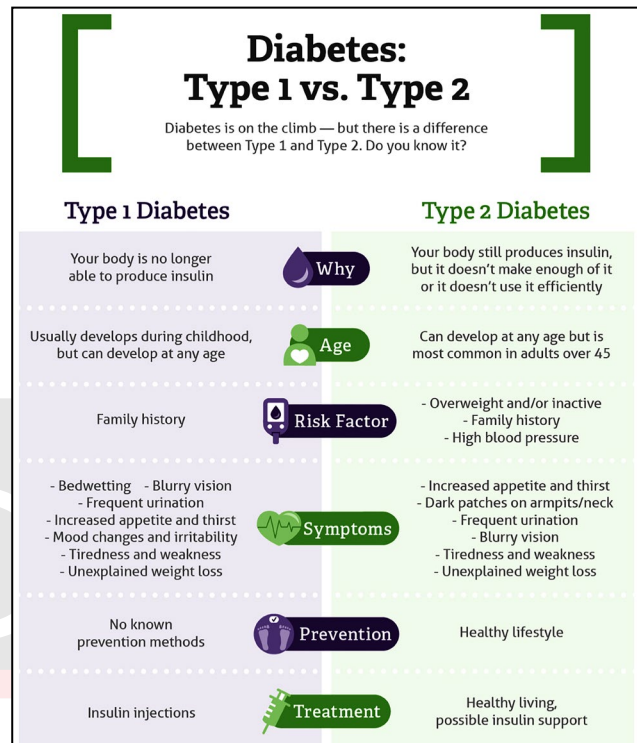
What are the other Types of Diabetes?

➤ Type 2 Diabetes:

- It affects the way the body uses insulin. While the body still makes insulin.
- Type 2 diabetes **can occur at any age, even during childhood**. However, this type of diabetes occurs **most often in middle-aged** and older people.

➤ Gestational Diabetes:

- This type occurs in **women during pregnancy when the body sometimes becomes less sensitive to insulin**. Gestational diabetes does not occur in all women and usually resolves after giving birth.



What are

Related Initiatives?

➤ **National Programme for Prevention and Control of Cancer, Diabetes, Cardiovascular Diseases and Stroke (NPCDCS):**

- In order to prevent and control major NCDs, this initiative was launched by India in 2010 with focus on strengthening infrastructure, human resource development, health promotion, early diagnosis, management and referral.

➤ **World Diabetes Day:**

- It is observed on 14th November every year. The 2022 campaign focus on access to diabetes education.

➤ **Global Diabetes Compact:**

- WHO launched a Global Diabetes Compact to better fight the disease while marking the centenary of the discovery of insulin.

Note:

What is the National Commission for Protection of Child Rights?

- NCPDR is a statutory body set up in March 2007 under the Commissions for Protection of Child Rights (CPCR) Act, 2005.
- It is under the administrative control of the Ministry of Women & Child Development.
- The Commission's mandate is to ensure that all laws, policies, programmes, and administrative mechanisms are in consonance with the child rights perspective as enshrined in the Constitution of India and also the UN Convention on the Rights of the Child.
- It inquires into complaints relating to a child's right to free and compulsory education under the **Right to Education Act, 2009**.
- It monitors the implementation of **Protection of Children from Sexual Offences (POCSO) Act, 2012**.

Piezoelectric Effect

Why in News?

Recently, scientists have reported evidence of the **Piezoelectric effect in liquids**.

- The effect has been known for 143 years and in this time has been observed **only in solids**.

What is the Piezoelectric Effect?

- The piezoelectric effect is a phenomenon in which **certain materials produce an electrical charge in response to mechanical stress or pressure**. This effect occurs when the material is subjected to a force that causes its molecules to become polarized, meaning that the positive and negative charges within the material are separated from each other.
- When this polarization occurs, an electric potential is generated across the material, and if the material is connected to a **circuit, a current can flow**.
 - The reverse is also true: if an electric potential is applied to the material, it can cause a mechanical deformation.
- Piezoelectric materials are **used in a variety of applications, such as in sensors, actuators, and energy harvesting devices**. Some examples of common piezoelectric materials include quartz, ceramics, and certain types of crystals.

- Example: Quartz is the **most famous piezoelectric crystal**: it is used in this capacity in analog wristwatches and clocks.
- The Piezoelectric effect was discovered in 1880, in quartz, by Jacques and Pierre Curie.

What are the Implications of Discovery?

- The discovery opens the door to applications that have previously not been accessible with solid-state materials and are more readily recyclable and in many instances pose **fewer environmental issues than many currently used piezoelectric materials**.
- The liquids also displayed the inverse piezoelectric effect: they became distorted when an electric charge was applied, this fact could **be used to control how the liquids bent light passing through them by passing different currents through them**.
 - That is, using this simple control mechanism, vials of these liquids could be lenses with dynamic focusing abilities.
- The new finding challenges the theory that describes this effect as well as opens the door to previously unanticipated applications in electronic and mechanical systems.

Geomagnetic Storm

Why in News?

Recently, Earth has been hit by a powerful **Geomagnetic Storm**, having a severity grade of G4 according to the US National Ocean and Atmospheric Administration (NOAA).

- Severity grade of G4, which is the second-highest grade possible, can potentially cause **widespread voltage control problems for power grids**. It can also cause protection systems to mistakenly trip key electric assets of the grid.

Notes: NOAA ranks geomagnetic storms on a scale running from **G1**, which could cause an increase in auroral activity around the poles and minor fluctuations in power supplies, up to **G5**, which includes extreme cases like the **Carrington Event — a colossal solar storm that occurred September 1859**, which disrupted telegraph services all over the world and triggered auroras so bright and powerful that they were visible as far south as the Bahamas.

Note:

What is a Geomagnetic Storm?

- A geomagnetic storm **refers to the disruptions to the Earth's magnetic field** caused by solar emissions.
- When a **Coronal Mass Ejection (CME)** or a high-speed solar stream reaches our planet, it **slams into the magnetosphere**.
 - The Earth's magnetosphere is created by its magnetic fields and it usually **protects us from the particles emitted** by the Sun.
- When a CME or a high-speed stream arrives at Earth, it peels open the planet's magnetosphere, kind of like an onion. This allows energetic **solar wind particles to stream down and hit our atmosphere over** the poles.
- Solar weather events like this can also supercharge **auroras**, sometimes making them **visible in places where they wouldn't have been otherwise**.

What are the Implications of Such a Storm?

- **Space Weather:**
 - Not all solar flares reach Earth, but solar flares/storms, Solar Energetic Particles (SEPs), high-speed solar winds, and CMEs that come close can impact space weather in near-Earth space and the upper atmosphere.
- **Problems for Spacecraft Operations:**
 - Solar storms can hit operations of space-dependent services like **Global Positioning Systems (GPS)**, radio, and satellite communications. Aircraft flights and space exploration programmes are vulnerable.
- **Disturbances in the Magnetosphere:**
 - It can potentially create disturbances in the magnetosphere, the protective shield surrounding the Earth.
 - Astronauts on spacewalks face health risks from possible exposure to solar radiation outside the Earth's protective atmosphere.

How are Solar Storms Predicted?

- Solar physicists and other scientists use computer models to predict solar storms and solar activities in general.
 - Current models are capable of predicting a storm's time of arrival and its speed.
 - But the storm's structure or orientation still cannot be predicted.

- Certain orientations of the magnetic field can produce a more intense response from the magnetosphere, and trigger more intense magnetic storms.
 - With the increasing global dependence on satellites for almost every activity, there is a need for better space weather forecasts and more effective ways to protect satellites.

Rare Planetary Alignment

Why in News?

Five planets - **Mercury, Venus, Mars, Jupiter, and Uranus** will align in the sky which is often called a **planetary parade or alignment**, and will be visible to the naked eye.

What are the Major

Points Related to Planetary Alignment?

- **About:**
 - The **best viewing time is on March 28th 2023**, shortly after the sun sets **below the horizon**.
 - **Venus will be the most visible planet**, followed by Mars with its **special orange hue**.
 - **Uranus will be near Venus** but difficult to detect without proper equipment, while **Mercury and Jupiter will appear at the bottom**.
 - The last time these five planets aligned was in **2004**. The alignment is often referred to as a **planetary parade** and can be seen in the nighttime sky.
- **Factors Affecting Observability:**
 - Experts have pointed out that the visibility of certain planets in the alignment depends on certain conditions, such as **light pollution and the location of the viewer**.
- **Recent Planetary Alignments:**
 - A similar alignment occurred in **June 2022**, where five planets - **Mercury, Venus, Mars, Jupiter, and Saturn** - aligned.
 - However, this lineup will not occur again until 2040.

What is Light Pollution?

- **About:**
 - Light pollution is the **excessive use of artificial light that brightens the night sky** and disrupts the natural darkness.

Note:

- This affects the **observability of celestial bodies.**
- **Other Impacts:**
 - **Disrupts Wildlife and Ecosystems:** Artificial light can interfere with the natural behaviours and migration patterns of animals, birds, and insects.
 - **Health Problems:** Exposure to artificial light at night can disrupt the human **circadian rhythm**, leading to **sleep disorders**, fatigue, and other health problems.
 - **Economic Costs:** Light pollution wastes energy, leading to **higher electricity bills** and unnecessary carbon emissions.

OneWeb India-2 Mission

Why in News?

In its second commercial launch, **ISRO's (Indian Space Research Organisation)** heaviest launch vehicle **LVM-3 (Launch Vehicle Mark 3)** will launch a fleet of **36 OneWeb satellites**, completing the first generation of the huge broadband constellation.

What is the LVM3-M3/ OneWeb India-2 Mission?

- This will be the 18th launch of OneWeb and will add to the UK-based company's (OneWeb) existing constellation of 582 satellites.
- ISRO's commercial arm **NSIL had signed a contract with OneWeb to launch 72 satellites in two phases.** The first set of 36 satellites was launched in LVM3-M2/ OneWeb India-1 mission on October 23, 2022.
- This is the second OneWeb fleet that India is launching. This **initiated India's journey into the commercial heavy lift-off space.**

What is OneWeb Constellation?

- **About:**
 - OneWeb Constellation operates in a **LEO Polar Orbit.**
 - **Satellites** are arranged in 12 rings (Orbital planes) with 49 satellites in each plane.
 - The orbital planes are **inclined to be near polar (87.9 Deg.)**
 - The orbital planes are 1200 km above the Earth. **Each satellite completes a full trip around the earth every 109 minutes.**

➤ Significance:

- OneWeb already has connectivity solutions active today in key geographies across the globe and is bringing new areas online.
- OneWeb's **high-speed, low-latency solutions will help connect communities**, enterprises, and governments around the world, demonstrating the **unparalleled potential of LEO connectivity.**

What are the Launch Vehicles Developed by ISRO?

- **Satellite Launch Vehicle (SLV):** The first rocket developed by ISRO was simply called SLV, or Satellite Launch Vehicle.
 - It was followed by the Augmented Satellite Launch Vehicle or ASLV.
- **Augmented Satellite Launch Vehicle (ASLV):** SLV and ASLV both could carry small satellites, weighing up to 150 kg, to lower earth orbits.
 - ASLV operated till the early 1990s before PSLV came on the scene.
- **Polar Satellite Launch Vehicle (PSLV):** PSLV's first launch was in 1994, and it has been ISRO's main rocket ever since. Today's PSLV, however, is vastly improved and several times more powerful than the ones used in the 1990s.
 - It is the first Indian launch vehicle to be equipped with liquid stages.
 - PSLV is the most reliable rocket used by ISRO to date, with 52 of its 54 flights being successful.
 - It successfully launched two spacecraft – **Chandrayaan-1 in 2008 and Mars Orbiter Spacecraft in 2013** – that later travelled to Moon and Mars respectively.
- **Geosynchronous Satellite Launch Vehicle (GSLV):** GSLV is a much more powerful rocket, meant to carry heavier satellites much deeper into space. To date, GSLV rockets have carried out 18 missions, of which four ended in failure.
 - It can take 10,000 kg of satellites to lower the earth's orbits.
 - The indigenously developed Cryogenic Upper Stage (CUS), forms the third stage of GSLV Mk II.
 - Mk-III versions have made ISRO entirely self-sufficient in launching its satellites.
 - Before this, it used to depend on the European Ariane launch vehicle to take its heavier satellites into space.

Note:

- ISRO has renamed the GSLV Mark-III as Launch Vehicle Mark-III. A GSLV – for the Geostationary Orbit (GEO) – will continue to be called so.
 - The LVM3 will go everywhere —GEO, Medium Earth orbit (MEO), LEO, and missions to the moon, sun.

GPT-4

Why in News?

OpenAI has recently launched its **ChatGPT Plus** subscription for Indian users, providing them with early access to the latest language model **GPT-4**.

- This move comes at a time when tech giants are competing to offer the best **generative AI** to the customers.

How is GPT 4

Different from Other Previous Models?

- According to OpenAI, **GPT-4 is more advanced than its predecessors** when it comes to **creativity, visual comprehension and context**.
 - It also possesses the ability to collaborate with users on various creative projects, including **music, screenplays, technical writing**, etc.
- It can process up to **25,000 words of text and facilitate extended** conversations.
- **GPT-4 can encompass more than just text** – it also accepts images as input.
 - On the contrary, **GPT-3 and GPT-3.5 only operated in one modality, text**, allowing users only to ask questions by typing them out.
- GPT-4 is **more multilingual** and OpenAI has demonstrated that it **outperforms GPT-3.5 and other Large Language Models (LLMs)** by accurately answering thousands of multiple-choice across 26 languages.
 - It handles English best with an 85.5% accuracy, but Indian languages like Telugu aren't too far behind either, at 71.4%.

What is ChatGPT?

- ChatGPT is a **variant of GPT (Generative Pre-trained Transformer)** which is a large-scale neural network-based language model developed by OpenAI.

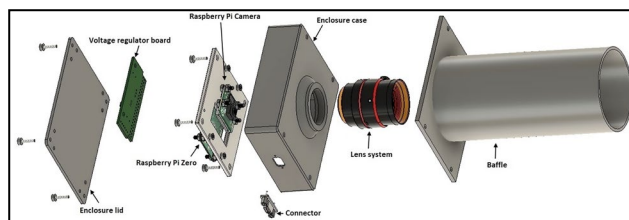
- GPT models are trained on vast amounts of text data to generate human-like text.
 - It can generate responses to a wide range of topics, such as answering questions, providing explanations, and engaging in conversations.
 - In addition to being able to “**admit its mistakes, challenge false premises, and refuse unsuitable requests**,” the ChatGPT can also “answer follow-up questions.”
- The chatbot was also trained using **Reinforcement Learning from Human Feedback (RLHF)**.

Starberry-Sense

Why in News?

Researchers at the **Indian Institute of Astrophysics (IIA)** have developed a low-cost star sensor for astronomy and small **CubeSat class satellite missions**.

- The star sensor named **Starberry-Sense** can help small **CubeSat class satellite** missions find their orientation in space.
- The **Department of Science and Technology (DST)** said that the Starberry-Sense is ready for launch on the **PS4-Orbital Platform by ISRO** and can be used for CubeSats and other **small satellite missions** in the future.



What is Star Sensor?

- Star sensor is one of the precise attitude determination sensors. It is an electro-optical system that takes an image from a set of stars and by comparing it with the star catalogue determines angle deviation of the satellite and modifies its attitude. Star sensor is composed of baffle, optical system, detector, and electronic and image processing system.

Why Starberry-Sense is Better than Other Star Sensor?

- This star sensor is **less expensive than those on the market by less than 10%** based on the commercial/off-the-shelf components which are readily available.

Note:

- The system is developed is developed by using **Raspberry Pi Zero** with is available at low cost.
 - The Raspberry Pi Zero is a **compact size** (smaller than a credit card) computer with low **power consumption**, and ability to run **custom software** make it a suitable platform for a star sensor application.

What is Indian

Institute of Astrophysics?

- The IIA is a premier research institute in India dedicated to the study of astronomy, astrophysics, and related fields. Wholly financed by the **Department of Science and Technology**, Government of India.
- It has several **observational facilities**, including the **Vainu Bappu Observatory** in Kavalur, Tamil Nadu, the **Gauribidanur Radio Observatory** in Karnataka, and the **Hanle Observatory** in Ladakh, Jammu, and Kashmir.

Active

Volcanoes on Venus

Why in News?

Recently, **NASA Magellan spacecraft** captured images of **Venus'** surface from different orbits. A few locations, including those suspected to have **volcanic activity**, were observed two or three times over two years.

What are the Observations Made?

- A study **looking into decades-old radar images** gave new evidence of having active volcanoes on Venus.
- A 2.2 square kilometre **volcanic vent** on Venus changed shape in eight months, indicating volcanic activity.
 - A volcanic vent is a spot through which molten rock erupts.
- It showed signs of drained lava, the radar images indicated that the same vent had doubled in size and the lava lake seemed to have reached the rim. The vent is associated with **Maat Mons**.
 - **Maat Mons is the planet's second-highest volcano.**

It sits in the Atla Regio, a vast highland region near **Venus' equator**. These changes were likely due to lava flow escaping the vent, hinting at a possible volcanic activity.

What was Magellan Mission?

- NASA's Magellan mission to Venus was one of the most **successful deep space missions**.
- It was **the first spacecraft to image the entire surface of Venus** and made several discoveries about the planet it was launched on **May 4, 1989**.
- On October 13, **1994, communication with Magellan was lost** when it was instructed to descend into the atmosphere of Venus.

What are the Upcoming Expeditions to Venus?

- The **Indian Space Research Organisation** is also working on **Shukrayaan-1** to study Venus. The orbiter will likely study the planet's geological and volcanic activity, emissions on the ground, wind speed, cloud cover, and other planetary characteristics from an elliptical orbit
- The new study will help to identify target areas for future missions such as **Europe's Envision** that is scheduled to launch in 2032.
- Two missions are being planned to Venus that are **NASA's VERITAS and DAVINCI** are expected to observe venus in the 2030s.

What is Venus?

➤ About:

- It is the **second closest planet to the sun** and the **sixth-largest planet** in the solar system. It is also known as **earth's twin**.
- It is the **hottest planet in the solar system** and its **extreme temperatures (450° C)** and acidic clouds make it an **unlikely place for life**.
- **Along with Uranus** it **spins backwards** with respect to other planets i.e. Its **sun rises in the west** and sets in the east.
- Along with Mercury it has **no moons and no rings**.

➤ Previous Missions Sent on Venus:

Note:

Previous Missions Sent on Venus

US	Russia	Japan	Europe
<ul style="list-style-type: none"> ➤ Mariner series 1962-1974, ➤ Pioneer Venus 1 and Pioneer Venus 2 in 1978, ➤ Magellan in 1989. 	<ul style="list-style-type: none"> ➤ Venera series of space crafts 1967-1983, ➤ Vegas 1 and 2 in 1985. 	<ul style="list-style-type: none"> ➤ Akatsuki in 2015. 	<ul style="list-style-type: none"> ➤ Venus Express in 2005.

Directed Energy Weapons and Hypersonic Weapons

Why in News?

Recently, India's Air Chief Marshal highlighted the need to push the development of **Directed Energy Weapons (DEWs)** and **Hypersonic Weapons** and integrate them into its airborne platforms to get the desired range and accuracy.

What are DEWs and Hypersonic Weapons?

➤ About:

- In layman's parlance, a directed-energy weapon damages or destroys its target using focused energy by means of lasers, microwaves or particle beams.
 - Example – Microwave weapons, Lasers weapons, drone defence systems etc.
- A hypersonic weapon is one that can hit its target **five to ten times (Mach 5 to Mach 10) the speed of sound.**

➤ Advantages of DEWs over Conventional Ammunitions:

- DEWs, particularly lasers, have **high precision, low cost per shot, logistical benefits and low detectability.**
- They **transmit lethal force at the speed of light** (about 300,000 kilometers per second)
- Their **beams are not affected by the constraining effects of gravity or atmospheric drag.**
- Their **effects can be tailored** by varying the type and intensity of energy delivered against targets.

➤ Disadvantages:

- **Limited Range:** Most DEWs have limited range, and their effectiveness decreases rapidly as the distance between the target and the weapon increases

- **High Cost:** DEWs and hypersonic weapons can be expensive to develop and manufacture, and the cost may not be justified by their effectiveness in some situations.
- **Countermeasures:** DEWs can be countered by using reflective materials or other countermeasures, which can reduce their effectiveness.
- **Arms Race:** The development of hypersonic weapons and DEWs by one country leads to an arms race, as other countries seek to develop their own hypersonic weapons in response. This can lead to increased tensions and instability.

➤ Significance for India:

- The application of these technologies in the aerospace industry can transform the way wars will be fought **enabling India to produce cutting edge platforms, weapons, sensors, and networks essential to fight and win a future war.**
- DEWs and Hypersonic Weapons could **act as a deterrent** against hostile nations such as **China, Pakistan** by increasing India's defence capabilities.

➤ Other Countries with DEWs:

- **Russia, France, Germany, the United Kingdom, Israel, and China** are reportedly among countries which have programmed to develop DEWs or Laser Directed Energy Weapons and militaries of several countries have also employed them.
- Earlier, **US also accused Cuba of carrying out sonic attacks (Havana Syndrome)**

What are the India's

DEWs and Hypersonic Technology Projects?

- **1KW laser Weapon:** DRDO has tested a 1KW laser weapon which hit a target 250m away.

Note:

- **Directionally Unrestricted Ray-Gun Array (DURGA II):** DRDO has initiated a project DURGA II, which is a 100-kilowatt lightweight DEW.
- **Hypersonic Technology Development:** Hypersonic technology in India has been developed and tested by both DRDO and ISRO.
 - In 2021, DRDO successfully flight-tested the **Hypersonic Technology Demonstrator Vehicle (HSTDV)**, with the capability to travel at 6 times the speed of sound.
 - 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**.

Push Development, Integration of Directed energy, Hypersonic Weapons: IAF Chief

Why in News?

Air Chief Marshal V R Chaudhari said India's defence industries need to push the development of Directed Energy Weapons (DEWs) and Hypersonic Weapons and integrate them into its airborne platforms to get the desired range and accuracy.

What is the Significance of Such Technologies?

- Directed Energy Weapons (DEWs), particularly lasers, provide significant advantages over traditional weapons such as **precision engagement, low cost per shot, logistical benefits and low detectability**.
- The application of these technologies in the aerospace industry can transform the way wars will be fought. This **will enable us to produce cutting edge platforms, weapons, sensors, and networks essential to fight and win a future war**
- The concept of **Atmanirbharta or self-reliance in defence** should not be limited only to production but should encompass evolving home-grown designs and development capabilities by utilizing the Indian defence industry, start-ups, MSMEs and academia to create a self-sustaining defence R&D ecosystem.
- Directed Energy Weapons (DEWs) and Hypersonic Weapons could **act as a deterrent** against hostile

nations such as **China, Pakistan**. Also, it will increase our defence capabilities.

