



Current Affairs (CONSOLIDATION)

MAY 2022
(PART – II)

Drishti, 641, First Floor, Dr. Mukherjee Nagar, Delhi-110009
Phone: 87501 87501, WhatsApp: 92058 85200, IVR: 8010-440-440
Email: engweb@groupdrishti.com

Contents

Polity and Governance	1
● Safeguarding Aadhaar Data	1
● Role of Media in Promoting Health	2
● Biological Research Regulatory Approval Portal	4
● Guidelines for Safety Assessment of Genome Edited Plants, 2022	5
● OBC Quota in Local Body Polls	6
● 'Pollution and Health' Report	7
● Eklavya Model Residential Schools	9
● GatiShakti Sanchar Portal	10
● The Places of Worship Act	11
● Chief Election Commissioner	12
● Article 142	13
● Amendments to the Companies Act	14
● PWD to Allow 4% Quota for Disabled	15
● Recognition of Sex Work as a Profession	17
● Rights of LGBTIQ+ Persons	18
● Digital India BHASHINI	20
● Inter-State Council	21
● Pradhan Mantri Jan Arogya Yojana	22
● Swachh Survekshan 2023	23
● Uniform Civil Code in Uttarakhand	24
● Reservation in Promotion	26
● National Achievement Survey (NAS)-2021	28
● Representation of Women in Armed Forces	29
● 2020 Report on Medical	30
● Certification of Cause of Death	30
● Draft National Data Governance Framework Policy	31
Economic Scenario	33
● Informal Economy in India	33
● India's Startup Ecosystem	35
● World of Work Report: ILO	36
● Outward Remittance Trend	38
● Metal Industry: Current Outlook and Future Trends	39
● 7 th Annual Meeting of NDB	40
● Fostering Effective Energy Transition 2022	41
● States' Power to Make GST Laws	42
● Food Inflation	43
● Dollarisation Due to Cryptocurrencies	45
● Potential of Cruise Tourism in India	46
● Special Drawing Rights	47
● Competition Commission of India (CCI)	48

● Privatisation of Banks	49
● Prime Minister's Employment Generation Programme	50
● World Milk Day	51
● Ban on Export of Sugar	52
● Infrastructure Development in North East India	54
● Annual Survey of Industries (ASI)	56
● First Lavender Festival	56
● Economic Impact of School Shutdown during Covid-19.....	57
● World Bee Day.....	58

International Relations.....60

● Twin Hurdles Hinder India's Maritime Role.....	60
● Chinese Bridge on Pangong Tso	61
● Nagorno-Karabakh Region.....	62
● India – Nepal: Recent Developments	63
● NATO Membership for Finland and Sweden	65
● WHO Reforms.....	66
● BRICS High Level Meeting on Climate Change.....	68
● SCO 'Regional Anti-Terrorist Structure (RATS)' Meeting.....	68
● Investment Incentive Agreement (IIA)	69
● Indo-Pacific Economic Framework	71
● Bongosagar Exercise.....	72
● India-Canada Science and Technology Cooperation	72
● India's Trade with the USA	74
● US-Taiwan Relations.....	75
● Bilateral Security and Defence Cooperation: Indo-Japan.....	76
● India and Senegal	77

Science and Technology.....80

● Artificial Intelligence (AI) Chips	80
● Respiratory Syncytial Virus (RSV).....	81
● Private Players in Space Sector.....	82
● Endosulfan.....	83
● HS200 Solid Rocket Booster for Gaganyaan Mission.....	84
● India's First 5G Testbed	85
● Sudden Infant Death Syndrome	86
● PARAM PORUL Supercomputing Facility	87
● National AI Portal	88
● Electric Vertical Take off and Landing (eVTOL) Aircraft	89

Environment and Ecology.....91

● Seoul Forest Declaration	91
● Urban Heat Islands	92
● National Policy on Biofuels	94
● UN Plans to Promote Renewable Energy	95
● NTPC's Biodiversity Policy	96
● Community Forest Resource	98
● SC Judgement on Eco Sensitive Zone	99

● Fishing Cats	101
● Draft Notification for E-Waste Management	102
● Compliance Deadline for Category-C Coal Plants	103
● Coal Gasification	104
● Non CO ₂ Pollutants	105
History	107
● Raja Ram Mohan Roy	107
● Puri Heritage Corridor Project	108
Geography	110
● Pre-Monsoon Devastation in Assam	110
● Twin Cyclones	111
Social Issues	113
● Indira Gandhi Shahri Rozgar Guarantee Yojana	113
● Fortification of Rice	114
● Global Report on Assistive Technology	115
● Child Online Safety Toolkit	117
● World No Tobacco Day	118
● 75 th Session of World Health Assembly	119
● Surrogacy	120
Art & Culture	123
● Cultural Significance of PM's Gifts for QUAD Leaders	123
● Kanheri Caves	124
Security	126
● Role of the Chief of Defence Staff	126
Miscellaneous	128
● Central Advisory Board on Archaeology	128
● INS Surat and frigate INS Udaygiri	128
● Thomas Cup	129
● Buddha Purnima	130
● Devasahayam Pillai	131
● National Startup Advisory Council (NSAC)	131
● World Governance Indicators	132
● World Metrology Day 2022	133
● Maya's Pit Viper	134
● Operation Mahila Suraksha	135
● INS Khanderi	135
● World Women's Boxing Championships	136
● INS GOMATI	136
● Money Spider, Ant- Mimicking Spider Discovered	137
● 'Tomb of Sand' won International Booker Prize	138
● Sela Macaque	138
● Platygomphus Benritarum	139

Polity and Governance

Highlights

- Safeguarding Aadhaar Data
- Role of Media in Promoting Health
- Biological Research Regulatory Approval Portal
- Guidelines for Safety Assessment of Genome Edited Plants, 2022
- OBC Quota in Local Body Polls
- 'Pollution and Health' Report
- Eklavya Model Residential Schools
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- National Achievement Survey (NAS)-2021
- Representation of Women in Armed Forces
- 2020 Report on Medical Certification of Cause of Death
- Draft National Data Governance Framework Policy

Safeguarding Aadhaar Data

Why in News?

Recently, **Unique Identification Authority of India (UIDAI)** first issued a warning to the public not to share a photocopy of their Aadhaar with any organisation, and then withdrew the warning over worries that it was open to "misinterpretation".

What is the Unique Identification Authority of India?

- **Statutory Authority:** The UIDAI is a statutory authority established on 12th July 2016 by the Government of India under the jurisdiction of the Ministry of Electronics and Information Technology, following the provisions of the **Aadhaar Act 2016**.
 - The UIDAI was initially set up by the Government of India in January 2009, as an attached office under the aegis of the **Planning Commission**.
- **Mandate:** The UIDAI is mandated to assign a 12-digit unique identification (UID) number (Aadhaar) to all the residents of India.
 - As of 31st October 2021, UIDAI had issued 131.68 crore Aadhaar numbers.

What was the Initial Warning from UIDAI?

- The UIDAI warned the "general public not to share photocopy of one's Aadhaar with any organisation, because it can be misused".
 - Rather, it recommended using "a masked Aadhaar, which displays only the last four digits of the Aadhaar number".
- It also asked the public to avoid using public computers to download their e-Aadhaar.
 - In that case, they were reminded to "permanently delete" any downloaded copies of the same.
- Only those organisations that have obtained a User License from the UIDAI can use Aadhaar to establish the identity of a person.
 - Moreover, hotels and movie theatres are not allowed to collect or maintain copies of the Aadhaar cards, due to the Aadhaar Act.

What are the Concerns related to Aadhaar?

- **Misuse of Aadhaar Data:**
 - Many private entities in the country insist on an Aadhaar card, and users often share the details.
 - There's no clarity on how these entities keep these data private and secure.

Note:



- More recently with **Covid-19** testing, many would have noticed that most labs insist on Aadhaar card data, including a photocopy.
 - It should be noted that it is not mandatory to share this for getting a Covid-19 test done.
- **Excessive Imposition:**
 - In 2018, the Supreme Court ruled that Aadhaar authentication can be made mandatory only for benefits paid from the **Consolidated Fund of India** and that alternative means of identity verification must always be provided when Aadhaar fails.
 - Children were exempt but Aadhaar continues to be routinely demanded from children for basic rights such as anganwadi services or school enrolment.
- **Arbitrary Exclusions:**
 - Central and state governments have made routine use of the “ultimatum method” to enforce the linkage of welfare benefits with Aadhaar.
 - In this method, benefits are simply withdrawn or suspended if the recipients fail to comply with the linkage instructions in good time, such as failing to link their job card, ration card or bank account with Aadhaar.
- **Fraud-prone Aadhaar-enabled Payment System (AePS):**
 - AePS is a facility that enables someone who has an Aadhaar-linked account to withdraw money from it anywhere in India through biometric authentication with a “business correspondent” – a kind of mini-ATM.
 - There have been rampant abuses of this facility by corrupt business correspondents.

Which Issue has Recently Arisen?

- The **Comptroller and Auditor General (CAG)** of India, has **pulled up the Unique Identification Authority of India (UIDAI)** over a range of issues related to the issuance of Aadhaar cards.
- In 2018, the Supreme Court had struck down **Section 57 of the Aadhaar Act**.
 - Section 57 of the Aadhaar Act essentially allowed private entities to collect citizens’ Aadhaar details. While reading down the provision, the top court had called it “unconstitutional”.
 - Later, the **Aadhaar and Other Laws (Amendment) Ordinance, 2019** was issued which allowed banks

and telecom operators to collect Aadhaar details as a proof of identity.

What is the Significance of Aadhaar?

- **Promoting Transparency and Good Governance:** Aadhaar number is verifiable in an online, cost-effective way.
 - It is unique and robust enough to eliminate duplicates and fake identities and thus used as a basis/primary identifier to roll out several Government welfare schemes thereby promoting transparency and good governance.
- **Helping Bottom of the Pyramid:** Aadhaar has given identity to a large number of people who did not have any identity earlier.
 - It has been used in a range of services and has helped in bringing **financial inclusion**, broadband and telecom services, **direct benefit transfers** to the bank account of citizens in a transparent manner.
- **Neutral:** Aadhaar number is devoid of any intelligence and does not profile people based on caste, religion, income, health and geography.
 - The Aadhaar number is a proof of identity, however, it does not confer any right of citizenship or domicile in respect of an Aadhaar number holder.
- **People-Centric Governance:** 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.
- **Permanent Financial Address:** Aadhaar can be used as a permanent Financial Address and facilitates financial inclusion of the underprivileged and weaker sections of the society and is therefore a tool of distributive justice and equality.
 - Thus, the Aadhaar identity platform is one of the key pillars of **‘Digital India’**.

Role of Media in Promoting Health

Why in the News?

Union Information and Broadcasting at the 17th **Asia Media Summit** applauded the Indian media for its role during the Covid-19 pandemic.

Note:



What was the role played by the Media during Covid-19?

➤ **Positive Role:**

- It ensured that awareness messages on Covid-19, important government guidelines and free consultations with doctors reached everyone in the country
- It strongly fought against the **menace of fake news** and misinformation on a real time basis.
- The media has significantly delivered on their mandate of public service by setting the trend through prompt coverage, ground reports and organising programmes on public health.

➤ **Negative Role:**

- **Social media** has played a crucial role in spreading awareness and knowledge about public health; however, it has also been misused for spreading fake news, hatred and creating racism during epidemics.
- Even before the detection of the first case of COVID-19 in India, the epidemic of social media panic hit India, which led to stock out of masks and sanitizers from the market.
- The fake claims about transmission of virus through air and its survival on different surfaces created a panic.
- Unwarranted use of N95 masks by common people during travelling and daily activities resulted in the shortage of frontline healthcare workers who needed those.
- Due to existing multiple media houses in India, messages containing fake claims about use of herbal and immunity-booster medicines, religious and spiritual ways for prevention and treatment were widely circulated which added to the confusion.
- The panic was escalated by fake news such as the possibility of extending the lockdown, which resulted in individuals fleeing from quarantine or isolation facilities and unnecessary travel prior to lockdown or even during lockdown for returning to their hometown.

What is the Role of the Media as the Fourth Pillar of Democracy?

- **Source of Information:** For a democracy and its development, impartial information is critical. The media helps to provide people with important

knowledge. For example, data on economics, health, education, etc.

- **Educate:** To educate people on topics of paramount importance to society, the media is vital. An growing number of incidents of rape are a concern to society. It is necessary to disclose the exact number of cases and to help raise society's awareness.
- **Awareness:** The media reminds society of their democratic rights, and the media helps in maintaining checks and balances.
- **Ensuring Fairness:** The media plays a vital role in ensuring justice and the benefits of the government policies reaching the weaker sections of the society.
- **Watchdog:** For a stable democracy, Media reporting on public affairs and investigations into wrongdoing in the administration of public affairs is must. This means exposing circumstances of fraud or abuse that favour politicians directly. This makes people vote for the best government to defeat a corrupt and dishonest government.
- **Good Governance:** In auditing government policies and spending, the media plays an important part. An unbiased media is important for transparent reporting.
- **Accountability:** An informed person, based on facts and statistics, can challenge government policies to ensure accountability and answerability.
- **Dissemination of Government Policies:** In order to propagate and disseminate different government policies and initiatives, the media is relevant. In spreading awareness of **Swachh Bharat** and **Beti Bachao Beti Padhao** etc the media played an important role.
 - As a fourth pillar, the media plays an important part in achieving the true meaning of democracy.

What is Asia Media Summit?

Asia Media Summit is the annual conference organised by **Asia-Pacific Institute for Broadcasting Development** (AIBD) in collaboration with its partners and international organisations.

- The Conference is attended by Decision makers, media professionals, scholars, and stakeholders of news and programming from Asia, Pacific, Africa, Europe, Middle East, and North America.
- Asia Media Summit provides a unique opportunity for broadcasters in the region to share their thoughts on Broadcasting and Information and is supported by all regional and International Broadcasting Unions.

Biological Research Regulatory Approval Portal

Why in News?

In keeping with the spirit of “One Nation, One Portal”, the Union Minister recently launched a Single National Portal for Biotech researchers and Start-ups, i.e., Biological Research Regulatory Approval Portal (BioRRAP).

- **Biotechnology** has fast emerged as an academic and livelihood avenue for youngsters in India.

What is the Startup Growth Scenario in India?

- India is a **hotspot for startups**. In 2021 alone, Indian startups have raised **more than \$23 billion**, spread over 1,000+ deals, with 33 startups entering the coveted unicorn club. So far, the year 2022 has added 13 more startups to the **unicorn club**.
 - After the United States (US) and China, India has emerged as the **world's third-largest startup ecosystem**.
 - Currently, India is witnessing rapid growth in the number of startups. According to the **India Venture Capital Report 2021** published by Bain and Company, the number of cumulative start-ups has grown at a **CAGR** of 17% since 2012 and crossed 1,12,000.
 - As of 2021, India's biotech industry clocks in about US\$ 12 billion in annual revenue.

What is the Significance of Biological Research Regulatory Approval Portal?

- **A Gateway for Researchers:** The portal will serve as a gateway and will help researchers to see the stage of **approval of their applications** for regulatory clearances and to see preliminary information on all the research work being undertaken by the particular researcher and/or organization.
- **Transparency & Accountability:** This portal will strengthen interdepartmental synergies and bring accountability, transparency, and **efficacy in the functioning of agencies** regulating various aspects of biological research and issuing permission.
- **BioRRAP ID:** To provide more credibility and recognition to such biological research, the Government has developed a web system under which each research,

requiring regulatory oversight, will be identified by a **unique ID** called “BioRRAP ID”.

- Using this BioRRAP Id, a further submission process to respective regulatory agencies has to be initiated based on the research application.
- **Ease of Doing Research:** This unique portal of **DBT (Direct Benefit Transfer)** is a step towards **Ease of Doing Science and Scientific research and Ease of Start-ups in the Country**.
 - There is also a need to link the applications submitted to various regulatory agencies for approval so that the status of the application may be seen in **one place**.
- **To Collect Information:** This portal will not only help in understanding scientific strength and expertise but also in the **formulation of enabling policies** to garner the fruits of scientific research.

What is India's Status in Biological Fields Researches?

- India is **among the top 12 destinations** for biotechnology globally and the **3rd largest biotechnology destination** in the Asia Pacific region.
 - At present, the industry comprises over 2,700 biotech start-ups and more than 2,500 biotech companies are present in India.
- Other than biotechnology, biological work related to biodiversity, the latest methods of conservation and protection of flora and fauna, forest and wildlife, bio-survey, and bio-utilization of biological resources are also **gaining momentum in India** due to the effect of climate change on them.
 - Research in the various biological fields is **continuously expanding** its vista in India supported by grants from the various public and private sectors.
- India will be recognized as a **Global Bio-manufacturing Hub by 2025** and will figure among the top 5 countries of the world.
 - By 2025, the contribution of the Indian biotechnology industry in the global biotechnology market is **expected to grow to 19% from 3% in 2017**.
 - The Bio Economy's contribution to the **national GDP (Gross Domestic Product)** has also grown steadily in the past years.
 - While the Bio-Economy contributed to 1.7% of the GDP in 2017, this share has grown to 2.7% in 2020.

Note:



- The Indian bioeconomy grew from US\$ 62.5 billion in 2019 to US\$ 70.2 billion in 2020 at a growth rate of 12.3%.
- India will touch new heights after 25 years of Bio-economy journey in the Centenary year of **2047**.

What is Bio Economy?

- The concept of Bioeconomy was started by USA, Canada, and **European Union (EU)** and Australia to boost the economy by **using bio-resources**.
- The term '**bioeconomy**' refers to the production of renewable biological resources and the conservation of these resources and waste streams into value added products, such as food, feed, bio-based products and bioenergy.

Guidelines for Safety Assessment of Genome Edited Plants, 2022

Why in News?

Recently, the **Department of Biotechnology (DBT)** has issued guidelines easing norms for research into **Genetically Modified (GM)** crops and circumventing challenges of using foreign genes to change crops profile.

- Earlier, the Government has allowed **genome-edited plants without the cumbersome GMO (Genetically Modified Organisms) regulation** at the **Genetic Engineering Appraisal Committee (GEAC)**.

What are the Highlights of the Guidelines?

- Exempts Researchers from Seeking Approvals:
 - It exempts researchers **who use gene-editing technology** to modify the genome of the plant from seeking approvals from the **Genetic Engineering Appraisal Committee (GEAC)**.
 - The **GEAC evaluates research into GM plants and recommends**, or disapproves, their release into farmer fields.
 - The final call, however, is taken by the **Environment Minister as well as States** where such plants could be cultivated. The Environment Ministry too has sanctioned this exemption.
 - The guidelines **provide a road map for the sustainable use of genome editing technologies** and applicable to public and private sector research institutions engaged in research and development and handling of genome edited plants.

Issues Guidelines Address:

- Most often, **GM plants that have drawn such scrutiny are those that use transgenic technology** or introduce a gene from another species into a plant, such as **BT-cotton**, which uses a soil bacterium gene to protect against pest attack.
- The worry around this method is that **these genes may spread to neighbouring plants**, where such effects are not intended and so their applications have been controversial.

What is Genome Editing?

About:

- Genome editing **enables modification of plants' owned genes**, without insertion of external genes, as with GM crops.
- Genome-edited varieties possess **no foreign DNA** and are indistinguishable from crops developed through conventional plant-breeding methods, or using naturally occurring mutations.



Approaches to Genome Editing:

- **Several approaches to genome editing have been developed.** A well-known one is called **CRISPR-Cas9**.
 - CRISPR-Cas9 is short for Clustered Regularly Interspaced Short Palindromic repeats and CRISPR-associated protein 9.
 - This tool has **opened up various possibilities in plant breeding**. Using this tool, agricultural scientists can now edit the genome to insert specific traits in the gene sequence.
- Depending on the nature of the edit that is carried out, the process is divided into three categories — **SDN 1, SDN 2 and SDN 3**.
 - **Site Directed Nuclease (SDN) 1** introduces changes in the host genome's DNA through

Note:



small insertions/deletions without introduction of foreign genetic material.

- In **SDN 2**, the **edit involves using a small DNA template to generate specific changes**. Both these processes do not involve alien genetic material and the end result is indistinguishable from conventionally bred crop varieties.
- The **SDN3 process involves larger DNA elements or full-length genes of foreign origin** which makes it similar to **Genetically Modified Organisms (GMO)** development.

➤ Global Developments:

- Genome editing is **being used in most crop plants** for which partial or complete genome sequence is available and is being applied in around 40 crops across 25 countries.
- The **US and China are leaders in usage of this technology for developing crop varieties** like rice, maize, soybean, canola and tomato which withstand biotic and abiotic stresses arising out of **climate change**.

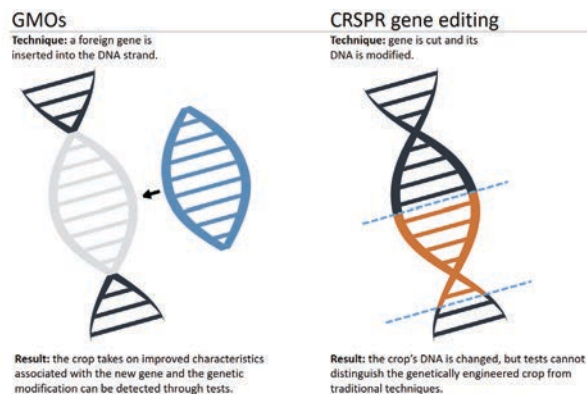
What is the Difference between Gene Editing and Genetically Modifying?

- To create genetically modified crops and animals, **scientists will typically remove the preferred gene from one organism and randomly introduce it into another organism**.
- A well-known genetically modified type of crop is Bt corn and cotton, where a bacterial gene was introduced that produces insecticidal toxins into the part of the plant where the insect eats, causing death to the insect.
- In simple terms, **gene editing is a small, controlled tweak to a living organism's existing DNA versus the introduction of a new, foreign gene**.
- It is nearly impossible to detect whether an organism's DNA has been edited or not because the changes are indistinguishable from naturally occurring mutations.

What is the Significance of the Genome Technique?

- **Improve Resistant to Diseases:**
 - The technology has **great promise and emphasis is needed on improving oilseed and pulse crop**

varieties' resistant to diseases, insects or pests, and tolerant to drought, salinity and heat stresses.



➤ **Faster Development of Crop Varieties:**

- **Conventional breeding technique takes 8 to 10 years** to develop agricultural crop varieties, while through genome editing, it can be done in two to three years.

What are the Issues with Genome Editing Technique?

- Across the world, **GM crops have been a topic of debate, with many environmentalists opposing it on the grounds of bio safety and incomplete data**. In India, the introduction of GM crops is a laborious process which involves multiple levels of checks.
 - Till date the only crop which has crossed the regulatory red tape is Bt cotton.
- Scientists both in India and across the **world have been quick to draw the line between GM crops and genome edited crops**. The latter, they have pointed out, has no foreign genetic material in them which makes them indistinguishable from traditional hybrids.
 - Globally, **European Union countries** have bracketed genome edited crops with GM crops. Countries like Argentina, Israel, US, Canada, etc have liberal regulations for genome edited crops.
- Gene editing techniques which involve altering the function of genes and **can cause "large and unintended consequences"** that can change the **"toxicity and allergenicity"** of plants.

OBC Quota in Local Body Polls

Why in News?

Recently, the **Supreme Court (SC)** permitted Madhya

Note:



Pradesh to **provide reservation to Other Backward Classes (OBC) in Local Body Elections**, modifying an **earlier order that suspended the quotas** due to a lack of data.

- Currently, local bodies in Madhya Pradesh have quotas only for **Scheduled Castes, Scheduled Tribes** and women.
- This is the **first time that a state government has managed to clear the triple test formula mandated by the apex court** in the context of providing reservation for OBCs in local body polls.
- Earlier, the SC while hearing a plea by the Maharashtra government **decided to recall its December 2021 order**, which stayed 27% reservation for **Other Backward Classes (OBCs)** in local body elections.

What is the Background?

- In 2021, the SC **scrapped OBC quotas in local body polls in Maharashtra and Madhya Pradesh**, and the Odisha high court cancelled a similar move in the state because the exercise didn't pass the triple test.
- The **Triple-Test Formula, laid down by the Supreme Court in 2010** and later reiterated in March 2021, required the **states to appoint a commission, collect quantifiable data of the community, and allocate reservation to them in local bodies** in such a manner that the total reservation in each seat does not exceed 50%.

What is the Ruling?

- The SC directed the **state to notify the OBC seats, accepting a report of the three-member OBC commission formed by Madhya Pradesh in 2021.**
- This commission **quantified the population of OBCs in the state at 48% and permitted reservation** of varying quantum across each municipal seat, extending to a maximum of 35%.
- SC permitted the Madhya Pradesh State Election Commission **to notify the election programme for the respective local bodies** keeping in mind the **delimitation notifications** already issued by the state government.
- The order was passed on a petition filed by an individual who challenged in April 2022 the amendments to the Madhya Pradesh Municipal Act, 1956; Madhya Pradesh Panchayat Raj Avam Gram Swaraj Adhiniyam, 1993; and Madhya Pradesh Municipalities Act, 1961.

- By these amendments, **the state government authorized itself to determine the number and extent of wards in the local bodies concerned.**

What is the 2010 Supreme Court Judgement?

- The five-judge Constitution Bench decision in *K. Krishnamurthy (Dr.) v. Union of India* (2010) wherein the Supreme Court had **interpreted Article 243D(6) and Article 243T(6)**, which permit reservation by enactment of law for backward classes in panchayat and municipal bodies respectively, to hold that barriers to political participation are not the same as that of the barriers that limit access to education and employment.
- However, for creating a level playing field, reservation may be desirable as mandated by the aforementioned Articles which provide a separate constitutional basis for reservation, as distinct from what are conceived under **Article 15 (4) and Article 16 (4) which form the basis for reservation in education and employment.**
- Though reservation to local bodies is permissible, the top court declared that the same is subject to empirical finding of backwardness in relation to local bodies as fulfilled through the triple tests.