What are Directed Energy Weapons (DEWs) and Hypersonic Weapons?

- In layman's parlance, a directed-energy weapon damages or destroys its target using focused energy by means of lasers, microwaves or particle beams.
- Examples of DEWs are Lasers weapons, drone defence systems etc.

What are the Advantages of Directed Energy Weapons (DEWs) over Conventional Ammunitions?

- They **transmit lethal force at the speed of light** (about 300,000 kilometers per second)
- Their **beams are not affected by the constraining effects of gravity or atmospheric drag**.
- They are **extremely precise**.
- Their **effects can be tailored** by varying the type and intensity of energy delivered against targets.

How many countries do have such technologies?

- **Russia, France, Germany, the United Kingdom, Israel, and China** are reportedly among countries which have programmed to develop DEWs or Laser Directed Energy Weapons and militaries of several countries have also employed them.

Green and Self-Powered Desalination Plant in Lakshadweep

Why in News?

Recently, the **National Institute of Ocean Technology (NIOT)**, an autonomous institute under the Union Ministry of Earth Sciences (MoES) is establishing a **Green and Self-powered Desalination Plant in Lakshadweep**.

- The NIOT is working on an initiative to **provide potable water in six islands of Lakshadweep using Low Temperature Thermal Desalination (LTTD) technology**. The NIOT is now trying to make this process emission-free.
- Currently, the desalination plants, each of which provides **at least 100,000 litres of potable water every day, are powered by diesel generator sets**.

Note:

What is the Green and Self-powered Desalination Plant?

➤ About:

- The proposed desalination plant will use a **combination of renewable energy sources like solar, wind, and wave energy** to power the plant. The plant will be equipped with **reverse osmosis (RO) technology** to desalinate seawater and produce potable water. The NIOT plans to set up the plant in one of the islands, where there is a high potential for renewable energy generation.
- The plant is the first of its kind in the world as it will **generate drinking water from sea water using indigenous technology, green energy** and environmentally friendly processes and it is self-powered.

➤ Need:

- The process of **LTTD is not fossil-fuel free** and also consumes diesel and **works by diesel generator sets**, a precious commodity in the islands that has to be shipped from the mainland critical for powering the electric grid.

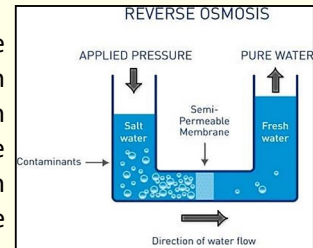
What is Low Temperature Thermal Desalination Technology?

- LTTD is a **desalination technique that turns seawater into drinkable water**.
- This method is based on the idea that ocean water **1,000 to 2,000 feet below the surface is 4–8°C colder than surface water**. Therefore, a tank is used to collect and apply high pressure to salty surface water (via an external power source).
- The vaporized water under pressure is contained in tubes or a chamber. Cold ocean water is drawn up via

these tubes, where the **vapour condenses to create fresh water** and the salt that results is diverted away and the condensed fresh water can be used for drinking.

What is Desalination Plant?

- A **desalination plant** turns salt water into water that is fit to drink.
 - **Desalination** is the process of **removing salts from water** to produce water that meets the quality (salinity) requirements of different human uses.
- Most commonly used **technology** for the process is **reverse osmosis**.
 - An external pressure is applied to push solvents from an area of high-solute concentration to an area of low-solute concentration through a semi-permeable membrane.
 - The **microscopic pores** in the membranes allow water molecules through but leave salt and most other impurities behind, releasing clean water from the other side.
- These plants are mostly set up in areas that have access to **sea water**.



Conclusion

- The successful implementation of NIOT's self-powered desalination plant in Lakshadweep will require a concerted effort from all stakeholders involved and the project can become a sustainable solution to the water scarcity problem in the region and a model for other **coastal communities facing similar challenges**.



Note:

Environment & Ecology

Highlights

- India Ranks Fifth in National Contribution to Warming
- Rhinoceros
- Government to Re-examine Asiatic Lion Translocation Plan
- Earth Hour
- New Species of Moray Eel
- DNA Profiling of Elephants
- CAMPA Policy at odds with IPCC Report
- Coral Breach in Gulf of Mannar
- IPCC AR6 Synthesis Report
- International Day of Forests
- State of India's Environment Report 2023
- Heat Index
- Critical Assessment of Heat Action Plans
- Illegal Sand Mining in National Chambal Sanctuary
- Bharat 6G Project

India Ranks Fifth in National Contribution to Warming

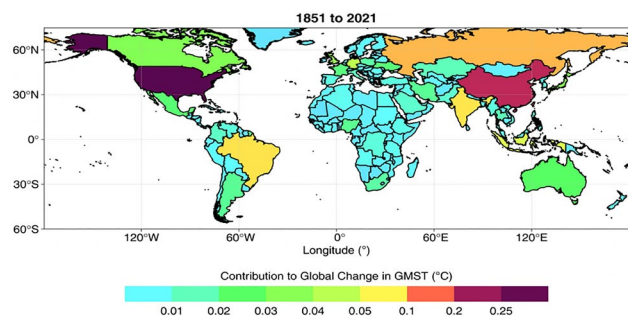
Why in News?

Recently, the research published in the journal "Scientific Data" ranked **India fifth among the top 10 contributors to global warming.**

What are the Key Highlights of the Report?

- **Top Contributor:**
 - The United States topped the list with its emissions causing 0.28°C (17.3%) of rise in temperature.
 - China stood second and Russia took third place.
- **India's Position:**
 - Since 2005, **India climbed to the fifth spot** from the 10th.
 - India is responsible for 0.08 degrees Celsius of warming from the 1850s through 2021.
 - India's emissions of carbon dioxide (CO₂), methane (CH₄) and nitrous oxide (N₂O) from 1851-2021 have resulted in 0.04°C, 0.03°C and 0.006°C of global warming over pre-industrial levels, respectively.
- **Cause of Warming:**
 - The land-use and forestry sector is a significant contributor in half the countries.

- CO₂ emissions from **land use, land-use change and forestry (LULUCF)** in Brazil led to 0.04°C of warming.
- Also, the LULUCF sector accounted for 38% of the total warming from CH₄ emissions and 72% from N₂O emissions between 1851-2021.
- The report highlighted emissions linked to historical deforestation and agricultural expansion.
- Fossil fuel remains the biggest contributor. Since 1992, the additional warming caused by global fossil fuel emissions has been **over four times greater than the additional warming caused by land-use change.**



What are Greenhouse Gases?

- A **greenhouse gas (GHG)** is a gas that absorbs and emits radiant energy at thermal infrared wavelengths, causing the greenhouse effect.
- The primary GHGs in Earth's atmosphere are water vapor (H₂O), carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), and ozone (O₃).

Note:

Rhinoceros

RHINOCEROS

World Rhino Day - 22nd September (declared by WWF in 2010)

5 Main Species of Rhino

Species	Found in	IUCN Red List Status	Habitat
African White	Africa	NT	Long/short grass Savannah
African Black	Africa	CE	Semi-Desert Savannah
Greater one-horned	Asia	Vu (CITES - Appendix I, WPA - Schedule I)	Tropical grassland
Javan	Asia	CE	Tropical, subtropical forests
Sumatran	Asia	CE	Same as Javan

Ujung Kulon National Park (a UNESCO WHS) is home to the last remaining wild Javan rhinos on Earth

Greater One-Horned Rhino

Only species found in India (aka Indian Rhino)



CHARACTERISTICS

- Largest of the 5 species
- Identified by a single black horn and a grey-brown hide with skin folds



Threats

- Poaching for horns
- Habitat loss
- Decreasing Genetic diversity



Protected Areas (India)

- **UP**
 - Dudhwa TR
- **West Bengal**
 - Jaldapara NP
 - Gorumara NP
- **Assam**
 - Pabitora WLS
 - Orang NP
 - Kaziranga NP (max no. of Rhinos: ~2400)
 - Manas NP



Conservation Efforts (India)

- National Rhino Conservation Strategy
- Indian Rhino Vision 2020 (launched in 2005)

New Delhi Declaration on Asian Rhinos 2019

Signed by 5 rhino range nations (India, Bhutan, Nepal, Indonesia and Malaysia)



Drishti IAS

Note:



drishti

Government to Re-examine Asiatic Lion Translocation Plan

Why in News?

The Indian government is re-examining the long-standing plan to translocate Asiatic lions (*Panthera leo persica*) from **Gir National Park** to **Kuno National Park**.

What are the Developments Related to Translocation of Asiatic Lions?

- In 2013, the **Supreme Court** ordered the government to translocate Asiatic lions from Gujarat to the **Kuno National Park** in Madhya Pradesh. However, the lion translocation remains on paper.
- However, the Centre's 25-year roadmap for Project Lion has **no provision for any translocation outside Gujarat**.
 - Instead, the focus is on assisted **natural dispersal across Saurashtra by 2047**.
- The **National Tiger Conservation Authority (NTCA)** has recently pointed out that the lion population increased by **29% over the past 5 years**.
 - In view of the recent introduction of cheetahs in Kuno and NTCA is looking for measures to secure the lion's future beyond Gir.

What are the Key Points Related to Asiatic Lions?

- **About:**
 - The Asiatic Lion (also known as the **Persian Lion** or **Indian Lion**) is a member of the **Panthera Leo Leo** subspecies that is **restricted to India**.
 - Its **previous habitats consisted of West Asia** and the Middle East before it became extinct in these regions.
 - Asiatic lions are **slightly smaller than African lions**.
- **Distribution:**
 - Asiatic lions were **once distributed to the state of West Bengal in east and Rewa in Madhya Pradesh**, in central India.
 - At present **Gir National Park and Wildlife Sanctuary** is the only abode of the Asiatic lion.

- **Protection Status:**
 - **IUCN Red List:** Endangered
 - **CITES:** Appendix I
 - **Wildlife (Protection) Act 1972:** Schedule I

Gir National Park

- **Gir National Park and Wildlife Sanctuary** is located in the **Junagadh** district of Gujarat.
 - It was declared as a sanctuary in 1965 and a national park in 1975.
- The Gir Forests is the largest compact tract of **dry deciduous forests** in the **semi-arid western part of India**.
- Gir is often linked with "**Maldharis**" who have survived through the ages by having **sympiotic relationship with the lion**.

Kuno National Park

- **Kuno National Park** is a protected area located in the **Sheopur district of Madhya Pradesh state in India**.
- It has a healthy population of **chital, sambar, nilgai, wild pig, chinkara and cattle**.

Earth Hour

Why in News?

Earth Hour is a worldwide movement organized to encourage individuals, communities and businesses to **turn off non-essential electric lights for one hour**.

- It is organized **on the last Saturday of March** as a symbol of commitment to the planet.

What is an Earth Hour?
- **About:**
 - Earth Hour is the **World Wildlife Fund for Nature (WWF)**'s annual initiative that began in 2007.
 - It encourages people from more than 180 countries to switch off the lights from **8.30 pm to 9.30 pm** as per their local time.
 - The idea is to **refrain from the use of non-essential lighting** to save energy in a symbolic call for environmental protection.
- **Theme:** Invest in Our Planet.
- **Significance:**
 - Earth Hour aims to **increase awareness and spark global conversations on protecting nature, tackling**

Note:

the **climate crisis**, and working together to shape a brighter future for humans.

- The symbolic lights-out Earth Hour has become **the world's largest grassroots movement to raise awareness about climate change and energy conservation** and to assure a sustainable, brighter future.

What is the World Wildlife Fund?

➤ About:

- It is the **world's leading conservation organisation** and works in more than 100 countries.
- It was **established in 1961** and is headquartered at Gland, Switzerland

➤ Mission:

- **To conserve nature and reduce the most pressing threats** to the diversity of life on Earth.

➤ Other Initiatives of WWF:

- **TX2 Goal** (a global commitment to double the world's wild tigers by 2022)
- **TRAFFIC** (a joint program of WWF and the International Union for Conservation of Nature (IUCN)).
- **Living Planet Report** .

New Species of Moray Eel

Why in News?

Researchers have recently discovered a new species of **Moray eel** off the Cuddalore coast (Tamil Nadu) and has been named after the state as *Gymnothorax tamilnaduensis*.



What are the Key Highlights of Discovery?

- This is the **first ever record of this genus, Gymnothorax, collected through an exploration survey** conducted along the coastal waters of Cuddalore.

- 4 specimens (total length 272-487 mm) were collected, and the species is notably different from other species of the genus *Gymnothorax*.
 - The distinction point is a series of lines of small dark spots present on the head and a single line of black spots on the midline of the body.
- The name of the species has been registered in ZooBank, the online registration system for the **International Commission on Zoological Nomenclature (ICZN)**.

What are the Key Points about Moray Eel?

- Moray Eels **occur in all tropical and subtropical seas**, they live in **shallow water** among reefs and rocks.
- They are known for two types of jaws: one is regular (oral) jaws with big teeth and the second jaw is called **the pharyngeal jaw (which drags prey inside the eels stomach)**.
- Their **IUCN red list** status is **Least Concern (LC)**.
- Including the newly discovered species, **29 species of Gymnothorax have been documented in Indian waters so far**.

International Commission on Zoological Nomenclature

- Founded in 1895, ICZN is tasked to create, publish and periodically revise the **International Code of Zoological Nomenclature**.
- It provides and regulates a uniform system of zoological nomenclature ensuring that every animal has a unique and universally accepted scientific name.
- ICZN acts as adviser and arbiter for the zoological community by generating and disseminating information on the correct use of the scientific names of animals.

DNA Profiling of Elephants

Why in News?

While celebrating the 30 years of '**Project Elephant**', the MoEF&CC has announced the completion of the **DNA (Deoxyribonucleic Acid)** Profiling of 270 elephants, aiming at ensuring better protection.

What is the Project?

- The DNA profiling was started in August 2022 for **Gaj Soochna Mobile Application** for forest officials.

Note:

- DNA profiling is the process where a specific DNA pattern, called a profile, is obtained from a sample of bodily tissue.
- The DNA profiling will act as the '**Adhaar card** of captive elephants'.
- The captive elephants had earlier **been chipped electronically, but the method was not a success.**
- With the mobile app, forest officers can identify each elephant and track it and therefore its transfer, which often happens in the case of captive elephants, can be recorded.
- After the elephant profiling, more focus can be put on elephant care – with unique information about elephants.
- Unlike **Project Tiger**, the Project Elephant looks at the **welfare and health of captive elephants as well.**

What is Project Elephant?

- It was launched in **1992 as a Centrally-Sponsored Scheme** with an aim to protect elephants and improve their habitat and corridors, reduce **Human-elephant conflict** and ensure their welfare.
- As many as 33 elephant reserves, spanning 80,777 sq km, have been notified.
- It provides financial and technical support to wildlife management efforts by states for their **free-ranging populations of wild Asian Elephants.**
- The project aims to ensure the long-term survival of the populations of elephants in their natural habitats by protecting the elephants, their habitats and migration corridors.
- Other goals of Project Elephant are **supporting the research of the ecology and management of elephants**, creating awareness of conservation among local people, and providing improved veterinary care for captive elephants.

What is the Population of Elephants in India?

- **India is home to 20% of the global captive Asian elephant population**, but a census of captive elephants is not done regularly.
- India has the largest and the most stable population of Asian elephants, where more than **60% of wild Asian elephants are in India.**
 - Nilgiri landscape **has the largest single population of the endangered Asian elephant** anywhere in the world.

- The population of 29,964 elephants as recorded in the last elephant census conducted in 2017 speaks volumes of the passion for wildlife conservation ingrained in Indian culture.
 - As per Elephant Census (2017), **Karnataka has the highest number of elephants (6,049)**, followed by Assam (5,719) and Kerala (3,054).

What are the Key Points Related to Elephants?

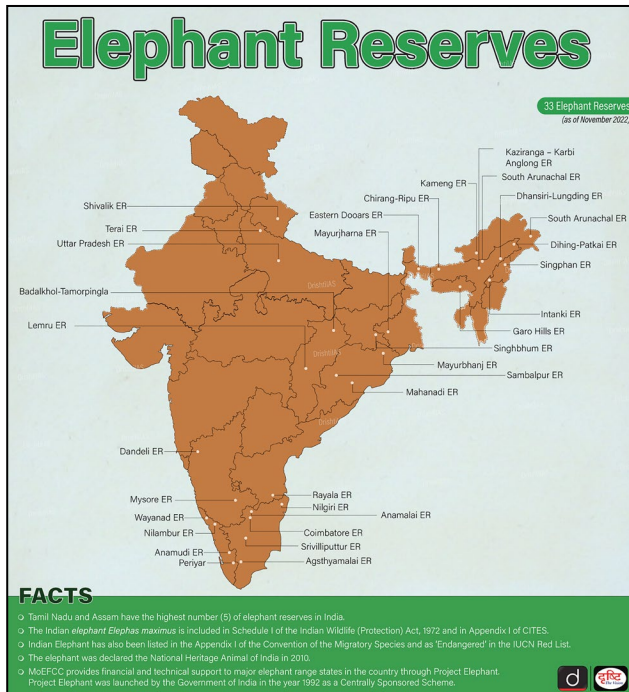
- **Asian Elephants:** There are three subspecies of Asian elephant which are the **Indian, Sumatran and Sri Lankan.**
 - **Global Population:** Estimated 20,000 to 40,000.
 - The Indian subspecies has the widest range and accounts for the majority of the remaining elephants on the continent.
 - **IUCN Red List Status:** Endangered.
 - **Wildlife (Protection) Act, 1972:** Schedule I.
 - **CITES:** Appendix I
- **African Elephants:** There are two subspecies of African elephants, the Savanna (or bush) elephant and the Forest elephant.
 - Global Population: Around 4,00,000.
 - IUCN Red List Status: Vulnerable.
 - Earlier in July 2020, **Botswana (Africa) witnessed the death of hundreds of elephants.**
- **Concerns:**
 - Escalation of poaching.
 - Habitat loss.
 - Human-elephant conflict.
 - Mistreatment in captivity.
 - Abuse due to elephant tourism.

What are Elephant Conservation Efforts?

- Cleaning areas from lantana and eupatorium (**invasive species**) as they prevent the growth of grass for elephants to feed on.
- **Gaj Yatra** is a nationwide awareness campaign to celebrate elephants and highlights the necessity of securing elephant corridors.
- The **Monitoring the Illegal Killing of Elephants (MIKE) programme**, launched in 2003, is an international collaboration that tracks trends in information related to the illegal killing of elephants from across Africa and Asia, to monitor effectiveness of field conservation efforts.

Note:

- Even mahouts (people who work with, ride and tend to elephants) and their families play an important part in the welfare of elephants.
- Recently, the **Supreme Court (SC)** upheld the 2011 order of the Madras High Court (HC) on the Nilgiris elephant corridor, affirming the **right of passage** of the animals and the closure of resorts in the area.



CAMPA Policy at odds with IPCC Report

Why in News?

Recently, The Intergovernmental Panel on Climate Change (IPCC) has released its Synthesis Report, where it has raised concerns about the ongoing policy of **Afforestation in India** that allows forests to be cut down and replaced elsewhere.

What is the Background?

- Afforestation is part of India's climate pledges. The government has committed to adding "an additional carbon sink of 2.5-3 GtCO₂e through **additional forest and tree cover by 2030**".
 - GtCO₂e stands for **gigatonnes of carbon-dioxide-equivalent**.

- Afforestation is also codified in the **Compensatory Afforestation Fund Management and Planning Authority (CAMPA)**, a body created on the **Supreme Court's** orders in 2002.
- CAMPA is meant to **promote afforestation and regeneration activities** as a way of compensating for forest land diverted to non-forest uses.
- When forest land is diverted to non-forest use, such as a dam or a mine, that land can **longer provide its historical ecosystem services** nor host biodiversity.
- According to the **Forest (Conservation) Act 1980**, the project proponent that wishes to divert the land must identify land elsewhere to afforest, and pay the land value and for the afforestation exercise. That land will thereafter be stewarded by the forest department.

Why does CAMPA matter?

- In 2006-2012, the fund grew from Rs 1,200 crore to Rs 23,600 crore, but the Comptroller and Auditor General (CAG) found in 2013 that most of the **money had been unspent**.
- CAMPA has also come under **fire for facilitating the destruction of natural ecosystems** in exchange for forests to be set up in other places.
 - In October 2022, the Haryana government said it **would develop the "world's largest curated safari"** using CAMPA funds received from deforestation in Great Nicobar for development projects, **2,400 km** away and of very different topography.

What are the

IPCC's Recommendations?

- Since the natural ecosystems provide biodiversity, local livelihoods, hydrological services and sequester carbon.
- The IPCC recommended that Renewable energy projects like wind and solar plants must be promoted to mitigate the adverse impacts of natural ecosystem diversion.
- Reducing conversion of natural ecosystems could be more expensive than wind power, **yet still less expensive than "ecosystem restoration, afforestation, restoration"**, for every GtCO₂e.

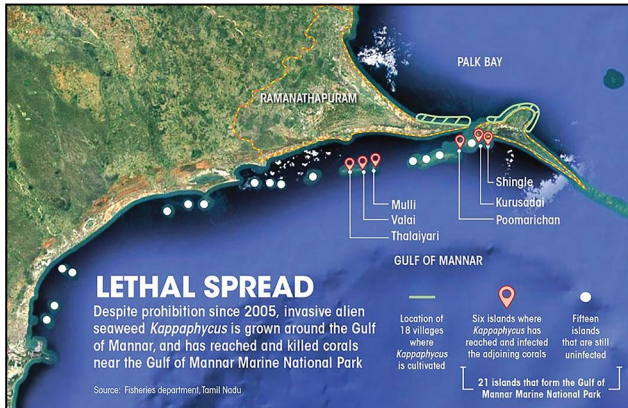
Note:

Coral Breach in Gulf of Mannar

Why in News?

Recently, the **dead coral reefs** were observed near **Kurusadai (Tamil Nadu)**, one of the **21 uninhabited islands forming the Gulf of Mannar Marine National Park**.

- The primary reason behind this loss is **Kappaphycus alvarezii**, a **seaweed species deliberately introduced for commercial cultivation** some two decades ago.



What are Seaweeds?

- **About:**
 - Seaweed is the name given to the **many species of marine algae and plants that grow in water bodies** such as rivers, seas and oceans.
 - They vary in size, from microscopic to large underwater forests.
 - Seaweed is found on the shores across the world, but is **more commonly a staple in Asian countries**.
- **Significance:**
 - Seaweed has numerous benefits, including being a **source of nutrition, containing anti-inflammatory and anti-microbial agents** for medicinal purposes
 - Contributing to **economic growth through its use in manufacturing**, acting as a **bioindicator by absorbing excess nutrients and balancing out ecosystems**.
 - **Trapping excess iron and heavy metals** and supplying oxygen and nutrients to other marine life forms.
- **Seaweed Production in India:**

- In 2021, India cultivated around **34,000 tonnes of seaweed**, and the Centre earmarked **Rs 600 crore to increase seaweed production** to 11.85 million tonnes by 2025.
- Currently, about **750 farmers are engaged in seaweed farming, primarily Kappaphycus**, in **18 villages of Ramanathapuram, Tamil Nadu** and it is also likely to be cultivated in **Tamil Nadu's proposed seaweed park**.
- National research institutes and companies are for increased cultivation of Kappaphycus to improve livelihoods, profits and to reduce India's import of **kappa-carrageenan**.

➤ Impact of Kappaphycus alvarezii Seaweed:

- The **Kappaphycus alvarezii seaweed species** has invaded **six of the 21 islands of the Gulf of Mannar Marine National Park in Tamil Nadu** and has killed the corals near Kurusadai.
- It has also caused considerable damage to **Coconut Island in Hawaii, Cubagua Island in Venezuela, Zanzibar in Tanzania, and Almirante and Cristobal in Panama and Costa Rica**.
- The **International Union for Conservation of Nature** lists **Kappaphycus alvarezii** as one of the **world's 100 most invasive species**.

➤ Gulf of Mannar:

- It is an **inlet of the Indian Ocean**, between southeastern India and western Sri Lanka.
 - It is bounded to the northeast by **Rameswaram (island), Adam's (Rama's) Bridge (a chain of shoals), and Mannar Island**.
- It receives several rivers, including the **Tambraparni (India) and the Aruvi (Sri Lanka)**.
- The gulf is noted for its **pearl banks and sacred chank** (a gastropod mollusk).

➤ Gulf of Mannar Marine National Park:

- The **Marine National Park** was established in **1982** under the provisions of the **Wildlife (Protection) Act, 1972**. Total area of the National park is about 162.89 km².
- Major ecosystem types available are **coral reefs, mangroves, mudflats, creeks, seagrass, & seaweeds, estuaries, sandy strands** to saline grasslands, marshy areas and rocky shores.

Note:

IPCC AR6 Synthesis Report

Why in News?

According to the 4th and final installment **Intergovernmental Panel on Climate Change (IPCC)** under the Sixth Assessment Report (AR6), there is increased evidence of maladaptation in various sectors and regions.

- The Synthesis Report integrates the main findings of the AR6 cycle based on **contributions from the three Working Groups, and the three Special Reports.**

What are the Key Findings?






- **Unprecedented Global Warming:**
 - Human-induced **global warming** of 1.1 degrees Celsius has spurred changes to the **Earth's climate that are unprecedented** in recent human history.
 - Already, with 1.1 degrees Celsius of global temperature rise, changes to the climate system that are unparalleled over centuries to millennia are now occurring in every region of the world, from rising sea levels to more **extreme weather events** to rapidly disappearing sea ice.
- **More Widespread Climate Impact:**
 - **Climate impacts** on people and ecosystems are more widespread and severe than expected, and future risks will escalate rapidly with every fraction of a degree of warming.
- **Adaptation Measures:**
 - Adaptation measures can effectively build resilience, but **more finance is needed to scale solutions.**
 - Climate policies in at least 170 countries now consider adaptation, but in many nations, these efforts have yet to progress from planning to implementation. Measures to build resilience are still largely small-scale, reactive and incremental, with most focusing on immediate impacts or near-term risks.
 - Current **global financial flows for adaptation are insufficient for**, and constrain implementation of, adaptation options, especially in developing countries.
- **Global Temperature may Surpass 1.5 degrees Celsius:**
 - There is a more than **50% chance that global temperature rise will reach or surpass 1.5 degrees Celsius** between 2021 and 2040 across studied

scenarios, and under a high-emissions pathway, specifically, the world may hit this threshold even sooner — between 2018 and 2037.

➤ Maladaptation:

- India has many such examples of maladaptation, resulting in vulnerable communities becoming more helpless to the impacts of climate change rather than being able to adapt to them.
 - Maladaptation is defined as the changes in natural or human systems that inadvertently increase vulnerability to climate stimuli.
 - It is an adaptation **measure that does not succeed in reducing vulnerability** but increases it instead.
- Odisha has one of the most dynamic coasts in the country, with **sea levels rising** at a rate more than the average for the rest of the country. It is also the most cyclone-prone state in India.

40% OF INDIANS WILL FACE WATER SCARCITY BY 2050

What does the IPCC report mean for India?		
 <ul style="list-style-type: none"> ➤ An increase in annual mean precipitation is projected ➤ Increase in rainfall will be more severe over southern parts of India ➤ Rainfall could increase by around 20% on the southwest coast compared to 1850-1900 level 	<p>India is expected to see an increase in frequency and severity of hot extremes</p>  <p>Forest fire incidents may rise due to increased heat waves condition</p>	<ul style="list-style-type: none"> ➤ By the middle of the century, around 35 million people in India could face annual coastal flooding ➤ Economic costs of sea-level rise and river flooding for India would also be among the highest in the world ➤ Direct damage is estimated at between \$24 billion if emissions are cut only about as rapidly as currently promised
 <ul style="list-style-type: none"> ➤ Monsoon precipitation is projected to increase in the mid- to long term over South Asia ➤ Rising temperature and precipitation can increase the occurrence of glacial lake outburst floods and landslides over moraine-dammed lakes 	<p>experiencing more heat stress, urban floods, salinity ingress due to sea-level rise and other climate-induced hazards such as cyclones</p>	<ul style="list-style-type: none"> ➤ Climate change and rising demand mean that about 40% of people in India will live with water scarcity by 2050 compared with about 33% now
 <ul style="list-style-type: none"> ➤ Snowline elevations will rise and glacier volumes will decline ➤ Regional mean sea level will continue to rise ➤ Cities in India will be 	 <ul style="list-style-type: none"> ➤ India is one of the most vulnerable countries globally in terms of the population that will be affected by sea-level rise. (Cities to be affected: Mumbai, Kolkata, Chennai, Goa, Cochin and Puri among others) 	<ul style="list-style-type: none"> ➤ Both the Ganges and Brahmaputra river basins will also see increased flooding as a result of climate change, particularly if warming passes 1.5°C ➤ Productivity of food crops, including maize, will be affected

What are the Recommendations?

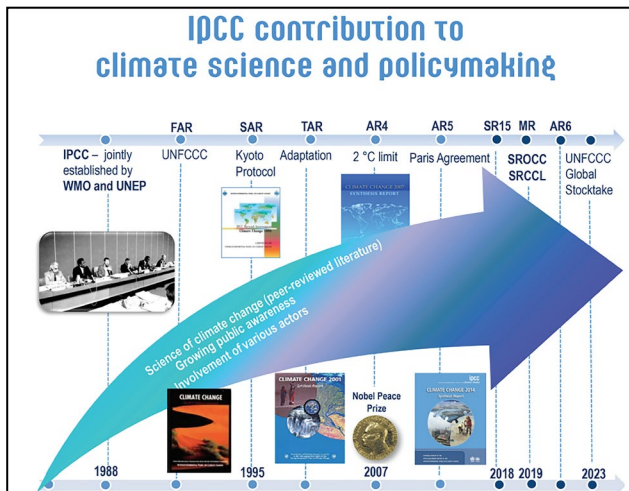
- The world must rapidly shift away from burning fossil fuels — the number one cause of the climate crisis.
- A mix of strategies can help **avoid locking in the carbon emissions**, including retiring existing fossil fuel infrastructure, canceling new projects, retrofitting fossil-fueled power plants with **carbon capture and storage (CCS)** technologies and scaling up renewable energy sources like solar and wind.
- There is a need for urgent, systemwide transformations to secure a net-zero, climate-resilient future.

Note:

- While fossil fuels are the number one source of GHG emissions, deep emission cuts are necessary across all of society to combat the climate crisis.

What is IPCC?

- The IPCC is the UN body for assessing the science related to climate change.
- It was set up in 1988 by the **World Meteorological Organization and United Nations Environment Programme** to provide policymakers with regular assessments of the scientific basis of climate change, its impacts and future risks, and options for adaptation and mitigation.



International Day of Forests

Why in News?

The **International Day of Forests**, also known as **World Forests Day**, is celebrated each year on **March 21** to raise awareness about the **importance of forests and trees for the survival of humanity and the planet**.

- The theme for 2023 is **'Forests and Health.'**

What is the History of International Day of Forests?

- The history of the **International Day of Forests** can be traced back to 1971 when the **Food and Agriculture Organization of the United Nations (FAO)** established **World Forestry Day**.
 - The day was established to create and raise awareness of the importance of forests for people and the planet.

- In 2011, the **United Nations** declared the years **2011 to 2020 as the International Decade of Forests**.
 - Its objective was to promote sustainable management, conservation, and development of all types of forests.
- In 2012, the **International Day of Forests** was established.

What is the Status of Forests in India?

- As per the **India State of Forest Report-2021**, forest and tree cover in the country increased by **2,261 square kilometres** since the last assessment in 2019.
- India's total forest and tree cover was **80.9 million hectares**, which accounted for **24.62% of the geographical area of the country**.
 - The report said **17 States and Union Territories had more than 33% of their area under forest cover**.
 - **Madhya Pradesh** had the largest forest cover, followed by Arunachal Pradesh, Chhattisgarh, Odisha and Maharashtra.
 - The top five States in terms of forest cover as a percentage of their total geographical area were **Mizoram (84.53%), Arunachal Pradesh (79.33%), Meghalaya (76%), Manipur (74.34%) and Nagaland (73.90%)**.

What is the Significance of Forests for India?

- **Ecosystem Services: One-third of the land on Earth is covered by forests**, which play a vital role in maintaining the **hydrological cycle**, regulating climate, and **preserving biodiversity**.
 - For example, forests in the **Western Ghats** help to regulate the **water cycle of southern states** and protect against soil erosion.
- **Hub of Biodiversity:** India is home to a wide variety of plant and animal species, many of which are found only in the country's forests.
 - For example, the **Sundarbans mangrove forests in the Bay of Bengal** are home to the **Royal Bengal tiger**.
- **Poverty Alleviation:** Forests are also important for **poverty alleviation**. Forests provide more than **86 million green jobs**. Everyone on the planet has had some form of contact with forests.

Note:

- **Home of Tribal Community:** They are also the homes of the tribal community. They are ecologically and economically a part and parcel of the forest environment.
 - For example, **Gond tribes** of Madhya Pradesh.
- **Raw Material for Industries:** Forests provide raw materials for a number of industries, viz. silk worm rearing, toy making, leaf plate making, plywood, paper and pulp etc.
 - They also provide **major and minor forest produce:**
 - Major such as **timber, round wood, pulp-wood, charcoal and fire-wood**
 - Minor produce like **bamboo, spices, edible fruits and vegetables.**

What are the Issues

Associated with Forests in India?

- **Biodiversity Loss:** Deforestation and other activities that damage forests also lead to a **loss of biodiversity**, as plant and animal species are unable to survive in their natural habitat.
 - This can have **knock-on effects on the ecosystem as a whole**, as well as on the cultural practices of the communities that depend on these species.
- **Shrinking Forest Cover:** According to the National Forest Policy of India, the ideal percentage of total geographical area under forest should be at least 33% to maintain ecological stability. However, it **currently covers just 24.62% of the country's land** and is shrinking rapidly.
- **Climate Change:** Forest disturbances caused by **climate change**, including **insect outbreaks, invasive species due to climate led migration, wildfires**, and storms, reduce forest productivity and change species distribution.
 - By 2030, **45-64% of forests in India will experience the effects of climate change** and rising temperatures.
- **Resource Access Conflict:** There is often conflict between the interests of local communities and those of commercial interests, such as **pharmaceutical industries or timber industries.**
 - This can lead to **social tensions and even violence**, as different groups struggle to access and use the resources of the forests.

State of India's Environment Report 2023

Why in News?

Recently, **State of India's Environment report 2023** was launched by **Centre for Science and Environment (CSE)** and **DTE (Down to Earth)** magazine, covering an extensive gamut of subject assessments, ranging from climate change, agriculture and industry to water, plastics, forests and biodiversity.

- The report is the annual publication, focusing on **climate change**, migration, health and food systems. It also covers biodiversity, forest and wildlife, energy, industry, habitat, pollution, waste, agriculture and rural development.
- CSE is a public interest research and advocacy organisation based in New Delhi.

What are the Key Highlights of the Report?

- **Encroachment:**
 - Over 30,000 water bodies have been encroached on in the country and India is generating **150,000 tonnes of Municipal Solid Waste (MSW) every day** — more than half of which is either **dumped in landfills or remains unattended.**
- **Air Pollution:**
 - Four years and 11 months is the **average duration of life lost to air pollution** in India.
 - Rural India is losing **more years due to air pollution-related health issues** than the urban belt.
 - Rural India needs 35 % more community health centers.
- **Environmental Crimes:**
 - Environmental crimes continue unabated — courts need to decide **on 245 cases every day to clear the backlog.**
- **Extreme Weather Events:**
 - Between January and October 2022, India witnessed **extreme weather events** on 271 days.
 - These extreme weather events **claimed over 2,900 lives.**
- **SDGs:**
 - Over the past five years, India's overall global rank in meeting the United Nations-mandated **Sustainable**

Note:

Development Goals (SDGs) has slipped by nine places — ranking 121 in 2022.

- India ranks below four south Asian countries — Bangladesh, Bhutan, Sri Lanka and Nepal.
 - India is facing challenges in 11 of the 17 SDGs, including SDG 2 (zero hunger), SDG 3 (good health and wellbeing), SDG 5 (gender equality) and SDG 11 (Sustainable cities).
- **Plastic Waste:**
 - While the magnitude of the problem related to Plastic Waste remains gargantuan, a **plethora of policies and urgency** are on the right path.
 - Cities are becoming waste-wise, learning to segregate at source, minimise plastics and reuse reprocess waste into wealth.
- **Agriculture:**
 - In agriculture, strong evidence is emerging of the efficacy of traditional and **regenerative farming** methods.
 - On the issue of forests and biodiversity, losses of forests are a dark truth, but at the same time more and more communities are demanding rights over forests – what is more, these rights are being granted.

What are the Recommendations?

- We need to have a common minimum programme that brings all countries together on the only issues that matter for humanity: how to avert the existential crisis we face today and how to build a just and inclusive world order.
- In fact, the **pandemic treaty** is a welcome development in this direction.

Heat Index

Why in News?

The **India Meteorological Department (IMD)** is planning to introduce a '**heat index**' warning system in Delhi and other parts of the country.

What are Recent Studies of IMD Suggests?

- The IMD has conducted a study on the impact of meteorological factors on **heatwaves** and the "**heat wave hazard zonation**" of the country.

- According to "**Hot Weather Analysis over India**," IMD revealed that the mechanism by which **heat impacts humans is complex**; it is a **result of the interactions between temperature, radiation, wind, and humidity**.
 - There is strong experimental evidence that **physiologic stress from high temperatures is greater if humidity is higher**.

What is the Proposed Heat Index?

- **About:**
 - Heat Index will **calculate the temperature along with the humidity levels** to provide a more **accurate measure** of what the **temperature** actually feels like.
 - In the US, the **heat index is color-coded to provide warnings** based on the impact of the heat index.
 - The **IMD is planning to introduce a similar color-coded warning system** in India.
- **Significance:**
 - Heat Index has important considerations for the human body's comfort.
 - When the body gets too hot, it **begins to perspire or sweat to cool itself off**. If the perspiration is not able to evaporate, the **body cannot regulate its temperature**. Evaporation is a cooling process. When perspiration is evaporated off the body, it effectively reduces the body's temperature.
 - When the atmospheric moisture content (i.e., relative humidity) is high, the rate of evaporation from the body decreases. The **human body feels warmer in humid conditions**. The opposite is true when the **relative humidity decreases because the rate of perspiration increases**. The body actually feels cooler in arid conditions.
 - There is **direct relationship between the air temperature and relative humidity** and the heat index, meaning as the **air temperature and relative humidity increase (decrease), the heat index increases (decreases)**.

What is a Heatwave?

- A **heatwave is a period of abnormally high temperatures**, a common phenomenon in India during the months of **May-June** and in some rare cases even extends till July.
- The Heatwave is considered when the maximum temperature of a station reaches at least **40°C for Plains and at least 30°C for Hilly regions**.

Note:

- In 2016, the **National Disaster Management Authority (NDMA)** issued comprehensive guidelines to prepare national level key strategies for mitigating the impact of heatwaves.

What are the Factors Responsible for Delhi's Higher Temperature than its Actual Value?

- **Urban Heat Island Effect:** Delhi is a highly urbanized area, with **large amounts of concrete, buildings, and asphalt**. These surfaces absorb and retain heat, creating an **urban heat island effect**. This can make the temperature feel hotter than it actually is.
- **Air Pollution:** Delhi experiences high levels of air pollution, because of **stubble burning in Punjab and Haryana region, vehicular and industrial emissions, dust from construction activities**.
 - This pollution can **trap heat and create a blanket effect, keeping the city warmer**.
 - **Also**, Delhi's high humidity can also exacerbate air pollution levels.
- **Lack of Water Bodies in Close Proximity:** Delhi is **not located near any large water bodies, such as a sea or a lake**. This means that there is **no source of cool air coming from the water**, which can make the air feel hotter.

Critical Assessment of Heat Action Plans

Why in News?

Recently, the **Centre for Policy Research (CPR)**, one of India's leading public policy think tanks, has released the first critical assessment, stating that most of the **Heat Action Plans (HAPs)** may not be suited to the **risks faced by local populations**.

- CPR analyzed all the **37 HAPs** across 18 States, to evaluate how policy action is keeping up with the warming weather in India and found that most HAPs are not built for local contexts.

What are Heat Action Plans?

- HAPs are the primary policy response to **economically damaging and life-threatening heat waves**. They prescribe a number of activities, disaster responses and post-heatwave **response measures to reduce the impact of heat waves**.

- HAPs are documents prepared at the **state, district and city levels for taking short-term actions to limit the number of human deaths** and other adverse impacts of heat waves and further long-term actions to prepare for future heat waves based on the data and analysis of previous heat waves.
 - Short term actions can include alerting people to heat waves and coordinating various departments such as healthcare and agriculture.
 - Long-term actions can **include infrastructural changes such as cool roofs**, increase in green cover and water harvesting structures.

What are the Key Findings?

- **Unprecedented Challenge:**
 - Extreme heat poses an unprecedented challenge to health and productivity, **heat waves** have increased in frequency in recent decades due to **Climate Change**.
 - Landmark heatwaves (1998, 2002, 2010, 2015, 2022) have each led to large death tolls and extensive economic damage by reducing labour productivity and affecting water availability, agriculture, and energy systems.
 - Human-induced actions made the chances of extreme heat events 30 times higher in the region.
- **Increase in Average Heat:**
 - By 2050, as many as 24 urban centers are projected to breach average summertime highs of at least 35 degrees Celsius, disproportionately impacting economically weaker sections.
- **Not Fit for Local Contexts:**
 - Most HAPs are not built for local contexts. They generally focus on extreme dry heat and ignore the threats posed by humid heat and warm nights.
 - Most HAPs adopt national heatwave thresholds that may not be suited to the risks faced by local populations.
 - Only 10 out of 37 HAPs seem to have **locally specified temperature thresholds**.
- **HAPs are Underfunded:**
 - Only three of 37 HAPs identify funding sources. Eight HAPs ask implementing departments to **self-allocate resources**, indicating a serious funding constraint.
- **Weak Legal Foundations:**

Note:

- HAPs have weak legal foundations. None of the HAPs reviewed indicates the legal sources of their authority. This reduces bureaucratic incentives to prioritize and comply with HAPs instructions.
- **Insufficiently Transparent:**
 - Further, the HAPs are insufficiently transparent. There is no national repository of HAPs, and very few HAPs are listed online. It also needs to be clarified whether these HAPs are being updated periodically and whether this is based on evaluation data.
- **India Most Vulnerable:**
 - India is one of the **most exposed and vulnerable countries** to heat.
 - Between 1951 and 2016, three-day concurrent hot day and hot night events have increased significantly and are projected to increase between two and four-fold by 2050 under the intermediate and high emission pathways of RCP 4.5 and RCP 8.5.

What are the Recommendations?

- There is a **need for the world to reduce emissions** in the next two decades to prevent warm temperatures from reaching 1.5° C.
- There is a need that **HAPs to identify sources of financing, either from new funds or by combining actions** with existing national and state policies and set up rigorous independent evaluations as a basis for constant improvement.
- Without implementation-oriented HAPs, **India's poorest will continue to suffer from extreme heat**, paying with both their health and incomes.

Illegal Sand Mining in National Chambal Sanctuary

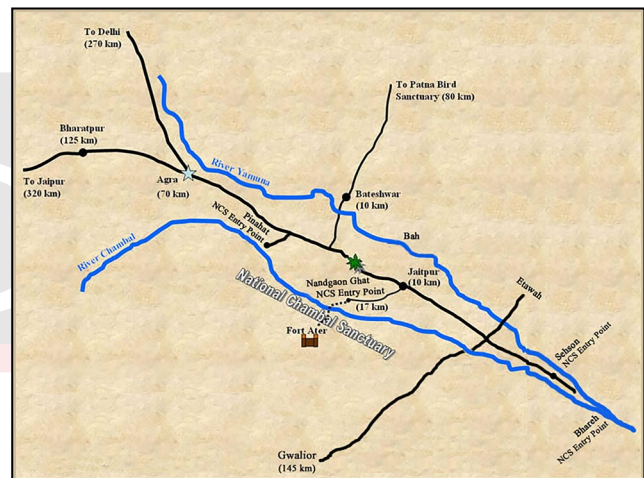
Why in News?

The area of **National Chambal Sanctuary** is under threat due to **illegal sand mining** activities that are **damaging the ecosystem and endangering its flora and fauna**.

- To tackle this issue, a high-level meeting was held in Jaipur, where the chief secretaries of the three states discussed **coordinated efforts to protect the sanctuary**.

What is the Significance of National Chambal Sanctuary?

- The **National Chambal Sanctuary**, located at the trijunction of **Rajasthan, Madhya Pradesh, and Uttar Pradesh**.
 - It is a fragile lotic ecosystem, which is a critically important breeding ground for **gharials - fish-eating crocodiles**.
- The sanctuary is protected under the **Wildlife Protection Act, 1972**, and is listed as an '**Important Bird and Biodiversity Area**'.
- The sanctuary is also a **proposed Ramsar site**, and over 320 species of resident and migratory birds inhabit the area.



What is the Status of Sand Mining in India?

- **About:**
 - Sand is classified as a **"minor mineral"**, under **The Mines and Minerals (Development and Regulations) Act, 1957** (MMDR Act) and administrative control over minor minerals vests with the **State Governments**.
 - **Rivers and coastal areas are the main sources of sand**, and the demand for it has increased significantly in recent years due to the construction and infrastructure development boom in the country.
 - The **Ministry of Environment, Forests, and Climate Change (MoEFCC)** has issued **"Sustainable Sand Mining Management Guidelines 2016"** to promote scientific sand mining and environmentally friendly management practices.