What is a Local Government?

- **Local Self Government** is the management of local affairs by such local bodies who have been elected by the local people.
- The local self-Government includes **both rural and urban government.**
- It is the **third level of the government.**
- There are **2 types of local government in operation** – **Panchayats** in rural areas and **Municipalities** in urban areas.

'Pollution and Health' Report

Why in News?

According to a recent Report 'Pollution and health: A Progress Update', published in **The Lancet Planetary Health**, **Air Pollution was responsible for 16.7 lakh deaths in India in 2019, or 17.8% of all deaths.**

What are the Findings of Report Pollution and health?

Note:



➤ **Global:**

- **Air Pollution** alone contributes to 66.7 lakh deaths, which updates a previous analysis from 2015.
 - Overall, **pollution was responsible for an estimated 90 lakh deaths in 2019** (equivalent to one in six deaths worldwide), a number that has remained unchanged since the 2015 analysis.
- **Ambient air pollution was responsible for 45 lakh deaths**, and hazardous chemical pollutants for 17 lakh with 9 lakh deaths attributable to **lead pollution**.

➤ **In India:**

- The majority of the 16.7 lakh air pollution-related deaths in India, around 9.8 lakh deaths were caused by **PM2.5 pollution**, and another 6.1 lakh by household air pollution.
- Although the **number of deaths from pollution sources associated with extreme poverty** (such as indoor air pollution and water pollution) has decreased, these reductions are offset by increased deaths attributable to industrial pollution (such as ambient air pollution and chemical pollution).
- Air pollution is **the most severe in the Indo-Gangetic Plain**.
 - This area contains **New Delhi and many of the most polluted cities**.
- **Failure in Tackling Air Pollution:**
 - Burning of biomass in households was **the single largest cause of air pollution deaths in India**, followed by coal combustion and crop burning.
 - The number of deaths remains high despite India's considerable efforts against household air pollution, including through the **Pradhan Mantri Ujjwala Yojana programme**.
 - Despite a **National Clean Air Programme**, a **Commission for Air Quality Management in the National Capital Region**, India does not have a strong centralised administrative system to drive its air pollution control efforts and consequently improvements in overall air quality have been limited and uneven.

➤ **Lead pollution:**

- An estimated **9 lakh people die every year globally due to lead pollution** and this number is likely to be an underestimate.
- Earlier the source of lead pollution was from leaded petrol which was replaced with unleaded petrol.

- However, **the other sources of lead exposure include unsound recycling of lead-acid batteries and e-waste without pollution controls**, spices that are contaminated with lead, pottery glazed with lead salts and lead in paint and other consumer products.
- Globally more than **80 crore children (India alone contributes to 27.5 crore children)** are estimated to have **blood lead concentrations** that exceed 3.5 µg/dL than the norm established by the US Centers for Disease Control and Prevention.

What are the Recommendations?

- Inclusion of **modern pollution prevention in multi-lateral development institutions'** country strategy frameworks.
- International organisations and national governments **need to continue expanding the focus on pollution as one of the triumvirate of global environmental issues**, alongside climate change and biodiversity.
- There is a need to encourage the **use of the health dimension as a key driver in policy and investment decisions**, using available **GBD (Global Burden of Disease)** information.
- Affected countries must **focus resources on addressing air pollution, lead pollution, and chemical pollution**, which are the key issues in modern pollution.
- A massive **rapid transition to wind and solar energy will reduce ambient air pollution** in addition to slowing down climate change.
- Private and government donors **need to allocate funding for pollution management to support HPAP (Health and Pollution Action Plan)** prioritisation processes, monitoring, and programme implementation.
- All sectors **need to integrate pollution control into plans to address other key threats such as climate, biodiversity, food, and agriculture**.
- All sectors need to support a **stronger stand on pollution in planetary health, One Health, and energy transition work**.
- International organisations **need to establish an SPI (Science Policy Interface) for pollution, similar to those for climate and biodiversity**, initially for chemicals, waste, and air pollution.
 - The **Science Policy Interface (SPI)** has been defined as "social processes which encompass relations between scientists and other actors in

Note:



the policy process, and which allow for exchanges, co-evolution, and joint construction of knowledge with the aim of enriching decision-making.

- International organisations **need to revise pollution tracking for the SDGs to correctly represent** the effect of chemicals pollution including heavy metals.
- The reporting **systems should allow burden of disease estimates** to be used in the absence of national data.
- International organisations and national governments **need to invest in generating data and analytics to underpin evidence-based interventions** to address environmental health risks.
 - Priority investments should include the establishment of reliable ground-level air quality monitoring networks, along with lead baseline and monitoring systems, and other chemical monitoring systems.
- International organisations and national governments **need to use uniform and appropriate sampling protocols to collect evidence on exposure to hazardous chemicals** such as lead, mercury, or chromium, which can be compared or generalised across LMICs (Low and Lower Middle-Income countries).

What are the Government Initiatives to Combat Air Pollution?

- **Graded Response Action Plan**
- **Polluter Pay principle**
- **BS-VI vehicles**
- **New Commission for Air Quality Management**
- **Air Quality and Weather Forecasting and Research (SAFAR)**
- **Dashboard for Monitoring Air Quality**
- **National Air Quality Index (AQI)**
- **Air (Prevention and Control of Pollution) Act, 1981**
- **Pradhan Mantri Ujjwala Yojana (PMUY)**

Eklavya Model Residential Schools

Why in News?

Recently, the Ministry of Tribal Affairs has laid the foundation stone for the construction of Eklavya Model Residential School (EMRS) in Nashik, Maharashtra.

- The proposed EMR School aims to make quality education accessible to tribal students in the remote tribal hinterlands of Nashik.

What are EMRS?

➤ About:

- EMRS is a **scheme for making model residential schools for Indian tribals (ST- Scheduled Tribes) across India**. It started in the year 1997-98.
- The Eklavya Model Residential School in Shinde (Nashik) has been planned by the Ministry Tribal Affairs **to give impetus to quality education in nearby tribal areas**.
- The EMR School follows the **CBSE curriculum**.
- Eklavya Model Residential Schools are being developed **to impart quality education to tribal students, with an emphasis on not only academic education but all-round development of tribal students**.
- At present, **there are 384 functional schools spanned across the country established at par with Navodaya Vidyalaya** with focus on special state-of-the-art facilities for preserving local art and culture besides providing training in sports and skill development.

➤ Coverage:

- As per existing EMRS Guidelines of 2010, at least one EMRS is to be set up in each Integrated Tribal Development Agency (ITDA) / **Integrated Tribal Development Project (ITDP)** having 50% ST population in the area.
- As per the budget 2018-19, **every block with more than 50% ST population and at least 20,000 tribal persons, will have an Eklavya Model Residential School** by the year 2022.

What are the Objectives of EMRS?

- Comprehensive physical, mental and socially relevant development of all students enrolled in each and every EMRS.
- Seek to empower students to be change agents, beginning in their school, in their homes, in their village and finally in a larger context.
- Focus differentially on the educational support to be made available to those in Standards XI and XII, and those in standards VI to X, so that their distinctive needs can be met.

Note:



- Support the **annual running expenses in a manner that offers reasonable remuneration** to the staff and upkeep of the facilities.
- Support the **construction of infrastructure that provides** education, physical, environmental and cultural needs of student life.

What are the Legal Provisions for STs?

- Protection of Civil Rights Act, 1955 against Un-touchability.
- **Scheduled Castes and the Scheduled Tribes (Prevention of Atrocities) Act, 1989**
- Provisions of the Panchayats (Extension to the Scheduled Areas) Act, 1996
- **Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006**

What are the other Initiatives Related to Scheduled Tribes?

- **TRIFED**
- **Digital Transformation of Tribal Schools**
- **Development of PVTGs**
- **Pradhan Mantri Van Dhan Yojana**
- **National Commission for Scheduled Tribes**

GatiShakti Sanchar Portal

Why in News?

Recently, the Ministry of Communications has launched the “GatiShakti Sanchar” portal for **Centralised Right of Way (RoW) approvals**.

What is “GatiShakti Sanchar” Portal?

- **About:** The portal has been developed keeping in view the vision areas of the **National Broadband Mission** at the core, which are providing broadband infrastructure as a core utility to every citizen, Governance and services on demand, and in particular, digital empowerment of the citizens of the country.
- **Objective:** The portal shall act as an enabler to the objective of **“Ease of doing Business”** for telecommunications infrastructure works.

What is the Significance?

- **Timely Rollout of 5G Network:** The timely disposal of RoW applications of various Service and Infrastructure

providers shall enable speedy infrastructure creation which would be an enabler for the timely rollout of the **5G Network** also.

- For effective monitoring of RoW applications across the country, the portal even comes fitted with a potent dashboard **showing State and District wise pendency status**.
- **Improved Quality of Telecom Services:** This will lead to:
 - Fast laying of more **Optical Fiber Cable** will thus accelerate fiberization.
 - Increased tower density which will **enhance connectivity and improve the quality** of various telecom services.
 - Increased fiberization of telecom towers, thus ensuring better Broadband speed, across the country.
- **Empowerment of the Country:** This portal is expected to give a fillip to the nation’s **‘AatmaNirbhar’ movement**, contributing actively to transforming the country into a digitally empowered society and knowledge economy.
- **Significant for Both Rural and Urban India:** This will ensure uninterrupted digital access, digital delivery of services, and digital inclusion of all, based on technology that is sustainable, affordable and transformative.

What is the PM Gati Shakti Scheme?

➤ About:

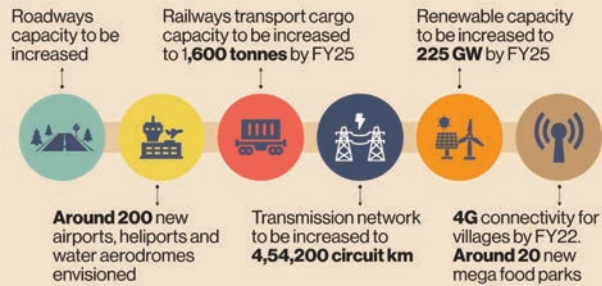
- In 2021 the government launched the ambitious Gati Shakti scheme or **National Master Plan for multi-modal connectivity**, with the aim of coordinated planning and execution of infrastructure projects to bring down logistics costs.

➤ Aim:

- To ensure integrated planning and **implementation of infrastructure projects in the next four years**, with a focus on expediting works on the ground, saving costs, and creating jobs.
- The Gati Shakti scheme will subsume the Rs 110 lakh crore **National Infrastructure Pipeline** that was launched in 2019.
- Besides cutting logistics costs, the scheme is also aimed at **increasing cargo handling capacity** and reducing the turnaround time at ports to boost trade.
- It also aims to have 11 **industrial corridors** and two new **defence corridors** - one in Tamil Nadu and the other in Uttar Pradesh.

- Extending **4G connectivity** to all villages is another aim. Adding 17,000 kms to the gas pipeline network is being planned.
- It will help in fulfilling the **ambitious targets** set by the government for 2024-25, including expanding the length of the national highway network to 2 lakh kms, creation of more than 200 new airports, heliports, and water aerodromes.

GATI SHAKTI MASTER PLAN



What is the National Broadband Mission?

- **About:** It was set up by the Department of Telecommunication (DoT) in 2019.
- **Objective:** To facilitate **universal and equitable access to broadband services** across the country, especially in rural and remote areas.
 - To fulfill this vision, it is imperative that a backbone of infrastructure is created by facilitating the smooth and efficient deployment of Digital Communications Infrastructure across the country.
 - The “GatiShakti Sanchar” portal will provide a robust mechanism to achieve the goal of “Broadband for All” as envisaged in the National Digital Communication Policy-2.

The Places of Worship Act

Why in News?

The Supreme Court will hear a challenge to the order of a civil court in Varanasi directing a videographic survey of the Maa Shringar Gauri Sthal in the Kashi Vishwanath temple-Gyanvapi mosque complex.

- The principal contention is that the order of the Varanasi court which was upheld by Allahabad High Court is “clearly interdicted” by **The Places of Worship (Special Provisions) Act, 1991**.

What is the Places of Worship Act?

- **About:** It is described as “**An Act to prohibit conversion of any place of worship** and to provide for the maintenance of the religious character of any place of worship as it existed on the 15th day of August 1947, and for matters connected therewith or incidental thereto.”
- **Exemption:**
 - The **disputed site at Ayodhya** was exempted from the Act. Due to this exemption, the trial in the Ayodhya case proceeded even after the enforcement of this law.
 - Besides the Ayodhya dispute, **the Act also exempted:**
 - Any place of worship which is an ancient and historical monument, or an archaeological site covered by the **Ancient Monuments and Archaeological Sites and Remains Act, 1958**.
 - A suit that has been finally settled or disposed of.
 - Any dispute that has been settled by the parties or conversion of any place that took place by acquiescence **before the Act commenced**.
- **Penalty:**
 - **Section 6** of the Act prescribes a punishment of a maximum of three years imprisonment along with a fine for contravening the provisions of the Act.
- **Criticism:**
 - The law has been **challenged on the ground that it bars judicial review**, which is a basic feature of the Constitution, imposes an “**arbitrary irrational retrospective cutoff date**,” and abridges the right to religion of Hindus, Jains, Buddhists, and Sikhs.

What Are its Provisions?

- **Section 3:** This section of the Act bars the conversion, in full or part, of a place of worship of any **religious denomination into a place of worship** of a different religious denomination or even a different segment of the same religious denomination.
- **Section 4(1):** It declares that the religious character of a place of worship “**shall continue to be the same as it existed**” on 15th August 1947.
- **Section 4(2):** It says any suit or legal proceeding with respect to the conversion of the religious character of any place of worship existing on 15th August 1947, pending before any court, **shall abate and no fresh suit or legal proceedings shall be instituted**.

Note:



- The proviso to this subsection saves suits, appeals, and legal proceedings that are **pending on the date of commencement of the Act** if they pertain to the conversion of the religious character of a place of worship after the cut-off date.
- **Section 5:** It stipulates that the Act shall not apply to the Ramjanmabhoomi-Babri Masjid case, and to any suit, appeal, or proceeding relating to it.

What was the Supreme Court's view during Ayodhya Judgement?

- In the 2019 Ayodhya verdict, the Constitution Bench referred to the law and said **it manifests the secular values of the Constitution** and prohibits retrogression.
- The law is hence a legislative instrument designed to **protect the secular features of the Indian polity**, which is one of the basic features of the Constitution.

Chief Election Commissioner

Why in News?

Recently, the President appointed **Rajiv Kumar as the Chief Election Commissioner (25th CEC)**.

- He **replaced Sushil Chandra**.

What are the Key Points?

- **About the Election Commission of India:**
 - The **Election Commission of India (ECI)** is an autonomous constitutional authority responsible for administering Union and State election processes in India.
 - It was established in accordance with the Constitution on **25th January 1950 (celebrated as national voters' day)**. The secretariat of the commission is in New Delhi.
 - The body **administers elections to the Lok Sabha, Rajya Sabha, and State Legislative Assemblies** in India, and the offices of the President and Vice President in the country.
 - It is not concerned with the elections to panchayats and municipalities in the states. For this, the Constitution of India provides for a separate **State Election Commission**.
- **Constitutional Provisions:**

- **Part XV (Article 324-329) of the Indian Constitution:** It deals with elections and establishes a commission for these matters.

- **Article 324:** Superintendence, direction and control of elections to be vested in an Election Commission.
- **Article 325:** No person to be ineligible for inclusion in, or to claim to be included in a special, electoral roll on grounds of religion, race, caste or sex.
- **Article 326:** Elections to the House of the People and to the Legislative Assemblies of States to be based on adult suffrage.
- **Article 327:** Power of Parliament to make provision with respect to elections to Legislatures.
- **Article 328:** Power of Legislature of a State to make provision with respect to elections to such Legislature.
- **Article 329:** Bar to interference by courts in electoral matters.

➤ **Structure of ECI:**

- Originally the commission had only one election commissioner but after the Election Commissioner Amendment Act 1989, it was made a multi-member body.
- The Election Commission shall consist of the Chief Election Commissioner (CEC) and such number of other election commissioners, if any, as the President may from time-to-time fix.
- Presently, it consists of the CEC and two Election Commissioners.
 - At the state level, the election commission is helped by the Chief Electoral Officer who is an IAS rank Officer.

➤ **Appointment & Tenure of Commissioners:**

- The President appoints CEC and Election Commissioners.
- They have a fixed tenure of six years, or up to the age of 65 years, whichever is earlier.
- They enjoy the same status and receive salary and perks as available to Judges of the **Supreme Court (SC) of India**.

➤ **Removal:**

- They can resign anytime or can also be removed before the expiry of their term.

- The CEC can be removed from office only through a process of removal similar to that of a SC judge by Parliament.

➤ Limitations:

- The Constitution has not prescribed the qualifications (legal, educational, administrative or judicial) of the members of the Election Commission.
- The Constitution has not specified the term of the members of the Election Commission.
- The Constitution has not debarred the retiring election commissioners from any further appointment by the government.

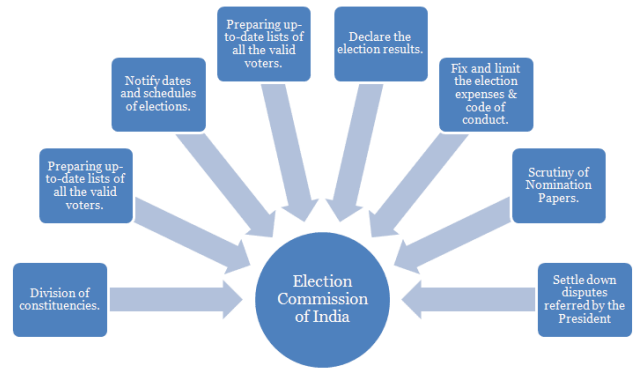
What are the Powers and Functions of ECI?

➤ Administrative:

- To determine the territorial areas of the electoral constituencies throughout the country on the basis of the **Delimitation Commission Act of Parliament**.
- To prepare and periodically revise electoral rolls and to register all eligible voters.
- To **grant recognition to political parties** and allot election symbols to them.
- Election Commission ensures a level playing field for the political parties in election fray, through strict observance by them of a **Model Code of Conduct** evolved with the consensus of political parties.

➤ Advisory Jurisdiction & Quasi-Judicial Functions:

- Under the Constitution, **the Commission has advisory jurisdiction in the matter of post election disqualification** of sitting members of Parliament and State Legislatures.
 - The opinion of the Commission in all such matters is binding on the President or, as the case may be, the Governor to whom such opinion is tendered.
- Further, **the cases of persons found guilty of corrupt practices** at elections which come before the SC and High Courts are also referred to the Commission for its opinion on the question as to whether such person shall be disqualified and, if so, for what period.
- The **Commission has the power to disqualify a candidate who has failed to lodge an account of his election expenses** within the time and in the manner prescribed by law.



Article 142

Why in News?

Recently, the Supreme Court has invoked its **extraordinary powers to do complete justice under Article 142 of the Constitution** and ordered the release of A.G. Perarivalan in former **Prime Minister Rajiv Gandhi assassination case**.

- The court protected federalism by holding that States had the power to aid and advice the Governor in case of pleas of pardon under **Article 161** made by convicts in murder cases.
- **Article 161 provides** that the **Governor of a State shall have the power to grant pardons**, reprieves, respites or remissions of punishment or to suspend, remit or commute the sentence of any person convicted of any offence against any law relating to a matter to which the executive power of the State extends.

What is the Supreme Court's Ruling?

- Tamil Nadu Council of Ministers' advice in 2018 to pardon Perarivalan was **binding on the Governor under Article 161** (Governor's power of clemency) of the Constitution.
- The Governor's reluctance to **take a call on the pardon plea has compelled the court to employ its constitutional powers under Article 142** to do justice to Perarivalan.
- The Supreme Court used Article 142 of the Constitution that grants it extraordinary powers to do complete justice, to release Perarivalan.
- The court dismissed **the Centre's argument** that the President exclusively, and not the Governor, had the power to grant pardon in a case under **Section**

Note:



302 (murder) of the Indian Penal Code, saying **this contention would render Article 161 a “dead-letter” and create an extraordinary situation** whereby pardons granted by Governors in murder cases for the past 70 years would be rendered invalid.

What is Article 142?

- **Definition:** Article 142 provides **discretionary power to the Supreme Court** as it states that the Supreme Court in the exercise of its jurisdiction may pass such decree or make such order as is necessary for doing complete justice in any cause or matter pending before it.
- **Constructive Application:** In the early years of the evolution of Article 142, the general public and the lawyers both lauded the Supreme Court for its efforts to bring complete justice to various deprived sections of society or to protect the environment.
 - The **Cleansing of Taj Mahal and justice to many undertrials** is a result of the invocation of this article only.
- **In the Union Carbide case**, relating to the victims of the **Bhopal gas tragedy**, the Supreme Court placed itself above the laws made by the Parliament or the legislatures of the States by saying that, to do complete justice, it could even override the laws made by Parliament.
 - However, in the **Supreme Court Bar Association v. Union of India**, the Supreme Court stated that Article 142 could not be used to supplant the existing law, but only to supplement the law.
- **Cases of Judicial Overreach:** In recent years, there have been several judgments of the Supreme Court wherein it has been foraying into areas which had long been forbidden to the judiciary by reason of the **doctrine of ‘separation of powers’**, which is part of the **basic structure of the Constitution**. One such example is:
 - **The ban on the sale of alcohol along national and state highways:** While the notification by the central government prohibited liquor stores along National Highways only, the Supreme Court put in place a ban on a distance of 500 metres by invoking Article 142.
 - Additionally, and in the absence of any similar notification by any of the State governments, the court extended the ban to State highways as well.

- Such judgments have created uncertainty about the discretion vested in the court to invoke Article 142 where even fundamental rights of individuals are being ignored.

What is Pardoning Power of President?

- **Article 72 empowers the President the power to grant pardons, reprieves, respites or remissions of punishment or to suspend, remit or commute the sentence** of any person convicted of any offence. The meaning of these terms is as follows:
 - **Pardon:** It removes both the sentence and the conviction and completely absolves the convict from all sentences, punishments, and disqualifications.
 - **Commutation:** It denotes the **substitution of one form of punishment** with a lighter form of punishment. For example, a death sentence may be commuted to rigorous imprisonment.
 - **Remission:** It implies **reducing the period of the sentence without changing its character**. For example, a sentence of rigorous imprisonment for five years may be remitted to rigorous imprisonment for one year.
 - **Respite:** It denotes **awarding a lesser sentence in place of one originally awarded due to some special fact**, such as the physical disability of a convict or the pregnancy of a woman offender.
 - **Reprieve:** It implies **a stay of the execution of a sentence (especially that of death)** for a temporary period. Its purpose is to enable the convict to have time to seek pardon or commutation from the President.

Amendments to the Companies Act

Why in News?

The Ministry of Corporate Affairs is set to introduce **amendments to the Companies Act** in the winter session of Parliament.

- The ministry has received feedback from experts and professionals on these recommendations made by the **Company Law Committee** that gave its **Report in April 2022** to the finance and corporate affairs minister.

Note:



What are the Key Proposals?

- It is expected to **raise the bar on corporate governance, especially in hiring for board positions and handling resignations** of auditors and top executives.
- The key proposals **seek to ensure that independent directors are truly independent, and companies are more open about instances of statutory auditors** making adverse remarks or qualifications on the financial statements or even quitting their audit assignment.
- It seeks to **protect the independence of the statutory auditors** by making several changes to the law, including mandatory joint audits for certain types of companies.
- The idea of the proposed changes to the Companies Act is **to strengthen the gatekeepers of good governance (Corporate governance)**—independent directors and auditors—**infuse more transparency into company affairs** and allow companies to issue fractional shares and discounted shares as part of efforts to improve **ease of doing business**.
 - The issue of fractional shares, a **practice currently prohibited under the Companies Act**, will help retail investors access high-value shares, while discounted shares will allow a company in distress to convert debt to equity.
- Some of the past bankruptcies in the corporate sector, particularly those **involving large non-bank financial companies facing serious financial difficulties, have prompted the government to consider** some of these changes.

What is the Indian Companies Act?

- Indian Companies Act is an **Act of the Parliament which was enacted in 1956**. It enables the **companies to be formed by registration, sets out the responsibilities of companies, their executive director and secretaries**.
- **In 2013**, the Government amended the **Indian Companies Act 1956 and added a new Act called as Indian Companies Act 2013**.
 - The Companies Act, 1956 was replaced partially by the Indian Companies Act 2013.
 - It became an act and finally it came into force in September 2013.
- **In 2020**, the Parliament of India passed the **Companies (Amendment) Bill, 2020** to further **amend the Companies Act and decriminalise various**

compoundable offences as well as promote ease of doing business in the country.

- Reduction in penalties for certain offences as well as in timeline for rights issues, relaxation in **corporate social responsibility (CSR)** compliance requirements and creation of separate benches at the **National Company Law Appellate Tribunal (NCLAT)** are among the proposed changes too.

What are the Features of the Companies Act of 2013

- It regulates **incorporation of a company, responsibilities of a company, directors, and dissolution** of a company.
- It is divided **into 29 chapters which containing 470 sections as against 658 Sections** in the former Companies Act, 1956 and has 7 schedules.
- It provides a maximum of 200 members, earlier the private companies the maximum number of members were 50.
- A new term of 'one-person company' is included in this act.