Note:

- **Issues Related to Sand Mining in India:**
 - **Water Scarcity:** Sand mining can lead to the **depletion of groundwater** reserves and cause water scarcity in nearby areas.
 - For instance, **Yamuna River** in Yamuna Nagar district of Haryana is facing severe threat from mechanised and unsustainable stone and sand mining.
 - **Floods:** Excessive sand mining can cause the riverbeds to become **shallow, which can increase the risk of floods.**
 - For example, in the state of Bihar, **sand mining has led to increased flooding in the Kosi River**, causing damage to crops and property.
 - **Associated Illegal Activities:** Unregulated sand mining also involves illegal activities, such as **encroachment on public land, corruption, and evasion of taxes.**

What is the Legislative Framework of Mining Sector in India?

- The entry at serial **No. 23 of List II (State List) to the Constitution of India** mandates the **state government to own the minerals located within their boundaries.**
- The entry at serial **No. 54 of List I (Central List)** mandate the central government to own the minerals within the **exclusive economic zone of India (EEZ).**
 - In pursuance to this **Mines & Minerals (Development and Regulation) (MMDR) Act of 1957** was framed.
- **International Seabed Authority (ISA)** regulates mineral exploration and extraction. It is guided by the **UN treaty and India being a party to the treaty has received an exclusive right to explore polymetallic nodules** over 75000 sq. km in **Central Indian Ocean Basin.**

Bharat 6G Project

Why in News?

Recently, the Prime Minister has unveiled a Vision Document to roll out high-speed **6G Communication Services by 2030** and also launched **Bharat 6G Project** to identify and fund research and deployment of the next-generation technology in India.

- The Government has also launched the '**Call Before You Dig (CBuD)**' app to facilitate coordination between excavation agencies and underground utility owners to prevent damage to utilities due to digging.

What is Bharat 6G Project

- **About:**
 - India's 6G project will be implemented in two phases, the first one from 2023 to 2025 and the second one from 2025 to 2030.
 - The government has also appointed an **apex council to oversee the project** and focus on issues such as **standardization, identification of the spectrum for 6G usage**, create an ecosystem for devices and systems, and figure out finances for research and development, among other things.
 - A key focus of the council will be on new technologies such as **Terahertz communication, radio interfaces, tactile internet, artificial intelligence** for connected intelligence, new encoding methods and waveforms chipsets for 6G devices.
- **Phases:**
 - In phase one, **support will be provided to explorative ideas**, risky pathways and proof-of-concept tests.
 - Ideas and concepts that show promise and potential for acceptance by the global peer community will be adequately supported to develop them to completion, establish their use cases and benefits, and **create implementational IPs and testbeds leading to commercialisation** as part of phase two.
- **Objective:**
 - It aims to enable India to **become a leading global supplier of intellectual property**, products and solutions of affordable 6G telecom solutions and identify priority areas for 6G research based on India's competitive advantages.
- **Significance:**
 - The project will provide an R&D platform to start-ups, researchers, industry and other broadband wireless applications in India like e-Governance, smart cities, rural Broadband or other Digital India initiatives under **Atmanirbhar Bharat.**

How is India's Digital Ecosystem Scenario?

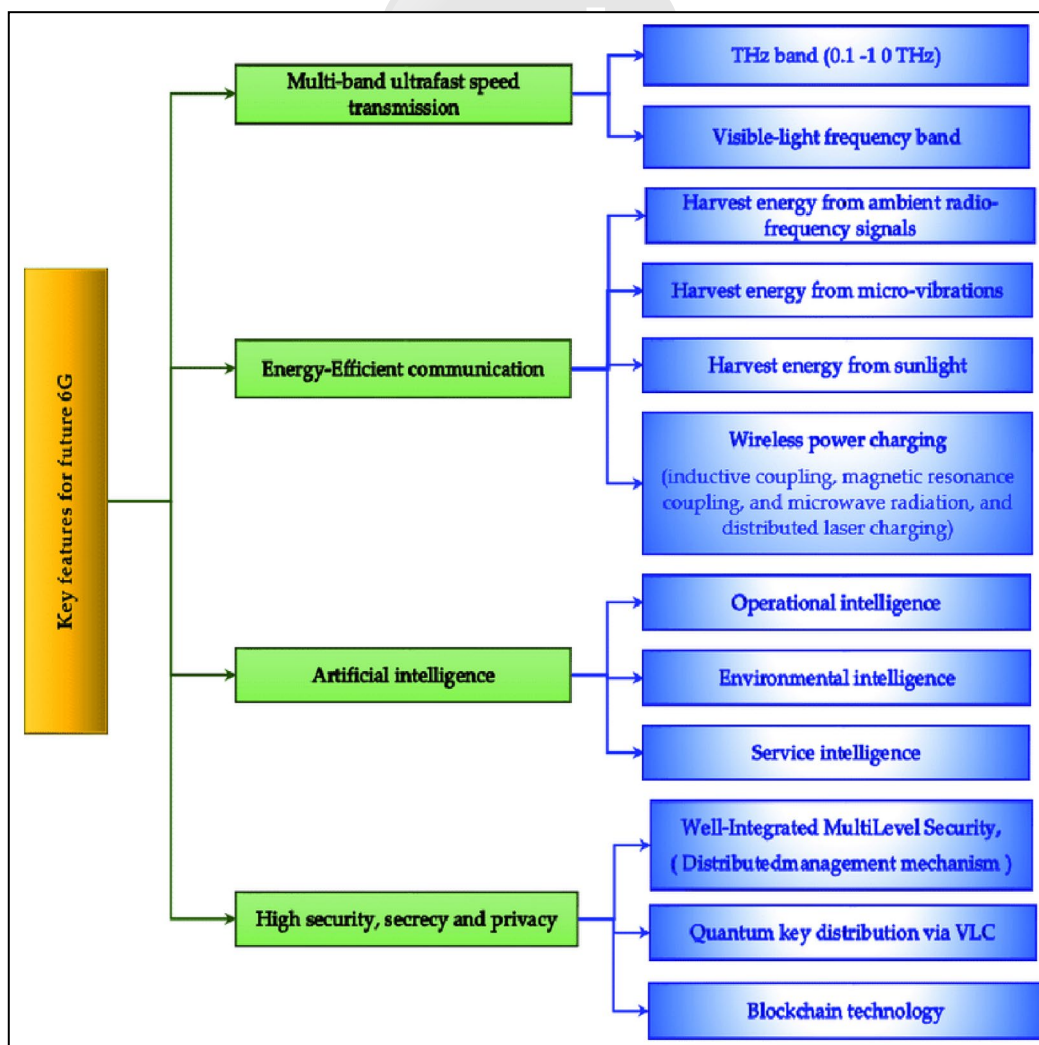
- India is the **2nd-largest telecom market** globally with 1.2 billion digital subscribers.

Note:

- The past nine years witnessed an unprecedented digital leap, whereby **India's digital economy grew 2.5 times faster** than the national economy.
 - Over this period, the number of broadband users rose to 800 million, from 60 million, and the number of internet connections rose to 850 million from 250 million. The government and private sector together have laid over 2.5 million km of **Optical Fiber**.
- India is the most connected democracy in the world, where **70 million e-authentications are done every day**, and 8 billion **UPI (Unified Payment Interface)** transactions are made every month.
- India has sent upwards of ~28 lakh crore directly to its citizens through direct benefit transfers.

- **6G (Sixth-Generation Wireless)** is the successor to **5G cellular technology**.
- It will be able to use **higher frequencies than 5G networks** and provide substantially higher capacity and much lower latency (delay).
- One of the goals of 6G internet will be to support one **microsecond-latency communication (delay of one-microsecond in communication)**.
 - This is 1,000 times faster - or 1/1000th the latency - than one millisecond throughput.
- It seeks to utilize the **terahertz band** of frequency which is currently unused.
 - Terahertz waves fall between infrared waves and microwaves on the electromagnetic **spectrum**.
 - These waves are extremely tiny and fragile, but there's a huge amount of free spectrum up there that would allow for spectacular data rates.

What is 6G Technology?



Note:

Security

Highlights

- UAPA Tribunal Upholds Centre's Decision to Ban PFI
- Khalistan Issue
- Global Terrorism Index 2023
- Inter-Services Organizations Bill, 2023

UAPA Tribunal Upholds Centre's Decision to Ban PFI

Why in News?

Recently, five months after its constitution, the Unlawful Activities (Prevention) Tribunal upheld the Centre's decision to ban Popular fronts of India and its affiliates.

What is Background of the Issue?

- On September 28, 2022, the Ministry of Home Affairs in a gazette notification declared the PFI an "unlawful association" along with "its associates or affiliates or fronts.
- The notification issued by the Ministry of Home Affairs (MHA) imposed a ban on the PFI and its associate organizations, including the Rehab India Foundation (RIF) and Campus Front of India, for five years under The Unlawful Activities (Prevention) Act (UAPA), 1967.

What Procedure is Followed?

- Under Section 3 of the UAPA Act, the government has powers to declare an association "unlawful".
- Apart from a gazette notification, the government is required to notify such association by affixing a copy on its offices or by "proclaiming by beat of drum or by means of loudspeakers, the contents of the notification in the area in which the activities of the association are ordinarily carried".
- The ministry said the PFI and its affiliates were linked to terror groups such as the ISIS, propagating "anti-national sentiments, radicalize a particular section of society with the intention to create disaffection" and constitute a "major threat to internal security of the country".

- The notification stated that subject to an order passed by the tribunal under the Unlawful Activities (Prevention) Act, the notification **will be in effect for five years from the date of its publication**
- Once an organization is declared unlawful under UAPA, **a tribunal is set up by the Centre** to adjudicate whether there is sufficient ground for the decision.
- Under the UAPA, no such notification by the Centre shall have an effect until the tribunal in its order confirms the declaration made in the notification and the order is published in the official gazette.
- Under Section 4 of the UAPA, **the government is mandated to send the notification to the Unlawful Activities Prevention Tribunal within 30 days** of issuing the gazette notification to have the ban ratified.
- The **Ministry will have to make a reference** to the Tribunal along with the cases the National Investigation Agency, Enforcement Directorate, and state police forces have registered against association and its cadres across the country.

What is UAPA?

- Unlawful Activities prevention Act is **aimed at prevention of unlawful activities association in India** and was passed in 1967.
- Its main objective was dealing with activities directed against the integrity and sovereignty of India.
- UAPA is **also known as Anti - terror law**.it aims at effective Prevention of unlawful activities association in India.
- Unlawful activities refer to any action taken by an individual or association intended to disrupt the territorial integrity and territorial sovereignty in India.
- The **act assigns absolute power to the central government**, by way of which if Centre deems an activity as unlawful then it may, by way of an official gazette, declare it so.

Note:



- It has **death penalty and imprisonment as highest punishment**

What are the Major/ Important Provisions of the UAPA?

- The Unlawful Activities (Prevention) Act, 1967, provides special procedures to deal with terrorist activities, among other things.
- Under the Act, the **central government may designate an organization as a terrorist organization if it:**
 - commits or participates in acts of terrorism,
 - prepares for terrorism,
 - promotes terrorism, or
 - is otherwise involved in terrorism.
- The Act **additionally empowers the government to designate individuals as terrorists** on the same grounds.
- Under the Act, **an investigating officer is required to obtain the prior approval of the Director General of Police to seize properties** that may be connected with terrorism. **Additionally**, if the investigation is conducted by **an officer** of the National Investigation Agency (NIA), the **approval of the Director General of NIA would be required for seizure of such property.**
- It **empowers the officers of the NIA, of the rank of Inspector or above, to investigate** cases in addition to those conducted by officers of the rank of Deputy Superintendent or Assistant Commissioner of Police or above.

What are the Criticisms of the UAPA?

- **Lack Of Substantive and Procedural Process:** Section 35 allows government to list **any individual as a terrorist** in the fourth schedule of the UAPA. The government can claim and notify based on major suspicion without any process.
- **The Law Is Arbitrary and Violates Equality:** The act fails to provide sureties against the **high potential of discretionary authority.** While the procedure to notify in Organization of a terrorist organizations has substantive safeguards. There is no clear purpose behind the distinction between an organization and an individual, the treatment of an individual is excessive and irrational.
- **Time consuming:** In **almost 43% of the cases**, the charge sheet has taken more than a year or two to be filed.

UAPA Tribunal

- **The Unlawful Activities (prevention) Act**, provides for the constitution of UAPA tribunal.
- The **Tribunal is headed by a retired or sitting judge of a High Court**
- On receipt of the notification, the Tribunal will call upon the affected association affected by notice in writing to show cause, within thirty from the date of the service of such notice, why the association should not be declared unlawful.
- After arguments from both sides, the Tribunal can hold an inquiry to decide within six months on whether there is sufficient evidence to declare an association unlawful association.
- The **ban becomes applicable for a period of five years once the Tribunal approves it.**

Khalistan Issue

Why in News?

Amritpal Singh, a follower of the Sikh militant Jarnail Singh Bhindranwale who has been preaching the Idea of Khalistan Separatist Movement in Punjab for a few months, has managed to escape.

What is the Khalistan Movement?

- The Khalistan movement is a fight for a separate, sovereign **Sikh state in present day Punjab (both India and Pakistan).**
- The movement was crushed in India following **Operation Blue Star (1984)** and **Operation Black Thunder (1986 and 1988)**, but it continues to evoke sympathy and support among sections of the Sikh population, especially in the Sikh diaspora in countries such as Canada, the UK, and Australia.

What is the Timeline of the Khalistan Movement?

- **India's Independence and Partition:**
 - The origins of the movement have been traced back to **India's independence** and subsequent **Partition along religious lines.**
 - The Punjab province, which was divided between **India and Pakistan**, saw some of the **worst communal violence and generated millions of refugees.**

Note:

- Lahore, the capital of **Maharaja Ranjit Singh's** great Sikh Empire, went to Pakistan, as did holy Sikh sites including **Nankana Sahib, the birthplace of Guru Nanak, the founder of Sikhism.**
- **Demand for Autonomous Punjabi Suba:**
 - The political struggle for greater autonomy began around the time of Independence, with the **Punjabi Suba Movement** for the creation of a Punjabi-speaking state.
 - In 1966, after years of protest, **Punjab was reorganized to reflect the Punjabi Suba demand.**
 - The erstwhile Punjab state was trifurcated into the Hindi-speaking, Hindu-majority states of Himachal Pradesh and Haryana, and the **Punjabi-speaking, Sikh-majority Punjab.**
- **Anandpur Sahib Resolution:**
 - In 1973, Akali Dal, the major force in the new Sikh-majority Punjab, released a list of demands that would guide the political path among other things, the **Anandpur Sahib Resolution demanded autonomy** for the state of Punjab, identified **regions that would be part of a separate state**, and sought the right to frame its own internal constitution.
 - While the Akalis themselves repeatedly made it clear that they were not demanding secession from India, for the Indian state, the **Anandpur Sahib Resolution** was of grave concern.
- **Bhindranwala:**
 - Jarnail Singh Bhindranwale, a charismatic preacher, soon positioned himself as **“the authentic voice of the Sikhs**, in contrast to the Akali Dal's leadership.
 - It is believed that Bhindranwale was propped up by Sanjay Gandhi to stand against the **Akalis for Congress's political benefit.** However, by the 1980s, Bhindranwale had grown so much that he **started to become a problem for the government.**
- **Dharam Yudh Morcha:**
 - In 1982, Bhindranwale, with support from the Akali Dal's leadership, launched a civil disobedience movement called the **Dharam Yudh Morcha.** He took up **residence inside the Golden Temple**, directing demonstrations and clashes with the police.
 - The movement was geared towards the **demands first articulated in the Anandpur Sahib Resolution**, which addressed concerns of the **state's rural Sikh population.** However, amidst growing religious polarization, sectarian violence, and Bhindranwale's own harsh rhetoric against Hindus, **Indira Gandhi's government declared the movement tantamount to secession.**
- **Operation Blue Star:**
 - Operation Blue Star began on 1st June 1984, but due to fierce resistance from Bhindranwale and his heavily armed supporters, the Army's operation became larger and more violent than had been originally intended, with the use of tanks and air support.
 - **Bhindranwale was killed and the Golden Temple was freed of militants**, however it gravely wounded the Sikh community around the world.
 - It **also galvanised the demand** for Khalistan.
- **Aftermath of Operation Bluestar:**
 - In October 1984, Prime Minister Indira Gandhi was assassinated by two Sikh bodyguards, triggering the **worst communal violence since Partition**, where **over 8,000 Sikhs were massacred** in massive anti-Sikh violence.
 - A year later, Sikh nationalists based in Canada blew up an Air India flight killing 329 people. They claimed that the **attack was to “avenge Bhindranwale's killing”.**
 - Punjab saw the worst violence, becoming the hub of a long-drawn-out insurgency that lasted till 1995.
 - The bulk of the population turned against the militants, and **India headed towards economic liberalisation.**

What is the Status of the Khalistan movement today?

- Punjab has long been peaceful, but the movement lives among some Sikh communities overseas.
- The diaspora is composed **predominantly of people who don't want to live in India.**
- These people include **many who remember the bad old days of the 1980s**, and thus the support for Khalistan remains stronger there.
- The deep-rooted anger over Operation Blue Star and the desecration of the Golden Temple continues to **resonate with some in the newer generations of Sikhs.** However, even as Bhindranwale is viewed as a martyr by many and the 1980s remembered as dark times, this has not **manifested into tangible political support for the Khalistan cause.**

Note:

- There is a small minority that is clinging to the past, and that small minority remains significant not because of popular support, but rather because **they are trying to keep up their political influence with various political parties** both from the left and the right.

Global Terrorism Index 2023

Why in News?

India ranks **13th** on The **Global Terrorism Index (GTI)**. The report shows that **Afghanistan continues to be the country most affected by terrorism** for the 4th year in a row, even though attacks and deaths decreased.

What are the Major Highlights of the GTI?

- The **GTI report is produced by the Institute for Economics & Peace (IEP)**, a think tank, using data from TerrorismTracker and other sources.
 - **TerrorismTracker** provides event records on terrorist attacks since 1 January 2007.
 - The dataset contains almost **66,000 terrorist incidents for the period 2007 to 2022**.
- Globally, **deaths from terrorism fell by 9%** to 6,701 deaths, marking a **38% decrease from its peak in 2015**.
- Pakistan **recorded the second largest surge in terror-related deaths worldwide** in 2022, the toll increasing significantly to 643.
- **South Asia** remains the region with the worst average GTI score.
 - **South Asia** recorded 1,354 deaths from terrorism in 2022.
- **Islamic State (IS)** and its affiliates were the **deadliest terror group globally for the eighth consecutive year**, recording the most attacks and deaths of any group in 2022.

What are the Major Challenges Related to Terrorism Globally?

- **Terror Financing:** According to the **International Monetary Fund (IMF)** and **World Bank**, criminals are estimated to launder up to **four trillion dollars a year**. Fund movements by terrorists have also been concealed through charities and alternative remittance methods.
 - It taints the **international financial system** and erodes public trust in the integrity of the system.

- **Politicisation of Countering Terrorism:** The members of the **United Nations Security Council (P5)** have exercised the **veto power** to varying degrees when it comes to identifying terrorists.
 - Also, **absence of universally accepted definitions** for what constitutes terrorism provides terrorists with an edge and **allows some countries to remain silent and veto any action at global institutions**.
- **Use of Emerging Technology by Terrorists:** Innovations in computing and telecommunications like widespread **internet access, end-to-end encryption, and virtual private network (VPN)** have made new types of operations possible for a higher number of **radicalised individuals** across the globe, contributing to the threat.

Inter-Services Organizations Bill, 2023

Why in News?

Recently, the **Inter-Services Organisations (Command, Control and Discipline) Bill, 2023**, was introduced in Lok Sabha to empower designated military commanders to **take charge of soldiers and enforce discipline**, regardless of the service they belong to.

- The bill came ahead of the **impending move to establish integrated or joint commands**, where all the manpower and assets will be under the operational control of a single three-star general of the **Indian Army, Navy and IAF (Indian Air Force)**.

What are the Key Provisions of the Bill?

- The system is likely to include five joint services commands - **western, eastern, northern, maritime, and air defense**.
- The central government may constitute an Inter-services Organisation, **which may include a Joint Services Command**.
- It will empower the Commander-in-Chief/the Officer-in-Command of Inter-Services Organisations to maintain **discipline and ensure proper discharge of duties of all the personnel** from the army, navy and IAF serving under his command.
- The Commander-in-Chief or the Officer-in-Command of an **Inter-services Organisation shall be the head** of such Inter-services Organisation.

Note:

What is the**Current Set up of Indian Armed forces?**

- At present, soldiers from their respective services are governed by different Acts of Parliament.
 - They are the **Navy Act of 1957, the Air Force Act of 1950, and the Army Act of 1950.**
 - In a current joint services setup, an army soldier commanded by a navy officer would have to be sent back to his parent unit for any disciplinary proceedings. The navy officer does not have administrative powers over the said soldier.
- The Indian armed forces currently **have 17 commands.** There are 7 commands each of the Army and the Air Force. The Navy has 3 commands.
 - Each command is headed by a 4-star rank military officer.
- There is one **joint command in Andaman and Nicobar Islands** which is the first Tri-Service theatre command of the Indian Armed Forces, based at Port Blair in Andaman and Nicobar Islands of India.
- The other tri-service command, the Strategic Forces Command (SFC), looks after the delivery and operational control of the **country's nuclear assets.**

- There are also some **tri-service organisations like the Defence Intelligence Agency, Defence Cyber Agency, Defence Space Agency, etc.**

How does**China Operate its Armed Forces?**

- In 2016, China re-organised its **2.3-million People's Liberation Army** into five theatre commands to boost offensive capabilities.
 - Its Western Theatre Command handles **the entire 3,488-km Line of Actual Control from eastern Ladakh** to Arunachal Pradesh.
- India has four Armies and three IAF commands for the **northern borders with China.**

What is the**Significance of the Move?**

- The bill will pave way for various tangible benefits such as **expeditious disposal of cases**, saving time and public money by avoiding multiple proceedings and greater integration and joint Manship amongst Armed Forces personnel.

Note:

Art and Culture

Highlights

- Hybrid Gamosas
- Ministry of Culture's Initiative to Promote of Art and Culture
- India's Traditional New Year Festivals
- Sandalwood Buddha Statue

Hybrid Gamosas

Why in the News?

Recently, the **Bangla Sahitya Sabha, Assam (BSSA)** felicitated guests at a function with “**hybrid gamosas**” made up of **Assamese Gamocha and Bengali Gamchas** cut in half and sewn together. The organization issued an apology after a controversy erupted.

- The BSSA is a newly formed **literary and cultural society** with the aim of serving as a **meeting point for Bengalis of Assam**.

What is Assamese Gamocha?

➤ About:

- Assamese Gamocha is a traditional handwoven cotton towel, which is an integral part of Assamese culture and tradition.
- It is a **rectangular piece of cloth**. The towel comes in various colors and designs, and the **most popular among them are the red and white ones with a Phulam known as the ‘Gamocha design’**.
- The word ‘Gamocha’ is derived from the Assamese word ‘**Ga’ (body) and ‘Mocha’ (wipe), which means a towel to wipe the body**. The weavers use a traditional loom called the ‘**Taat Xaal**’ to weave the towel.

➤ Recognition:

- The Assamese Gamocha has gained national and international recognition for its unique design and cultural significance. It was granted the **Geographical Indication (GI) tag**, which is a recognition of its origin and unique characteristics.
- The GI tag ensures that the Gamocha is protected from imitations and helps to promote the local weavers and their traditional weaving techniques.

➤ Cultural Significance:

- The Assamese Gamocha is a **symbol of Assamese culture and tradition**. The towel is used in various ways in daily life, and each use has a specific cultural significance.
 - It is used as a **headscarf by women during traditional ceremonies and functions**, and it is a **sign of respect and honor when it is presented to someone as a gift**.
 - The Gamocha is also used during the **Bihu festival**, which is the most important festival of Assam. It is **draped around the neck of the Bihu dancers**, and it is an essential part of their costume. The towel is also used as a symbol of unity and brotherhood during the Bihu festival.



What is Bengali Gamcha?

- Bengali Gamcha traditional handwoven cotton towel, which is an integral part of Assamese culture and tradition. It is a **rectangular piece of cloth**. It comes in a **red-and-white chequered pattern**.



Ministry of Culture's Initiative to Promote of Art and Culture

Why in News?

The **Ministry of Culture** has implemented a Scheme to **protect all genres of artists, including folk song artists**, called the ‘**Scheme of Scholarship and Fellowship for Promotion of Art and Culture**’.

Note:

- This scheme has three components that aim to support **young artists, outstanding persons in different cultural fields**, and those conducting cultural research.

What are the Components of the Scheme?

- **Award of Scholarships to Young Artists in Different Cultural Fields (SYA):**
 - Provides a scholarship for a period of 2 years to selected beneficiaries in the **age group of 18-25 years**.
 - Candidates should have undergone training under **any Guru or Institution for a minimum of 5 years**.
- **Award of Senior/Junior Fellowships:**
 - Senior Fellowship is provided to **selected Fellows in the age group of 40 years and above** for 2 years for cultural research.
 - Junior Fellowship is provided to selected Fellows in the age group of 25 to 40 for 2 years.
 - Up to 400 Senior & Junior Fellowships are awarded in one batch year.
- **Award of Tagore National Fellowship for Cultural Research (TNFCR):**
 - Candidates are selected under two categories, **Tagore National Fellowship and Tagore Research Scholarship**, to work on cultural research by affiliation under different participating institutions in 4 different groups.
 - Selection of Fellows and Scholars is made by the **National Selection Committee (NSC)**.
- **Additional Component:**
 - Under the scheme of “**Project Grants to Individuals for Research in the Performing Arts**”, the **Sangeet Natak Akademi** provides financial assistance to individuals on recommendation of the **Advisory Committee**.

India's Traditional New Year Festivals

Why in News?

Recently, India celebrated **Chaitra Sukladi, Ugadi, Gudi Padwa, Cheti Chand, Navreh and Sajibu Cheiraoba**. These festivals of the **spring season** mark the **beginning of the traditional new year** in India.

What are the Traditional New Year Festivals in India?

- **Chaitra Sukladi:**
 - It marks the beginning of the new year of the **Vikram Samvat** also known as the Vedic [Hindu] calendar.
 - Vikram Samvat is based on the day when the emperor **Vikramaditya defeated Sakas**, invaded Ujjain and called for a new era.
 - It is the first day during the **waxing phase** (in which the visible side of moon is getting bigger every night) of the **moon in the Chaitra** (first month of Hindu calendar).
- **Gudi Padwa and Ugadi:**
 - These festivals are celebrated by the people in the **Deccan region** including **Karnataka, Andhra Pradesh and Maharashtra**.
 - A famous **concoction served is jaggery (sweet) and neem (bitter)**, called **bevu-bella in the South**, signifying that life brings both happiness and sorrows.
 - **Gudi is a doll** prepared in **Maharashtrian homes**.
 - For Ugadi, doors in homes are **adorned with mango leaf decorations** called toranalu or Torana in Kannada.
- **Cheti Chand:**
 - **Cheti Chand** is the new year festival of the **Sindhi community**.
 - The festival is celebrated to commemorate the birth anniversary of **Jhulelal**, the **patron saint of the Sindhi community**.
- **Vaishakhi:**
 - It is also pronounced as **Baisakhi**, observed by Hindus and Sikhs.
 - It commemorates the formation of **Khalsa panth** of warriors under **Guru Gobind Singh** in 1699.
 - **Baisakhi** was also the day when colonial British empire officials committed the **Jallianwala Bagh massacre** at a gathering, an event influential to the Indian movement against colonial rule.
- **Navreh:**
 - Navreh is the **Kashmiri New Year's Day**.
 - The day is marked by performing various rituals, decorating houses with flowers, preparing traditional dishes, and offering prayers to the deities.

Note:

- **Sajibu Cheiraoba:**
 - It is considered one of the most important festivals of **Manipur**.
 - It is celebrated with great pomp and joy, especially by the **Meiteis of the state**.
- **Vishu:**
 - It is a **Hindu festival celebrated in the Indian state of Kerala, Tulu Nadu** region in **Karnataka, Mahé district of Union Territory of Pondicherry**, neighbouring areas of Tamil Nadu and their diaspora communities.
 - The **festival marks the first day of Medam (falls in the middle of April in the Gregorian calendar), the 9th month in the solar calendar in Kerala**.
- **Puthandu:**
 - Also known as **Puthuvarudam or Tamil New Year**, is the first day of the year on the **Tamil calendar and traditionally celebrated as a festival**.
 - The festival date is set with the **solar cycle of the lunisolar Hindu calendar**, as the first day of the Tamil month Chithirai.
 - It therefore falls on or about **14th April every year on the Gregorian calendar**.
- **Bohag Bihu:**
 - **Bohag Bihu or Rongali Bihu also called Xaat Bihu** (seven Bihus) is a traditional aboriginal ethnic festival celebrated in **the state of Assam and other parts of northeastern India** by the indigenous ethnic groups of Assam.
 - It marks the beginning of the **Assamese New Year**.
 - It usually falls in the **2nd week of April**, historically signifying the time of harvest.

Sandalwood Buddha Statue

Why in News?

Recently, the Prime Minister of India gifts a **sandalwood Buddha statue** to Japanese Prime Minister Fumio Kishida during the latter's two-day state visit.

- The statue depicts Buddha sitting in '**dhyana mudra**' under the **Bodhi tree**.

What is Sandalwood?

- **About: *Santalum album***, commonly known as **Indian Sandalwood**, is a **dry deciduous forest species native to China, India, Indonesia, Australia, and the Philippines**.

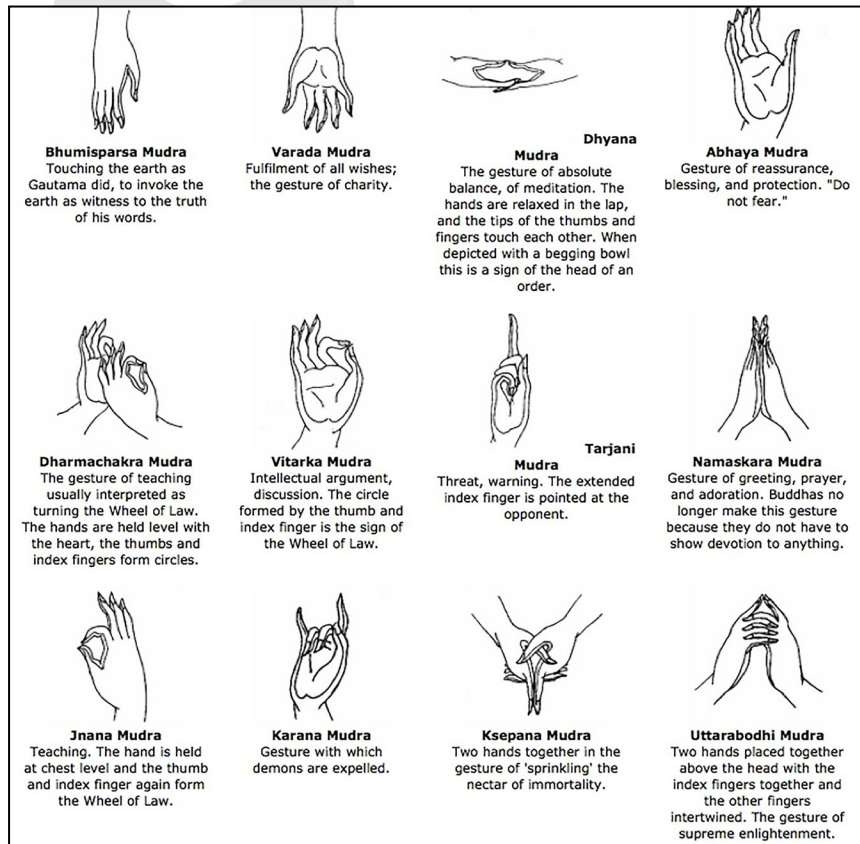
- Sandalwood has been long associated with the Indian heritage & culture, as the country contributed **85% of the world' sandalwood trade erstwhile**. However, lately this has been declining at a fast rate.
- **Features:** This small tropical tree **grows to 20m high with red wood and a variety of dark colors of bark** (dark brown, reddish and dark grey).
- **Uses:** Because it is **strong and durable**, Sandalwood is mostly harvested for its timber.
 - Indian Sandalwood is one of the **most sacred herbs of Ayurveda**.
- **Distribution in India:** In India, sandalwood is mostly grown in Andhra Pradesh, Telangana, Bihar, Gujarat, Karnataka, Madhya Pradesh, Maharashtra, and Tamil Nadu.
 - **Karnataka** is sometimes called as '**Gandhara Gudi**' or the **land of sandalwood**. The art of sandalwood carving has been an integral part of Karnataka's cultural heritage for centuries. Its earliest origins can be traced back to the 3rd century B.C. The state has also set up a **Sandalwood Development Board** to ensure that the resources are sustainably managed.
- **IUCN Red List Status:** Vulnerable.

What is Mudra in Buddhism?

- In **Buddhism**, **mudras are hand gestures or positions that are used during meditation** and other practices to help focus the mind, channel energy, and deepen one's connection to the teachings. Here are some of the mudras commonly used in Buddhism:
 - **Dhyana Mudra:** In this mudra, **the hands are placed on the lap, with the right hand on top of the left, and the thumbs touching**.
 - This mudra symbolizes meditation, concentration, and inner peace.
 - **Anjali Mudra:** This is the most common mudra used in Buddhism, and it involves pressing the **palms together in front of the chest, with the fingers pointing upwards**.
 - It represents respect, greeting, and gratitude.
 - **Vitarka Mudra:** This mudra is also known as the "**teaching mudra**" or "**gesture of discussion**," and it involves **holding the right hand up, with the thumb and index finger touching to form a circle**.
 - It represents the transmission of knowledge and the communication of the Buddha's teachings.

Note:

- **Varada Mudra:** In this mudra, the right hand is extended downwards, with the palm facing outwards.
 - It represents generosity, compassion, and the granting of wishes.
- **Abhaya Mudra:** This mudra involves raising the right hand up to shoulder height, with the palm facing outwards.
 - It represents fearlessness, protection, and the dispelling of negativity.
- **Bhumisparsha Mudra:** This mudra involves touching the ground with the fingertips of the right hand, while the left hand rests on the lap.
 - It represents the moment of the Buddha's enlightenment, and the gesture symbolizes the earth witnessing his attainment of enlightenment.
- **Uttarabodhi Mudra:** In this the hands are held in front of the chest with the fingers of the left hand pointing upward and the fingers of the right hand pointing downward. The thumbs are then placed together in the center, creating a triangle shape.
 - This mudra represents the union of wisdom and compassion, the balance of masculine and feminine energies, and the attainment of enlightenment through the integration of all aspects of thyself.
- **Dharma Chakra Mudra:** In this the hands are held in front of the chest with the thumb and index finger of each hand forming a circle. The remaining three fingers of each hand are extended upwards, representing the Three Jewels of Buddhism: the Buddha, the Dharma (his teachings), and the Sangha (the community of practitioners). The circle made by the thumb and index finger represents the wheel of the Dharma, which
 - This mudra represents the constant cycle of birth, death, and rebirth, and the Buddha's teachings as the means to break free from this cycle.
- **Karana Mudra:** In this the left hand is brought up to the heart, palm facing forward. The index and little fingers point straight upward. While the other three fingers are curled towards the palm.
 - This gesture is often seen in depictions of the Buddha or bodhisattvas, as a symbol of protection and dispelling of negativity. The index finger is said to represent the energy of wisdom and the ability to overcome obstacles.
- **Jnana Mudra:** In this the index finger and thumb are brought together to form a circle, while the other three fingers are extended outwards.
 - This gesture represents the unity of individual consciousness with the universal consciousness, and the connection between the practitioner and the teachings of the Buddha.
- **Tarjani Mudra:** In this, the index finger is extended upward, while the other fingers are curled towards the palm. Tarjani Mudra, also known as the "threatening gesture"
 - It is used as a symbol of warning or protection against evil forces or harmful influences.



Note:

Geography

Highlights

- Daylight Saving Time
- Atmospheric Rivers
- Changing Western Disturbances
- Vernal Equinox
- Gandak River
- Africa's Rift Valley and the Creation of a New Ocean Basin
- International Day of Action for Rivers 2023
- Zojila Pass and Razdan Pass Reopen After Short Winter Closure

Daylight Saving Time

Why in News?

Recently, the Lebanon Government has delayed the start of **Daylight-Saving Time (DST)** by a month. Meanwhile, Greenland has chosen to **stay with DST forever**.

- **Lebanon** usually sets its clocks forward an hour **on the last Sunday in March**. However, its Prime Minister said this year, the clocks **would be reset on 21 April, without citing any reason**.

What is Daylight Saving Time?

- According to Norway-based Time and Date, DST is the **practice of setting the clocks forward one hour** from the standard time during the summer and back again in the autumn.
- This is done to make **better use of natural daylight**. India does not follow daylight saving time as **countries near the Equator do not experience high variations** in daytime hours between seasons.

What is the Significance of DST?

- Those in favour of DST argue that **it means a longer evening daytime**. Individuals will complete their daily work routines an hour earlier, and that extra hour of daylight means **a lower consumption of energy**.
- In April 1916, during **World War I**, Germany and Austria introduced DST to minimise the use of artificial lighting. It gradually caught on in many countries.
 - In the EU, clocks in the 28 member states move forward on the last Sunday in March and fall back on the last Sunday in October.

What are the Disadvantages of DST?

- According to a study in Popular Science magazine in the US, one hour of lost sleep in the US increases the **fatal crash rate by 5.4% to 7.6%** for six days following the transition.
- Other studies found a **higher rate of workplace injuries after the switch**, leading to lost days of work; a slight drop in stock market performance; health problems as a result of disruption of the **Circadian Rhythm**.

Atmospheric Rivers

Why in News?

California has experienced an exceptionally wet winter with **11 atmospheric rivers battering the state** since late December 2022.

What are Atmospheric Rivers?

- **About:**
 - **Atmospheric rivers** are relatively long, narrow regions in the atmosphere – like rivers in the sky – that transport most of the water vapor outside of the tropics.
 - One well-known atmospheric river called the **“Pineapple Express”** picks up warm, moist air near Hawaii.
 - When the **Pineapple Express hits land in the Western United States and Canada**, it can cause heavy rain and snow. In California, it can cause up to 5 inches of rain in a day.
 - Atmospheric rivers typically occur **in the extratropical North Pacific/Atlantic, southeastern Pacific, and South Atlantic** oceans often making landfall on the west coasts of North and South America.

Note:

Other regions that experience atmospheric river landfalls include **Greenland, Antarctica, and the south-central United States.**

➤ **Formation:**

- Atmospheric rivers usually begin over tropical regions. Warm temperatures cause **ocean water**

to evaporate and rise into the atmosphere. Strong winds help to carry the water vapor through the atmosphere.

- As atmospheric rivers move over land, the **water vapor rises up farther into the atmosphere.** It then **cools into water droplets, which fall as precipitation.**

The science behind atmospheric rivers

An atmospheric river (AR) is a flowing column of condensed water vapor in the atmosphere responsible for producing significant levels of rain and snow, especially in the Western United States. When ARs move inland and sweep over the mountains, the water vapor rises and cools to create heavy precipitation. Though many ARs are weak systems that simply provide beneficial rain or snow, some of the larger, more powerful ARs can create extreme rainfall and floods capable of disrupting travel, inducing mudslides and causing catastrophic damage to life and property. Visit www.research.noaa.gov to learn more.

A strong AR transports an amount of water vapor roughly equivalent to 7.5–15 times the average flow of water at the mouth of the Mississippi River.

ARs are a primary feature in the entire global water cycle and are tied closely to both water supply and flood risks, particularly in the Western U.S.

On average, about 30–50% of annual precipitation on the West Coast occurs in just a few AR events and contributes to the water supply — and flooding risk.

ARs move with the weather and are present somewhere on Earth at any given time.

ARs are approximately 250–375 miles wide on average.

Scientists' improved understanding of ARs has come from roughly a decade of scientific studies that use observations from satellites, radar and aircraft as well as the latest numerical weather models. More studies are underway, including a 2015 scientific mission that added data from instruments aboard a NOAA ship.

WATER
VAPOR
COOLS

CALIFORNIA



NOAA

Image not to scale.

➤ **Impacts:**

- Heavy rainfall associated with ARs can cause **flooding, landslides, and mudslides.**
 - They can also lead to water supply disruption, and develop **drought-like conditions.**

➤ **Significance:**

- Not all atmospheric rivers cause damage; most are weak systems that often **provide beneficial rain or snow that is crucial to the water supply.**

➤ **Climate Change:**

- **Climate change** is **expected to increase the frequency and intensity of ARs** in some regions of the world, particularly in the mid-latitudes.

- This could have significant implications for water resources management, flood control, and other areas of public policy.

Changing Western Disturbances

Why in News?

According to recent studies, the **changing character of Western Disturbances** might be the primary cause of the abnormal **winter seasons** in India.

- India has **not experienced a normal winter season in the past three years.** The second wettest season

Note:

in the country after the **monsoons** has remained unusually dry and hot.

How Western Disturbances Affected Winters in India Recently?

- The northwest region of India, which receives almost **30% of its annual rainfall during the winter season**, saw an **83% and 76% rainfall deficit in December 2022 and February 2023 respectively**.
- The absence of Western Disturbances caused the north Indian plains to **experience severe cold waves and cold days in December 2022** and most of January 2023 **due to the cold northern winds flowing down from the Himalayas**.
- Western Disturbances are also responsible for hailstorms that **damage standing crops, fog events that interrupt air, rail and road services** and cloud bursts that result in **flash floods**.

What are Western Disturbances?

➤ **About:**

- Western Disturbances are a series of **cyclonic storms that originate in the Mediterranean region, travel over 9,000 km to bring winter rains to northwest India**.
 - A Western Disturbance **collects moisture from the Mediterranean Sea, Black Sea, and Caspian Sea** and traverses over **Iran and Afghanistan before hitting the western Himalayas**.
- While the storm systems occur throughout the year, they travel to India mostly between **December and April because the trajectory of the subtropical westerly jet stream**, which transports them, shifts during the winter months to the rim of the Himalayas.
 - For the rest of the year, the jet stream travels from above the **Himalayas to the Tibetan Plateau and China**. Its trajectory changes as per the position of the Sun.

➤ **Significance for India:**

- Western Disturbances are the **primary source of snowfall that replenishes the Himalayan glaciers** during winter.
 - These glaciers **feed major Himalayan rivers like the Ganga, Indus and Yamuna** as well as myriad mountain springs and rivulets.

- These low-pressure storm systems **help farmers in India grow their rabi crop**.

➤ **Issues:**

- The Western Disturbances are **not always the harbingers of good weather**. Sometimes WDs can cause **extreme weather events like floods, flash floods, landslides, dust storms, hail storms** and cold waves, destroying infrastructure and impacting life and livelihoods.

How Western Disturbances are Affected by Other Climatic Phenomena?

➤ **La Nina Event:**

- For the past three years, the world has been in a La Niña phase, which refers to the **cooling of ocean surface temperature in the Pacific Ocean**.
 - It **weakens the temperature gradient for the formation of Western Disturbances** as it reduces the temperature of the hot tropical air.

➤ **North Atlantic Oscillation:**

- Western Disturbances are also influenced by the **North Atlantic Oscillation, a random fluctuation of air pressure over the North Atlantic Ocean** due to a high-pressure region above the **Azores Islands in the central North Atlantic** and a low-pressure region over **Iceland**.
 - Due to this, the weather system is currently in a negative phase, as both **low- and high-pressure systems are weak**, and it makes Western Disturbances **20% less frequent and 7% less intense than a positive phase**.

➤ **Subtropical Jet Stream:**

- The **northward shift of the subtropical westerly jet stream** not only reduces the chance of Western Disturbances **striking India but also increases the chance of them affecting higher latitudes such as the Tibetan Plateau** or even as far up as **China and Russia**.
 - This could indirectly affect the southwest monsoon, which accounts for **80 % of India's annual rainfall**.