PWD to Allow 4% Quota for Disabled

Why in News?

Recently, the **Central Public Works Department (CPWD)** has started the process to identify 4% of posts of junior engineer (civil and electrical) to be reserved for **persons with disabilities (PwD)** as mandated by the **Rights of Persons with Disabilities Act, 2016 (RPwD Act)**.

What are the Key points?

- The Central construction agency wrote to its regional offices to identify 4% of the posts and places where persons with benchmark disabilities can be posted.
- The CPWD asked the regional centers to also make **"appropriate reasonable accommodation"** for PwD, as the RPwD Act says.
- Earlier, the expert Committee (under CPWD) was of the view that the PwD need to have requisite technical qualification or the post in the first place and subsequently he or she has to compete in the selection process to be considered for the post.

- Later, the committee advised CPWD to follow the DEPWD's notification for recruitment to JE (civil and electrical).

What are Constitutional Provisions related to Disability?

- **Article 41 of the Directive Principles of State Policy (DPSP)** states that State shall make effective provision for securing right to work, to education and to public assistance in cases of unemployment, old age, sickness and disablement, within the limits of its economic capacity and development.
- The subject of 'relief of the disabled and unemployable' is specified in the **state list of the Seventh schedule of the constitution**.

What are the Rights of Persons with Disabilities Act 2016?

- **Definition:**
 - Disability has been defined based on an evolving and dynamic concept.
 - **Benchmark disability** refers to having at least **40% disability** of any type recognized under the Act.
- **Types:**
 - The types of disabilities have been **increased from 7 to 21**.
 - The Act added mental illness, autism, spectrum disorder, cerebral palsy, muscular dystrophy, chronic neurological conditions, speech and language disability, **thalassemia**, **hemophilia**, **sickle cell disease**, multiple disabilities including deaf blindness, acid attack victims and **Parkinson's disease**.
 - In addition, the Government has been authorized to notify any other category of specified disability.
- **Reservation:**
 - It **increased the reservation** for people suffering from disabilities **from 3% to 4% in government jobs** and **from 3% to 5% in higher education institutes**.
- **Education:**
 - Every child with benchmark disability between the age group of 6 and 18 years shall have the right to free education. Government funded educational institutions as well as the government recognized institutions will have to provide inclusive education.
- **Accessibility:**

- Stress has been given to ensure accessibility in public buildings in a prescribed time frame along with the **Accessible India Campaign**.

Regulatory Body:

- The Chief Commissioner for Persons with Disabilities and the State Commissioners will act as regulatory bodies and Grievance Redressal agencies, monitoring implementation of the Act.

Special Fund:

- A separate National and State Fund will be created to provide financial support to the persons with disabilities.

What are the Various Government Schemes for PwDs?

DISHA

- This is an early intervention and school readiness scheme for children up to 10 years with disabilities covered under the **National Trust Act**.

VIKAAS

- A day care scheme for persons with autism, cerebral palsy, mental retardation and multiple disabilities, above 10 years for enhancing interpersonal and vocational skills.

SAMARTH

- A scheme to provide a respite home for orphans, families in crisis, Persons with Disabilities (PwD) from **BPL**, **LIG** families with at least one of the four disabilities covered under the National Trust Act.

GHARAUNDA

- This scheme provides housing and care services throughout the life of the person with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities.

NIRAMAYA

- This scheme is to provide **affordable Health Insurance** to persons with Autism, Cerebral Palsy, Mental Retardation and Multiple Disabilities.

SAHYOGI

- A scheme to set up Caregiver Cells (CGCs) for training and creating skilled workforce of caregivers to care for Person with Disabilities (PwD) and their families.

PRERNA

Note:



- A marketing scheme to create viable & wide spread channels for sale of products and services produced by persons with autism, cerebral palsy, mental retardation and multiple disabilities.

➤ **SAMBHAV**

- This is a scheme to set up additional resource centers in each city, to collate and collect the Aids, software and other forms of assistive devices.

➤ **BADHTE KADAM**

- This scheme supports Registered Organizations (RO) of The National Trust to carry out activities for increasing the awareness of The National Trust disabilities.

➤ **Other Important Schemes:**

- **Accessible India Campaign: Creation of Accessible Environment for PwDs**
- **Assistance to Disabled Persons for Purchase/fitting of Aids and Appliances (ADIP)**
- **DeenDayal Disabled Rehabilitation Scheme**
- **National Fellowship for Students with Disabilities**
- **Unique Disability Identification Project**
- **International Day of Persons with Disabilities**
- **National Mental Health Programme**

What is Central Public Works Department (CPWD)?

- CPWD came into existence in July, 1854 when Lord Dalhousie established a central agency for execution of public works and set up Ajmer Provincial Division.
- It has been serving the nation for the last 164 years.
- It has now grown into a comprehensive construction management department, which provides services from project concept to completion, consultancy and maintenance management.
- It is headed by Director General (DG) who is also the Principal Technical Advisor to the Government of India. The regions and sub-regions are headed by Special DGs and Additional DGs respectively, while the zones in all state capitals (except a few) are headed by Chief Engineers.
- CPWD has pan India presence and has ability to undertake construction of complex projects even in difficult terrain and maintenance in post construction stage.
- CPWD had been involved in construction of stadiums and other infrastructure requirements for **Asian Games 1982** and **Commonwealth Games 2010**.

Recognition of Sex Work as a Profession

Why in News?

Recently, in a significant order, **Supreme Court** has recognised sex work as a “profession” and observed that its practitioners are entitled to dignity and equal protection under law.

- The court invoked its special powers under **Article 142 of the Constitution**. Article 142 provides discretionary power to the Supreme Court as it states that the Supreme Court in the exercise of its jurisdiction may pass such decree or make such order as is necessary for doing complete justice in any cause or matter pending before it.
- In 2020, the **National Human Rights Commission (NHRC)** recognised sex workers as informal workers.

What are the Highlights of the Supreme Court Judgment?

➤ **Criminal Law:**

- Sex workers are **entitled to equal protection of the law and criminal law must apply equally in all cases**, on the basis of ‘age’ and ‘consent’.
- When it is clear that the **sex worker is an adult and is participating with consent**, the **police must refrain from interfering or taking any criminal action**.
- **Article 21** declares that **no person shall be deprived of his life or personal liberty** except according to procedure established by law. This right is available to both citizens and non-citizens.
- **Sex workers should not be “arrested or penalised or harassed or victimised”** whenever there is a raid on any brothel, “since voluntary sex work is not illegal and only running the brothel is unlawful”.

➤ **Right of Child of a Sex Worker:**

- A child of a sex worker **should not be separated from the mother merely on the ground that she is in the sex trade**.
- Basic protection of human decency and dignity extends to sex workers and their children.
- Further, **if a minor is found living in a brothel or with sex workers**, it should not be presumed that the child was trafficked.

- In case the **sex worker claims that he/she is her son/daughter**, tests can be done to determine if the claim is correct and if so, the minor should not be forcibly separated.
- **Medical Care:**
 - Sex workers who are victims of sexual assault **should be provided every facility including immediate medico-legal care.**
- **Role of Media:**
 - **Media should take “utmost care not to reveal the identities of sex workers**, during arrest, raid and rescue operations, whether as victims or accused and not to publish or telecast any photos that would result in disclosure of such identities.

What are the Related Provisions/Supreme Court Views in India?

- **Immoral Traffic (Prevention) Act:**
 - The legislation governing sex work in India is the **Immoral Traffic (Prevention) Act.**
 - The **Suppression of Immoral Traffic in Women and Children Act** was enacted in 1956.
 - Subsequent amendments were made to the law and the name of the Act was changed to **Immoral Traffic (Prevention) Act.**
 - The **legislation penalises acts** such as keeping a brothel, soliciting in a public place, living off the earnings of sex work and living with or habitually being in the company of a sex worker.
- **Justice Verma Commission (2012-13):**
 - The Justice Verma Commission had also **acknowledged that there is a distinction between women who are trafficked** for commercial sexual exploitation and adult, consenting women who are in sex work of their own volition.
- **Budhadev Karmaskar Vs State of West Bengal (2011) Case:**
 - The Supreme Court, in Budhadev Karmaskar v. State of West Bengal (2011), opined that sex workers have a right to dignity.

What are the Challenges Faced by Sex Workers?

- **Discrimination and Stigmatisation:**
 - The **rights of sex workers are non-existent**, and those doing such work face discrimination due to their criminalised status.

- These individuals are **looked down upon and have no place in society**, and most times are treated harshly by their landlords and even the law.
- Their fight to be given the **same human, health, and labour rights as others**, continues as they are not deemed as falling under the same category as other workers.
- **Abuse and Exploitation:**
 - Most times, **sex workers are exposed to a slew of abuses** that range from physical to mental attacks.
 - They would **face harassment from clients, their own family members**, the community, and even from people who are supposed to uphold the law.

Rights of LGBTIQ+ Persons

Why in News?

Recently, **International Labour Organisation (ILO)** released a document on “Inclusion of **LGBTIQ+** persons in the world of work”. It provides certain **recommendations to ensure equal opportunities and treatment** for LGBTIQ+ persons at work.

- LGBTIQ stands for Lesbian, Gay, Bisexual, Transgender, Inter-sex and Queer.
- The plus sign **represents people with diverse SOGIESC** who identify using other terms. In some contexts, LGB, LGBT or LGBTI are used to refer to particular populations.
 - SOGIESC stands for sexual orientation, gender identity, gender expression and sex characteristics.

What is the International Labour Organization?

- It is the only tripartite **United Nation (UN)** agency. It **brings together governments, employers and workers of 187 member States** (India is a member), to set labour standards, develop policies and devise programmes promoting decent work for all women and men.
 - Received the **Nobel Peace Prize** in 1969.
- Established in 1919 by the **Treaty of Versailles** as an affiliated agency of the **League of Nations**.
- Became the first affiliated specialized agency of the UN in 1946.
- **Headquarters:** Geneva, Switzerland

What are the Recommendations?

- **National Policy and Labour Law Review:**
 - National policy and labour law review will allow **governments to assess their country's work policy environment** for LGBTIQ+ persons.
 - This will **allow the identification of concrete steps** for improving the legal and policy environment, ending discrimination and exclusions, and complying with international instruments.
 - Around the world, LGBTIQ+ persons face harassment, violence and discrimination on the basis of sexual orientation, gender identity, gender expression and sex characteristics.
 - Discrimination has an economic cost not just to LGBTIQ+ persons and their families but also to enterprises and national economies.
- **Launch Social Protection Programmes:**
 - It recommended member countries, employers' organisations and representatives of workers to launch social protection programmes to remove barriers that LGBTIQ+ persons face in the society.
- **Facilitate Consultation:**
 - In addition to **social dialogue with employers' and workers' organizations**, consultation with LGBTIQ+ communities are crucial.
 - This will **allow the identification of barriers faced by LGBTIQ+ persons** when entering the labour market and accessing government schemes, including those on social protection.
- **Work with Small and Medium Industry Associations:**
 - To address gender and sexual identity discrimination and stigma, **the International Labor Organization encouraged governments to work with small and medium sector associations**, sectoral unions, and informal economy workers' associations.
- **End Sexual Discrimination at Workplaces:**
 - **Encouraging employers' organisations to end sexual discrimination** at workplaces, it makes business sense to work on LGBTIQ+ inclusion in the workplace.
 - Studies have shown that **diversity in the workplace, including LGBTIQ+ persons, is better for business.**
 - It **signals a creative environment** that creates the right conditions for economic growth.
 - **Employers' organisations can provide policy guidance to their members**, undertake advocacy

and raise awareness on including LGBTIQ+ persons in workplaces, promote social dialogue and collective bargaining, and facilitate learning and sharing of good practices among members.

➤ **Organise and Exercise the Right to Freedom of Association:**

- ILO has asked **unions to help LGBTIQ+ workers organise** and exercise their right to freedom of association.
 - Workers associations can also ensure that **issues affecting LGBTIQ+ workers are represented in collective bargaining agreements** with employers and in workplace policies and other tools.
 - **Many LGBTIQ+ workers**, particularly those in smaller workplaces, may feel isolated without visible LGBTIQ+ peers or allies.

What is the Status of LGBTIQ+ Community in India?

- **National Legal Services Authority Vs. Union of India (2014):** The SC observed that "recognition of transgenders as a third gender is not a social or medical issue, but a human rights issue".
- **Navtej Singh Johar vs. Union of India (2018):** The SC **decriminalised homosexuality** by striking off parts of Section 377 of the **Indian Penal Code (IPC)** which were held violative of **Fundamental Rights** of LGBTQ Community.
 - The SC held that **Article 14 of the Constitution guarantees equality before law** and this applies to all classes of citizens thereby restoring 'inclusiveness' of LGBTQ Community.
 - It also upheld the pre-eminence of **Constitutional morality** in India by observing that equality before law cannot be denied by giving precedence to public or religious morality.
 - The SC stated that the '**Yogyakarta Principles on the Application of International Law in Relation to Issues of Sexual Orientation and Gender Identity**' should be applied as a part of Indian law.
 - **Yogyakarta Principles recognise freedom of sexual orientation** and gender identity as part of Human Rights.
 - They were outlined in 2006 in Yogyakarta, Indonesia by a distinguished group of International Human Right experts.

Note:



- **Tussle Over Same Sex Marriages:** In *Shafin Jahan v. Asokan K.M. and others (2018)* case, the SC observed that choice of a partner is a person's fundamental right, and it can be a same-sex partner.
 - However, in February, 2021, the Central Government opposed same-sex marriage in Delhi High Court stating that a marriage in India can be recognised only if it is between a "biological man" and a "biological woman" capable of producing children.
- **Transgender Persons (Protection of Rights) Act, 2019:** The Parliament has passed the **Transgender Persons (Protection of Rights) Bill, 2019** which has been criticised for its poor understanding of gender and sexual identity.

Digital India BHASHINI

Why in News?

Recently, the Ministry of Electronics and IT conducted a brainstorming session with Researchers and Start-ups aimed to shape strategy for **Digital India BHASHINI [BHASHa Interface for India]**.

- The government **intends to integrate start-ups' innovation**, development and consumption of technology.

What is Digital India BHASHINI?

- **About:**
 - Digital India BHASHINI is India's **Artificial Intelligence (AI) led language translation platform**.
 - A Bhashini Platform will make **Artificial Intelligence (AI) and Natural Language Processing (NLP)** resources available to **MSME (Medium, Small and Micro Enterprises)**, Startups and Individual Innovators in the public domain.
 - Bhashini Platform is a part of the **National Language Translation Mission**.
 - The mission aims to ensure that as more Indians connect to the internet, they are able to access global content in their own languages.
- **Significance:**
 - **Digital Inclusion:**
 - It will **empower Indian citizens by connecting them to the Digital Initiatives** of the country in

their own language thereby leading to digital inclusion.

- It will also **encourage participation of startups**.
- **Digital Government:**
 - **Mission will create and nurture an ecosystem involving Central/State government agencies and start-ups**, working together to develop and deploy innovative products and services in Indian languages.
 - It is a giant step to realize the goal of **Digital Government**.
- **Increase the Content in Indian Languages:**
 - It also **aims to increase the content in Indian languages on the Internet substantially** in the domains of public interest, particularly, governance-and-policy, science & technology, etc., thus will encourage citizens to use the Internet in their own language.

What are India's initiatives for the Digital India Vision?

- **Digital India Programme:**
 - **Digital India** aims to provide the much needed thrust to the nine pillars of growth areas, namely Broadband Highways, Universal Access to Mobile Connectivity, Public Internet Access Programme, e-Governance: Reforming Government through Technology, e-Kranti - Electronic Delivery of Services, Information for All, Electronics Manufacturing, IT for Jobs and Early Harvest Programmes.
- **Digital Entrepreneurship:**
 - The **establishment of 3.7 lakh Common Service Centres** across India has encouraged digital entrepreneurship in rural areas and improved access to digital services for the common man.
- **Digital Services:**
 - Digital services like e-Hospital, **BHIM-UPI**, online scholarships, **DigiLocker**, **Umang app**, **e-Courts**, Tele Law, **eWay Bills** etc. have improved ease of living for citizens.
- **Unique Digital Identity (Aadhaar):**
 - With 129 Crore **Aadhaar** holders, **India is home to the largest population with a unique digital identity in the world**.
- **India Stack:**
 - India Stack is a **set of platforms and Application**

Note:



Programming Interface (APIs) that allows governments, businesses, startups and developers to utilise a unique digital Infrastructure to solve India's problems towards presenceless, paperless, and cashless service delivery.

- **National Digital Educational Architecture (NDEAR):**
 - The government has laid a **major emphasis on strengthening the country's digital infrastructure for education** by announcing setting up of a National Digital Educational Architecture (NDEAR) within the context of a Digital First Mindset where the digital architecture will not only support teaching and learning activities but also educational planning, governance administrative activities of the Centre and the States / Union Territories.
- **National Digital Health Mission (NDHM):**
 - It aims to develop the backbone necessary to support the integrated digital health infrastructure of the country.

Inter-State Council

Why in News?

Recently, the **Inter-State Council (ISC)** has been reconstituted with the Prime Minister as Chairman and Chief Ministers of all States and six Union Ministers as members.

- **Ten** union ministers will be the permanent invitees to the Inter-State Council.
- The government has also reconstituted the **standing committee of the Inter-State Council** with Union Home as Chairman.
 - The Chief Ministers of **Andhra Pradesh, Assam, Bihar, Gujarat, Maharashtra, Odisha, Punjab and Uttar Pradesh** are also members of the standing committee of the Inter-State Council.

What is the Inter-State Council?

- **Background:**
 - As part of the **process of reviewing the working of the existing arrangements** between the Union and the States, the Government constituted a commission in 1988 under the Chairmanship of Justice R.S. Sarkaria.
 - One of the **important recommendations of Sarkaria Commission** was for establishing a permanent Inter-

State Council as an independent national forum for consultation with a mandate well defined in accordance with **Article 263 of the Constitution of India.**

- **About:**
 - The inter-state council is a **recommendatory body** that has been empowered to **investigate and discuss subjects of common interest** between the Union and state(s), or among states.
 - It also **makes recommendations for better coordination of policy** and action on these subjects, and deliberations on matters of general interest to the states, which may be referred to it by its chairman.
 - It also **deliberates on other matters of general interest** to the states as may be referred by the chairman to the council.
 - The Council may **meet at least thrice in a year.**
 - There is also a **Standing Committee of the Council.**
- **Composition:**
 - Prime Minister Chairman
 - Chief Ministers of all States Members
 - Chief Ministers of Union Territories having a Legislative Assembly and Administrators of UTs not having a Legislative Assembly and Governors of States under President's Rule (Governor's Rule in the case of J&K) Members.
 - Six Ministers of Cabinet rank in the Union Council of Ministers to be nominated by the Prime Minister Members.

What are the Functions of the Inter-State Council?

- To **create a strong institutional framework** to promote and support **cooperative federalism** in the country and activate the council and zonal councils by organising regular meetings.
- Facilitates consideration of all pending and emerging issues of Centre-state and inter-state relations by the zonal councils and inter-state council.
- **Develops a sound system to monitor the implementation of recommendations** put forward by them.

What is the Standing Committee of ISC?

- **About:**
 - It was set up in **1996 for continuous consultation** and processing of matters for the consideration of the Council.

- It consists of the following members: (i) Union Home Minister as the Chairman (ii) Five Union Cabinet Ministers (iii) Nine Chief Ministers the Council is assisted by a secretariat called the Inter-State Council Secretariat.
- This **secretariat was set-up in 1991** and is headed by a secretary to the Government of India. Since 2011, it is also functioning as the secretariat of the Zonal Councils.
- **Functions:**
 - The standing committee will **have continuous consultation and process matters for consideration of the council**, process all matters pertaining to centre-state relations before they are taken up for consideration in the inter-state council.
 - The standing committee also **monitors the implementation of the decisions taken on the recommendations of the council** and consider any other matter referred to it by the chairman or the council.

Which other Bodies Promote Interstate Relation?

- **Zonal Council:**
 - Zonal Councils are the **statutory (and not the constitutional) bodies**. They are established by an Act of Parliament, that is, States Reorganisation Act of 1956.
 - The **act divided the country into five zones**- Northern, Central, Eastern, Western and Southern and provided a zonal council for each zone.
 - While forming these zones, several factors have been taken into account which include: the natural divisions of the country, the river systems and means of communication, the cultural and linguistic affinity and the requirements of economic development, security and law and order.
 - **North Eastern Council:** The North Eastern States i.e. (i) Assam (ii) Arunachal Pradesh (iii) Manipur (iv) Tripura (v) Mizoram (vi) Meghalaya and (vii) Nagaland are not included in the Zonal Councils and their special problems are looked after by the **North Eastern Council**, set up under the North Eastern Council Act, 1972.
- **Inter-State Trade and Commerce:**
 - **Articles 301 to 307 in Part XIII of the Constitution** deal with the trade, commerce and intercourse within the territory of India.

➤ **Inter-State Water Disputes:**

- **Article 262 of the Constitution** provides for the adjudication of interstate water disputes.
- It makes two provisions:
 - Parliament may by law provide for the adjudication of any dispute or complaint with respect to the use, distribution and control of waters of any inter-state river and river valley.
 - Parliament may also provide that neither the Supreme Court nor any other court is to exercise jurisdiction in respect of any such dispute or complaint.

Pradhan Mantri Jan Arogya Yojana

Why in News?

The **New Delhi Municipal Council (NDMC)** approved the implementation of the Centre's flagship **Ayushman Bharat-Pradhan Mantri Jan Arogya Yojana (AB-PMJAY)** for the residents in its area.

- Ayushman Bharat, a flagship scheme of Government of India, was launched as recommended by the National Health Policy 2017, to achieve the vision of Universal Health Coverage (UHC). It has two inter-related components - Health and Wellness Centres (HWCs) and Pradhan Mantri Jan Arogya Yojana (PM-JAY)

What is Ayushman Bharat-PMJAY?

➤ **About:**

- PM-JAY is the **world's largest health insurance/assurance scheme** fully financed by the government.
- **Launched in February 2018**, it offers a sum insured of **Rs.5 lakh per family for secondary care** (which doesn't involve a super specialist) as well as tertiary care (which involves a super specialist).
- Under PMJAY, cashless and paperless access to services are provided to the beneficiaries at the point of service, that is, hospital.
- Health Benefit Packages **cover** surgery, medical and day care treatments, cost of medicines and diagnostics.
 - Packaged rates (Rates that include everything so that each product or service is not charged for separately).

- These are flexible but the hospitals can't charge the beneficiary more once fixed.

➤ **Beneficiaries:**

- It is an entitlement-based scheme that targets the beneficiaries as identified by latest **Socio-Economic Caste Census (SECC) data**.
- Once identified by the database, the beneficiary is considered insured and can walk into any empaneled hospital.

➤ **Funding:**

- The funding for the scheme is shared – 60:40 for all states and UTs with their own legislature, 90:10 in Northeast states and Jammu and Kashmir, Himachal and Uttarakhand and 100% Central funding for UTs without legislature.

➤ **Nodal Agency:**

- The **National Health Authority (NHA)** has been constituted as an autonomous entity under the Society Registration Act, 1860 for effective implementation of PM-JAY in alliance with state governments.
- The State Health Agency (SHA) is the apex body of the State Government responsible for the implementation of AB PM-JAY in the State.

What are the Challenges in Implementing PMJAY?

➤ **Cooperation of States:**

- Since **health is a State subject** and States are expected to contribute 40% funding for the scheme, it is critical to streamline and harmonise the existing State health insurance schemes to PMJAY.
 - West Bengal and Odisha have not implemented PMJAY.

➤ **Burden of Costs:**

- Costs are a contested area between the care-providers and the Centre, and many for-profit hospitals see the government's proposals as unviable.

➤ **Inadequate Health Capacities:**

- The ill-equipped public sector health capacities calls for necessary partnerships and coalitions with private sector providers.
- In such circumstances, the provision of services can be ensured only if the providers are held accountable for their services.

➤ **Unnecessary Treatment:**

- The National Health Policy 2017 proposed "strategic purchasing" of services from secondary and tertiary hospitals for a fee.
- The contracts with the healthcare providers who will receive the financial compensation package should clearly spell out the strict following of notified guidelines and standard treatment protocols in order to keep a check on potential for unnecessary treatment.

What are the Achievements of the Scheme?

➤ **Beneficial for Poor:**

- In around the first 200 days of implementation, PM-JAY has benefitted more than 20.8 lakh poor and deprived people who received free treatment worth more than Rs. 5,000 crores.

➤ **During Covid-19:**

- A key design feature of PM-JAY from the beginning of the scheme is portability, which helps to ensure that a PM-JAY-eligible migrant worker can access the scheme's services in any empanelled hospital across the country, irrespective of their state of residence.

Swachh Survekshan 2023

Why in News?

The Ministry of Housing and Urban Affairs (MoHUA) has launched the **eighth edition of Swachh Survekshan (SS) – SS 2023** under **Swachh Bharat Mission Urban 2.0**.

- SS 2023 is curated towards achieving circularity in waste management. The survey would give priority to the principle of 3Rs – Reduce, Recycle and Reuse.

What is Swachh Survekshan 2023?

- Swachh Survekshan was **introduced by MoHUA in 2016 as a competitive framework to encourage cities to improve the status of urban sanitation** while encouraging large scale citizen participation.
 - Over the years, Swachh Survekshan has **emerged as the largest Urban sanitation survey in the world**.
- In SS 2023, **additional weightage has been given** to source segregation of waste, enhancement of waste processing capacity of cities to match the waste generation and reduction of waste going to the dumpsites.