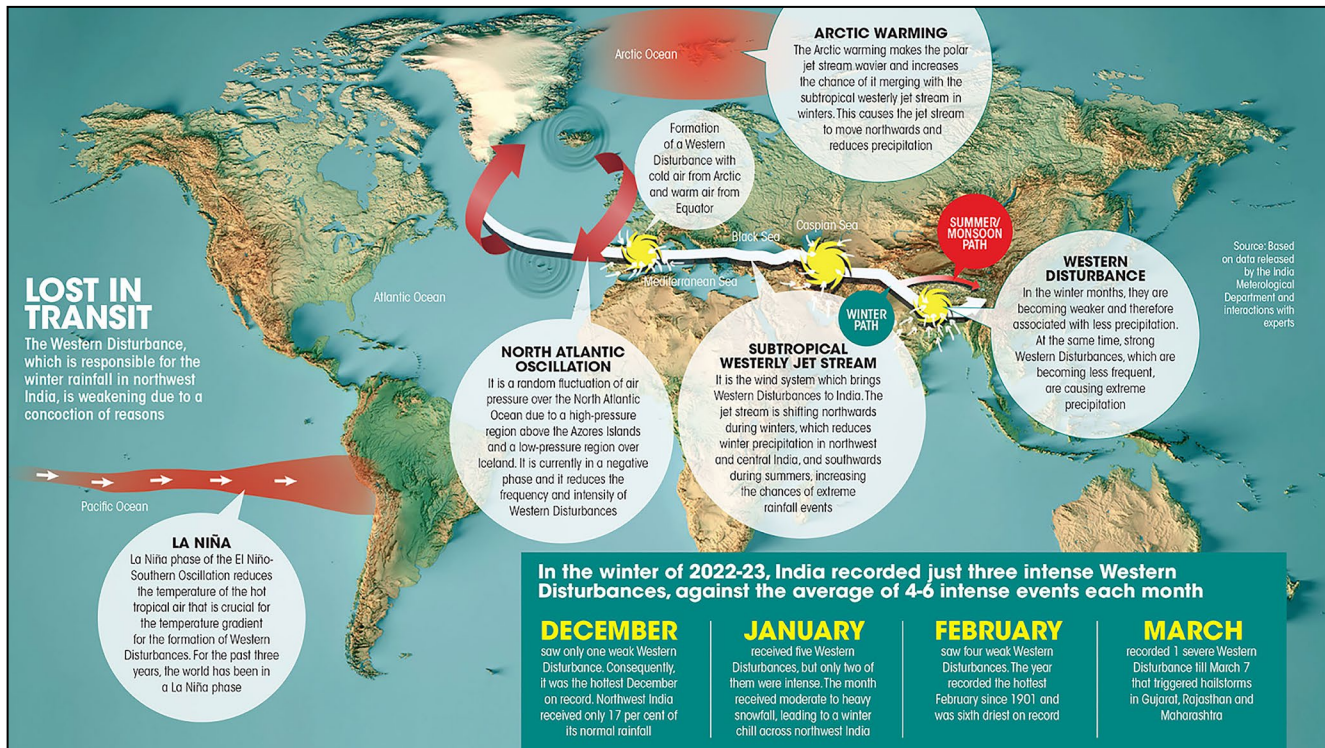
➤ **Interaction with Southwest Monsoon:**

- The **warming of the Arctic region makes the polar front jet wavier**, causing **Western Disturbances to visit India more frequently during summers**.

Note:

- Western Disturbances during **summer, monsoon, and post-monsoon periods increase the chances of them interacting with the southwest monsoon** and other associated local convection systems such as tropical depressions that travel northward from either the Bay of Bengal or the Arabian Sea.
 - Such interactions can cause catastrophic weather disasters.

- For instance, In May 2021, a remnant of the extremely severe cyclone Tauktae, which made landfall along the Gujarat coast, travelled all the way to Delhi and interacted with a Western Disturbance to cause heavy rainfall in Delhi and its vicinity.



Vernal Equinox

Why in News?

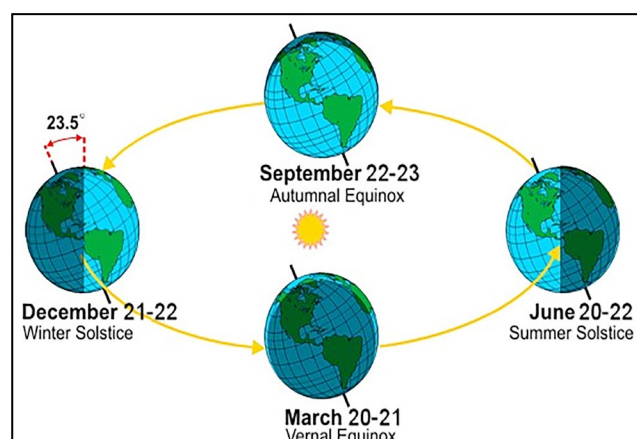
The vernal equinox is observed on March 21st 2023.

What is Equinox?

➤ About:

- Equinox happens twice a year when the sun is directly above the equator, and it **occurs on approximately 21st March and 23rd September**.
- During an equinox, both the Northern and Southern Hemispheres **have equal day and night time**. The **vernal equinox (spring equinox)** takes place in the **Northern Hemisphere around 20th or 21st March**, while in the Southern Hemisphere, it happens on 22nd or 23rd September.

- Conversely, during the autumn season in the Northern Hemisphere on 23rd September (autumn equinox), it is springtime in the Southern Hemisphere, and on **21st March**, it is the **opposite**.



Note:

➤ Significance:

- As a result, the Sun is located directly above the equator, and **both hemispheres receive an almost equal amount of sunlight**.
- After the spring equinox, **the northern hemisphere tilts closer to the sun in March, resulting in more hours of daylight**, with earlier sunrises and later sunsets.
- According to Hindu astrology, Vernal Equinox is known as Vasant Vishuva or Vasant Sampat.
- The Spring equinox brings earlier sunrises, later sunsets, and sprouting plants in the northern hemisphere.
- **Later sunrises, earlier sunsets**, chillier winds, and dry and falling leaves are observed in the south of the **equator (southern hemisphere)**.

Gandak River

Why in News?

Recently, under **Namami Gange Program**, the development of **river front** on **Gandak River** in the district of Gopalganj, Bihar has been undertaken and two Ghats have been constructed.

- River Gandak was declared as **National Waterway (NW)-37** from Bhaisalotan Barrage to Gandak and Ganga River confluence at Hajipur, Bihar along with **111 NWs in the country wide National Waterways Act, 2016**.

What are the Key Facts about River Gandak ?

➤ About:

- The river Gandak, is also known as the **Gandaki and Narayani River in Nepal**. It is a significant river that flows through the **northern part of India and Nepal**.
- **Valmiki National Park and Tiger Reserve** in Bihar is located on the banks of this river.

➤ Source:

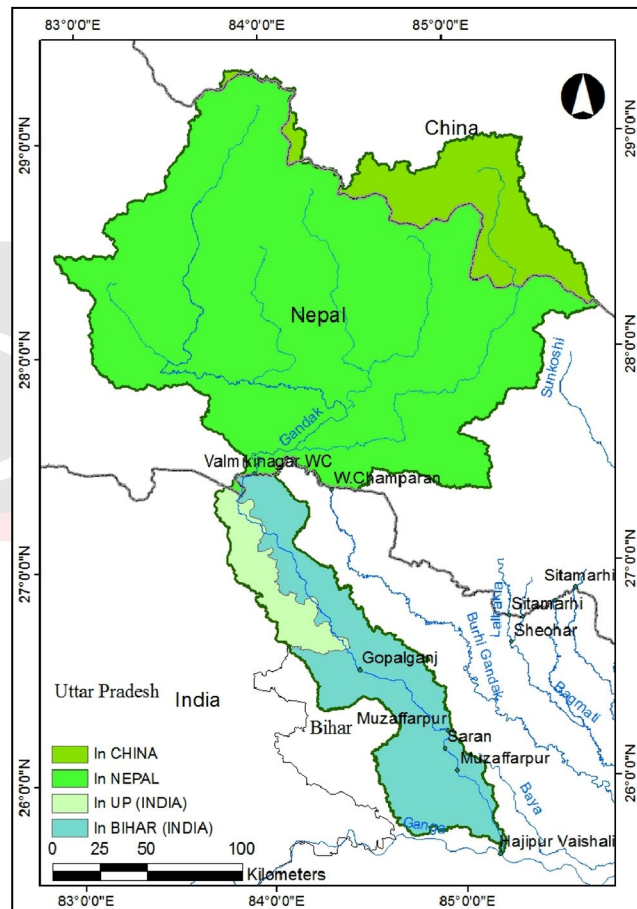
- The river Gandak originates at an altitude of 7620 m above main sea level in the **north of Dhaulagisi in Tibet near Nepal border**. Originating from the Himalayas, the river stretches over a length of 630 kilometers, with 445 kilometers running through India and 185 kilometers in Nepal.

➤ Drainage Basin:

- The Gandak River has a total drainage basin area of 29,705 square kilometers.
- The river **flows through the Indian states of Bihar and Uttar Pradesh**, and joins the **Ganges** near Patna just downstream of Hajipur.

➤ Tributaries:

- The major tributaries of the Gandak River include the Mayangadi, Bari, Trisuli, Panchand, Sarhad, Budhi Gandak.



What is

National Waterways Act-2016?

- The **National Waterways Act, 2016** is an act of the Indian parliament that was passed in March 2016. The act provides for the declaration of 111 waterways as National Waterways in India, including inland rivers, and **canals**.
- The act aims to promote the development of inland water transport and provide an alternative mode of transportation for goods and passengers.

Note:

Africa's Rift Valley and the Creation of a New Ocean Basin

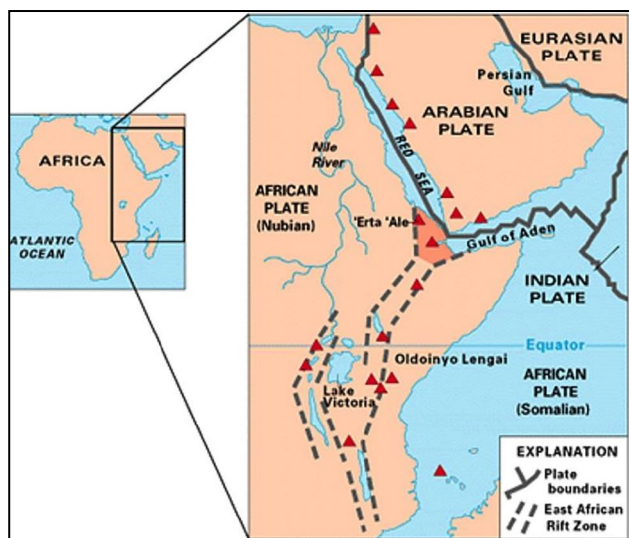
Why in News?

In 2020, a study revealed that the gradual separation of the **African continent** is leading to the formation of a new ocean basin.

- The division of the continent is connected to the **East African Rift (also called the Great Rift Valley)**, a crack that stretches 56 kilometres and appeared in the desert of Ethiopia in 2005, triggering the formation of a new sea.

What are the Factors Responsible for Africa's Rifting Plates?

- **Factor:**
 - The three plates — the **Nubian African Plate, Somali African Plate and Arabian Plate** — are separating at different speeds.
 - The **Arabian Plate is moving away from Africa** at a rate of about an inch per year, while the **two African plates are separating even slower**, between half an inch to 0.2 inches per year.
 - In the past **30 million years**, the **Arabian Plate has been gradually moving away from Africa**, which has already led to the creation of the **Red Sea and the Gulf of Aden**.



➤ Possible Outcome:

- As the **Somali and Nubian tectonic plates** continue to pull apart from each other, a **smaller continent will be created** from the rift, which will include **present-day Somalia and parts of Kenya, Ethiopia, and Tanzania**.
- The **Gulf of Aden and the Red Sea** will eventually flood into the **Afar region in Ethiopia and the East African Rift Valley**, leading to the formation of a new ocean.
 - This new ocean will result in **East Africa becoming a separate small continent with its own unique geographic and ecological characteristics**.
- The necessary separation of the Somali and Nubian tectonic plates will take **5 to 10 million years** to create a new ocean basin.

➤ Current Situation:

- While the rifting process has been occurring for some time, the potential division made headlines worldwide in **2018** when a **large crack emerged in the Kenyan Rift Valley**.

What are the Opportunities and Challenges of this Rifting?

➤ Opportunities:

- The **emergence of new coastlines** will unlock a **myriad of opportunities** for economic growth in countries (e.g., landlocked countries, such as **Uganda and Zambia**), that will have access to **new ports for trade, as well as fishing grounds** and subsea internet infrastructure.

➤ Challenges:

- **Displacement and Habitat Loss: Displacement of communities, settlements, and habitat loss** of various flora and fauna are consequences that will lead to **environmental degradation**.
 - The necessary **evacuation of people and the potential loss of lives** will be an **unfortunate cost of this natural phenomenon**.
 - As of 2015, more than **15 million people were internally displaced in Africa**, according to the **United Nations Environment Programme** report on displacement and environment.
- **Pressure on Natural Resources: Rapid urbanisation** and increased settlements will put **pressure on natural resources**, leading to a scarcity of water, energy, and food.

Note:

- **Uncontrolled waste disposal** will also be a significant concern.
- **New Faults:** The separation of the Nubian and Somali plates can **result in the formation of new faults, fissures, and cracks** or the reactivation of pre-existing faults, leading to seismic activity.

What is Rifting?

- The **Earth's lithosphere** is divided into **several tectonic plates** that move in relation to each other at varying speeds.
 - **Tectonic forces** not only move the plates but also have the potential to cause them to rupture, resulting in the **formation of a rift and potentially leading to the creation of new plate boundaries.**
- Rifting refers to the geological process in which a **single tectonic plate is split into two or more plates** separated by divergent plate boundaries.
 - This process leads to the emergence of a lowland region known as a **rift valley.**
 - **Example: Narmada Rift Valley(India), Baikal Rift Valley(Russia).**

What is Great Rift Valley?

- The Great Rift Valley is a massive geological formation that stretches around **6,400 kilometers from northern Syria to central Mozambique in East Africa.**
- The valley is home to the **Jordan River**, which flows through the Jordan Valley and eventually empties into the Dead Sea on the border between Israel and Jordan.
- The **Gulf of Aden** is an eastward continuation of the **Rift**, and from there it extends southeastward as **part of the mid-oceanic ridge of the Indian Ocean.**
- In eastern Africa, the **valley divides into the Eastern Rift and the Western Rift.** The Western Rift, also known as the **Albertine Rift**, contains some of the **deepest lakes** in the world.

International Day of Action for Rivers 2023

Why in News?

Every year on March 14, the **International Day of Action for Rivers (IDAR)** is observed to promote awareness of the importance of the river systems on the planet earth.

- This year, the 25th anniversary of the day was observed. The day was earlier known as International Day against **Dams**, for Rivers, Water, and Life.

What are the Key Points Related to IDAR?

- **Theme:** Rights of Rivers.
 - It calls for the **designation of rivers as a national treasure.**
- **History:**
 - The participants of the First International Meeting of People Affected by Dams held in March 1997 in Curitiba Brazil adopted the International Day of Action Against Dams and For Rivers, Water, and Life.
- **Significance:**
 - It demonstrates how crucial rivers are to sustaining human life.
 - Rivers and other freshwater environments are **crucial sources of clean water for agriculture and drinking but** are sadly being subjected to significant quantities of **pollution** and contamination by both the general people and industries.
 - The day tries to focus on the **uneven access to clean water and the pollution occurring due to human activities.** This is the reason behind the increase in the pollution of freshwater.

Zojila Pass and Razdan Pass Reopen After Short Winter Closure

Why in News?

The **Border Roads Organisation (BRO)** has announced that the **strategic Zoji La Pass**, located at an altitude of **11,650 feet** in the **Greater Himalayan Range**, has been reopened after a winter closure.

- Similarly, the **Razdan Pass**, which connects the **Gurez sector to the Kashmir Valley**, has also been reopened after a brief winter closure.
- Snow clearance operations were undertaken by **Project Beacon and Vijayak** from both sides of the pass.

What is the Significance of Zoji La Pass?

- Zoji La is a **high mountain pass located in the Kargil district of Ladakh.**

Note:


- The pass links **Leh and Srinagar** and provides an important link between **Union Territories of Ladakh and Kashmir**.
- Zoji La pass remains closed during winters due to heavy snowfall, **cutting off Ladakh region from Kashmir**.
- In 2018, the **Zoji La tunnel project was launched**. The tunnel is **Asia's longest and strategic bi-directional tunnel**, which will provide all-weather connectivity between **Srinagar, Kargil and Leh**.

What are the Other Important Passes in India?

MAJOR PASSES IN INDIA

FACTS

- **Umling La** pass located in Eastern Ladakh has recently become the **world's highest motorable pass** (Project Himank).
- **Lipu Lekh Pass** is located close to the **tri junction of Uttarakhand (India), China and Nepal**.
- **Nathu La** (Sikkim) is situated on the **Indo-Tibetan border**. It is one of the three open trading passes between India and China (other two: **Shipki La and Lipu Lekh Pass**).
- **Naku La**, located in Sikkim, was recently in news due to the **Indo-China face-off along the LAC at the pass**.
- **Zoji La** links Leh with Srinagar and is known as the "**Mountain Pass of Blizzards**". The Zojila tunnel is **Asia's longest tunnel**.
- **Dungru La** (or **Mana**) Pass connects India and Tibet. It is **located in the Nanda Devi Biosphere Reserve** of the Zaskar mountain range (Uttarakhand). Even Indian nationals **need prior permits from the Army** to travel through this pass.
- **Rohtang Pass** (Himachal Pradesh) is situated in the **Pir Panjal Range** of the great Himalayas and **connects Kullu Valley with Lahaul and Spiti Valleys**.
- The **widest gap of Western Ghats is at Palakkad (or Pal Ghat)** in Kerala adjoining Tamil Nadu.


Drishti IAS

Note:

What are the Related Indian Initiatives?

- **Namami Gange Programme:** It is an Integrated Conservation Mission, approved as a 'Flagship Programme' by the Union Government in June 2014 to accomplish the twin objectives of effective abatement of pollution and conservation and rejuvenation of National River Ganga.
 - Ganga was declared as the '**National River**' of India in 2008.
- **Ganga Action Plan:** It was the first River Action Plan that was taken up by the Ministry of Environment, Forest and Climate Change in 1985, to improve the water quality by the interception, diversion, and treatment of domestic sewage.
 - The **National River Conservation Plan** is an extension to the Ganga Action Plan.
- **National River Conservation Plan (NRCP):**
 - NRCP is the Centrally Sponsored Scheme implemented **for abatement of pollution in identified stretches of rivers in the country, excluding those in Ganga basin**, by providing financial and technical assistance to the States/Union Territories (UTs) on cost sharing basis.
- **National River Rejuvenation Mechanism:**
 - The **National Green Tribunal (NGT)** directed the Ministry of Jal Shakti to devise an appropriate National River Rejuvenation Mechanism for effective monitoring of steps **to curb pollution and for rejuvenation of all polluted river stretches across the country.**



Note:

Miscellaneous

Highlights

- World Happiness Report 2023
- Power Generating from Defunct Gold Mines
- CMR Release Guidelines for AI Use in the Health Sector

World Happiness Report 2023

Why in News?

Recently, the **UN Sustainable Development Solutions Network** released the **World Happiness Report 2023** which ranks countries on happiness.

What is World Happiness Report?

- Since 2012, the World Happiness Report has been **released annually around March 20th as part of the International Day of Happiness celebration.**
- The **report ranks global happiness basis survey data from people** in over 150 countries.
- This year, the report ranked 136 countries.
- The **ranking uses six key factors** to measure happiness — **social support, income, health, freedom, generosity, and absence of corruption.**
- Besides ranking the countries, the report also looks at the state of the world in 2023.

What about the Performance of the Countries?

- **Top Performers:**
 - For the sixth year in a row, **Finland** has been crowned as **the happiest nation, Denmark is at number two**, followed by Iceland at number three.
 - Unlike previous years, where the same countries tend to appear in the top 20, there's **a new entrant this year — Lithuania (at the 20th spot).**
- **Worst Performers:**
 - **Afghanistan** was ranked as the **unhappiest nation**, followed by Lebanon, Sierra Leone, Zimbabwe, respectively.
- **India's Performance:**
 - **India ranks at 126th position out of 136 countries**, making it one of the least happy countries in the world.

- In 2022, India ranked 136th position out of 146 countries.

- It even **lags behind its neighbouring nations like Nepal, China, Bangladesh and Sri Lanka.**

How Russia and Ukraine are ranked?

- The countries are **ranked above India.**
- Russia ranked **70th** and Ukraine **92nd.**

What is Sustainable

Development Solutions Network (SDSN)?

- In 2012, the UN SDSN was launched under the auspices of the **UN Secretary-General.**
- SDSN promotes integrated approaches to implement the **Sustainable Development Goals (SDGs)** and the Paris Agreement on Climate Change, through education, research, policy analysis, and global cooperation.

Power Generating from Defunct Gold Mines

Why in News?

Recently, an Australian renewable-energy company Green Gravity has proposed a scheme to generate electricity from the defunct **Kolar Gold Fields (KGF), in Karnataka, using Low-Tech Gravity Technology.**

What is the Mechanism of the Technology?

- The plan is to find defunct mines, which often go hundreds or thousands of meters deep, and haul a **Weighted Block**, that may be around 40 tonnes, up to the top of the mine shaft **using renewable power during the day.**
- When backup power is required, the heavy block will fall, under gravity, and the **ensuing momentum will power a generator** via a connected shaft (or rotor).

Note:



- The depth to which the block can slip can be determined via a braking system, thus giving control on the amount of power that can be produced.
 - This is similar to the **pumped hydropower storage method**, where water is pumped uphill electrically into a reservoir, and then released downhill to move a turbine and generate electricity as needed, as in a hydroelectric power plant.

What is the Significance of this Technology?

- A hiccup that makes renewable energy unreliable is that there is no power during nights or windless days. Charging a battery to use as a backup **during this downtime hikes power prices**.
- Low-tech Gravity Technology can help address this challenge. This technology may use **more energy than produced** but when accounting for being able to make renewable energy available at off-peak hours, can **mean less reliance on coal-produced power and access to reliable power**.
- Using weighted blocks instead of water means that decommissioned mines can be put to use and the environmental costs and **challenges of moving water up can be avoided**.

What are the Key Facts of Kolar Gold Fields?

- Kolar Gold Fields (KGF) is a mining region located in the Kolar district of Karnataka. It is known for its **historic gold mines, which were among the deepest in the world**.
- Mining in KGF was started by Jhon Taylor & Sons in 1880.
- The mines remained active for 121 years before it experienced an unsystematic closure on February 28, 2001. The mines were closed owing to high operational costs and low revenues.
- Apart from mining Gold, the mines have also been used in particle physics experiments where research teams have discovered elusive, cosmic particles called atmospheric neutrinos.
 - Currently, India has three working gold mines in the country -- Hutti and Uti mines in Karnataka and the Hirabuddini mines in Jharkhand.
 - India's gold production is around 1.6 tonnes a year, compared to the 774 tonnes a year of gold that it consumes.

CMR Release Guidelines for AI Use in the Health Sector

Why in News?

Recently, **Indian Council of Medical Research (ICMR)** issued a guiding document- "The Ethical Guidelines for Application of AI in Biomedical Research and Health care", which outlines 10 key patient-centric ethical principles for **Artificial Intelligence (AI)** application in the health sector.

- **Diagnosis and screening, therapeutics, preventive treatments**, clinical decision-making, public health surveillance, complex data analysis, predicting disease outcomes, behavioral and mental healthcare and health management systems **are among the recognized applications of AI in healthcare**.

What are the 10 Guiding Principles?

- **Accountability and Liability Principle:** It underlines the importance of regular internal and external audits to ensure optimum functioning of AI systems which must be made available to the public.
- **Autonomy Principle:** It ensures human oversight of the functioning and performance of the AI system. Before initiating any process, it is also critical to attain consent of the patient who must also be informed of the physical, psychological and social risks involved.
- **Data Privacy Principle:** It mandates AI-based technology should ensure privacy and personal data protection at all stages of development and deployment.
- **Collaboration Principle:** This principle encourages interdisciplinary, international collaboration and assistance involving different stakeholders.
- **Safety and Risk Minimization Principle:** This principle aimed at preventing "unintended or deliberate misuse", anonymized data delinked from global technology to avoid cyber-attacks, and a favorable benefit-risk assessment by an ethical committee among a host of other areas.
- **Accessibility, Equity and Inclusiveness Principle:** This acknowledge that the deployment of AI technology assumes widespread availability of appropriate infrastructure and thus aims to bridge the digital divide.