Note:



- Indicators have been introduced with **additional weightage on emphasizing the need for phased reduction of plastic**, plastic waste processing, **encourage waste to wonder parks** and zero waste events.
- **Ranking of Wards** within the cities is also being promoted through SS 2023.
- The cities would also be assessed on dedicated indicators on the issues of **'Open Urination' (Yellow Spots)** and **'Open Spitting' (Red Spots)**, being faced by the cities.
- MoHUA will be promoting **cleaning of back lanes** of the residential and commercial areas.

What is Swachh Bharat Mission-Urban 2.0?

- **About:**
 - SBM-U 2.0 was announced in **Budget 2021-22**, as the continuation of SBM-U first phase.
 - The government is trying to tap safe containment, transportation, disposal of fecal sludge, and septage from toilets.
 - SBM-U first phase was launched on 2nd October 2014 aiming at making urban India **Open Defecation Free (ODF)** and achieving 100% scientific management of municipal solid waste. It lasted till October 2019.
 - It will be **implemented over five years from 2021 to 2026** with an outlay of Rs.1.41 lakh crore.
 - The Mission is being implemented under the overarching principles of "waste to wealth", and **"Circular Economy"**.
- **Aim:**
 - It focuses on source segregation of garbage, reduction in **single-use plastic** and air pollution, by effectively managing waste from construction and demolition activities and **bioremediation of all legacy dump sites**.
 - Under this mission, all wastewater will be treated properly before it is discharged into water bodies, and the government is trying to make maximum reuse a priority.
- **Mission Outcomes:**
 - All statutory towns will become **ODF+ certified (focuses on toilets with water, maintenance and hygiene)**.
 - All statutory towns with less than 1 lakh population

- will become ODF++ certified (focuses on toilets with sludge and septage management).
- 50% of all statutory towns with less than 1 lakh population will become Water+ certified (aims to sustain toilets by treating and reuse of water).
- All statutory towns will be at least **3-star Garbage Free rated** as per MoHUA's Star Rating Protocol for Garbage Free cities.
- Bioremediation of all legacy dumpsites.

Uniform Civil Code in Uttarakhand

Why in News?

Recently, an **expert committee** headed by a retired **Supreme Court (SC)** judge has been constituted by Uttarakhand to implement **Uniform Civil Code (UCC)** and **for checking all the relevant laws that control personal matters** for those living in Uttarakhand.

- A few months ago, the **Allahabad High Court also called upon the Central government to initiate the process for implementation of UCC**.

What is Uniform Civil Code (UCC)?

- **About:**
 - UCC would provide **one law for the entire nation** (including all religious communities) **in their personal matters such as marriage, divorce, inheritance, adoption etc.**
 - **Article 44** of the Constitution lays down that the state shall endeavour to secure a UCC for the citizens throughout the Indian territory.
 - **Article 44** is one of the **Directive Principles of State Policy (DPSP)**.
- DPSP as defined in **Article 37**, are not justiciable (not enforceable by any court). However, the principles laid down therein are fundamental in governance.
- **Status of UCC in India:**
 - In most civil matters, India follows UCC such as **Indian Contract Act 1872**, Civil Procedure Code, Transfer of Property Act 1882, Partnership Act 1932, **Evidence Act, 1872** etc.
 - In certain matters, however, there is diversity even under these civil laws as states have made hundreds of amendments to these.

- Several states refused to be governed by the uniform **Motor Vehicles Act, 2019**.
- At present, **Goa is the only India state that has implemented UCC**.
- **Origin:**
 - UCC's origin dates back to **British India when a report was submitted in 1835**.
 - This report stressed on the **need for uniformity in the codification of Indian law relating to crimes, evidence, and contracts, specifically recommending that personal laws of Hindus and Muslims be kept outside such codification**.
 - **Legislation dealing with personal issues increased**. This forced the government to form the **B N Rau Committee to codify Hindu law in 1941**.
 - **Hindu Succession Act, 1956:**
 - Based on B.N. Rau Committee's recommendations, **the Hindu Succession Act (1956)** was adopted **to amend and codify the law relating to intestate or unwilled succession, among Hindus, Buddhists, Jains, and Sikhs**.
 - However, there were **separate personal laws for muslim, christian and Parsis**.
- **SC Judgements:**
 - In order to bring uniformity, the **courts have often said in their judgements that the government should move towards a UCC**.
 - The judgement in the **Shah Bano case (1985)** is well known.
 - Another case was the **Sarla Mudgal Case (1995)**, **which dealt with the issue of bigamy and conflict between the personal laws existing on matters of marriage**.
 - The Supreme Court in **Shayara Bano case (2017)** had declared the practice of **Triple Talaq (talaq-e-biddat) as unconstitutional**.
 - By arguing that practices such as **triple talaq** and polygamy adversely affect the right of a woman to a life of dignity, the **Centre has raised the question whether constitutional protection given to religious practices should extend even to those that are not in compliance with fundamental rights**.

What is the need of UCC?

- **All citizens must be treated as equals** and government sponsorship/regulation of religious places/events must be barred in the constitution.
- The enforcement of UCC **would help narrow down the religious divide in a country like India where people of different religions reside**.
- The enforcement of UCC would **provide protection to vulnerable sections, simplify laws and ensure gender justice adhering to the ideal of secularism**.

What are the Challenges in Adoption of the UCC?

- **Against Indian Concept of Secularism:**
 - It is feared by many that by attempting to implement UCC, the parliament is only duplicating the western model of law, which is based on uniformity, but the Indian concept of Secularism is based on diversity of religion and people.
 - In India, people are having different religious faiths. Diverse religious practices make it to implement a basic platform of practices for every religion.
 - Minorities *i.e.*, Muslims, Sikhs, Christians, Buddhists, Jain, and Zoroastrians have a misconception that UCC will destroy their religious practices and they will be compelled to follow the religious practice of majorities.
- **Unawareness of People:**
 - The most significant issue is the unawareness of people regarding the objects of UCC, and the reason for such unawareness is the lack of education, fake news, irrational religious beliefs, etc.
- **Communal Politics:**
 - The demand for a uniform civil code has been framed in the context of communal politics.
 - A large section of society sees it as majoritarianism under the garb of social reform.
- **Constitutional Hurdle:**
 - **Article 25** of Indian constitution, that seeks to preserve the freedom to practise and propagate any religion gets into conflict with the concepts of equality enshrined under **Article 14** of Indian Constitution.

Note:



Reservation in Promotion

Why in News?

Recently, the Centre has informed the Supreme Court, that quashing of reservation in promotion to **Scheduled Caste and Scheduled Tribe (SC/ST)** employees in government jobs may cause employee unrest and lead to multiple litigations.

- Earlier, the **Supreme Court (SC)** refused to lay down the “yardstick” for determining the inadequacy of representation for granting **reservation in promotions** for **Scheduled Caste (SC)/Scheduled Tribe (ST)** candidates in government jobs.

What are the Pros and Cons of Reservation?

➤ Pros of Reservation:

- It **ensures diversity in advanced education**, equality in the workplace and offers protection from hatred.
- It **helps in the emancipation of disadvantaged individuals** and thereby promotes equality for all.
- It **breaks stereotypes** regarding caste, religion, and ethnicity.
- It increases social mobility.
- It is **needed to compensate for centuries of oppression and discrimination** and provides level-playing fields.
- It seeks to bring equity in society by addressing ‘graded inequalities’.

➤ Cons of Reservation:

- There are concerns that lead to **erosion of meritocracy**.
- It can **still reinforce stereotypes** as it demeans the achievements of marginalized sections.
 - People **coming under the ambit of reservation**, their success is labelled as a result of Reservation, instead of their capabilities and hard work.
- There are concerns that **reservation can serve as a medium for reverse discrimination**.
 - Reverse discrimination is discrimination against members of a dominant or majority group, in favour of members of a minority or historically disadvantaged group.
- Due to vote bank politics, even after discrimination issues have been diminishing, it is difficult to withdraw the reservation.

What are the Important Related Judgements?

➤ *Mukesh Kumar and Another vs State of Uttarakhand & Ors. 2020:*

- In this Case, the Supreme Court held that **there is no fundamental right to reservation or promotion under Article 16(4) or Article 16(4A)** of the Constitution rather they are enabling provisions for providing reservation, if the circumstances warrant.
- However, these pronouncements in no way **understate the constitutional directive under Article 46** that mandates that the state shall promote with special care the educational and economic interests of the weaker sections of the people and in particular Scheduled Castes and Scheduled Tribes.
- In fact, **sensitivity of the welfare state towards the weaker sections over decades resulted in the gradual expansion of canopy of reservation** in the form of increasing classifications under Article 16, a set of actions that created a wave of litigation by which resulted in the ever-evolving jurisprudence of affirmative action in public employment.

➤ *Indra Sawhney Judgment (1992):*

- In the judgment, a **nine-judge bench presided by Chief Justice M.H. Kania upheld the constitutionality of the 27% reservation** but put a ceiling of 50% unless exceptional circumstances warranting the breach, so that the constitutionally guaranteed **right to equality under Article 14 would remain secured**.
- The **Court dwelled on the interrelationship between Articles 16(1) and 16(4)** and declared that **Article 16(4) is not an exception to article 16(1)**, rather an illustration of **classification implicit in article 16(1)**.
 - While **Article 16(1) is a fundamental right**, Article 16(4) is an enabling provision.
 - Further, the **Court directed the exclusion of creamy layer by way of horizontal division** of every other backward class into creamy layer and non-creamy layer.
- **77th Constitutional Amendment Act:**
 - The Parliament responded by enacting the **77th Constitutional Amendment Act** which introduced **Article 16(4A)**.
 - Later, two **more amendments were brought**, one to ensure consequential seniority and another

Note:



to secure carry forward of unfilled vacancies of a year, the former by way of addition to **Article 16(4 A)** and the latter by way of adding **Article 16(4 B)**.

➤ **M Nagaraj Case 2006:**

- In this case applying the creamy layer concept in SC/ST reservation in promotions, the **SC reversed its earlier stance in the Indra Sawhney case (1992)**, in which it had excluded the **creamy layer concept on SCs/STs (that was applicable on OBCs)**.
- The SC had upheld the **Constitutional amendments by which Articles 16 (4A) and 16 (4B) were inserted**, saying they flow from Article 16 (4) and do not alter its structure.
- It also laid down **three conditions for promotion of SCs and STs in public employment**.
 - The **SC and ST community should be socially and educationally backward**.
 - The **SC and ST communities are not adequately represented** in Public employment.
 - Such a reservation policy **shall not affect the overall efficiency in the administration**.
- The court held that the **government cannot introduce a quota in promotion for its SC/ST employees unless** it proves that the particular community was backward, inadequately represented and providing reservation in promotion would not affect the overall efficiency of public administration.
 - The opinion of the government should be based on quantifiable data.

➤ **Jarnail Singh Case 2018:**

- Later in 2018, in the Jarnail Singh case, SC modified the Nagaraj judgement to the extent that **State need not produce quantifiable data** to prove the “backwardness” of a Scheduled Caste/Scheduled Tribe community in order to provide quota in promotion in public employment.

➤ **The Constitution (103rd Amendment) Act, 2019:**

- The **10% reservation for Economically Weaker Sections (EWS)**, other Scheduled Castes, Scheduled Tribes and backward classes for government jobs and admission in educational institutions is currently under challenge before the Supreme Court which has referred the same to a constitution bench.
- The adjudication awaited in this regard may also **turn to be a critical milestone in the jurisprudence**

of reservation as traditional understanding of backwardness is broadened to specifically include economic backwardness without social backwardness as is traditionally seen.

➤ **Dr. Jaishri Laxmanrao Patil vs Chief Minister (2021):**

- Despite the Indra Sawhney ruling, there have **been attempts on the part of many States to breach the rule** by way of expanding the reservation coverage.
- The **Maharashtra Socially and Educationally Backward Classes Act 2018**, (Maratha reservation law) came under challenge before the Supreme Court which referred the same to a bench of five judges and one question was whether the 1992 judgment needs a relook.
 - Interestingly, the Supreme Court not only affirmed the Indra Sawhney decision, but also **struck down Section 4(1)(a) and Section 4(1)(b) of the Act which provided 12% reservation for Marathas** in educational institutions and 13% reservation in public employment respectively, citing the breach of ceiling.

What are the Constitutional Provisions for Promotion in Reservation?

- **Article 16 (4):** Provides that the **State can make any provision for the reservation of appointments or posts** in favour of any backward class of citizens who, in the opinion of the state, are not adequately represented in the services under the State.
- **Article 16 (4A):** Provides that the **State can make any provision for reservation in matters of promotion** in favour of the Scheduled Castes and the Scheduled Tribes if they are not adequately represented in the services under the State.
- **Article 16(4B):** Added by the 81st Constitutional Amendment Act, 2000 which enabled the unfilled SC/ST quota of a particular year to be carried forward to the next year.
- **Article 335:** It recognises that special measures need to be adopted for considering the claims of SCs and STs to services and posts, in order to bring them at par.
 - **82nd Constitutional Amendment Act, 2000** inserted a condition at the end of Article 335 that enables the state to make any provision in favour of the members of the SC/STs for relaxation in qualifying marks in any examination.

National Achievement Survey (NAS)-2021

Why in News?

Recently, the **Ministry of Education** released the **National Achievement Survey (NAS) 2021** report.

What is the National Achievement Survey (NAS)-2021?

➤ About:

- It is a **nationwide survey to assess the learning outcomes** and health of the education system.
 - It is the **largest, nationwide, sample-based education survey** conducted across India.
- It is undertaken by the **Ministry of Education**.
 - The Central Board of Secondary Education (CBSE) conducted NAS 2021.
 - The National Council of Educational Research and Training (NCERT) designed an assessment framework and tools for NAS-2021.
- It provides a **system-level reflection on the effectiveness of school education**.
 - It **collects information on relevant background variables** such as school environment, teaching processes, and student home and background factors.
- It **covers the whole spectrum of schools** including Government schools (both State and Central government), Government-aided schools, and Private schools across India.

➤ Medium and Grades:

- The **NAS 2021 was conducted in 22 mediums of instruction** that covered English, Assamese, Bengali, Gujarati, Kannada, Hindi, Malayalam, Marathi, Manipuri, Mizo, Punjabi, Odia, Telugu, Tamil, Bodo, Urdu, Garo, Konkani, Khasi, Bhutia, Nepali, and Lepcha.
- It was conducted in different subjects for different grades. The subject and grades wise break up are below:
 - **Grade 3 and 5:** Language, EVS, and Mathematics
 - **Grade 8:** Language, Science, Mathematics, and Social Science
 - **Grade 10:** Language, Science, Mathematics, Social Science, and English

➤ Objective:

- To **evaluate children's progress and learning competencies** as an indicator of the efficiency of the education system, so as to take appropriate steps for remedial actions at different levels.

➤ Significance:

- It will help to **unravel the gaps in learning and will support state/UT governments in developing long term, mid-term and short-term interventions** to improve learning levels and orient on differential planning based on NAS 2021 data.
- The findings of NAS 2021 will help in **diagnosing a systematic understanding of the consequences** that prolonged closure of schools has had on the learning of students in terms of their socio-emotional and cognitive development.
- NAS findings will **help in capacity building for teachers**, officials involved in the delivery of education.

What are the Key Highlights of the NAS 2021?

➤ National Average:

- The national average **percentage of students for class third was 59%**, which declined by 10% to 49% in class fifth.
- It further **declined to 41.9% in class eight and then 37.8% in class 10**.
- The **performance recorded a decline in almost all subjects**.
 - For instance, the **mathematics score nationally was 57% in class third**, dropping by almost 10% to 44% in fifth, and to 36% in class eighth, and 32% in class 10th.
- The **language score nationally was 62% in class third**, and dropped to 52% in class fifth, and to 53% in class eighth.
 - For science, the national score declined from 39% in class eighth to 35% in class 10.

➤ Rural and Urban Areas:

- The **average performance of schools in rural areas remained "significantly below"** those urban areas in same states and union territories (UTs).

➤ Social-Group Wise Performance:

- The performance of students from the **schedule caste (SC) / schedule tribe (ST)/ Other Backward Classes (OBC)** categories **remained lower than that of students from the general category**.

Note:



- **Gender-wise Performance:**
 - The average performance of girls remained better than the boys in almost all subjects across the classes, both nationally and at state level.
- **Perception of Students about Learning:**
 - The perception of students about learning at home during the pandemic when the schools remained closed, and 78% of students termed it as burdensome with a lot of assignments.
 - At least 38% of students faced difficulties in learning at home, while 24% said they did not have digital devices at home.

How did the States Perform?

- Most of the states performed significantly below the overall national score, some states such as Kerala, Rajasthan, Maharashtra and Punjab performed better than the national average.
- Delhi's performance in class eighth and class 10 was better when compared with the national average.
- Punjab has scored highest in all subjects for classes 3, 5 and 8.

What is the Status of Education in India?

- **Constitutional Provisions:**
 - Part IV of Indian Constitution, Article 45 and Article 39 (f) of Directive Principles of State Policy (DPSP), has a provision for state-funded as well as equitable and accessible education.
 - The 42nd Amendment to the Constitution in 1976 moved education from the State to the Concurrent List.
 - The 86th Amendment in 2002 made education an enforceable right under Article 21-A.
- **Related Laws:**
 - **Right To Education (RTE) Act, 2009** aims to provide primary education to all children aged 6 to 14 years and enforces education as a Fundamental Right.
 - It also mandates 25% reservation for disadvantaged sections of the society.

Representation of Women in Armed Forces

Why in News?

Recently, Captain Abhilasha Barak, created history by becoming the first woman officer to join the **Army Aviation Corps** as a Combat Aviator (pilot).

- At present women are only given the responsibility of traffic control and ground duty in the **Aviation Department** but now Abhilasha Barak will take over the responsibility of the pilot.
 - Captain Barak has been assigned to the second flight of the 2072 Army Aviation Squadron that operates the **Dhruv Advanced Light Helicopter (ALH)**.
- While women officers in the Indian Air Force and the Indian Navy have been flying helicopters for long, the Indian Army paved the way for women pilots in 2021 by starting the 'Army Aviation course'.

What is the Army Aviation Corps?

- Army Aviation Corps is the component of the Indian Army which was established on 1st November 1986.
 - The Army Aviation Corps is headed by a director-general at the Army headquarters in New Delhi.
- It was immediately inducted into 'Operation Pawan' which was a crucial test for the newly formed corps.
- The Army Aviation Corps of the Indian Army primarily carries out the evacuation of the injured troops during operations or health emergencies in the high-altitude areas.
- The choppers of the Aviation Corps are also used for observation, reconnaissance, casualty evacuation, combat research and rescue, and essential load drops.

What is the State of Women's Representation in the Military?

- **Background:**
 - The Army, Air Force and Navy began inducting women as short-service commission (SSC) officers in 1992.
 - This was the first time when women were allowed to join the military outside the medical stream.
 - One of the turning points for women in the military came in 2015 when Indian Air Force (IAF) decided to induct them into the fighter stream.
 - In 2020, the **Supreme Court (SC)** ordered the central government to grant **Permanent Commission (PC)** to women officers in the Army's non-combat support units on par with their male counterparts.

- The SC had rejected the government's stand of women officers' physiological limitations as being based on "sex stereotypes" and "gender discrimination against women".
- Women officers have been granted PC in the Indian Army in all the ten branches where women are inducted for SSC.
- Women are now eligible to occupy all the command appointments, at par with male officers, which would open avenues for further promotions to higher ranks for them.
- In early 2021, the Indian Navy deployed four women officers on warships after a gap of almost 25 years.
 - India's only aircraft carrier **INS Vikramaditya** and fleet tanker **INS Shakti** are the warships that have been assigned their first women crews since the late 1990s.
- In May 2021, the Army inducted the first batch of women into the Corps of Military Police, the first time that women joined the military in the non-officer cadre.
 - However, Women are still not allowed in combat arms like Infantry and Armored Corps.

➤ Significance:

- **Gender is not a Hindrance:** As long as an applicant is qualified for a position, one's gender is arbitrary. In modern high technology battlefield technical expertise and decision-making skills are increasingly more valuable than simple brute strength.
- **Military Readiness:** Allowing a mixed gender force keeps the military strong. The armed forces are severely troubled by falling retention and recruitment rates. This can be addressed by allowing women in the combat role.
- **Effectiveness:** The blanket restriction for women limits the ability of commanders in theater to pick the most capable person for the job.
- **Tradition:** Training will be required to facilitate the integration of women into combat units. Cultures change over time and the masculine subculture can evolve too.
- **Global Scenario:** When women officially became eligible for combat positions in the American military in 2013, it was widely hailed as another step towards the equality of sexes. In 2018, the

UK military lifted a ban on women serving in close combat ground roles, clearing the way for them to serve in elite special forces.

2020 Report on Medical Certification of Cause of Death

Why in News?

According to the 2020 report on **Medical Certification of Cause of Death (MCCD)**, the first year of **Covid-19 lockdown** saw the highest incidences of persons dying of respiratory illnesses in a decade.

What is MCCD Report?

- The scheme of Medical Certification of Cause of Death (MCCD) was introduced in the country under the provisions of the **Registration of Births and Deaths (RBD) Act, 1969**.
- Since then, it has been operational in the country, but with varying levels of efficiency across the States/Union Territories.
- Under the scheme, the Office of the Registrar General, India (ORGI) obtains data on medically certified causes of deaths as collected, compiled and tabulated by the Offices of the respective Chief Registrars of Births and Deaths of the States/UTs.

What are the Key Highlights of the MCCD Report?

- **Total No. of Deaths:** The total number of deaths, from all causes, in 2020 was 81.2 lakh.
 - The report pegged India's excess mortality for 2020 and 2021 at 47.4 lakh.
 - **Civil Registration System (CRS)** data reported 4.75 lakh excess deaths from all causes in 2020 over 2019.
- **Medically Certified Deaths:** Medically Certified Deaths account for 22.5% of total registered deaths at national level but after taking into consideration any kind of medical attention received by the deceased at the time of terminal illness, it increased to 54.6%.
 - Around **5.7% of total medically certified deaths have been reported in infants**.
- **Leading Cause-Groups of Deaths:** Nine leading cause-groups of deaths constituting around 88.7% of total medically certified cause of deaths:

Note:



- Diseases of the Circulatory System (32.1%)
- Diseases of the Respiratory System (10%)
- Codes for Special Purposes – Covid-19 (8.9%)
- Certain Infectious and Parasitic Diseases (mainly consisting of septicemia and tuberculosis) (7.1%)
- Endocrine, Nutritional and Metabolic Diseases (5.8%)
- Injury, Poisoning and Certain other Consequences of External Causes (5.6%)
- Neoplasms (4.7%)
- Certain Conditions Originating in the Perinatal Period (4.1%)
- Symptoms Signs & Abnormal Clinical Findings “Not Elsewhere Classified” (10.6%)

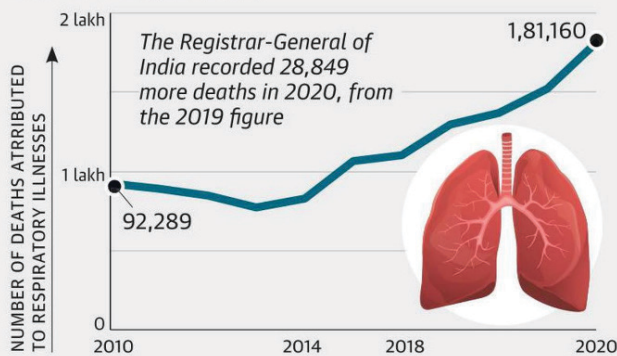
How many deaths were caused by Covid-19?

- Covid-19 virus, also a respiratory disease that has been separately recorded in the report as “Deaths reported under Codes for Special Purposes (Covid-19 Deaths).”
- Covid-19 deaths is the third leading cause group, recording 8.9% of the total medically certified deaths at national level.
- The Union Health Ministry, however, reported 1.49 lakh Covid-19 deaths in 2020.
 - As of May 2022, India’s official Covid-19 death toll is 5.2 lakh.

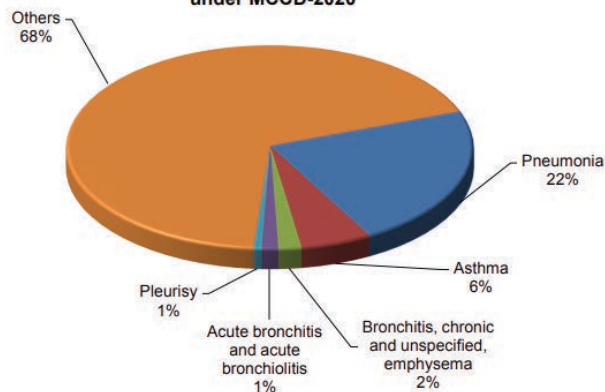
How many deaths were caused by Respiratory Illness?

- In 2020, as many as 1,81,160 deaths occurred due to respiratory diseases such as pneumonia, asthma and bronchitis, higher than 1,52,311 such deaths reported in 2019.

Short of breath | In 2020, India recorded a 10-year high in the number of deaths caused by respiratory diseases. The chart shows the number of deaths linked to respiratory diseases in the past decade



Distribution of deaths due to diseases of respiratory system under MCCD-2020



- Those **above 70 years** were the worst affected by the respiratory diseases accounting for the highest incidences of deaths - 29.4% of total registered medically certified deaths.
 - This was **followed by 55-64 years** reporting 23.9% deaths; the age group 65-69, also reported a significant number of deaths - 4.5%.
- The major number of deaths is concentrated in the age group of 45 years and above, constituting 82.7% of total deaths in the group.

Draft National Data Governance Framework Policy

Why in News?

Recently, the Ministry of Electronics and Information Technology (MeitY) released a revised Draft National Data Governance Framework Policy.

What is the Draft National Data Governance Framework Policy?

- **Revised Draft:** The new draft, ‘National Data Governance Framework Policy’, is a replacement of the now scrapped ‘**India Data accessibility and Use policy**’.
- **Objective:** The objective of the policy is to **modernise the government’s data collection, with an aim to improve governance and to enable an Artificial Intelligence (AI) and data-led research and start up ecosystem** in the country.
- **Provisions:**
 - **Indian Datasets programme:** It calls for the creation of an India Datasets programme, which **will consist**

Note:



of non-personal and anonymised datasets from Central government entities that have collected data from Indian citizens or those in India. Private companies will be “encouraged” to share such data.

- The non-personal data housed within this programme **would be accessible to start ups and Indian researchers.**
- Non-personal data is any set of data which does not contain personally identifiable information. This in essence means that no individual or living person can be identified by looking at such data.
- The push to harness non-personal data was **first proposed by a government committee headed by Infosys co-founder Kris Gopalakrishnan**, which was set up to unlock the economic value of such data and also address concerns arising out of it.
- **India Data Management Office (IDMO):** The draft also calls for **creation of an India Data Management Office (IDMO)**, which will be in charge of designing and managing the India Datasets platform.
 - The IDMO will prescribe rules and standards, including **anonymization standards** for all entities (government and private).
 - For purposes of safety and trust, any non-personal data sharing by any entity can be only via platforms designated and authorised by IDMO.

- **No Selling of Data:** The most significant change in this new draft is the omission of the most contentious provision in the old draft — selling data collected at the Central level in the open market.

- **Application:** Once finalized, the policy will be applicable to all Central government departments along with all non-personal datasets and related standards and rules governing its access by start-ups and researchers.
 - State governments will be “encouraged” to adopt the provisions of the policy.

What is the India Data

Accessibility and Use Policy?

- The old draft — ‘India Data Accessibility and Use Policy’ had proposed that data collected by the Centre that has **“undergone value addition”** can be sold in the open market for an **“appropriate price”**.
 - It faced widespread criticism with questions being raised about the government collecting data to monetise it in the **absence of a data protection law in India.**

What are the Challenges of the New Draft?

- The composition of the IDMO and the process have not been made clear in the new draft policy.
- Experts also said that private companies may **not voluntarily share non-personal data.**
 - There may be trade and intellectual property issues.



Economic Scenario

Highlights

- Informal Economy in India
- India's Startup Ecosystem
- World of Work Report: ILO
- Outward Remittance Trend
- Metal Industry: Current Outlook and Future Trends
- 7th Annual Meeting of NDB
- Fostering Effective Energy Transition 2022
- States' Power to Make GST Laws
- Food Inflation
- Dollarisation Due to Cryptocurrencies
- Potential of Cruise Tourism in India
- Special Drawing Rights
- Competition Commission of India (CCI)
- Privatisation of Banks
- Prime Minister's Employment Generation Programme
- World Milk Day
- Ban on Export of Sugar
- Infrastructure Development in North East India
- Annual Survey of Industries (ASI)
- First Lavender Festival
- Economic Impact of School Shutdown during Covid-19
- World Bee Day

Informal Economy in India

Why in News?

According to the latest data, as many as **27.69 crore informal sector workers** are registered on the e-shram portal.

What is an e-Shram Portal?

➤ About:

- Launched in 2021, e-Shram portal is aimed at building a comprehensive **National Database of Unorganised Workers (NDUW)** in the country.

➤ Aim:

- To **register unorganised workers** such as construction labourers, migrant workforce, street vendors, and domestic workers, among others.
 - The workers will be **issued an e-Shram card containing a 12-digit unique number.**
 - If a worker is registered on the **eSHRAM portal** and meets with an accident, he will be eligible for Rs 2.0 Lakh on death or permanent disability and Rs 1.0 lakh on partial disability.
 - The aim of the **portal is to boost the last-mile delivery of the welfare schemes** for over unorganised workers in the country.

➤ Background:

- The formation of e-Shram portal came after the **Supreme Court directed the Government to complete the registration process of unorganized workers** so that they can avail the welfare benefits given under various government schemes.

➤ Implementation:

- Government in States/UTs will conduct registration of unorganised workers across the country.

What is the Scenario of Informal Sector Workers in India?

➤ Social Category Analysis:

- **Over 94% of 27.69 crore informal sector workers registered on the e-Shram portal** have a monthly income of Rs 10,000 or below and over 74% of the enrolled workforce belongs to **Scheduled Castes (SC)**, Scheduled Tribes (ST) and **Other Backward Classes (OBC).**
 - The proportion of the General Category workers is 25.56%.
- The data showed that **94.11% of the registered informal workers have a monthly income of Rs 10,000 or below**, while 4.36% have a monthly income between Rs 10,001 and Rs 15,000.

➤ Age-wise Analysis:

- **61.72% of the registered workers** on the portal

Note:



are of the age from 18 years to 40 years, while 22.12% are of the age from 40 years to 50 years.

- The proportion of the **registered workers aged above 50 years is 13.23%** while 2.93% of workers are aged between 16 and 18 years.

➤ **Gender Wise Analysis:**

- 52.81% of registered workers are female and 47.19 % are male.

➤ **Top-5 States in Terms of Registration:**

- **Uttar Pradesh, Bihar, West Bengal, Madhya Pradesh and Odisha.**

➤ **Occupation Wise:**

- **Agriculture is at the top with 52.11% of enrolments** done by those related to the farm sector followed by domestic and household workers at 9.93% and construction workers at 9.13%.

What is the State of Informal Economy of India?

- An **Informal economy** represents enterprises that are not registered, where employers do not provide social security to employees.
 - In many parts of the developing world, including India, informality has reduced at a very sluggish pace, manifesting itself most visibly in urban squalor, poverty and unemployment.
 - Despite witnessing rapid economic growth over the last two decades, 90% of workers in India have remained informally employed, producing about half of **Gross Domestic Product (GDP)**.
 - Official **Periodic Labor Force Survey (PLFS)** data shows that **75% of informal workers** are self-employed and casual wage workers with average earnings lower than regular salaried workers.
 - Combining the **ILO's** widely agreed upon definition with India's official definition (of formal jobs as those providing at least one social security benefit — such as EPF), the share of formal workers in India stood at only 9.7% (47.5 million).

What are the Challenges related to Informal Sector Workers?

- **Labour Related Challenges:** On dividing the large number of workforce between the rural and the urban segment, although the **large number is employed in the rural sector, the bigger challenge is in the urban workforce in the informal sector.**

- Long working hours, low pay & difficult working conditions.
- Low job security, high turnover and low job satisfaction.
- Inadequate social security regulation.
- Difficulty in exercising rights.
- Child and forced labour and discrimination on basis of various factors.
- Vulnerable, low-paid and undervalued jobs.

- **Productivity:** The informal sector basically comprises MSMEs and household businesses which are not as big as firms like Reliance. They are unable to take advantage of economies of scale.

- **Inability to Raise Tax Revenue:** As the businesses of the informal economy are not directly regulated, they usually avoid one or more taxes by hiding incomes and expenses from the regulatory framework. This poses a challenge for the government as a major chunk of the economy remains out of the tax net.

- **Lack of Control and Surveillance:** The informal sector remains unmonitored by the government.

- Further, no official statistics are available representing the true state of the economy, which makes it difficult for the government to make policies regarding the informal sector in particular and the whole economy in general.

- **Low-quality Products:** Although the informal sector employs more than **75% of the Indian population, the value-addition per employee is very low.** This means that a major portion of our human resource is under-utilized.

What are the Related Initiatives?

- **Pradhan Mantri Shram Yogi Maan-dhan (PM-SYM)**
- **Labour Code**
- **Pradhan Mantri Rojgar Protsahan Yojana (PMRPY)**
- **PM SVANidhi: Micro Credit Scheme for Street Vendors**
- **Atmanirbhar Bharat Abhiyan**
- **Deendayal Antyodaya Yojana National Urban Livelihoods Mission**
- **PM Garib Kalyan Ann Yojana (PMGKAY)**
- **One Nation One Ration Card**
- **Atmanirbhar Bharat Rozgar Yojana**
- **Pradhan Mantri Kisan Samman Nidhi**
- **World Bank Support to India's Informal Working Class**

Note:



India's Startup Ecosystem

Why in News?

Recently, the number of **unicorns** in India reached the 100-mark.

- One unicorn means a startup of at least Rs 7,500 crore turnover. The total valuation of these unicorns is USD 330 billion, that is over Rs 25 lakh crore.
- The average annual growth rate of Indian unicorns is more than that of the U.S., the U.K. and many other countries.

What is a Unicorn?

➤ About:

- A unicorn is **any privately owned firm with a market capitalization of more than USD 1 billion.**
- It denotes **new entities dedicated to offering creative solutions** and new business models, among other things.
- There are several categories like **fintech, Edtechs, B2B** (Business-to-Business) companies, etc.

➤ Features:

- **Disruptive innovation:** Mostly, all the unicorns have brought a disruption in the field they belong to, for example, Uber transformed commuting.
- **Technology-driven:** The business model is driven by the latest technological innovations and trends.
- **Consumer-focused:** Their goal is to simplify things for consumers and be a part of their day-to-day life.
- **Affordability:** Keeping things affordable is another key highlight of these startups.
- **Privately owned:** Most of the unicorns are privately owned which gets their valuation bigger when an established company invests in it.
- **Software-based:** A recent report suggests that 87% of the unicorns' products are software, 7% are hardware and the rest 6% are other products & services.

What is the State of Startups and Unicorns in India?

➤ Status:

- India has become the **3rd largest start-up ecosystem in the world** after the US and China.

- **44 Indian start-ups have achieved unicorn status in 2021** taking the overall tally of unicorns to 83, most of which are in the services sector.
- India has seen such rapid growth in unicorns due to several strategic as well as conditional reasons.

➤ Growth Drivers:

○ Government Support:

- Government of India is understanding the value of working with disruptive innovators across the value chain and using their innovations to improve public service delivery.
- Department of Animal Husbandry and Dairying has conducted a grand challenge in association with Startup India to award top startups in 5 categories 10 lakhs INR.

○ Adoption of Digital Services:

- The pandemic accelerated the adoption of digital services by consumers helping start-ups and new-age ventures build tech-focused businesses for customers.

○ Online Services and Work from Home Culture:

- Many Indians moved to online services exploring a host of services ranging from food delivery and Edu-tech to e-grocery.
- The Work-from-home culture helped increase the number of start-ups' user base and expedited their business expansion plans and attract investors.

○ Digital Payments:

- The growth of **Digital Payments** is another aspect that aided the unicorn the most.

○ Buyouts from Major Public Corporations:

- Many startups become unicorns as a result of buyouts from major public corporations that prefer to focus on acquisitions to grow their business rather than investing in internal growth.

➤ Challenges:

- **Increasing Investments Do Not Ensure Success of a Startup:** Amid the Covid-19 crisis, when the central banks have released a global glut of liquidity, money is no longer a difficult task to raise.
 - The billions of dollars being invested in startups represent the large bets on distant outcomes, and not value generation by way of revenues.
 - Plus, one cannot assume the high rate of survival of these startups with such investments, as it can be assured by profits.

Note:



- **India, still a Marginal Player in the Space Sector:** While India's startups in the fintech and e-commerce sector are doing exceptionally well, the space startup sector remains an outlier
 - Currently, the global space economy is worth USD 440 billion, with India having less than 2% share in the sector.
 - This is despite the fact that India is a leading space-faring country with end-to-end capabilities to make satellites, develop augmented launch vehicles and deploy interplanetary missions.
 - The reason for the lack of independent private participation in space includes the absence of a framework to provide transparency and clarity in laws.
- **Indian Investors Unwilling to Take Risks:** The big investors in India's startup sector are from overseas; Japan's SoftBank, China's Alibaba, and Sequoia from the US.
 - That's because India does not have a serious venture capital industry with an appetite for risk.
 - The country's established conglomerates have mostly stuck to traditional businesses.

What are the Related Government Initiatives?

- **Startup Innovation Challenges:** It is a fantastic opportunity for any startup to leverage their networking and fund-raising efforts.
- **National Startup Awards:** It seeks to recognize and reward outstanding startups and ecosystem enablers that are contributing to economic dynamism by spurring innovation and injecting competition.
- **Ranking of States on Support to Startup Ecosystems:** It is an evolved evaluation tool aimed to strengthen the support of States and UTs to holistically build their startup ecosystems.
- **SCO Startup Forum:** The first-ever **Shanghai Cooperation Organisation (SCO)** Startup Forum was launched in October 2020 to develop and improve startup ecosystems collectively.
- **Prarambh:** The 'Prarambh' Summit aims to provide a platform to the startups and young minds from around the world to come up with new ideas, innovation and invention.

World of Work Report: ILO

Why in News?

Recently, the **International Labour Organization (ILO)** has released the Ninth Edition of **ILO Monitor on the World of Work Report**, which says that after significant gains during the last quarter of 2021, the **number of hours worked globally dropped in the first quarter of 2022, to 3.8% below the employment situation before the Covid-19.**

- The fresh lockdowns in China, the **conflict between Ukraine and Russia**, and the global rise in the **prices of food and fuel** are cited as the main reasons for the findings.
- The report gives a **global overview of how countries are tackling an uneven labour market recovery** that has been further undermined by developments such as the Russian aggression against Ukraine, increases in inflation, and continuing strict Covid-19 containment measures.

What are the other Findings of the Report?

- **Global:**
 - **Reduction in Working Hour:**
 - Both India and **Lower-Middle-Income countries** experienced a deterioration of the gender gap in work hours in the second quarter of 2020.
 - However, because the initial level of **hours worked by women in India was very low, the reduction in hours worked by women in India has only a weak influence** on the overall performance of the lower-middle-income countries.
 - In contrast, the **reduction in hours worked by men in India has a large impact** on the overall performance.
 - **Divergence Between Richer and Poorer Economies:**
 - A great and growing divergence between richer and poorer economies continues to characterise the recovery.
 - While **high-income countries experienced a recovery in hours worked, low- and lower-middle-income economies suffered setbacks** in the first quarter of the year with a 3.6 and 5.7% gap respectively when compared to the pre-crisis benchmark.

Note:



○ **Workplace Closures Continue to Trend Downwards:**

- After a brief spike at the end of 2021 and early 2022, workplace closures are currently on a downward trend.
- While most workers still live in countries with some form of workplace restrictions, the strictest form of closure (economy-wide required closures for all but essential workplaces) has nearly disappeared.
- These recent reductions in strict workplace closures were particularly pronounced in Europe and Central Asia, where currently 70% of workers face either only recommended closures or none at all.

○ **Divergence in Employment Recovery Trends:**

- In line with the overall divergence in hours worked, **employment levels had recovered in most high-income countries by the end of 2021, while deficits remained significant in most middle-income economies.**
- The divergence in the **employment-to-population ratio from the last quarter of 2019 had been mostly eliminated by the end of 2021.**

○ **Labour Incomes have not yet Recovered:**

- In 2021, three out of five workers lived in countries where average annual labour incomes had not yet recovered to their level of the fourth quarter of 2019.
- Workers in low-, lower-middle and upper-middle-income countries (excluding China) **still faced reduced labour incomes in 2021**, at rates of -1.6 %, -2.7 % and -3.7% respectively.

○ **Informal employment was impacted more, especially for women, but has rebounded faster than formal employment:**

- Displaced workers **from the formal economy, for instance, resort to informal employment to earn a living**, while those already in informal employment remain at work.
- For this reason, changes in informal employment during economic downturns tend to be smaller than those in formal employment.

➤ **India:**

- For every 100 women at work prior to the pandemic, **12.3 women would have lost their job as an average through** the entire period considered by the report.

- In contrast, for every 100 men, the equivalent figure would have been 7.5.
- Hence, the pandemic seems to have exacerbated the already substantial gender imbalances in employment participation in the country.
- Women employment in India has come down, particularly in sectors such as healthcare as a result of the Covid-19 pandemic.

What are the Recommendations?

- The purchasing capacity of the workers should be improved. ILO has been proposing decent jobs and decent wages.
 - In India, most people are on contract without any social security. If there are no decent wages, **purchasing power will also come down.** The **Code on Wages** was passed in 2019 but is **not yet implemented.**
- A human-centred recovery that **establishes sustainable development paths towards a brighter and more inclusive future of work is more urgent** than ever. Such an approach was agreed by **tripartite consensus of the ILO's 187 Member States at the 109th International Labour Conference in June 2021**, which adopted the **Global Call to Action for a Human-Centred Recovery** from the Covid-19 crisis that is inclusive, sustainable and resilient, providing a detailed set of recommendations addressed to governments, employers' and workers' organizations and the international community.
- With the multiplication of risks, especially for the most vulnerable, timely and effective support is needed to protect and maintain the purchasing power of labour income and overall living standards.
- With combating inflation emerging as a policy challenge, **macroeconomic policies need to be adjusted carefully.** At the same time, emerging markets and developing countries will face headwinds resulting from monetary policy tightening in advanced economies, which will **require prudent management of financial flows.**
- To promote recovery over the longer term, well designed sectoral policies **are needed to promote the creation of decent jobs**, while aiming at formalization, sustainability and inclusiveness.
- Targeted policies to assist transitions of people during the recovery period also remain important, including **a focus on vulnerable groups and improving work conditions for those in informal employment** and helping them transition to the formal economy.

- To contribute to resilience and fairness in the labour market, these **efforts need to be matched by strong labour market institutions, collective bargaining and social dialogue** that respect international labour standards.
- A comprehensive approach towards ensuring **urgently needed social protection** (including health-related measures) and promoting decent job creation to foster just transitions can make a major difference.
 - In this regard, the **Global Accelerator for Jobs and Social Protection for Just Transitions**, with its aim of creating at least 400 million jobs by 2030, primarily in the green, digital and care economy, and extending social protection floors to over 4 billion people currently not covered, is an important initiative.
- Among many other goals, **it needs to promote an enterprise-enabling environment, develop human capabilities** that can expand productive capacities, protect people and create more decent jobs in a context of reinvigorated social dialogue and full application of labor standards.

What is the International Labor Organization?

- It is the only tripartite **United Nation (UN)** agency. It brings together governments, employers and workers of 187 member States (India is a member), to set labour standards, develop policies and devise programmes promoting decent work for all women and men.
 - Received the **Nobel Peace Prize in 1969**.
- **Established in 1919 by the Treaty of Versailles** as an affiliated agency of the **League of Nations**.
- Became the first affiliated specialized agency of the UN in 1946.
- **Headquarters:** Geneva, Switzerland

What is Convention No 144 of the ILO

- **Convention 144 of the year 1976** which is also known as the **Convention on Tripartite Consultation** (International Labour Standards), promotes application of an essential principle on which the International Labour Organization (ILO) was founded, which is:
 - Tripartite social dialogue in the development and implementation of international labour standards.
- Tripartism in respect to international labour standards promotes a national culture of social dialogue on wider social and economic issues.

Outward Remittance Trend

Why in News?

Total **outward Remittances**, under the **RBI's Liberalised Remittance Scheme**, shot up to an all-time high of USD 19.61 billion in the year ended March 2022 as against USD 12.684 billion in March 2021.

- Foreign exchange, including the US dollar and euro, taken out of the country by resident Indians **has shot up by 54.60 %** during the fiscal year ending March 2022.

GOING ABROAD

Outward remittances under LRS

Year	\$ million	
FY14	1,093.90	
FY15	1,325.80	
FY16	4,642.60	
FY17	8,170.70	
FY18	11,333.60	
FY19	13,787.60	
FY20	18,760.69	
FY21	12,684.40	
FY22	19,610.77	

Source: RBI

What are Remittances?

- Remittances are usually understood as **financial or in-kind transfers made by migrants to friends and relatives back** in their communities of origin.
- These are basically **sum of two main components** - **Personal Transfers in cash** or in kind between resident and non-resident households and **Compensation of Employees**, which refers to the income of workers who work in another country for a limited period of time.
- Remittances **help in stimulating economic development in recipient countries**, but this can also make such countries over-reliant on them.

What is Outward Remittance?

- Outward remittance is a **transfer of funds in the form of foreign exchange by a person from India, to a beneficiary outside India** (except for Nepal and Bhutan) for any bonafide purposes as permissible under **Foreign Exchange Management Act (FEMA), 1999**.

What is the Outward Remittance Trend?

- **Total Outward Remittances:**

Note:



- The total outward remittances **were at an all-time high in FY22 as it made a strong comeback from the previous year's tepid show** because of the Disruptions led by Covid-19.
- The comeback has been supported by **Indian's spending more on international travel and overseas education.**
- **Segments of Outward Remittances:**
 - **International Travel:** In FY22, **international travel picked up**, resulting in India's spending USD 6.91 billion on travel, which is more than double that was spent on travel in FY21.
 - In FY20, however, spends on travel by Indians was also almost \$6.95 billion.
 - **Overseas education:** Overseas education is important segment that has seen healthy growth in FY22 as Indians remitted over USD 5.17 billion in the year.
 - This showed an increase of 35% from FY21, where Indians had remitted USD 3.83 billion.
 - In FY20, remittances for overseas education were nearly USD 5 billion.
 - **Gifts:** Indians remitted **USD 2.34 billion as gifts in FY22**, up 47.28% over FY21.
 - In FY20, Indians remitted about USD 1.91 billion as gifts under the LRS scheme.
- **Investments in overseas Equity and Debt:**
 - Investments in overseas equity and debt by Indians also shot up to USD 746.5 million in FY22 as against USD 471.80 million in the previous year.

What is the Liberalised Remittance Scheme?

- This is the scheme of the **Reserve Bank of India**, introduced in the year 2004.
- Under the scheme, **all resident individuals, including minors, are allowed to freely remit up to USD 2,50,000 per financial year (April – March)** for any permissible **current or capital account transaction** or a combination of both.
- The Scheme is **not available to corporations, partnership firms, Hindu Undivided Family (HUF), Trusts etc.**
- Though there are **no restrictions on the frequency of remittances under LRS**, once a remittance is made for an amount up to USD 2,50,000 during the financial year, a resident individual would not be eligible to make any further remittances under this scheme.

What are Current and Capital Account Transactions?

- **Current Account Transactions:** All transactions undertaken by a resident that do not alter his / her assets or liabilities, including contingent liabilities, outside India are current account transactions.
 - **Example:** payment in connection with foreign trade, expenses in connection with foreign travel, education etc.
- **Capital Account Transactions:** It includes those transactions which are undertaken by a resident of India such that his/her assets or liabilities outside India are altered (either increased or decreased).
 - **Example:** investment in foreign securities, acquisition of immovable property outside India etc.

Metal Industry: Current Outlook and Future Trends

Why in News?

Recently, **ASSOCHAM (Associated Chambers of Commerce and Industry of India)** has organized a conference named **Indian Metal Industry: Current Outlook and Future Trends.**

What is the State of Indian Metal Industry?

- **About:**
 - With the emergence of economies driven by industrialisation at the beginning of the twentieth century, **countries with sound metal industries benefited from a first-mover advantage.**
 - Metals have been **one of the core drivers of industrialisation.**
- **Statistics:**
 - As of October 2021, India was **the world's "Second-Largest Producer" of crude steel**, with an output of 9.8 MT. In FY22 (till January), the production of crude steel and finished steel stood at 98.39 MT and 92.82 MT, respectively.
 - Per capita consumption of Steel in India grew by **10% to 77 kg during the financial year 2021-22.**
 - India has **exported a record 13.5 million tonnes of finished steel in the year 2021-22 with a record production of over 120 million tonnes** of crude steel and 113.6 million tonnes of finished steel as per the provisional estimates.

Note:



➤ **Growth Drivers:**

- The growth in the Indian steel sector **has been driven by the domestic availability of raw materials such as iron ore and cost-effective labour.**
- Consequently, the steel sector has been a major contributor to India's manufacturing output.
- The Indian **steel industry is modern, with state-of-the-art steel mills.**
 - It has always strived for **continuous modernisation of older plants and upgradation** to higher energy efficiency levels.

➤ **Significance:**

- With huge deposits of **iron, coal, dolomite, lead, zinc, silver, gold, etc.**, India is a **natural destination for the mining and metal industry.**
- Among metals, **steel has historically held a dominant position.** As a raw material and intermediate product, **production and consumption of steel are widely regarded as indicators of economic progress**, industrial development and forms the backbone of any economy and is expected to witness growth in the coming years as government incentives increase.
- The Metals and Mining sector in India is **expected to witness a major reform in the next few years**, owing to reforms such as **Make in India Campaign, Smart Cities, Rural Electrification**, and a focus on building **renewable energy projects** under the **National Electricity Policy** as well as the rise in infrastructure development.
- The Average **Index of Industrial Production** of Manufacturing of basic metals in the FY 2021-22 is **177.3 and has grown by 18.4 %.**
- Recognising the importance of bringing sustainability in coal mining, a **"Sustainable Development Cell" has been created** in the Ministry of Coal and in all coal PSUs to promote adoption of better environment management practices in coal mines.

➤ **Challenges:**

- **Capital:** Metal industry especially, the Iron and steel, requires **large capital investment which is difficult for a developing country like India to afford.** Many of the public sector integrated steel plants have been established with the help of foreign aid.
- **Low Productivity:** The per capita labour productivity in the country is at 90-100 tonnes **for the steel**

industry which is very low. It is 600-700 tonnes per person in Korea, Japan, and other steel producing nations.