Note:

- **Data Optimization:** Poor data quality, inappropriate and inadequate data representations may lead to biases, discrimination, errors and suboptimal functioning of the AI technology.
- **Non-Discrimination and Fairness Principles:** In order to refrain from biases and inaccuracies in the algorithms and ensure quality AI technologies should be designed for universal usage.
- **Trustworthiness:** In order to effectively use AI, clinicians and healthcare providers need to have a simple, systematic and trustworthy way to test the validity and reliability of AI technologies. In addition to providing accurate analysis of health data, a trustworthy AI-based solution should also be lawful, ethical, Reliable and valid.

Note: India has a host of frameworks which marry technological advances with healthcare. These include the **Digital Health Authority for leveraging Digital health Technologies under the National Health Policy (2017)**, the Digital Information Security in Healthcare Act (DISHA) 2018 and the Medical Device Rules, 2017.

Conclusion:

- AI cannot be held accountable for the decisions it makes, **so an ethically sound policy framework is essential to guide the AI technologies** development and its application in healthcare. Further, as AI technologies get further developed and applied in clinical decision making, it is important to have processes that discuss accountability in case of errors for safeguarding and protection.



Note:

Rapid Fire Current Affairs

Highlights

- India Exempts Import Duty on Rare Disease Drugs and Food
- ISRO Releases Global Earth Mosaic Captured by EOS-06 satellite
- Shyamji Krishna Varma
- Tiwa Tribes Celebrates Yangli Festival in Assam
- NGT Imposes Penalty on Kerala Govt. for Failing to Protect Ramsar Sites
- Saudi Arabia Joins Shanghai Cooperation Organization as a Dialogue Partner
- Indian Coast Guard's Regional Search and Rescue Exercise 96
- Upward Lightning
- SMILE and SHRESHTA Scheme
- Initiatives Against Cyber Crime
- Conducive Policy in J&K
- India and Romania Defence Cooperation
- Affinity Test can Never be Conclusive: SC
- Finance Bill, 2023
- New NCERT Textbooks & Panchaadi Way
- State of School Feeding Worldwide 2022
- First Cable-Stayed Railway Bridge of India
- Sacred Hopi Site in Arizona
- Women's World Boxing Championship
- Pradhan Mantri Ujjwala Yojana
- Radioactive Tsunami
- DigiClaim
- Abel Prize
- Sarus Crane
- Ram Manohar Lohia
- Lingayats, Vokkaligas' Share in Reservation
- Exercise Konkan 2023
- International Day for Elimination of Racial Discrimination
- Shaheed Diwas
- World Meteorological Day
- Sharda Peeth
- World Water Day
- INS Androth
- World Down Syndrome Day
- Substance Abuse in India
- World Sparrow Day
- herSTART
- Kalanidhi Awards 2023
- Enemy Properties
- Tamil Nadu TB Death Free Project (TN-KET)
- Kudumbashree and Unnathi Programme
- Matua Mahamela
- Horseshoe Crabs Disappearing off Odisha Coast
- India moots Action Plan to Mark 2023 as Year of Tourism Development at SCO Meet
- President's Colour to INS Dronacharya
- Research, Education and Training Outreach (REACHOUT) Scheme
- BIS Launches 'Learning Science via Standards' Series
- Atal Innovation Mission Launches ATL Sarthi
- Bumchu Festival: Sikkim
- Procedure for Inclusion of Communities in Scheduled Tribes List
- Parliamentary Standing Committee Flags cut in MGNREGS Budget
- IMD launched 7 Services on UMANG Mobile App
- O-SMART Scheme

India Exempts Import Duty on Rare Disease Drugs and Food

The Indian government has announced an **exemption on basic customs duty for all drugs and food used for special medical purposes** that are imported for personal use to treat **rare diseases**.

The exemption will become effective from April 1, 2023. **Pembrolizumab (Keytruda)**, a medication used to

treat various **cancers**, has also been **exempted from basic customs duty**. Previously, drugs and medicines that were used to treat **Spinal Muscular Atrophy or Duchenne Muscular Dystrophy** were provided with exemptions.

The individual importer must provide a certificate from the **Central or State Director Health Services or District Medical Officer/Civil Surgeon** of the district to avail of the exemption. The treatment for rare diseases can be very expensive, and this exemption will result in **substantial cost savings for patients**.

Note:



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Read More: [Custom Duty](#), [Rare Diseases](#).

ISRO Releases Global Earth Mosaic Captured by EOS-06 satellite

The **Indian Space Research Organisation (ISRO)** has recently released a **Global False Colour Composite (FCC)** mosaic of images captured by the **Ocean Colour Monitor (OCM)** payload on board the **EOS-06 satellite**.

The **OCM** senses the Earth in **13 distinct wavelengths** to provide information about **global vegetation cover on land and ocean biota** for **global oceans**.

Launched by ISRO in November 2021, the **EOS-06 satellite** is the **third generation** in the **Oceansat series** and is equipped with **four payloads** to observe **ocean colour data**, **sea surface temperature**, and **wind vector data** for **climatic and meteorological applications**, among other things.

Read More: [EOS-06 Satellite](#), [Oceansat](#)

Shyamji Krishna Varma

On March 30, 2023 the **death anniversary of Shri Shyamji Krishna Varma** was commemorated.

Shyamji Krishna Varma was a **prominent Indian revolutionary** who played a **significant role in the country's freedom struggle** against **British colonial rule**. He was known for his strong nationalist ideals and courage, which inspired many other leaders of the time.

He also established the **Indian Home Rule Society in London**, which provided a **platform for Indian students to voice their opposition to British rule**. His contributions to the Indian independence movement are widely recognized and celebrated in India.

Read More: [India's Freedom Struggle](#)

Tiwa Tribes Celebrates Yangli Festival in Assam

Tiwa tribesmen in Assam celebrate the Yangli festival once every three years to mark the beginning of the **sowing season**.

The **Yangli festival**, which is related to agriculture, is a significant event for the Tiwas as **farming is the main source of income for their community**.

During the festival, the Tiwas perform dances and offer **prayers for a successful harvest**, seeking protection for their crops from pests and natural calamities.

Read More: [Tiwa tribe](#).

NGT Imposes Penalty on Kerala Govt. for Failing to Protect Ramsar Sites

The **National Green Tribunal (NGT)** has imposed a penalty of **Rs 10 crore on the Kerala government** for failing to protect two wetlands, **Vembanad and Ashtamudi lakes**, which are included in the **Ramsar list of wetlands**. The wetlands have become polluted due to the **dumping of pharmaceutical waste, plastic waste, household waste, and slaughterhouse waste**.

Vembanad, Kerala's largest **wetland ecosystem** was designated as a Ramsar site back in **2002**. According to a recent study by the **Kerala University of Fisheries and Ocean Studies**, **Vembanad lake's water retention capacity has decreased by 85%** in the last 120 years due to encroachment and devastation of its ecology.

Ashtamudi lake, home to several plant and bird species, was included in the **Ramsar list in August 2002**. Since then, little has been done to safeguard the site which is currently experiencing a **notable build-up of waste**.

The **Kerala Legislative Assembly's Environment Committee** has listed several proposals, including the formation of the **Ashtamudi Wetland Management Authority**, to protect the site. It recommended **immediate regulations to control unlawful demolition and dumping of boats in the lake** and directed the **state pollution control board to check the coliform bacteria and oxygen levels** in the lake every three months.

Read More: [Ramsar Sites](#).

Saudi Arabia Joins Shanghai Cooperation Organization as a Dialogue Partner

Saudi Arabia has approved to join the **Shanghai Cooperation Organization (SCO)** as a dialogue partner.

Note:

The **SCO was formed in 2001** by Russia, China, and former Soviet states in Central Asia, and has since expanded to **include India and Pakistan**. It aims to play a bigger role as a **counterweight to Western influence in the region**.

Iran also signed documents for full membership in 2022. The **dialogue partner status** for Saudi Arabia will be a first step within the organisation before **granting the kingdom full membership** in the mid-term.

Countries belonging to the organisation plan to hold a joint **“counter-terrorism exercise”** in Russia’s Chelyabinsk region in **August 2023**.

Indian Coast Guard’s Regional Search and Rescue Exercise

The **Indian Coast Guard** recently conducted a **Regional Search and Rescue exercise** in Kakinada, Andhra Pradesh, to simulate a **real-time maritime distress scenario** and highlight the functioning of the Search and Rescue organization (SAR) for a mass rescue operation.

The exercise involved all stakeholders and effectively used available resources towards **Maritime Search and Rescue contingency** efficiently.

Sea area off Kakinada was chosen as the venue for the exercise **considering the large-scale exploration and production activities in the Krishna Godavari basin** which makes the area potential for emergencies necessitating large scale SAR response.

Read More: **Indian Coast Guard**

Upward Lightning

Researchers in Brazil have captured images of **“upward lightning”** or **“upward flashes”**.

This phenomenon occurs when a **self-initiated lightning streak** develops from a tall object and **travels upward towards an electrified storm cloud**. The phenomenon **requires storm electrification and the presence of a cloud charge** region.

The vertical elevation of a tall object emphasises the electric field locally on the ground, resulting in **conditions favourable for the initiation of an upward streak** from a tall object.

The process is also triggered by the **development of a stepped leader**, which is a channel of **negative charge that travels downward in a zigzag pattern from a cloud**, leading to an **intensification of the positive charge on the ground**.

The negatively charged, **downward-moving stepped leader makes contact with one of the developing positively charged upward streamers**, completing the **lightning channel**, and causing charges to flow rapidly from the cloud towards the ground.

Read More: **Lightning Streak**

SMILE and SHRESHTA Scheme

The **Ministry of Social Justice & Empowerment** in India is implementing two schemes: **The Scheme for Residential Education for Students in High Schools in Targeted Areas (SHRESHTA)** and the **Support for Marginalized Individuals for Livelihood and Enterprise (SMILE)**.

SHRESHTA provides **financial assistance to NGOs for education projects related to students belonging to Scheduled Castes**, with three types of projects covered they are **Residential Schools, Non-Residential Schools, and Hostels, both for Primary and Secondary Students**. The scheme has been revised and a new component, Mode-I, has been added for **quality residential education for meritorious SC students in top-class residential High Schools** through a nationwide entrance test conducted by **National Testing Agency (NTA)**.

SMILE, on the other hand, supports **marginalized individuals for livelihood and enterprise, but does not specifically cover persons belonging to Scheduled Castes**.

Read more: **SHRESHTA , SMILE**

Initiatives Against Cyber Crime

The Indian government has taken several measures to combat cybercrime and other criminal activities in the country. The **Indian Cyber Crime Coordination Centre (I4C)** has been established under the **Ministry of Home Affairs** to provide a **platform for dealing with cybercrimes in a coordinated and comprehensive manner**.

Note:

The I4C has recommended the **blocking of over 500 internet-based applications**, which were found to be involved in criminal activities. In addition, the **National Database of Offends of Foreign Origin (NDOFO)** has been launched, which is a **registry of foreigners involved in crime in India and has details of convicted and accused foreign offenders**

The **National Database of Sexual Offenders (NDSO)** is another initiative that has a **searchable registry of convicts involved in sexual offences such as rape, molestation, stalking, and child abuse**. The NDSO has a record of 13 lakh offenders so far. To further combat financial fraud, a **cyber fraud helpline number 1930 has been established**. If a victim of financial fraud complains immediately on the toll-free number, agencies can freeze the SIM card and bank account involved in the crime, increasing the chance of recovering the money.

Read more: [Cyber crimes](#)

Conducive Policy in J&K

During the annual session of the **Associated Chambers of Commerce and Industry (ASSOCHAM)**, Indian government highlighted its efforts to create a **conducive environment for investment in Jammu and Kashmir (J&K)** through improved law and order situations and policies.

The government is also working towards reducing **logistics costs to 7.5% of GDP from the current 13%**, as development without the development of infrastructure and reduction of logistics costs is not possible. To achieve this, the government has planned to invest ₹100 lakh crore in infrastructure, including mega projects such as **doubling railway lines, dedicated freight corridors, and 11 industrial corridors**.

Read More: [Jammu and Kashmir](#)

India and Romania Defence Cooperation

The **Department for Defence Policy, Planning and International Relations of Romania** held a bilateral meeting with Indian officials. The meeting covered a wide range of issues, including **military to military cooperation, military training and courses, defence co-development and co-production, and capacity building**.

The **two countries signed an Agreement on Defence Cooperation**, further enhancing bilateral defence

cooperation. During the meeting, both sides discussed regional security challenges and expressed their commitment to work together to enhance cooperation in all defence sectors.

This meeting reflects the growing partnership between India and Romania in the field of defence, as both countries seek to strengthen their capabilities and promote stability and security in the region.



Affinity Test can Never be Conclusive: SC

According to the Supreme Court's judgment, **an affinity test cannot be an effective and definite way to decide a caste or tribe claim**.

An affinity test mandates the **study and preparation of a report by authorities on caste/tribe claims based on the peculiar anthropological and ethnological traits, deities, rituals, customs, mode of marriage, death ceremonies, methods of burial of dead bodies, etc, of the particular caste or tribe and the applicant's knowledge of them**.

Read More: [Supreme Court](#)

Finance Bill, 2023

The government of India recently completed its Budgetary exercise for 2023-24, **with both Houses of Parliament approving the Finance Bill, 2023**, along with a fresh amendment introduced by the Finance Minister

Note:



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to rectify an error in **Securities Transaction Tax (STT)** rates on options contracts in the earlier version of the Bill.

While the **Finance Bill** contains provisions on financing the expenditure of the government, an Appropriation Bill specifies the quantum and purpose for withdrawing money. Both appropriation and finance bills are classified as **money bills** which do not require the explicit consent of the Rajya Sabha. The Rajya Sabha only discusses them and returns the bills.

Once the Lok Sabha passes the budget of the government or any other money-related law, the Rajya Sabha cannot reject it. The Rajya Sabha can only delay it by 14 days or suggest changes in it, however, the former may or may not accept these changes.

Read More: [Rajya Sabha & Lok Sabha](#)

New NCERT Textbooks & Panchaadi Way

After nearly two decades, school students at all levels will learn from updated National Council of Educational Research and Training (NCERT) textbooks to be introduced in the 2024-25 academic year. This is in keeping with the National Education Policy 2020 and **National Curriculum Framework (NCF)** which was released in August 2022. The textbooks will be developed in 22 languages.

Currently, the government has released NCF for pre-school to Class 2, for children aged between three and eight years. The framework for other classes is yet to be rolled out.

NCF, in its guidelines, has emphasised that students' learning should be planned to keep in mind Indian roots and has proposed a five-step learning process or panchaadi for children at the preschool or foundational level. Panchaadi includes **aditi** (introduction of a topic), **bodh** (conceptual understanding), **abhyas** (practice), **prayog** (application), and **prasar** (expansion).

Read More: [National Council of Educational Research and Training \(NCERT\)](#), [National Education Policy 2020](#)

State of School Feeding Worldwide 2022

According to the World Food Programme's (WFP) report the State of School Feeding Worldwide 2022, the number of children fed by school meals has fallen by

approximately 4% in low-income countries, with the most significant declines observed in Africa. The analysis is based on a sample of 176 countries, up from 163 countries in 2020.

As per the study, high-income, upper-middle-income and lower-middle-income countries showed a consistent, modest increase of 4%, 4% and 12%, respectively. It highlighted the need for external development partners to target support in low-income countries particularly.

Despite other post-pandemic demands and cash constraints, low-income countries have increased their domestic funding for school meals from 30% in 2020 to 45% in 2022.

Of the 30 million increases in the number of children receiving school meals between 2020 and 2022, the five countries: Brazil, Russia, India, China and South Africa accounted for 19 million of the increase in the number of children fed.

Read More: [World Food Programme's \(WFP\)](#), [School Feeding Programme](#)

First Cable-Stayed Railway Bridge of India



The first cable-stayed railway bridge of India on the Anji river (a tributary of the **Chenab River**) in Jammu and Kashmir is expected to be ready by May 2023.

Anji bridge between Katra and Reasi stations falls in the Reasi district of the Union Territory of Jammu and Kashmir. The upcoming structure is part of the ambitious Udhampur-Srinagar-Baramulla-Rail Link (USBRL) project. The project was declared a National Importance Project in March 2002. It is also the biggest mountain railway project since independence.

The bridge will also have an integrated monitoring system with numerous sensors installed at various locations.

Note:



Read More: [Jammu & Kashmir](#)

Sacred Hopi Site in Arizona



A site located in Arizona, United States and sacred to the Hopi Native American Nation has **been awarded** a 'Water and Heritage Shield' by the International Committee on Monuments and Sites International Science Committee (ICOMOS ISC). The Shield was awarded to the **Black Mesa Trust (BMT)**, a Hopi grassroots organisation.

The **purpose of the Shield** is to help the public become aware of the significance of water and indigenous sacred sites all over the world and the right to cultural and historical memory.

The Hopi have been known for their unique reverence to the environment. The Hopi consider the Sípàapu to be the place from where their ancestors emerged from another world into this one.

The Sípàapu is a **rocky dome made of limestone** as well as a **spring located on the Little Colorado river**, a tributary of Colorado. Little Colorado joins the main stem of the river within the **Grand Canyon**, a **UNESCO World Heritage Site**.

ICOMOS ISC is a **non-governmental international organisation dedicated to the conservation of the world's monuments and sites**. It helps the United Nations to recognise heritage globally.



Read More: [International Committee On Monuments and Sites \(ICOMOS\)](#)

Women's World Boxing Championship



Recently, **Nikhat Zareen (2nd world title)** and **Lovlina Borgohain (1st world title)** won **two gold medals for India** in the **Women's World Boxing Championship**.

The Women's World Boxing Championship was **organised by the International Boxing Association (IBA)**. The mission of IBA is to **promote, support and govern the sport of boxing worldwide** in accordance with the requirements and spirit of the Olympic Charter.

Note:



The Olympic Charter is the **codification of the fundamental principles of Olympism**, and the rules and **bye-laws** (a set of rules or laws established by an organization or community so as to regulate itself) **adopted by the International Olympic Committee**.

Read More: [Women's World Boxing Championship](#)

Pradhan Mantri Ujjwala Yojana

Recently, the Central government extended the grant of a **subsidy of Rs. 200 per gas cylinder under the Pradhan Mantri Ujjwala Yojana (PMUY) for another year**, benefiting 9.59 crore beneficiaries. The subsidy is **credited directly to the bank accounts of eligible beneficiaries**. In the wake of sharp increases in international **Liquefied Petroleum Gas (LPG)** prices due to various geopolitical factors, the government has decided to shield PMUY beneficiaries from high LPG prices. PMUY is a government flagship scheme launched in 2016 by the Government of India with the **aim to make LPG available to economically weaker households in India**. The scheme **aims to safeguard the health of women and children by providing them with clean cooking fuel (LPG)**.

Read More: [Pradhan Mantri Ujjwala Yojana](#)

Radioactive Tsunami

North Korea claims to have tested a **nuclear-capable underwater drone** named "Haeil," a Korean word meaning tidal waves or tsunamis **designed to generate a gigantic "radioactive tsunami"**. A radioactive tsunami is a speculative phenomenon that could occur if a nuclear explosion occurred underwater. The drone can be deployed from the coast or towed by surface ships and is built to **"stealthily infiltrate into operational waters and make a super-scale radioactive tsunami through an underwater explosion"** that would destroy naval strike groups and ports.

DigiClaim

DigiClaim is a **digitized claim settlement module** launched recently under the purview of the **Pradhan Mantri Fasal Bima Yojana (PMFBY)**. With the launch of this module, claims will be disbursed electronically, which will benefit the respective farmers of six states. Insurance

claims totaling Rs 1260.35 crore have been disbursed on 23 March 2023 to insured farmers in the states of **Rajasthan, Uttar Pradesh, Himachal Pradesh, Chhattisgarh, Uttarakhand and Haryana**. The automated claim settlement process will be an ongoing activity to ease all insured farmers' lives and provide them with a **sustainable financial flow and support**. Farmers' claims will be processed directly to their respective bank accounts in a transparent and accountable manner. This technology has been enabled through the integration of the **National Crop Insurance Portal (NCIP) and the Public Finance Management System (PFMS)**.

Read more: [Crop Insurance](#)

Abel Prize

Luis Caffarelli has won the **2023 Abel Prize** for his contributions to **regularity theory for nonlinear partial differential equations, including free-boundary problems and the Monge-Ampère equation**. The Abel Prize is a prestigious award in mathematics that recognizes pioneering **scientific achievements in mathematics**. It is named after Norwegian mathematician **Niels Henrik Abel**. The Norwegian Parliament established the prize in 2002, and it includes a monetary award of 7.5 million kroner (approximately \$720,000) and a glass plaque. It is awarded by the Norwegian Academy of Science and Letters on behalf of the Ministry of Education of Norway.

Read more: [Abel Prize](#)

Sarus Crane

Recently, **Sarus Crane**, Uttar Pradesh's state bird, was recently rescued and transported to Raebareli's **Samaspur Bird Sanctuary**. A day after the bird was taken to the sanctuary, it was claimed that the bird was missing.

The scientific name of Sarus Crane is **Grus Antigone**. It is the **tallest flying bird in the world**, standing 152-156 cm tall with a wingspan of 240cm. The Sarus crane has predominantly **grey plumage with a naked red head and upper neck and pale red legs**. It is known to mate for life with a single partner, and its breeding season coincides with heavy rains during the monsoon season.



Note:

The sarus crane is listed in **Schedule IV of the Wildlife Protection Act of 1972** and as **vulnerable on the IUCN Red List**, and it is predominantly found in **India, Southeast Asia, and Australia**.

Read more: [Sarus Crane](#)

Ram Manohar Lohia

The Prime Minister paid tribute to Dr. Ram Manohar Lohia on his birthday (March 23, 1910 – October 12, 1967).

Ram Manohar Lohia was a prominent figure in socialist politics and in the movement towards Indian independence. He was a committed supporter of **Mahatma Gandhi's non-violent struggle against British rule and participated in the Quit India movement in 1942**.

Lohia's early political career began with the **Congress Party**, where he held the position of secretary of the Foreign Department of the **All-India Congress Committee (A.I.C.C.)**, the Congress Party's highest body.

In 1963 Lohia became a **member of the Lok Sabha** after a by-election in **Farrukhabad (Lok Sabha constituency)**. He also **won the Lok Sabha general election of 1967 from Kannauj (Lok Sabha constituency)** but died a few months later.