- **Low Potential Utilisation:** Durgapur steel plant makes use of approximately 50% of its potential which is caused by factors like strikes, shortage of raw materials, energy crisis, incompetent administration, etc.
- **Huge Demand:** Huge chunks of **steel and other metals are to be imported in order to meet the demands.** In order to save invaluable foreign exchange, productivity needs to be increased.
- **Inferior Quality of Products:** The weak infrastructure, capital inputs and other facilities eventually lead to metallurgical process more time-taking, expensive and produces **an inferior variety of alloys.**

What are the Government Initiatives for the Metal Sector?

- **National Steel Policy (NSP) 2017**
- **Steel Scrap Recycling Policy**
- **PLI Scheme For Specialty Steel**
- **Mission Purvodaya: Accelerated Development of Steel Sector**
- **Steel Research and Technology Mission of India**
- **Adoption of the Fourth Industrial Revolution (Industry 4.0)**

7th Annual Meeting of NDB

Why in News?

Recently, the Union Minister of Finance & Corporate Affairs and India's Governor for the **New Development Bank (NDB)** chaired the 7th Annual Meeting of Board of Governors of NDB (New Development Bank).

- The meeting was also attended by Governors/Alternate Governors of Brazil, China, Russia, South Africa and the newly joined members Bangladesh and United Arab Emirates (UAE).
- **Theme** for the Annual Meeting was **"NDB: Optimising Development Impact".**

What are the Highlights of the Meeting?

- The Finance Minister (FM) underscored the **importance of multilateralism and the spirit of global cooperation for economic recovery.**

Note:



- In this regard FM acknowledged that the **NDB has successfully established itself as a reliable development partner for Emerging Market Economies.**
- Highlighting that India is celebrating 75 years of Independence this year, the Union Finance Minister mentioned that **India's economic growth in the current financial year has been robust and is estimated to be 8.9%** which is the highest among all large economies.
 - This reflects **India's strong resilience and speedy recovery.**
- The FM expressed **confidence that India will continue to achieve a high growth rate** in the current and next financial year.

What is the New Development Bank?

- **About:**
 - It is a **multilateral development bank jointly founded by the BRICS countries** (Brazil, Russia, India, China and South Africa) at the 6th BRICS Summit in Fortaleza, Brazil in 2014.
 - It was formed to support infrastructure and sustainable development efforts in BRICS and other underserved, emerging economies for faster development through innovation and cutting-edge technology.
 - It is **headquartered at Shanghai, China.**
 - In 2018, the NDB received observer status in the **United Nations General Assembly**, establishing a firm basis for active and fruitful cooperation with the UN.
- **Objectives:**
 - Fostering the development of member countries.
 - Supporting economic growth.
 - Promoting competitiveness and facilitating job creation.
 - Building a knowledge sharing platform among developing countries.

Fostering Effective Energy Transition 2022

Why in News?

Recently, the **World Economic Forum (WEF)** has released a report named **Fostering Effective Energy Transition 2022**, which calls for **urgent action by both**

private and public sectors to ensure a resilient energy transition to address the challenges to environmental sustainability, energy security and energy justice and affordability.

What are the Findings of the Report?

- The energy transition is **not keeping pace with the growing climate urgency**, and recent **compounded disruptions** from a **post-pandemic surge in energy demand, fuel supply bottlenecks**, inflationary pressures and reconfigured energy supply chains as a result of the **war in Ukraine** have made the transition even more difficult.
- High energy prices, risks of energy supply shortages, and soaring demand for **fossil fuels** are simultaneously challenging energy affordability, energy security and access, and sustainability.
- The lack of access to an affordable energy supply has **emerged as a key threat to a just transition.**
- Industrial activity generates more than 30% of anthropogenic emissions, yet many industries face considerable challenges to decarbonize.
- **Skewed Fuel Imports:** Of the 34 countries with advanced economies, 11 rely on only three trade partners for over 70 % of their fuel imports.

What are the Recommendations?

- **Climate Commitments and Long-Term Visions:**
 - More countries need to make binding climate commitments, create long-term visions for domestic and regional energy systems, attract private sector investors for **decarbonisation** projects and help consumers and the workforce adjust.
- **Holistic Approach on Transition Imperatives:**
 - It is crucial to **develop adequate enablers and support mechanisms to keep the momentum of the transition** through this turbulent phase.
 - What is needed now, more than ever, is a holistic approach that delivers concurrently on the three transition imperatives – **energy affordability, availability, and sustainability** – at an accelerated pace.
- **Incentivize Efficient Consumption and Behavioral Intervention:**
 - Actions are necessary to protect those most vulnerable through appropriate support measures, in a way that incentivizes efficient consumption.

- Behavioral interventions and **fourth industrial revolution technologies** can help households and businesses alike.
- **Energy Diversity and Security:**
 - Dual diversification (of supply source and supply mix) is **key to strengthening countries' energy security**.
 - Diversifying the ecosystem of import partners in the short-term and diversifying the portfolio of domestic energy with low-carbon alternatives in the long-term can yield significant benefits.
- **Supply-side Interventions and Demand-Side Efficiencies:**
 - Supply-side interventions will need **to be augmented with demand-side efficiencies**.
 - Current energy market volatility and security constraints provide an opportunity to supercharge the transition by boosting demand for clean energy and fostering more efficient energy consumption from both industrial and end consumers.
- **Regulatory frameworks:**
 - Regulatory frameworks **need to be strengthened to drive the necessary actions and investments**.
 - Anchoring climate commitments into legally binding frameworks would not only ensure that those commitments endure political cycles, but **also provide enforcement mechanisms to keep the long-term implementation efforts on track**.
- **Clean Demand:**
 - Clean demand signals could be the necessary **turning point to scale the projects and investments required** for the development of low-emission industries.

What is World Economic Forum?

- **About:**
 - The World Economic Forum (WEF) is a **Swiss nonprofit foundation established in 1971**, based in Geneva, Switzerland.
 - Recognized by the Swiss authorities as the international institution for public-private cooperation.
- **Mission:**
 - Committed **to improving the state of the world by engaging business, political, academic, and other leaders of society** to shape global, regional, and industry agendas.

- **Founder and Executive Chairman:** Klaus Schwab.
- **Some major reports published by WEF are:**
 - **Energy Transition Index.**
 - **Global Competitiveness Report.**
 - **Global IT Report**
 - WEF along with INSEAD, and Cornell University publishes this report.
 - **Global Gender Gap Report.**
 - Global Risk Report.
 - Global Travel and Tourism Report.

States' Power to Make GST Laws

Why in News?

Recently, the Supreme Court in a judgment championing the importance of **"Cooperative Federalism"** for the well-being of democracy, held that **Union and State legislatures have "equal, simultaneous and unique powers" to make laws on Goods and Services Tax (GST)** and the **recommendations of the GST Council are not binding on them**.

- The apex court's decision came while confirming a Gujarat High Court ruling that the Centre cannot levy Integrated Goods and Services Tax (IGST) on ocean freight from Indian importers.
- The Supreme Court has held that **GST on ocean freight paid in case of import of goods is unconstitutional**.

What is the SC Ruling?

- Center and the States are "autonomous, independent and even competing units" while making GST laws. Cooperative federalism is treated like a marble cake federalism due to the integrated approach of the federal units.
- The recommendations of the GST Council are **the product of a collaborative dialogue involving the Union and the states**. They are recommendatory in nature.
- The recommendations **only have a persuasive value**. To regard them as **binding would disrupt fiscal federalism when both the Union and the states are conferred equal power to legislate on GST**.
- Emphasized that **Article 246A (which gives the States power to make laws with respect to GST)** of

the Constitution treats the Union and the States as “equal units”.

- It confers **simultaneous power (on Union and States) for enacting laws on GST**.
- Article 279A, in constituting the GST Council, **envisions that neither the Centre nor the states are actually dependent on the other**.
- There are **no provisions in the Goods and Service Tax Act, 2017 (GST Act) that deal with situations where there is repugnancy between the laws drawn up by the Centre and states**, and it is for the GST Council to advise them suitably whenever such occasions arise.

What is Cooperative and Competitive Federalism?

- **Cooperative Federalism:**
 - The **Centre and states share a horizontal relationship, where they “cooperate”** in the larger public interest.
 - It is an important tool **to enable states’ participation in the formulation and implementation** of national policies.
 - Union and the states are **constitutionally obliged to cooperate with each other** on the matters specified in **Schedule VII** of the constitution.
- **Competitive Federalism:**
 - The relationship between the **Central and state governments is vertical and between state governments is horizontal**.
 - This idea of Competitive federalism gained significance in India post 1990s economic reforms.
 - In a free-market economy, the **endowments of states, available resource base and their comparative advantages all foster a spirit of competition**. Increasing globalisation, however, increased the existing inequalities and imbalances between states.
 - In Competitive federalism **States need to compete among themselves** and also with the Centre for benefits.
 - States compete with each other to attract funds and investment, which facilitates efficiency in administration and enhances developmental activities.
 - Competitive federalism is **not part of the basic structure of Indian constitution**. It is the decision of the executives.

What is Goods and Services Tax?

- GST is a comprehensive, multi-stage, destination-based tax that is levied on every value addition.
- GST is one indirect tax for the entire country.
- The **GST council** is the key decision-making body that will take all important decisions regarding GST.

What next?

- FOR BUSINESSES**
- Goods importers get some relief as they are no longer liable to pay GST on ocean freight charges; could seek refunds for past payments
- FOR THE CENTRE AND STATES**
- Finance Ministry believes SC order only
- reiterates the spirit in which the GST Council is functioning
- All but one decision of the Council has been reached by consensus so far
 - The Council may be summoned soon to discuss SC verdict’s implications

An administrative body created by the Constitution cannot have an overriding right on the legislature
TARUN BAJAJ, Revenue Secretary

The Centre had been arbitrarily imposing its decisions on States... We hope the verdict would pave the way for States to protect rights
K.N. BALAGOPAL, Kerala Finance Minister

Food Inflation

Why in News?

Food prices around the world have soared to record levels this year as the **Russia-Ukraine war** slashes key exports of wheat and fertiliser from those countries, at the same time as droughts, floods and heat fuelled by climate change claim more harvests.

TABLE 1

ALL-INDIA MODAL RETAIL PRICE OF EDIBLE OILS (Rs/kg)

	Palm	Vanaspatti	Mustard	Groundnut	Soyabean	Sunflower
2014	68.5	70	91.5	116.5	77	90
2015	60	75	87	121.25	81	100
2016	67	71.33	90	135	80	92
2017	67	75	100	130	80	92.5
2018	75	70	100	115	85	91
2019	76	70	100	140	85	100
2020	90	100	120	142.5	90	110
2021	140	140	160	180	155	145
2022	160	170	187.5	188.5	170	190.75

All prices as on May 13 in that year.

Source: Department of Consumer Affairs

What are the Causes of Food Inflation?

- **Russia-Ukraine Conflict:**
 - Russia and Ukraine supply about 30% of global wheat exports, but those have fallen as a result of the conflict.
- **High Stock of Wheat:**
 - National stocks of wheat – **mostly eaten in the countries where it is grown** – remain relatively high.

Note:



- But the drop in exports from Russia and Ukraine has driven up competition for the remaining wheat on the global market, leading to higher costs that are particularly painful for poorer, debt-ridden countries that rely heavily on imports.
- Almost 40% of Africa's wheat imports come from Ukraine and Russia, while rising global wheat prices have sent bread prices in Lebanon 70% higher.
- **Food Stock and Commodity Markets:**
 - Since the last food price crises of 2007-2008 and 2011-2012, **governments have failed to curb excessive speculation** and ensure transparency of food stocks and commodity markets.

What has been the Recent Trend in Inflation?

- The **Food and Agriculture Organisation's** food price index has shown a 29.8% year-on-year increase for April 2022.
- Moreover, all **commodity group price indices have posted huge jumps:** Cereals (34.3%), vegetable oils (46.5%), dairy (23.5%), sugar (21.8%) and meat (16.8%).
- Simply put, **food inflation is already rising across-the-board globally** — because of supply disruptions from the war, dry weather in South America, high crude prices inducing greater diversion of corn, sugar, palm and soyabean oil for bio-fuel, and so on.

How Global Prices of Food Affect Domestic Prices?

- The transmission of the above global inflation to domestic food prices **basically depends on how much of a country's consumption/production is imported/exported.**
- Such transmission is evident in **edible oils and cotton**, where up to two-thirds of India's consumption and a fifth of its production are imported and exported, respectively.
- In the case of wheat, **the heat wave from mid-March severely impacting yields**, both public stocks and overall domestic availability are under pressure, even as open market prices have risen to export parity levels.
- Not surprisingly, the Centre has decided to slash wheat allocations and offer more rice under its flagship free-grains scheme. Export demand is, likewise, helping maize trade well above its **Minimum Support Price (MSP)**. But that, alongside higher oil meal prices, will also push up livestock feed costs and, in turn, translate into inflation in milk, egg and meat.

- For now, though, the **consolation is that there is little to no inflation in pulses, sugar, onion, potato** and most summer vegetables.
- To that extent, food inflation isn't yet "generalised" in India.
- Sugar is one commodity where retail prices haven't gone up much, despite record exports by mills.
 - The reason for it is production also hitting a historic high.

How can Food Inflation be Tackled?

- **Consuming Less Meat and Dairy:**
 - Because a **large share of the world's grain goes to feeding livestock**, persuading people to eat less meat and dairy could boost grain supplies dramatically.
 - The **global shortage of cereals on export markets this year is expected to be 20-25 million tonnes** — but if Europeans alone cut their consumption of animal products by 10%, they could reduce demand by 18-19 million tonnes.
- **Improving Grain Storage:**
 - Improving **grain storage particularly in countries highly reliant on imports**, and helping those countries grow more staple food at home — not the cash crops for export that have often replaced staples — could also help.
- **Planting a Wider Variety of Crops:**
 - And globally, **planting a wider variety of crops in order to reduce dependence on just a few grains**, with markets dominated by a small number of exporters, could boost food security.
- **Policy Shifts:**
 - Policy Shifts in countries like **Africa's new continental free trade area** — **could eventually allow some poorer nations to reduce their dependence** on distant producers and fragile supply chains.
- **Investing in Climate-Smart Farming:**
 - In addition, **investing in climate-smart farming**, to protect harvests as the planet warms, **would help shore up global food supplies**, while providing debt relief could give the poorest countries more fiscal space to manage food price fluctuations.
- **Step-up Domestic Production:**
 - In short, while **global food inflation is a reality**, the only way to contain the effects of it getting "imported" is to step up domestic production.

Note:



Dollarisation Due to Cryptocurrencies

Why in News?

Recently, **Reserve Bank of India (RBI)** told a parliamentary panel that **cryptocurrencies can lead to "dollarisation" of a part of the economy** which would be against India's sovereign interest.

What is Dollarisation?

- Dollarisation is a **form of currency substitution**, where dollars are used in addition to or instead of the local currency of a country.
 - Though only tax havens like Liberia and Panama can be defined as 'dollarized' in a true sense, there are many economies dollarised to a large extent.
- In fact, **two-thirds of dollars are held outside the United States** which issues it.
 - Countries which have been victims of hyperinflation like Bolivia have become dollarised too, with over 80% of the currency in use being dollars.

What is De-dollarisation?

- It refers to **reducing the dollar's dominance of global markets**. It is a process of substituting US dollar as the currency used for:
 - Trading oil and/ or other commodities
 - Buying US dollars for the **forex reserves**
 - Bilateral trade agreements
 - Dollar-denominated assets
- The dominant role of the dollar in the global economy **provides the US a disproportionate amount of influence over other economies**. The US has for long used imposition of sanctions as a tool to achieve foreign policy goals.
 - The de-dollarisation is **driven by the desire to insulate the Central Banks of the Countries from geopolitical risks**, where the status of the US dollar as a reserve currency can be used as an offensive weapon.

How Dollarisation Affects an Economy?

- In spite of its current inflation troubles, **India is far away from dollarisation to this extent**.

- However, according to some research papers, **Indian EXIM transactions are dominated by dollars**.

- **86% of both Indian imports and exports** are invoiced in dollars.
- **Only 5% of India's imports and 15% of exports** are from and to the US.
 - It shows that **few countries use their own currencies for international transactions** due to the popularity of the dollar abroad.

What are the Related Concerns?

- **Challenges to the Stability of the Financial System:**
 - Central banks of economies with **high dollarisation, become bodies with no power**.
 - Cryptocurrencies have the **potential to be a medium of exchange and replace the rupee in financial transactions** both domestic and cross border.
 - This is **one of the reasons why RBI has opposed it**, and the Indian finance ministry has backed them by **imposing a 30% crypto tax** on it without officially 'allowing' it in India.
 - This move **aimed to stall Indian rupees going up into purchasing virtual assets** which will then be owned by foreign entities - that cannot be tracked by tax authorities here.
 - The **tax does not apply to individuals** who mine cryptos to earn them but only to those who spend Indian rupees to acquire or trade in it.
- **Threat to Financial Sector of the Country:**
 - Besides being used for **terror financing, money laundering** and **drug trafficking**, cryptos **pose a bigger threat to the stability of the financial system of the country**.
- **Negative Impact on the Banking System:**
 - It will also **have a negative impact on the banking system** as these being attractive assets **people may invest their hard-earned savings** in these currencies which may result in banks having lesser resources to lend.
 - There are an **estimated 15 million to 20 million crypto investors in India**, with total crypto holdings of around USD 5.34 billion.

Note:



Potential of Cruise Tourism in India

Why in News?

Recently, the first Incredible India International Cruise Conference 2022 was held.

- India is working on a **national tourism policy** to give an impetus to the Tourism industry.

What is the India

International Cruise Conference 2022?

- The conference has been jointly organized by the Ministry of Ports, Shipping & Waterways and **Federation of Indian Chambers of Commerce and Industry (FICCI)**.
- Some of the key issues being deliberated at the two day event:
 - Strategies for developing India as a cruise hub, policy initiatives and port infrastructure, potential of river cruise tourism, role of technology in the post-pandemic world.

What is the Potential of Cruise Tourism in India?

- **About:**
 - The Indian cruise market has the **potential to grow 10 folds over the next decade**, driven by rising demand and disposable incomes.
 - India is a **magnificent cruise destination**, several attractions of India along its 7,500 km long coastline and vast river systems are yet to be unveiled to the world.
 - The government of India **realizes the potential and is determined to position India as a global cruise hub** with state-of-art infrastructure for both ocean and river cruises.
 - In India, **global players have shown a keen interest** in promoting cruise tourism, and with the right infrastructure, this could happen with the adoption of modern technology, India will certainly become one of the top tourism destinations in the world.
- **Aim:**
 - India **aims to increase cruise passenger traffic** from 0.4 million at present to 4 million.
 - Economic potential of Cruise tourism is **expected to go up from USD 110 mn to USD 5.5 bn** in the years to come.

What are the Related Initiatives?

- **Task Force:**
 - The Government has **set up a Task Force** for development of cruise tourism.
 - The setting up of a **high level Advisory Committee**, comprising national and international experts was announced to help the Task Force in creating an enabling eco-system for development of cruise tourism in the country.
- **Coastal Destination Circuits:**
 - 'Four theme **based coastal destination circuits** have been developed to activate cruise demand.
 - Four theme based coastal destination circuits are:
 - Gujarat Pilgrimage tours
 - West Coast – Cultural and scenic tours
 - South Coast – Ayurvedic wellness tours and
 - East Coast – Heritage tourism
- **Lighthouse:**
 - **Lighthouse and Island development** is also being undertaken to attract Coastal tourists.
 - **River cruise or Inland cruise** is another potential component of cruise tourism that could be explored.
- **Maritime Vision Document 2030:**
 - The **Maritime Vision Document 2030** has also been prepared with focus on heritage tourism, Ayurveda tourism, coastal tourism, river cruise tourism etc.
 - Post **pandemic** the tourism sector in India is growing with resurgence and cruise tourism has **registered a 35% year-on-year growth**.
- **Upgradation and Modernisation of Ports:**
 - Upgradation and modernisation of Ports are being carried out at **seven major ports in the country** including the flagship **New International Cruise terminal** coming up in Mumbai with a total cost about Rs 495 crores.
 - The terminal will have a capacity of handling 200 ships and 1 million passengers per annum.
 - Similar infrastructure upgradation is **taking place in Goa, New Mangalore, Kochi, Chennai, Visakhapatnam and Kolkata**.
- **PM GatiShakti National Master Plan:**
 - Under the ambitious **PM GatiShakti National Master Plan**, tourism related infrastructure is also

Note:



being developed with a focus on shipping, river tourism, forest and wildlife tourism.

➤ **Swadesh Darshan scheme:**

- Through the **Swadesh Darshan scheme**, 10 projects under coastal thematic circuits worth Rs 648.80 crore across various states/Union Territories have been sanctioned.

➤ **Through Namami Gange Project:**

- Government has **made significant efforts to clean and rejuvenate rivers**, including through the **mammoth Namami Gange Project**, which can provide a major boost to river-based tourist activities.

➤ **Others:**

- Several initiatives including **infrastructure upgradation, rationalisation of port fees**, removing ousting charges, granting priority berthing to cruise ships, providing e-visa facilities etc have also been taken.

What is the Status of Cruise Market in India?

- Globally the **river cruise market has grown at around 5%** over the last few years and is expected to constitute around 37% of the cruise market by 2027.
- **Europe has been driving growth with around 60% share** of river cruise vessels in the world with rivers Danube in Europe and Yangtze in China dominating the river cruise market globally.

Special Drawing Rights

Why in News?

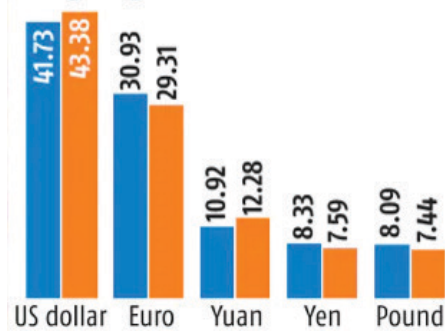
Recently, the **International Monetary Fund** lifted the **yuan's weighting in the Special Drawing Rights currency basket**, prompting the Chinese central bank to pledge to push for a further opening of its financial markets.

What are the Key Points?

- The IMF raised the **yuan's weighting to 12.28% from 10.92 %** in its first regular review of the SDR evaluation since the Chinese currency was included in the basket in 2016.
- The **weighting of the US dollar rose to 43.38 % from 41.73 %**, while those of **euro, Japanese yen and British pound declined**.
- The ranking of the currencies' weighting remains the same after the review, with the yuan continuing to be in third place.

CURRENCY BASKET

Weighting ■ Previous ■ Latest (%)



Source: Bloomberg

- The change came amid a sharp depreciation of the yuan since late April, as it **faces a double whammy of slowing domestic growth because of Covid-induced lockdowns and capital outflows due to its widening monetary policy divergence with the US**.

What is Special Drawing Right?

➤ **About:**

- The SDR is **neither a currency nor a claim on the IMF**. Rather, it is a **potential claim on the freely usable currencies** of IMF members. SDRs can be **exchanged for these currencies**.
- The SDR **serves as the unit of account of the IMF** and some other international organizations.
- The currency value of the SDR is determined by **summing the values in US dollars, based on market exchange rates**, of a SDR basket of currencies.
- The SDR basket of currencies includes the **US dollar, Euro, Japanese yen, pound sterling and the Chinese renminbi (included in 2016)**.
- The SDR **currency value is calculated daily (except on IMF holidays or whenever the IMF is closed for business)** and the valuation basket is reviewed and adjusted every five years.
- **Quota (the amount contributed to the IMF) of a country is denominated in SDRs.**
 - Members' voting power is related directly to their quotas.
 - IMF makes the general SDR allocation to its members in proportion to their existing quotas in the IMF.
- **India's quota in IMF:**
 - In 2016, **IMF's quota and governance reforms took place**.

Note:



- According to which, **India's voting rights increased by 0.3% from then 2.3% to 2.6%** and China's voting rights increased by 2.2% from then 3.8% to 6%.
- Presently, **India holds 2.75% of SDR quota**, and 2.63% of votes in the IMF.
- **India's foreign exchange reserves** also incorporate SDR other than gold reserves, foreign currency assets and Reserve Tranche in the IMF.

What is the International Monetary Fund?

➤ About:

- The IMF was set up along with the **World Bank after the Second World War** to assist in the reconstruction of war-ravaged countries.
 - The two organizations were agreed to be set up at a conference in Bretton Woods in the US. Hence, they are known as the Bretton Woods twins.
- Created in 1945, the IMF is governed by and accountable to the 190 countries that make up its near-global membership. India joined in December 1945.
- The IMF's primary purpose is to ensure the stability of the international monetary system — the system of exchange rates and international payments that enable countries (and their citizens) to transact with each other.
 - Its mandate was updated in 2012 to include all macroeconomic and financial sector issues that bear on global stability.

➤ Reports by IMF:

- **Global Financial Stability Report.**
- **World Economic Outlook.**

Competition Commission of India (CCI)

Why in News?

Recently, Finance Minister participated in the 13th Annual Day commemoration of the Competition Commission of India (CCI).

- Finance Minister also inaugurated the regional office at Kolkata and launched an upgraded website of CCI.

What is Competition

Commission of India (CCI)?

➤ About:

- Competition Commission of India (CCI) is a **statutory body** of the **Government of India** responsible for enforcing **the Competition Act, 2002**, it was duly constituted in March 2009.
- The **Monopolies and Restrictive Trade Practices Act, 1969 (MRTP Act)** was repealed and replaced by the **Competition Act, 2002**, on the recommendations of the **Raghavan committee**.

➤ Composition:

- The Commission consists of **one Chairperson and six Members** who shall be appointed by the Central Government.
- The commission is a **quasi-judicial body** which gives opinions to statutory authorities and also deals with other cases. The Chairperson and other Members shall be whole-time Members.

➤ Eligibility criteria of members of CCI:

- The Chairperson and every other Member shall be a person of ability, integrity and standing and who, has been, or is qualified to be a judge of a High Court, or, has special knowledge of, and professional experience of not less than fifteen years in international trade, economics, business, commerce, law, finance, accountancy, management, industry, public affairs, administration or in any other matter which, in the opinion of the Central Government, may be useful to the Commission.

What is the Competition Act, 2002?

- The Competition Act was passed in 2002 and has been amended by the **Competition (Amendment) Act, 2007**. It follows the philosophy of modern competition laws.
 - The Act **prohibits anti-competitive agreements**, abuse of dominant position by enterprises and regulates combinations, which causes an appreciable adverse effect on competition within India.
 - In accordance with the provisions of the Amendment Act, **the Competition Commission of India** and the **Competition Appellate Tribunal** have been established.
 - The government replaced the Competition Appellate Tribunal (COMPAT) with the **National Company Law Appellate Tribunal (NCLAT)** in 2017.

What are the Functions and Role of CCI?

- To eliminate practices having adverse effects on competition, protect the interests of consumers and ensure freedom of trade in the markets of India.
- To give opinion on competition issues on a reference received from a statutory authority
- To undertake competition advocacy, create public awareness and impart training on competition issues.
- **Consumer Welfare:** To make the markets work for the benefit and welfare of consumers.
- **Ensure fair and healthy competition in economic activities** in the country for faster and inclusive growth and development of the economy.
- **Implement competition policies** with an aim to effectuate the most efficient utilization of economic resources.
- **Effectively carry out competition advocacy** and spread the information on benefits of competition among all stakeholders to establish and nurture competition culture in the Indian economy.

What are the Achievements of CCI till now?

- The Commission has adjudicated more than 1,200 antitrust cases i.e., case disposal rate is 89 % in antitrust cases.
- It has also reviewed more than 900 mergers and acquisitions till date, cleared most of them, within a record average time of 30 days.
- The Commission has also come up with several innovations like the 'Green Channel' provision for automated approval on combinations/transactions and cleared more than 50 of such transactions.

What are the Challenges?

- **Challenges Posed by Digitization:** As we didn't have a robust digital economy at the time of enactment of the Act (2002), CCI should understand the technological nuances of the new digital era.
- **Need For New Market Definition:** India's Commission needs to update its definition of market now. Since there are no boundaries in the digital space, defining relevant markets has been a tough task for regulators around the globe.
- **Threat From Cartelization:** There is a possibility of threat from cartelization. Since there is a global shortage of commodities due to the pandemic, and

now, following the war in Eastern Europe, the supply chain has been adversely affected.

- There is a need to look into these and ensure that there are no monopolistic/duopolistic tendencies leading to price rises and supply side manipulations.

Privatisation of Banks

Why in News?

The government is in the process of taking 'advanced action' to expedite the privatisation of public sector banks.

- The government is geared up to take further steps to rein in inflation as well as maintain economic stability and growth.

What is Privatisation?

- The transfer of ownership, property or business from the government to the private sector is termed privatisation. The government ceases to be the owner of the entity or business.
- Privatisation is considered to bring more efficiency and objectivity to the company, something that a government company is not concerned about.
 - India went for privatisation in the historic reforms budget of 1991, also known as 'New Economic Policy or LPG policy'.

What is the Background?

- The government decided to nationalise the 14 largest private banks in 1969. The idea was to align the banking sector with the socialistic approach of the then government.
 - State Bank of India (SBI) had been nationalised in 1955 itself, and the insurance sector in 1956.
- Various governments in the last 20 years were for and against privatisation of Public Sector Undertaking (PSU) banks. In 2015, the government had suggested privatisation but the then Reserve Bank of India (RBI) Governor did not favour the idea.
- The current steps of privatisation, along with setting up an Asset Reconstruction Company (Bad Bank) entirely owned by banks, underline an approach of finding market-led solutions to challenges in the financial sector.

- The Centre had **announced the privatisation of two public sector banks in the Budget for 2021-22** but is yet to amend the relevant banking laws to enable the sale of its majority stake in them.

What are the Reasons for Privatisation?

- **Degrading Financial Position of Public Sector Banks:**
 - Years of capital injections and governance reforms have not been able to improve the financial position of public sector banks significantly.
 - Many of them have **higher levels of stressed assets than private banks**, and also lag the latter on profitability, market capitalization and dividend payment record.
- **Part of a Long-Term Project:**
 - Privatisation of two public sector banks will **set the ball rolling for a long-term project** that envisages only a handful of state-owned banks, with the rest either consolidated with strong banks or privatised.
 - The initial plan of the government was to privatise four. Depending on the success with the first two, the government is likely to go for divestment in another two or three banks in the next financial year.
 - This will **free up the government**, the majority owner, from continuing to provide equity support to the banks year after year.
 - Through a series of moves over the last few years, the government is now left with 12 state-owned banks, from 28 earlier.
- **Strengthening Banks:**
 - The government is trying to **strengthen the strong banks and also minimise their numbers** through privatisation to reduce its burden of support.
- **Recommendations of Different Committees:**
 - Many committees had proposed bringing down the government stake in public banks below 51%:
 - The **Narasimham Committee** proposed 33%.
 - The **P J Nayak Committee** suggested below 50%.
 - An **RBI Working Group** recently suggested the entry of business houses into the banking sector.
- **Creation of Big Banks:**
 - One of the objectives of privatisation is also to **create big banks**. Unless privatised PSBs are merged with existing large private banks, they cannot ultimately attain the kind of scale and size to develop higher risk appetite and lending capacity.

- Hence, privatisation is a multifaceted task considering all angles to tackle multiple challenges and exploring new ideas but it can pave the way for developing a more sustainable and strong banking system benefitting all stakeholders.

What are the Related Issues?

- **Rewarding Crony Capitalism:**
 - The privatisation of the PSBs is **tantamount to selling the banks to private corporates**, many of whom have defaulted on loans from the PSBs, and will only reward crony capitalism.
- **Job Losses:**
 - The privatisation will also **result in job losses, branch closures and financial exclusion**.
 - The privatisation will shrink employment opportunities for **Scheduled Castes, Scheduled Tribes and Other Backward Classes (OBC)** since the private sector does not follow reservation policies for the weaker sections.
- **Financial Exclusion of Weaker Sections:**
 - The private sector banks **concentrate on the more affluent sections of the population and the metropolitan/urban areas, leading to financial exclusion** of weaker sections of the society, particularly in the rural areas.
 - Public sector banks were taking banking to the rural areas and ensuring financial inclusion.
- **Bailout operation:**
 - Bank unions have termed the **privatisation process a "bailout operation" for corporate defaulters**.
 - Private sector is **responsible for the huge bad loans**. In fact, they should be punished for this crime. But the government is rewarding them by handing over the banks to the private sector.

Prime Minister's Employment Generation Programme

Why in News?

The Ministry of Micro, Small and Medium Enterprises has approved the extension of the **Prime Minister's Employment Generation Programme (PMEGP)** for five years till FY26.

Note:



- The PMEGP has now been approved for continuation over the **15th Finance Commission** Cycle for five years from 2021-22 to 2025-26 with an outlay of Rs 13,554.42 crore.

What is the PMEGP Scheme?

➤ **Launch:**

- The Government of India approved the **introduction of a credit linked subsidy programme** called Prime Minister's Employment Generation Programme (PMEGP) in **2008** for generation of employment opportunities **through establishment of micro enterprises in rural as well as urban areas.**
- It allows entrepreneurs **to set up factories or units.**

➤ **Administration:**

- It is a **central sector scheme** being **administered by the Ministry of Micro, Small and Medium Enterprises (MoMSME).**
- **Implementing Agency at the National Level: Khadi and Village Industries Commission (KVIC)** - a statutory organization under the administrative control of the Ministry of MSME.

➤ **Features:**

- **Eligibility:**
 - Any individual, above 18 years of age.
 - Only new projects/units are considered for sanction of loans.
 - Self-help groups that have not availed benefits under any other public scheme, societies, production co-operative societies, and charitable trusts.
- **Maximum Cost of Project/Unit Admissible:**
 - Manufacturing Sector: Rs. 50 lakh
 - Service Sector: Rs.20 lakh
- **Government Subsidy:**
 - Rural Areas: 25% for general category and 35% for special category, which includes SC/ST/OBC/Minorities, NER, Hill and Border Areas, transgender, physically disabled, north eastern region, aspirational and border district applicants.
 - Urban Areas: 15% for general category and 25% for special category.
- **Role of Banks:** Loans are provided by Public Sector Banks, Regional Rural Banks, Co-operative Banks and Private Scheduled Commercial Banks approved by respective State Task Force Committee.

➤ **Changes:**

- The **definition of village industry and rural area has been changed for the scheme.**
- Areas falling under **Panchayati Raj institutions** would be accounted under rural areas, whereas areas under **Municipality will be treated as urban areas.**

➤ **Significance:**

- The scheme will create **sustainable estimated employment opportunities for about 40 lakh persons** in five financial years.
- It facilitates generation of employment opportunities for **unemployed youth across the country by assisting setting up of micro-enterprises** in the non-farm sector.
- Since its inception in 2008-09, about 7.8 lakh micro enterprises have been assisted with a subsidy of RS 19,995 crore generating estimated sustainable employment for 64 lakh persons. About 80% of the units assisted are in rural areas and about 50% units are owned by SC, ST and women categories.

What are the Challenges?

- The Scheme is crippled by structural issues and high rate of **Non-Performing Assets (NPAs)**. From 2015-16 to 2019-20, assistance of Rs. 10,169 crore was provided. Out of this, Rs. 1,537 crore has turned out to be NPA.
- A deficiency in skills, lack of market study, low demand and stiff competition are believed to be the key reasons for such a large number of NPAs.
- While normally all central schemes are given definite annual targets, this scheme is not driven by any such target. As both the states and the banks work without the aim of completing the annual target of disbursement of loans, the programme may lose its drive.

World Milk Day

Why in News?

June 1 is observed as **World Milk Day every year.**

What are the Key Highlights?

➤ **About**

- World Milk Day is a day established by the **Food and Agriculture Organization (FAO)** of the United

Nations in 2001 to recognize the importance of milk as a global food.

- The day is intended to provide an opportunity to bring attention to activities that are connected with the dairy sector.
- **Theme:**
 - This year's theme will highlight the work already being done to **accelerate climate action** and **help reduce the dairy sector's impact** on the planet.
 - Using the World Milk Day platform, awareness of the messaging and action will be raised towards **Dairy Net Zero**.
- **Features:**
 - It is encouraged to talk about the important contributions of the dairy sector to:
 - Good food, health and nutrition
 - Farmers caring responsible for their communities, the land and their animals
 - Sustainability practices in the dairy sector
 - How dairy contributes to economic development and livelihood
- **Indian Dairy Sector:**
 - **India is the world's largest milk producer**, with 22% of global production, followed by the **United States of America, China, Pakistan** and Brazil.
 - Milk production in the country has grown at a **compound annual growth rate of about 6.2%** to reach 209.96 mn tonnes in 2020-21 from 146.31 mn tonnes in 2014
 - The top 5 milk-producing states are: **Uttar Pradesh (14.9%), Rajasthan (14.6%), Madhya Pradesh (8.6%), Gujarat (7.6%)** and **Andhra Pradesh (7.0%)**.

What are the Initiatives of the Government of India related to Dairy Sector?

- **Rashtriya Gokul Mission:** This mission is launched to improve productivity and enhance milk production through genetic upgradation of bovine population and development and conservation of indigenous bovine breeds.
- **Gopal Ratna Award 2021:** Gopal Ratna Award is given to encourage all individual farmers, artificial insemination technicians and Dairy cooperative societies working in this sector.

- **Nationwide Artificial Insemination Programme:** Under this programme, **Artificial Insemination** services delivered free of cost at farmers' doorstep.
- **e-GOPALA app:** A comprehensive breed improvement marketplace and information portal for direct use of farmers in the form of the e-GOPALA app (Generation of Wealth through Productive Livestock).
- **National Programme for Dairy Development (NPDD):** "National Programme for Dairy Development (NPDD)" is launched across the country since 2014 with an objective of strengthening of infrastructure for Production of quality milk, Procurement, Processing and Marketing of Milk & Milk Products through State Implementing Agency (SIA) i.e State Cooperative Dairy Federation.
- **Dairy Processing and Infrastructure Development Fund (DIDF) Scheme:** DIDF Scheme was launched in 2017 to modernize the milk processing & chilling plants including value addition.
- **Supporting Dairy Cooperatives and Farmer Producer organizations engaged in dairy activities" (SDC&FPO):**
 - Department of Animal Husbandry and Dairying has introduced a new component "**interest subvention on Working capital loans for Dairy sector**" as one of the components under its scheme SDC&FPO.
 - **Kisan Credit Card (KCC)** for Animal Husbandry & Dairying Farmers: Through Kisan Credit Cards, farmers are enabled to gain access to institutional credit at concessional interest rate for working capital expenditure.

Ban on Export of Sugar

Why in News?

- Recently, the government announced **curbs on exports of sugar**.
- Also, to **provide required relief to consumers**, customs duty and **Agriculture Infrastructure Development Cess (AIDC)** on 20 Lakh metric tonnes yearly import of crude soyabean and sunflower oil was exempted for two financial years (2022-23 and 2023-24).
 - The exemption of import duties will **help cool domestic prices and control inflation**.

Note:



What is the Agriculture Infrastructure Development Cess?

- Cess is a kind of **special-purpose tax** which is levied over and above basic tax rates.
- The purpose of the new AIDC is to **raise funds to finance spending on developing agriculture infrastructure**.
- The AIDC is **proposed to be used to improve agricultural infrastructure** aimed at not only boosting production but also in helping conserve and process farm output efficiently.

What are the Reasons for the Decisions taken?

- **Ban on Sugar Export:**
 - **Reason:**
 - These steps were taken to **maintain “domestic availability and price stability of sugar”**.
 - The decision was in the wake of **“unprecedented growth in exports of sugar”** and the **need to maintain sufficient stock of sugar** in the country.
 - It is for the **first time in six years** that the Centre is regulating sugar exports.
 - **Exemption:**
 - Sugar mills and traders who have **specific permissions from the government will only be able to export sugar** (including raw, refined and white sugar) till 31st October, 2022 or until further orders.
 - Additionally, the **restriction is not applicable for exports to the European Union (EU)** and the United States.
- **Duty-Free Import of Edible Oil:**
 - It was announced in the **wake of a surge in edible oil prices in India**.
 - **India is one of the world’s largest vegetable oil importers** and relies on imports for 60% of its needs.
 - Meanwhile, after **Russia’s invasion of Ukraine**, edible oil prices have shot up significantly.
 - **Sunflower oil is imported into India** majorly from Ukraine and Russia.
 - In February 2022, **agri-cess on crude palm oil** was reduced to 5% with effect from the earlier 7.5%.
- **To Contain Severe Inflationary Pressures:**
 - These steps were taken in **view of the government’s**

efforts to contain severe inflationary pressures, with prices of food, fuels and crop nutrients soaring.

- **Retail inflation rate** had surged to an **eight-year high of 7.79% in April 2022** while wholesale inflation has been in **double digits for 13 consecutive months**.
- Retail edible oil inflation **remained at 20-35% level** all through 2021, with the latest print for inflation rate for oils and fats recorded at 17.28% for April 2022.

What are the other Steps taken to Contain Inflationary Pressures?

- **By India:**
 - **Cuts Tax on Petrol and Diesel:**
 - The Centre **announced tax cuts on petrol, diesel, coking coal**, and raw materials for making steel over the weekend as part of its efforts to cool mounting inflationary pressure.
 - The **cut in fuel taxes could help reduce inflation directly by around 20 basis points** in June 2022 when its full impact will be visible.
 - **Reduction in Repo Rate:**
 - The **Reserve Bank of India** while **reducing the repo rate by 40 bps** in an out-of-turn **monetary policy** meeting in May, 2022 had expressed concern over high food and fuel prices feeding into inflation.
 - **Ban on Wheat Export:**
 - Earlier, the government decided to ban **wheat exports**.
 - **India is the world’s second-biggest wheat producer**, and it chooses to ban export to **protect food security** for its mammoth population despite inflation concerns.
- **In Asia:**
 - **Indonesia’s ban on Palm Oil Exports:**
 - Indonesia, the **world’s biggest producer, exporter, and consumer of palm oil**, has announced that it would be banning all exports of the commodity and its raw materials to reduce domestic shortages of cooking oil and bring down its rising prices.
 - **Malaysia Halting Chicken Sales Abroad:**
 - Malaysia will halt exports of 3.6 million chickens a month from June 1 and scrap the approved

Note:



permit requirement for importing wheat until production and prices stabilize.

What is the Role of India as a Sugar Exporter?

- India is the **biggest producer of sugar in the world** and the **second largest exporter after Brazil**.
 - The move comes in a year when the country is set to register its highest-ever exports.
- About **82 lakh MT sugar** has been dispatched from **sugar mills** for export and approximately 78 lakh MT have been exported.
 - Export of sugar in the current sugar season 2021-22 is at its historic high.
- The **closing stock of sugar at the end of sugar season remains 60-65 lakh MT** which is equivalent to about three months' stocks required for domestic use.

What about the Edible Oil Economy in India?

- There are two major features which have significantly contributed to the development of this sector.
 - One was the setting up of the **Technology Mission on Oilseeds in 1986** which was converted into a **National Mission on Oilseeds and Oil Palm (NMOOP) in 2014**.
 - Further it was merged with **NFSM (National Food Security Mission)**.
 - This gave a thrust to **Government's efforts for augmenting the production of oilseeds**.
 - The **other dominant feature which has had significant impact** on the present status of edible oilseeds/oil industry has been the **program of liberalization under which the Government's economic policy allows greater freedom** to the open market and encourages healthy competition and self regulation rather than protection and control.
- The **Yellow Revolution is one of the color revolutions** that was launched to increase the production of Edible oilseeds in the country to meet domestic demand.
- The government has also launched the **Kharif Strategy 2021 for oilseeds**.
 - It will bring an **additional 6.37 lakh hectare area** under oilseeds and is likely to produce 120.26 lakh quintals of oilseeds and edible oil amounting to 24.36 lakh quintals.
- **Edible Oils Commonly Used in India:** The major edible oils consumed in the country are mustard,

soyabean, groundnut, sunflower sesame oil, niger seed, safflower seed, castor, and linseed (primary source) and coconut, palm oil, cottonseed, rice bran, solvent extracted oil, tree and forest origin oil.

Infrastructure Development in North East India

Why in News?

Recently, India's Finance Minister announced the execution of **several rail, road and air connectivity projects worth Rs. 1,34,200 crore in the northeast**.

- These projects will help in **bringing the rest of India closer to the North-East** and vice-versa.
- **Connectivity with Southeast Asian countries** will also remain an area of focus.

What are the major Infrastructure Projects in the Northeast?

- Rail, Road and Air Connectivity:
 - **4,000 km of roads, 20 railway projects** for 2,011 km and **15 air connectivity projects** are being developed.
- **Waterways Connectivity:**
 - National waterways on the Ganges, Brahmaputra and Barak rivers (**National Waterways (NW)-1 on the Ganges, NW-2 on Brahmaputra and NW-16 on Barak**) are under development to provide better connectivity.
 - As the cost of travel through water is the least when compared to air, road and rail networks, **the riverine systems of India and Bangladesh can be leveraged for all types of transportation**.
 - The number of **'Indo-Bangladesh Protocol Routes'** was increased from 8 to 10.
 - Along the Brahmaputra River, the **development of the entire area between Sadiya and Dhubri in Assam is ongoing** for improved connectivity.
 - **Multimodal hub that includes a ship repairing port at Pandu, four tourist jetties, and 11 floating terminals on the Brahmaputra** in Guwahati is under construction.
- **Eastern Waterways Connectivity Transport Grid:**
 - It will connect the northeast with the rest of India by providing 5,000 km of navigable waterways.

Note:



- **North Eastern Region Power System Improvement Project (NERPSIP):**
 - **NERPSIP** is a major step towards **economic development of the North Eastern Region** through strengthening of Intra - State Transmission and Distribution systems.
 - Government is also emphasizing on projects related to **power transmission and distribution, mobile networks, 4G, and broadband connectivity.**
- **Prime Minister's Development Initiative for North East (PM-DevINE):** It was announced in **Union Budget 2022-23**. This will fund infrastructure in the spirit of **PM Gati Shakti**, and social development projects based on felt needs of the North-East.

What is the Importance of the North-East Region?

- **Strategic Location:** The **North-East region** is strategically located with access to the traditional domestic market of eastern India, along with proximity to the major states in the east and adjacent countries such as Bangladesh and Myanmar.



- **Links with Southeast Asia:** With **Association of Southeast Asian Nations (ASEAN)** engagement becoming a central pillar of India's foreign policy direction, North-East states play an important role as the physical bridge between India and Southeast Asia.
 - The India's **Act East Policy** places the northeastern states on the territorial frontier of India's eastward engagement.
- **Economic Significance:** North-East has immense natural resources, accounting for around 34% of the country's water resources and almost 40% of India's hydropower potential.

- Sikkim is India's first **organic state**.
- **Tourism Potential:** Northeast of India is home to many wildlife sanctuaries like **Kaziranga National Park** famous for the **one horned rhinoceros**, Manas National Park, Nameri, Orang, Dibru Saikhowa in Assam, Namdapha in Arunachal Pradesh, Balpakram in Meghalaya, Keibul Lamjao in Manipur, Intanki in Nagaland, Khangchendzonga in Sikkim.
- **Cultural Significance:** Tribes in North-East have their own culture. Popular festivals include **Hornbill Festival** of Nagaland, Pang Lhabsol of Sikkim, etc.

What are the Different Government Schemes and Initiatives for North-East Region?

- **Ministry of Development of North Eastern Region (DoNER):** A Department of Development of North Eastern Region (DoNER) was established in 2001. It was elevated to a full ministry in 2004.
- **Infrastructure Related Initiatives:**
 - **Bharatmala Pariyojana (BMP)**, for road infrastructure.
 - **Regional Connectivity Scheme (RCS)-UDAN** to make flying more affordable.
- **Connectivity Projects:**
 - **Kaladan Multi-Modal Transit Project** (Myanmar) to develop water connectivity.
 - **Bangladesh-China-India-Myanmar (BCIM) Corridor.**
 - **India-Myanmar-Thailand Trilateral Highway.**
- **Tourism Promotion:**
 - **Swadesh Darshan Scheme** of the Ministry of Tourism.
- **North-East Industrial Development Scheme (NEIDS):** In order to promote employment in the North East States, the Government is incentivizing primarily the MSME Sector through this scheme.
- **The National Bamboo Mission** has a special significance for the Northeast.
- **North Eastern Region Vision 2020:** The document provides an overarching framework for the development of the North-East region to bring it at par with other developed regions under which different Ministries, including the Ministry of DoNER have undertaken various initiatives.
- **Digital North East Vision 2022:** It emphasises leveraging digital technologies to transform lives of people of the north east and enhance the ease of living.

Note:



Annual Survey of Industries (ASI)

Why in News?

Recently, provisional results of the **Annual Survey of Industries (ASI)** was released by the **Ministry of Statistics and Programme Implementation**.

- The survey was conducted **during April 2021 to January 2022 through ASI Web Portal**.

What is the ASI?

- ASI, the principal source of **industrial statistics in India**, is the **most comprehensive data on organised manufacturing**.
- It **covers all factories employing 10 or more workers** using power and those employing 20 or more workers without using power.

What are the Highlights of the Survey?

- **Increase in Factories:**
 - Factories in the country **increased by 1.7% year-on-year to 2.46 lakh in 2019-20**, employing a total of 1.3 crore workers.
- **Gross Fixed Capital Formation:**
 - **Gross fixed capital formation, an indicator of investment**, grew 20.5% to Rs 4.15 lakh crore in the organised manufacturing sector in 2019-20 as against a growth of 10.2% at Rs 3.44 lakh crore in the previous fiscal.
 - This compares with a **growth of 1.98% in the number of factories to 2.42 lakh in 2018-19** and a 1.2% growth seen in the post-**demonetisation** year of 2017-18.
 - These numbers assume significance as these are the results for the normal year of 2019-20 before the beginning of the **Covid-19 pandemic**, which affected employment growth.
 - Fixed capital **represents the depreciated value of fixed assets owned by the factory** as on the closing day of the accounting year and it **includes land including lease- hold land**, buildings, plant & machinery, furniture and fixtures, transport equipment, water system and roadways and other fixed assets such as hospitals, schools, etc. used for factory workers.

➤ Employment in the Corporate Sector:

- **Corporate Sector:**
 - Employment in the corporate sector, which includes public and private government and non-government companies, **increased 5.5% to 97.03 lakh in 2019-20**, while that in individual proprietorship declined 3.1% to 11.36 lakh.
- **In Partnership:**
 - Employment in the **partnership sector fell by 11.7% to 18.58 lakh** in 2019-20 while that for limited liability partnership grew 42% to 1.22 lakh.
- **Employment of Workers:**
 - Among states, **Tamil Nadu showed the highest number of employment of workers** in 2019-20, followed by Maharashtra and Gujarat.

➤ Total Wages Paid:

- **Total wages paid to workers grew 6.3% in 2019-20** as against a wage growth of 11.9% in previous fiscal.
- Wages to factory workers in the **corporate sector rose by 7.7% in 2019-20**.
 - Workers figures include all **persons employed directly or through any agency whether for wages** or not and engaged in any manufacturing process or in cleaning any part of the machinery or premises used for manufacturing process or in any other kind of work connected with the manufacturing process.

First Lavender Festival

Why in News?

Recently, India's First Lavender festival was inaugurated in Jammu's Baderwah.