Read more: [Ram Manohar Lohia](#)

Lingayats, Vokkaligas' Share in Reservation

The Karnataka High Court removed a stay imposed on the state government's order to create new subgroups of **Other Backward Classes (OBC)** reservation for the dominant **Lingayat and Vokkaliga castes in the state**. The removal of the stay was allowed by a division bench headed by **Chief Justice P B Varale**. At present, the reservation of **Lingayat and Vokkaliga castes stands in Category III (B) with 5% reservation and in Category III (A) with 4% reservation respectively**.

The **Panchamasalis**, which is the largest sub-sect within the Lingayats have been demanding their inclusion under the **OBC 2A Category to avail of the 15% quota** in government jobs and educational institutions.

As per the proposed recommendations, the dominant Vokkaligas and the Lingayats will be identified under the new **OBC categories (2C and 2D)** and by allotting to them **6% of the 10% Economically Weaker Sections (EWS) quota** created by the Centre.

Read more: [Vokkaligas, Lingayats share in Reservation](#)

Exercise Konkan 2023

The Annual Bilateral Maritime Exercise Konkan 2023 was a **joint maritime exercise conducted between the Indian Navy and the Royal Navy of Britain**. The annual military drill was held from **20 to 22 March-2023 off the Konkan coast in the Arabian Sea**.

The Konkan exercise series began in 2004. The exercise exhibited op-readiness, enhanced interoperability, and conducted joint operations. Participating ships included **INS Trishul (Indian Navy), HMS Lancaster (Royal Navy) and Type 23 guided missile frigate**.

The exercises covered all domains of maritime operations, air, surface and sub-surface, and included gunnery shoots on surface **inflatable target 'Killer Tomato'**, helicopter operations, anti-air and anti-submarine warfare drills, Visit Board Search and Seizure (VBSS), ship manoeuvres and exchange of personnel.

Other military exercises of India and the UK include - **Konkan Shakti 2021** (first-ever tri-services joint exercise), **Exercise Indradhanush** (joint air force exercise), **Exercise Ajeya Warrior** (joint military exercise between India's & UK's soldiers)

Read more: [India – UK Relations](#)

International Day for Elimination of Racial Discrimination

Every year **21st March** is marked as the **United Nations' International Day for the Elimination of Racial Discrimination** also known as **End Racism Day** to commemorate the day in 1960 when police opened fire and killed 69 people at a peaceful demonstration in Sharpeville, South Africa, against **apartheid "pass laws"**.

The Pass Laws was a system used to **control the movement of Black, Indian and Colored people in South Africa**. The pass said which areas a person was allowed

Note:

to move through or be in and if a person was found outside of these areas they would be arrested. **The 2023 theme of the International Day for the Elimination of Racial Discrimination** focuses on the **urgency of combatting racism and racial discrimination**. The day aims to be an opportunity to “recognize the contribution of individuals and organizations that stand up against racial discrimination and the challenges they face”.

Read more: [International Day for the Elimination of Racial Discrimination](#)

Shaheed Diwas

Shaheed Diwas is celebrated across India on **23rd March since 1931** to remember the sacrifices made by three freedom fighters - **Bhagat Singh, Sukhdev Thapar, and Shivaram Rajguru** - who died while leading India's fight for freedom from British rule. The three freedom fighters were hanged by the British Government in 1931. The trio was found guilty of the murder of deputy police superintendent JP Saunders in 1928, to avenge the death of **Lala Lajpat Rai**.

Read more: [Shaheed Diwas](#)

World Meteorological Day

World Meteorological Day is celebrated globally on **23rd March** to commemorate the establishment of the **World Meteorological Organization (WMO)**, which was created in 1950. This year marks **WMO's 150th anniversary**. The theme for World Meteorological Day 2023 is “**The future of weather, climate, and water across generations.**” The themes chosen for World Meteorological Day reflect topical weather, climate, and water-related issues. The day highlights “the essential role that ‘**National Meteorological and Hydrological Services**’ (NMHS) plays in the safety and wellbeing of the society,” the day is also observed to **make people aware of their role in protecting Earth's atmosphere**.

Read more: [World Meteorological Day](#)

Sharda Peeth

Recently, Home Minister e-inaugurated **Mata Sharda Devi Temple** dedicated to Goddess **Sharda Devi** and announced that the government of India will attempt to build a **Kartrapur-style corridor** to **Sharda Peeth** as an important step in the direction of discovery of

Sharda-civilization and promotion of **Sharda-script**. Sharda peeth is an abandoned Hindu temple and ancient center of learning. It is located at **Neelum Valley** in **Pakistan-occupied Kashmir** across Teetwal village in Jammu and Kashmir's Kupwara district along the **Line of Control**. It is one of the **18 Maha Shakti Peethas** and is considered to be the abode of the Hindu **Goddess Saraswati**. Sharda peeth is the most revered religious place for Kashmiri Pandits.

World Water Day

World Water Day (WWD) is celebrated on **22nd March Every Year**. The **United Nations General Assembly** issued a resolution in 1993 declaring every year March 22 as World Day for Water. The **theme for WWD 2023** is ‘**Accelerating the change to solve the water and sanitation crisis**’, emphasizing the necessity of taking stern action to address the global water crisis.

The main objective of the day is to aware and inspire people to sustainably manage freshwater resources and learn more about water-related issues like water pollution, water scarcity, inadequate water, and lack of sanitation, and take appropriate steps to make a difference. According to the **United Nations**, the idea behind celebrating the day is to “support the achievement of **sustainable development goal (SDG) 6: water and sanitation for all by 2030.**”

Read more: [World Water Day](#)

INS Androth

The **INS Androth**, second in a series of eight **Anti-Submarine Warfare Shallow Water Craft (ASW SWC)**, was launched in Kolkata. INS Androth draws its name from the largest and longest island known as **Androth Island**, in the **Lakshadweep archipelago**. It was built by **Garden Reach Shipbuilders and Engineers (GRSE)** in Kolkata.

INS Androth propelled by **three diesel-driven water jets**, this ship can attain a maximum **speed of 25 knots**. Their primary role of INS Androth is to conduct **anti-submarine operations in coastal waters, low intensity maritime operations and mine laying operations**. These ships are also capable of **full-scale sub surface surveillance of coastal waters and various surface platforms and coordinated ASW operations with aircraft**. These ships may be smaller in size but also carry **lightweight torpedoes**,

Note:

ASW rockets and mines, a close-in weapon system (with a 30 mm gun) and 16.7 mm stabilized remote-controlled guns.

World Down Syndrome Day

Every year since 2006, **March 21** is observed as the **World Down Syndrome Day (WSD)**. To raise awareness about Down syndrome and advocate for the rights, inclusion, and well-being of people with the condition. Down syndrome is a genetic condition that affects people of all races, backgrounds and ethnicity. The day was officially recognized by the **United Nations General Assembly** in 2011. The **Theme for World Down Syndrome Day 2023** is **"With Us Not for Us"**.

Down syndrome happens when there is an **extra copy of the 21st chromosome**, which leads to physical and intellectual disabilities. People with Down syndrome generally have distinct facial features and have several health complications such as **heart defects, hearing and vision problems, and thyroid conditions**. The date was selected because Down syndrome is caused by the presence of a **third copy of the 21st chromosome, and 21/3 (March 21st) represents this genetic condition**

Substance Abuse in India

Recently, in concert with the **Home Ministry's** effort to prosecute drug providers and traffickers, the **Social Justice Ministry** is waging a campaign to diminish drug demand by portraying addicts as victims. According to **The Mental Health Care Act, 2017** substance abuse disorders are included in the definition of mental illness in India. The Union government's measures to address this issue come under the umbrella of the **National Action Plan for Drug Demand Reduction (NAPDDR)**. This involves running the **Nasha Mukta Bharat Abhiyan** in 372 vulnerable districts, 340 integrated rehabilitation centers for addicts, 48 community-based peer-led intervention centers, and 71 outreach and drop-in centers.

Read More: **Mental Healthcare Act, 2017**

World Sparrow Day

Every year on **20th March**, **World Sparrow Day** is observed, it is designated to raise awareness about sparrow conservation and protection, as their numbers are declining globally. The **theme** of World Sparrow Day 2023 is **"I Love Sparrows"**, with the goal of encouraging

more people to appreciate the relationship **between humans and sparrows**. According to the survey conducted by the **Travancore Nature History Society (TNHS)**, The **house sparrow** population in Thiruvananthapuram city has recorded a significant reduction. The decline in population has been attributed to the oppressive heat and a lack of food supplies in the traditional areas of the city.

Read more: **World Sparrow Day**

herSTART

Recently, **Government of India** has launched a **monthly allowance of Rs. 20,000** for up to one year for **women-led Startups** under 'herSTART' platform. **Women-led business enterprises** are playing a noticeable role in society by generating employment opportunities in the country, bringing in demographic shifts and inspiring the next generation of women founders.

herSTART is a platform to **boost innovation and start-up efforts of women** entrepreneurs and also help them connect with various government and private enterprises. In India at least 36 unicorns and potential unicorns in India have at least one-woman founder or co-founder. India is focussing on creating women-led entrepreneurship through initiatives, schemes, networks and communities and activating partnerships among diverse stakeholders in the **Startup ecosystem**.

Currently, As of January 2023, 47 companies' world over has achieved the decacorn status (startups that have a valuation of over 1 billion dollars). Presently, India has **five Startups** namely, **Flipkart, BYJU's, Nykaa, Swiggy and PhonePe** added in the **decacorn unit**.

Kalanidhi Awards 2023

Recently, Carnatic vocalist **Bombay Jayashri**, who is known for her melodic and meditative style of singing and is recognised by a **Padma Shri** from the Indian government has been selected for the **Sangita Kalanidhi award of the Music Academy** for 2023. **Sangita Kalanidhi award** is considered the **highest accolade in the field of Carnatic music**, it came into existence in 1942. The award comprises a **gold medal** and a **birudu patra (citation)**.

Vasanthalakshmi Narasimhachari has been selected for **The Nritiya Kalanidhi award for dance**. Vasanthalakshmi Narasimhachari excels both in **Bharathanatyam** and **Kuchipudi**.

Read more: **Sangita Kalanidhi award**

Note:

Enemy Properties

Recently, the home ministry has begun the process to sell **enemy properties**. These are immovable assets left behind by people who have **taken citizenship in Pakistan and China after wars** with these countries. The guidelines for disposal of enemy properties have been changed, under which the process for eviction of enemy properties now shall be initiated with the help of a **district magistrate** or **deputy commissioner** before the sale of properties.

Enemy properties valued between Rs 1 crore and Rs 100 crore will be disposed of by the **Custodian of Enemy Property of India** an authority created under **the Enemy Property Act, 1968** through an electronic auction or otherwise, as may be decided by the central government and at the rate determined by the **Enemy Property Disposal Committee**.

A survey conducted by the **Directorate General of Defence Estates** will assess the present condition and **value of the enemy properties identified by the CEPI**. There are a total of 12,611 establishments of enemy property, estimated to be worth over Rs. 1 lakh crore, in the country. Out of the 12,611 properties vested with the CEPI, **12,485 were related to Pakistani nationals** and **126 to Chinese citizens**. The **highest number of enemy properties were found in Uttar Pradesh** and **least in Andhra Pradesh and Andaman and Nicobar Islands**.

Tamil Nadu TB Death Free Project (TN-KET)

TN-KET (Tamil Nadu Kasanoi Erappila Thittam, meaning TB death-free project) has achieved significant reduction in the number of early TB deaths. The program is implemented by Tamil Nadu government with the support of **Indian Council of Medical Research- National Institute of tuberculosis research (ICMR-NIRT)** in Chennai and the WHO India.

'**Differentiated TB Care**' as a part of the initiative is aimed at **assessing and triaging** patients to decide **whether people with TB need ambulatory care or admission** in a health facility.

The TN-KET initiative has already achieved the initial target of **80% triaging of patients**, **80% referral**, **comprehensive assessment and confirmation of severe illness**, and **80% admission** among confirmed.

Kudumbashree and Unnathi Programme

Recently, the President inaugurated the silver jubilee celebration of '**Kudumbashree**' - one of the largest women's self-help networks in the world and launched '**Unnathi**' - an umbrella programme to create opportunities for employment and self-employment, among the youth belonging to SC and ST communities.

Kudumbashree was launched in Kerala in 1998 as a joint programme of the Government of Kerala and NABARD to **wipe out absolute poverty through community action**. It is the largest women empowering project in the country. It has **three components** i.e., **microcredit, entrepreneurship and empowerment**. It has **three tier structure - neighborhood groups (SHG), area development society (15-20 SHGs) and Community development society (federation of all groups)**.

Matua Mahamela

Matua mela is being organised in **West Bengal** to celebrate the 212th birth anniversary of Sri Sri Harichand Thakur, the founder of the **Matua sect**.

Harichand Thakur was born in peasant farmer family of the **Thakur community (SC community)**. He founded a **sect of Vaishnavite Hinduism called 'Matua'**. This was adopted by members of the **Namasudra community**, also known as Chandalas and **considered untouchable**.

Originally from East Pakistan, the Matuas migrated to India during Partition and after the creation of Bangladesh. However, a **sizable number are yet to get Indian citizenship**.

Matua Mahasangha is a religious reformation movement that originated, around **1860 AD**, in modern-day Bangladesh for the **upliftment of the oppressed**.

Horseshoe Crabs Disappearing off Odisha Coast

Horseshoe crabs, **medicinally priceless** and **one of oldest living creatures** on the earth, appear to be **disappearing** from their familiar spawning grounds due to destructive fishing practices along Chandipur and Balaramgadi coast in **Odisha's Balasore** district.

Note:

India has two species of Horseshoe crabs- **the coastal horseshoe crab** (*Tachypleus gigas*), **the mangrove horseshoe crab** (*Carcinoscorpius rotundicauda*) and major concentration of the animal is found in Odisha. Both these species are not listed on **IUCN** red list yet but are part of **Schedule 4 of Wildlife Protection Act, 1972**.

The **blood of Horseshoe crab** is very important for **preparation of rapid diagnostic reagent**. All injectable and medicines are tested with the help of Horseshoe crabs. A molecule has been developed from reagent of Horseshoe crab that would **help treat pre-eclampsia**, a disease affecting pregnant women.

Palaeontological studies say the **age of Horseshoe crabs is 450 million years**. The creature has lived on earth without undergoing any morphological change due to its strong immune system.

India moots Action Plan to Mark 2023 as Year of Tourism Development at SCO Meet

India mooted an action plan to mark 2023 as the year of tourism development in the **Shanghai Cooperation Organization** (SCO) region at the tourism ministers' conference.

A joint action plan for implementing the agreement between the Member States on cooperation in the tourism sector was approved. It comprises **promotion of the SCO tourism brand, promotion of the cultural heritage of member states; sharing of information and digital technologies in tourism; and promotion of mutual cooperation** in medical and health tourism. **Kashi** has been declared as the **first tourism and cultural capital of SCO**. The meeting also adopted the **Action Plan for 'Year of Tourism Development in the SCO Space in 2023'**.

SCO is a permanent **intergovernmental international, Eurasian, political, economic and military organization** aiming to maintain peace, security and stability in the region. Its members include **Kazakhstan, China, Kyrgyzstan, Russia, Tajikistan, Uzbekistan, India, Pakistan and Iran**.

President's Colour to INS Dronacharya

The President of India presented the **President's Colour to INS Dronacharya**. It is the highest award

bestowed on a military unit in India in recognition of its exceptional services to the nation. It is also known as **'Nishaan'** which is an emblem that is **worn by all unit officers on the left-hand sleeve of their uniform**.

Out of the three defence forces, the **Indian Navy was the first Indian Armed Force to be awarded** the President Colour by Dr. Rajendra Prasad in **1951**.

In India, as well as many Commonwealth nations, the **tradition of Colours has been drawn from the British Army**. Traditionally, there have been **four kinds of symbols** associated with Colours — **Standards, Guidons, Colours and Banners**.

The Indian Navy's **INS Dronacharya** is a prestigious **gun nery school** located in **Kochi, Kerala**. is **responsible for training officers and ratings** in various fields such as small-arms, naval missiles, artillery, radar, and defensive countermeasures.

Research, Education and Training Outreach (REACHOUT) Scheme

An umbrella scheme **Research, Education and Training Outreach (REACHOUT)** is being implemented by the **Ministry of Earth Sciences** for **capacity building**. It consists of the following **sub-schemes**:

- **R&D in Earth System Science (RDESS)**
- **International Training Centre for Operational Oceanography (ITCOcean)**
- **Program for Development of Skilled manpower in Earth System Sciences (DESK)**

The scheme is being **implemented for entire country and not State/UT-wise**. The main **objectives** of the above sub-schemes are:

- **Supporting various R & D activities** in the thrust areas of different components of Earth System Sciences that are theme and need based and that would help in attaining the National goals set up for MoES.
- **Develop useful collaborations with international organizations for mutual transfer of advanced knowledge** in science and technology in Earth Sciences and to provide services to developing countries.
- **Develop skilled and trained manpower** in Earth Sciences with the support of academic institutions in the country and abroad.

Note:



BIS Launches 'Learning Science via Standards' Series

Bureau of Indian Standards (BIS), has launched a new initiative called 'Learning Science via Standards', aimed at helping students understand the practical applications of scientific concepts, principles, and laws in the manufacturing, functioning, and testing of products.

It is in line with BIS's earlier 'Standards Clubs' initiative, which has already formed over 4200 clubs with more than one lakh student members. Standards Clubs undertake student-centric activities like debates, quiz and competitions, including standards-writing competitions. BIS provides financial support to these clubs for up to three activities in a year.

The 'Learning Science via Standards' initiative is expected towards bridging the gap between theory and real-life use of science education and promoting a culture of quality and standardization in the country.

Atal Innovation Mission Launches ATL Sarthi

Atal Innovation Mission (AIM) **NITI Aayog** launched ATL Sarthi, a comprehensive self-monitoring framework to strengthen the ecosystem of **Atal Tinkering Labs (ATL)**.

AIM is establishing ATLs in schools across India to foster curiosity, creativity, and imagination in young minds; and inculcate skills such as design thinking mindset, computational thinking, adaptive learning, physical computing etc. So far (March 2023), AIM has funded around 10,000 schools to establish ATLs.

ATL Sarthi is a tool to enable the ATLs to be efficient and effective. The initiative has four pillars ensuring the performance enhancement of ATLs through a self-reporting dashboard known as 'MyATL Dashboard' and Compliance SOPs for schools to ensure financial and non-financial compliances, on-ground enablement of ATLs in collaboration with relevant local authorities through Cluster-based Approach and providing ownership to schools to analyze their performance through Performance-Enablement (PE) Matrix.

Bumchu Festival: Sikkim

Bumchu is an annual holy water vase ritual commemorated in Tashiding Monastery, one of the most

sacred Buddhist pilgrimage sites, located on a hilltop overlooking the Rangeet River in Sikkim.

Bumchu means "pot of sacred water" in Tibetan. The water inside the vase is shared among the worshippers. The water is thought to have healing qualities and to grant luck and riches to those who drink it. The celebration takes place on the 14th and 15th of the first lunar month, which often falls in February or March.

Legend has it that in the eighth century, a great Buddhist guru who brought Buddhism to Tibet, blessed the location of the monastery. Later the monastery was founded in the 17th century.

Procedure for Inclusion of Communities in Scheduled Tribes List

The Tribal Affairs Ministry has insisted in Parliament that the criteria set out by the Lokur Committee for inclusion of communities in scheduled tribes list was appropriate and there is no need for revision.

The process to include tribes in the ST list begins with the recommendation from the respective State governments, which are then sent to the Tribal Affairs Ministry, which reviews and sends them to the Registrar General of India for approval. This is followed by the National Commission for Scheduled Tribes' approval before the list is sent to the Cabinet to bring in the appropriate amendment to Constitution (Scheduled Tribes) Order, 1950.

The criteria given by Lokur Committee include: primitive traits, distinct culture, geographical isolation, shyness of contact with the community at large, and backwardness.

Previously, a government task force formed in 2014, criticized the inclusion criteria and procedure for being outdated and contradictory to affirmative action stating that it leads to exclusion and delays in inclusion of communities. The proposal to amend it, after being in the pipeline for nearly eight years, was put on hold.

Parliamentary Standing Committee Flags cut in MGNREGS Budget

A Parliamentary Standing Committee has expressed concerns over reduction of Rs 29,400 crore in the budget

Note:

for the **Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS)** for financial year 2023-24.

The committee report questions the reasoning behind the reduction in funds for MGNREGA and recommends a reconsideration to ensure effective implementation.

On the issue of mandatory attendance through the **National Mobile Monitoring System App**, the committee while conceding the need of a real-time attendance capturing app, noted that **unavailability of smart-phones, proper internet connectivity** and the presence of MGNREGA workers for **both 'in' and 'out' attendance** pose challenges for beneficiaries.

The committee has recommended that the government should **increase wage rates under MGNREGA by linking it to a suitable pricing index and to increase guaranteed work days from 100 days.**

Read More: MGNREGA.

IMD launched 7 Services on UMANG Mobile App

Recently, IMD has launched seven of its services (Current Weather, Nowcast, City Forecast, Rainfall Information, Tourism Forecast, Warnings and Cyclone) with **'UMANG' mobile App** for use by public. Earlier in 2020, IMD had developed mobile App **'MAUSAM'** for weather forecasting, **'Meghdoot'** for Agromet advisory dissemination and **'Damini'** for lightning alert.

IMD follows a **seamless forecasting strategy**. The **long range forecasts** (for the whole season) followed by **extended range forecast** issued on every Thursday with a validity period of four weeks, followed by **short to**

medium range forecast and warnings daily valid up to next five days with an outlook for subsequent two days, followed by **very short range forecast of severe weather** up to three hours (**nowcast**: updated every 3 hours).

Initiatives in recent years include **dissemination of information to users by e-mail, WhatsApp groups and social media** on regular basis and **Nowcast about severe weather to registered users through SMS.**

O-SMART Scheme

Government allocated an amount of Rs. 2177 crore for implementation of **'Ocean Services, Modelling, Application, Resources and Technology (O-SMART) Scheme** during a period of 5 years i.e 2021-22 to 2025-26. Further, to achieve the objectives of the scheme, following steps are being taken by the Ministry of Earth Sciences:

Various ocean observational platforms including **Argo floats, XBT/XCTDs, Wave Rider Buoys, Automatic Weather Stations, Drifters, Moored Buoys, Tide Gauges, Acoustic Doppler Current Profilers**, were deployed.

Operational services on **Tsunami Early Warnings, Storm Surges, Potential Fishing Zones, Ocean State Forecast, Harmful Algal Blooms, Coral Reefs, Multi Hazard Vulnerability, Coastal Vulnerability Indices, High Wave Alerts, Oil Spill, Search and Rescue operations** etc were generated using the data and models operational in house and was provided on day-to-day basis to various stake holders and end users.

Coastal surveys and deep-sea cruises and Public awareness campaign and related activities are conducted on regular basis to disseminate technology and policies.



Note:



drishti