- Lavender cultivation has generated employment for about 5,000 farmers and young entrepreneurs in Jammu & Kashmir remote areas. Over 1,000 farming families cultivating it on 200 acres.

What is the Lavender Revolution?

➤ About:

- The Purple or Lavender Revolution was **launched in 2016 by the Union Ministry of Science & Technology** through the **Council of Scientific & Industrial Research (CSIR) Aroma Mission**.
- Lavender cultivation is practised in almost all the 20 districts of Jammu & Kashmir.

Note:



- Under the mission, **first-time farmers were given free lavender saplings**, while those who had cultivated lavender before were **charged Rs. 5-6 per sapling**.
- **Aim:**
 - To support domestic aromatic crop based agro economy by moving from imported aromatic oils to homegrown varieties.
- **Products:**
 - Main product is Lavender oil which sells for at least Rs. 10,000 per litre.
 - Lavender water, which separates from lavender oil, is used to make incense sticks.
 - **Hydrosol**, which is formed after distillation from the flowers, is used to make soaps and room fresheners.
- **Significance:**
 - It is in sync with the government policy of **doubling farm incomes** by 2022.
 - It will help in providing means of livelihood to budding farmers and agri-entrepreneurs and give a boost to **Start-Up India campaign** and promote a spirit of entrepreneurship in the region.
 - Over 500 youth had taken benefit from the purple revolution and augmented their income many-fold.

What is an Aroma Mission?

- **About:**
 - The CSIR Aroma Mission is **envisaged to bring transformative change in the aroma sector** through desired interventions in the areas of agriculture, processing and product development for fuelling the growth of aroma industry and rural employment.
 - The mission will **promote the cultivation of aromatic crops for essential oils** that are in great demand by the aroma industry.
 - It is expected to enable Indian farmers and the aroma industry to become global leaders in the production and export of some other essential oils in the pattern of menthol mint.
 - It aims to provide substantial benefits to the farmers in achieving higher profits, utilisation of waste lands and protection of their crops from wild and grazing animals.
- **Aroma Mission Phase-I and II:**

- During Phase-I, CSIR helped cultivate 6000 hectares of land and covered 46 Aspirational districts across the country. Further, more than 44,000 people were trained.
- In February 2021, CSIR launched Phase-II of Aroma Mission in which it is proposed to engage over 45,000 skilled human resources and will benefit more than 75,000 farming families across the country.
- **Nodal Agencies:**
 - The nodal laboratory is CSIR-Central Institute of Medicinal and Aromatic Plants (CSIR-CIMAP), Lucknow.
- **Intended Outcomes:**
 - Bring about 5500 ha of additional area under captive cultivation of aromatic cash crops particularly targeting rain-fed / degraded land across the country.
 - Provide technical and infrastructural support for distillation and values-addition to farmers/growers all over the country.
 - Enabling effective buy-back mechanisms to assure remunerative prices to the farmers/growers.
 - Value-addition to essential oils and aroma ingredients for their integration in global trade and economy.

Economic Impact of School Shutdown during Covid-19

Why in News?

According to an **Asian Development Bank (ADB) paper**, the **Gross Domestic Product (GDP) of India** is likely to see the **highest decline in South Asia due to Covid-19 related school-shutdown**.

- **School closures** led to the **contraction in global GDP and employment**. This scenario is **expected to aggravate further with time**.
- India is among those countries that had the **longest school closures during the Covid-19 pandemic**.

What will be the key impact on Economy?

- **Global Scenario:**
 - Impact on GDP:
 - GDP has been projected to **decline to 0.19% in 2024, 0.64% in 2028, and 1.11% in 2030** with a total estimate of \$943 billion.

Note:



- **Impact on Skilled Labour:**
 - School closures will **deny about 5.44 million people around the world employment in the skilled labor force by 2030.**
 - Employment is **likely to decline to 0.05% in 2024, 0.25% in 2026, and 0.75% in 2030** with a total loss of wages amounting to \$94.86 billion.
- **Impact on Unskilled Labour:**
 - Employment is **estimated to decline to 0.22% in 2025, 0.51% in 2027, and 1.15% in 2030.**
 - Nearly **35.69 million people would migrate towards the unskilled labour-force** amounting to \$121.54 billion lost wages in 2030.
- **Different Impact on Different Economies:**
 - Across Asia, **worst-hit economies** include those with **significant student populations from rural areas and those in the poorest and second wealth quintile.** This is due to internet connectivity issues, therefore, inaccessibility to online education.
 - **As many impacted students shifted to unskilled labour-force, the economies with high share of unskilled labour employment experienced significant learning and earning losses.**
- **Indian Scenario:**
 - **Impact on GDP:**

What is Gross Domestic Product?

- **GDP is a measure of economic activity** in a country. It is the **total value of a country's annual output of goods and services.** It gives the economic output from the consumers' side.
- $GDP = \text{Private consumption} + \text{Gross investment} + \text{Government investment} + \text{Government spending} + (\text{exports} - \text{imports})$

What is Asian Development Bank?

- **ADB is a regional development bank established in 1966.**
- It has **68 members. India is a founding member.** 49 are from within Asia and the Pacific and 19 outside.
- It **aims** to promote social and economic development in Asia and the Pacific.
- As of 31st December 2020, **ADB's five largest shareholders** are **Japan** and the **United States** (each with 15.6% of total shares), the People's Republic of **China** (6.4%), **India** (6.3%), and **Australia** (5.8%).
- It is **headquartered in Manila, Philippines.**

- In percentage terms, its **GDP will decrease by 0.34% in 2023, 1.36% in 2026, and 3.19% in 2030.**
- **By 2030, India will account for 10% of the global GDP decline of \$943 billion.**
- **Impact on Labour:**
 - At present, India's workforce comprises **408.4 million unskilled and 72.65 million skilled labour force.**
 - A **significant migration towards unskilled work force** is likely to happen with **1% and 2% decline in skilled and unskilled labour jobs**, respectively.

World Bee Day

Why in News?

World Bee Day is celebrated annually on 20th May.

- Earlier, the **Khadi and Village Industries Commission (KVIC)** had launched the **country's first Mobile Honey Processing Van** at Village in Uttar Pradesh.

What do we Know about World Bee Day?

- **About:**
 - The day marks the **birth anniversary of Anton Janša**, a pioneer of modern apiculture.
 - Anton Janša hailed from a **family of beekeepers in Slovenia**, where beekeeping is an important agricultural activity with a long-standing tradition.
 - Anton enrolled in the **first bee-keeping school in Europe** and worked full-time as a beekeeper.
 - His book 'Discussion on Bee-keeping' was also published in German.
- **Theme for 2022:**
 - Bee Engaged: Celebrating the diversity of bees and beekeeping systems.

What is the Significance of Beekeeping?

- **Most Important Pollinators:**
 - Bees are **some of the most important pollinators, ensuring food and food security**, sustainable agriculture, and biodiversity.
- **Contribute to the Mitigation of Climate Change:**
 - Bees **significantly contribute to the mitigation of climate change** and the conservation of the environment.
 - In the long-term, the protection of bees and the beekeeping sector can help reduce poverty and

Note:



hunger, as well as preserve a healthy environment and biodiversity.

- **Sustainable Agriculture and Creating Rural Jobs:**
 - Beekeeping is **also important in terms of sustainable agriculture and creating rural jobs.**
 - By pollinating, they **increase agricultural production, thus maintaining diversity and variety in the fields.**
 - In addition, **they provide millions of people with jobs** and are an important source of farmers' income.
- **Achieving India's Target of Doubling Farmers Income:**
 - As per **Food and Agricultural Organization** database, in 2017-18, **India ranked eighth in the world in terms of honey production** (64.9 thousand tonnes) while China stood first with a production level of 551 thousand tonnes.
 - Further, **beekeeping can be an important contributor in achieving the 2022 target of doubling farmer incomes.**

What is the Status of the Apiculture in India?

- The globally apiculture market is **estimated to register a Compounded Annual Growth Rate (CAGR) of 4.3% during the period 2020–25**, with Asia–Pacific as the dominant producer.
- The Indian apiculture market size is expected to reach a value of Rs 33,128 million by 2024, expanding at a CAGR of nearly 12% by 2024.
- India is the sixth major natural honey exporting country.
 - During 2019-20, the recorded export of natural honey was 59,536.75 MT for Rs 633.82 crore. The major export destinations were the **USA, Saudi Arab, Canada, and Qatar.**
 - The demand for organic honey in the international market could be leveraged for promoting organic beekeeping guidelines.
- For propagating the sector, **the landscape for beekeeping and the species** could be expanded on a commercial scale.

What are Related Initiatives?

- **'Sweet Revolution':**
 - It is an ambitious initiative of the Government of India for **promoting apiculture, popularly known as 'beekeeping'.**

- To provide a booster shot to Sweet Revolution, the government launched the **National Beekeeping and Honey Mission in 2020** (under the Ministry of Agriculture and Farmers Welfare).

- **National Beekeeping and Honey Mission** aims to **establish 5 big regional and 100 small honey and other Bee Products testing laboratories.**
- Out of the total target, **3 world class state-of-the-art laboratories have been setup**, whereas 25 small laboratories are in the process of being set up.

➤ **Assistance for Setting up of Processing Units:**

- India is also **providing assistance to the beekeepers for setting up of Processing Units.**
- **More than 1.25 lakh metric tonnes of honey** is being produced in the country, out of which more than 60 thousand metric tonnes of natural honey is exported.

➤ **Adopting Scientific Techniques:**

- In order to bring qualitative upgradation of domestic honey to attract the world market, the Government of India and the State Governments are making concerted efforts and focusing on capacity building of beekeepers for production of honey by adopting scientific techniques.

What do we need to know about Bee?

- There are almost **20,000 different species** of bees in the world.
- Bees live in colonies and in each colony, there are three types of bees, the queen bee, the worker bee, and the drone.
 - The worker and the queen bee both are females, but only the queen bee can reproduce. All drones are male.
- The worker bees clean the hive, collect pollen and nectar to feed the colony and take care of the offspring. The drone only mates with the queen bee.
- **India is home to four of the seven known bee species.**
 - Two of these are domesticated, **Apis cerana (oriental honey bee)** and **Apis mellifera (European honey bee)**, and the other two are wild, **Apis dorsata (giant/rock honey bee)** and **Apis florea (dwarf honey bee).**



International Relations

Highlights

- *Twin Hurdles Hinder India's Maritime Role*
- *Chinese Bridge on Pangong Tso*
- *Nagorno-Karabakh Region*
- *India-Nepal: Recent Developments*
- *NATO Membership for Finland and Sweden*
- *WHO Reforms*
- *BRICS High Level Meeting on Climate Change*
- *SCO 'Regional Anti-Terrorist Structure (RATS)' Meeting*
- *Investment Incentive Agreement (IIA)*
- *Indo-Pacific Economic Framework*
- *Bongosagar Exercise*
- *India-Canada Science and Technology Cooperation*
- *India's Trade with the USA*
- *US-Taiwan Relations*
- *Bilateral Security and Defence Cooperation: Indo-Japan*
- *India and Senegal*

Twin Hurdles Hinder India's Maritime Role

Why in News?

Recently, **QUAD grouping** consisting of India, Australia, Japan and the US rolled out an **Indo-Pacific Maritime Domain Awareness (MDA) initiative** for information sharing and maritime surveillance across the Indo Pacific region.

- But **Infrastructure constraints and continued delay in posting Indian liaison officers** limit India's ability to further expand its role.

What is the Indo Pacific Maritime Domain Awareness Initiative (IPMDA)?

- The **IPMDA initiative was announced at the Quad Leaders' Summit in Tokyo, 2022 to track "dark shipping"** and to build a "faster, wider, and more accurate maritime picture of near-real-time activities in partners' waters" **integrating three critical regions in the Indo-Pacific — the Pacific Islands, Southeast Asia, and the Indian Ocean Region (IOR).**
 - **Dark ships** are vessels with their Automatic Identification System (AIS) - a transponder system - switched off so as not to be detectable.
- It will **also allow tracking other tactical-level activities**, such as rendezvous at sea, as well as improve partners' ability to respond to climate and humanitarian events and to protect their fisheries, which are vital to many Indo-Pacific economies.

- The IPMDA will **help QUAD countries as well as littoral states in the backdrop of expanding Chinese naval presence** across the region.
- This will **further increase the existing role of Indian Liaison Officers** in building linkages with various agencies in their home countries.

What are the Two Issues that Limit India's Role?

- **Infrastructure Constraints:** This includes not only shipbuilding and ship repair but also modernisation and hinterland connectivity through rail and road network for integrated development of both the coastal and the interior regions of India.
 - It also includes coastal shipping. Due to infrastructure constraints, India cannot induct the postings of **International Liaison Officers (ILO)** at the **Indian Navy's Information Fusion Centre-Indian Ocean Region (IFC-IOR).**
 - India has signed **white shipping exchange agreements** with 22 countries and one multi-national grouping.
 - The white shipping information refers to an exchange of relevant advance information on the identity and movement of commercial non-military merchant vessels.
 - Ships can be classified into white (commercial ships), grey (military vessels), and black (illegal vessels).
 - It is not just important to have ILOs in India, but also equally important that Indian Navy officers be posted at similar centers in other countries.

Note:



- **Continued Delay in Posting Indian Liaison Officers** at other facilities and centers in the region:
 - Proposals to post Indian Naval Liaison Officers (LO) at the Regional Maritime Information Fusion Centre (RMIFC), Madagascar, and the Regional Coordination Operations Centre, Seychelles, have been pending for more than two years.
 - Another proposal to post an LO at the European-led mission in the **Strait of Hormuz** (EMASOH) in Abu Dhabi has also not been approved so far.
 - There is a **delay in continuing the present LOs** as well. For instance, India has had an LO at the IFC in Singapore since 2009.

What is the Information Fusion Centre – Indian Ocean Region (IFC-IOR)?

- The Information Fusion Centre – Indian Ocean Region (IFC-IOR) hosted by the Indian Navy, was established by the Government of India at Gurugram in December 2018 to further Maritime Safety and Security in the Indian Ocean Region.
- IFC-IOR was envisaged to address the very need to promote collaboration for maritime safety and security in view of the region's importance with respect to world trade and security.
- Since its inception, the Centre has established working level linkages with more than 50 nations and multinational/ maritime security centers.

Chinese Bridge on Pangong Tso

Why in News?

Recently, the Ministry of External Affairs has confirmed that China is building a second bridge on the **Pangong Tso lake**.

- The site of the bridge is **around 20 km east of Finger 8 on the lake's north bank** – where the **Line of Actual Control (LAC)** passes.
- However, the actual distance by road is more than 35 km between the bridge site and Finger 8.



What are the Key Points?

- The construction site is just **east of Khurnak Fort**, where **China has major frontier defence bases**.
- China calls it **Rutong Country**.
- It has a frontier defence company at the Khurnak Fort, and further east, a water squadron deployed at Banmozhang.
- Although it is being built in territory that is under China's control since 1958, the exact point is just west of India's claim line.
- The Ministry of External Affairs considers the area as illegally occupied by China.

How will these Constructions Help China?

- The bridges are at one of the narrowest points on the lake, close to the LAC.
- These constructions will connect both sides of the lake, which would significantly cut down time for the **People's Liberation Army (PLA)** to move troops and armored vehicles.
- The induction of troops from the **G219 highway (Chinese national highway)** would come down by 130 km due to this bridge.

Pangong Tso

- Pangong Tso is a 135-km long landlocked lake located at an altitude of over 14,000 feet i.e., 4350 m above sea level.
- Indian and China have around one-third and two-thirds of Pangong Tso Lake respectively.
 - India has around 45 km of Pangong Tso under its control while approximately 60% of the lake, in terms of length, lies in China,
 - The eastern end of Pangong Tso lies in Tibet.
- The lake, a glacial melt, has mountain spurs of the Chang Chenmo range jetting down, referred to as **fingers**.
- It is **one of the highest altitude lakes** in the world that is filled with **saline water**.
 - However, even though it is a saline water lake, Pangong Tso freezes completely.
 - The brackish water of this region has very low micro-vegetation.
 - No aquatic life or fish, except crustaceans during winters are found.

Note:



- It is a kind of **endorheic basin**, which implies that **it retains its water and does not allow outflow of its water to other external water bodies**, such as oceans and rivers.
- Pangong Tso is **popular for its changing colour ability**.
 - Its colour changes from shades of **blue to green to red**.

Why does China choose this Location?

- The constructions are a direct outcome of the ongoing standoff that began in May 2020.
- The location is the consequence of an operation conducted by the Indian Army in August 2020 where Indian troops outmaneuvered the People's Liberation Army to occupy the heights of **Kailash Range** in the Chushul sub-sector on the south bank of Pangong Tso.
- The positions allowed India to dominate the strategically significant Spanggur Gap, which could be used to launch an offensive as China had done in 1962.
- Also, India got a direct view of **China's Moldo Garrison (China's military base)**. **This was a cause of immense concern for the Chinese.**
- After this operation, the Indian Army also readjusted on the lake's north bank to position themselves above Chinese positions.
- The **north bank** was one of the first friction points to have come up in May 2020.
 - During this jostling, warning shots were fired for the first time by both sides, a first in over four decades.
- New bridge will allow Chinese troops to slash travel time from around 12 hours at the moment to around four hours.

What is the Current Situation in the Standoff?

- India and China pulled their troops back from Patrolling Point (PP) 14 in Galwan Valley in June 2020, after the fatal clashes.
- Then they disengaged from the north and south banks of Pangong Tso in February 2021, and from PP17A near Gogra Post in August. But negotiations have been stuck since then.
- The Corps Commanders from both sides have met 15 times since the standoff began.
- The dates for the next round of talks are still awaited.



What has been India's response?

- India is monitoring all Chinese activity closely.
- India has never accepted such illegal occupation and the unjustified Chinese claim or such construction activities in India's territory.
- India is also upgrading and developing infrastructure along the northern border.
- In 2021, over 100 projects were completed by the **Border Roads Organisation (BRO)** in the border areas, most of which were close to the China border.
- India is **also improving surveillance** along the LAC

Nagorno-Karabakh Region

Why in News?

Recently, protests against **possible concessions by Armenia over Nagorno-Karabakh** which is disputed with neighboring Azerbaijan, **have increased**.

- In September 2020, clashes broke out that rapidly escalated to become the deadliest since the 1990s.

What is Nagorno-Karabakh Region?

- **About:**
 - Nagorno-Karabakh is a **mountainous and heavily forested region** that under international law is recognised as part of Azerbaijan.
 - However, **ethnic Armenians who constitute the vast majority** of the population there reject Azeri rule (the legal system of Azerbaijan).
 - After **Azerbaijan's troops were pushed out of the region** following a war in the 1990s, these ethnic Armenians have been in administrative control of Nagorno-Karabakh, with support from Armenia.
- **Strategic Significance:**

Note:



- The energy-rich Azerbaijan has **built several gas and oil pipelines across the Caucasus** (the region between the **Black Sea** and the **Caspian Sea**) to Turkey and Europe.
- **Some of these pipelines pass close to the conflict zone** (within 16 km of the border).
- In an open war between the two countries, **the pipelines could be targeted**, which would impact energy supplies and may even lead to higher oil prices globally.



What is the Genesis of the Conflict?

- **Background of the Conflict:** The conflict can be traced back to the pre-Soviet era when the region was at the meeting point of Ottoman, Russian and the Persian empires.
 - Once Azerbaijan and Armenia became Soviet Republics in 1921, Russia (erstwhile Soviet Union) gave Nagorno-Karabakh to Azerbaijan but offered autonomy to the contested region.
 - In the 1980s, when the Soviet power was receding, separatist currents picked up in Nagorno-Karabakh. In 1988, the national assembly voted to dissolve the region's autonomous status and join Armenia.
 - However, Azerbaijan suppressed such calls, which led to a military conflict.
- **Flash Point of Conflict:** The self-declaration of independence by Nagorno-Karabakh in September 1991 in the backdrop of an imminent collapse of the USSR resulted in a war between Azerbaijan and Nagorno-Karabakh — supported by Armenia.
- **Ceasefire:** This clash lasted till a ceasefire agreement was reached in 1994, mediated largely by Russia. Since then, the **Organization for Security and Co-operation in Europe (OSCE) Minsk Group** co-chaired by the USA, Russia and France have engaged Azerbaijan and Armenia extensively to resolve the conflict.

- By that time, Armenia had taken control of Nagorno-Karabakh and handed it to Armenian rebels.

What is the Role of India?

- With Armenia, India has a friendship and cooperation treaty (signed in 1995), which, incidentally, would prohibit India from providing military or any other assistance to Azerbaijan.
- In the case of Azerbaijan, ONGC/OVL has made investments in an oilfield project in Azerbaijan and GAIL is exploring the possibilities of cooperation in LNG.
 - Azerbaijan also falls on the **International North South Transport Corridor (INSTC) route**, connecting India with Russia through Central Asia.
 - It can also connect India with Turkey and beyond through the **Baku-Tbilisi-Kars passenger and freight rail link**.
- Armenia extends its unequivocal support to India on Kashmir issue whereas Azerbaijan not only opposes but also promotes Pakistan's narrative on this issue.
- India does not have a publicly articulated policy for the South Caucasus — **unlike "Neighbourhood First", "Act East" or "Central Asia Connect"**.
 - The region has remained on the periphery of its foreign policy radar.

India – Nepal: Recent Developments

Why in News?

Recently, the Indian Prime Minister has visited Lumbini, Nepal, the birthplace of Buddha, where he laid a foundation stone along with Nepalese Prime Minister for a **Buddhist Vihara, being built with Indian assistance**.

- The PM celebrated the **2566th Buddha Jayanti celebrations** and addressed a gathering of people, including Buddhist scholars and monks, from Nepal and India.
- The PM praised Nepal for **preserving its ancient culture and civilisation**. India-Nepal relation is as strong and as ancient as the Himalayas.

What are the Highlights of the Visit?

- **International Centre for Buddhist Culture and Heritage:**
 - He performed the 'shilanyas' ceremony to launch the **construction of the India International Centre**

Note:



for Buddhist Culture and Heritage in the Lumbini Monastic Zone.

- The centre will be a world-class facility welcoming pilgrims and tourists from all over the world to enjoy the essence of spiritual aspects of Buddhism.
- The facility is aimed at catering to scholars and Buddhist pilgrims from all over the world who visit Lumbini.



➤ Hydropower Projects:

- The two leaders signed five agreements, including one between the Satluj Jal Vidyut Nigam (SJVN) Ltd and the Nepal Electricity Authority (NEA) for development and implementation of 490.2 megawatts Arun-4 hydropower project.
- Nepal also invited Indian companies to invest in the West Seti hydropower project in Nepal.

➤ Setting up a Satellite Campus:

- India has offered to set up a satellite campus of the Indian Institute of Technology (IIT) in Rupandehi and has sent some draft memoranda of understanding for signing between Indian and Nepali universities.

➤ Pancheshwar Multipurpose Project:

- Nepal discussed some pending projects like the Pancheshwar Multipurpose Project, an important arm of the Mahakali Treaty signed between Nepal and India in 1996, and West Seti Hydropower Project, a reservoir-type project with a projected capacity of 1,200 megawatts.

How have been India's Ties with Nepal?

- The India-Nepal Treaty of Peace and Friendship of 1950 forms the bedrock of the special relations that exist between India and Nepal.
- Nepal is an important neighbour of India and occupies special significance in its foreign policy because of

the geographic, historical, cultural and economic linkages/ties that span centuries.

- India and Nepal share similar ties in terms of Hinduism and Buddhism with Buddha's birthplace Lumbini located in present day Nepal.
- In recent years, India's relations with Nepal have witnessed some 'lows'. The relationship between the two took a nosedive in 2015, with India first getting blamed for interfering in the Constitution drafting process and then for an "unofficial blockade" that generated widespread resentment against India.
- In 2017, Nepal signed up to China's Belt and Road Initiative (BRI), which sought to create highways, airports and other infrastructure in the country. BRI was rejected by India and this move of Nepal was seen as an inclination towards China.
- In 2019, Nepal released a new political map claiming Kalapani, Limpiyadhura and Lipulekh of Uttarakhand and the area of Susta (West Champaran district, Bihar) as part of Nepal's territory.

What are the Irritants in India-Nepal Ties?

- Territorial Disputes: One of the main irritants in the Indo-Nepal ties is the Kalapani boundary issue. These boundaries had been fixed in 1816 by the British, and India inherited the areas over which the British had exercised territorial control in 1947.
 - While 98% of the India-Nepal boundary was demarcated, two areas, Susta and Kalapani remained in limbo.
 - In 2019, Nepal released a new political map claiming Kalapani, Limpiyadhura and Lipulekh of Uttarakhand and the area of Susta (West Champaran district, Bihar) as part of Nepal's territory.
- Issues with Peace and Friendship Treaty: The 1950 Treaty of Peace and Friendship was sought by the Nepali authorities in 1949 to continue the special links they had with British India and to provide them an open border and the right to work in India.
 - But today, it is viewed as a sign of an unequal relationship, and an Indian imposition.
 - The idea of revising and updating it has found mention in Joint Statements since the mid-1990s but in a sporadic and desultory manner.
- The Demonetisation Irritant: In November 2016, India withdrew Rs 15.44 trillion of high value (Rs 1,000 and Rs 500) currency notes. Today, over Rs 15.3 trillion has been returned in the form of fresh currency.

Note:



- Yet, many Nepali nationals who were legally entitled to hold Rs 25,000 of Indian currency (given that the Nepali rupee is pegged to the Indian rupee) were left high and dry.
- The Nepal Rastra Bank (central bank of Nepal) holds Rs 7 crore and estimates of public holdings are Rs 500 crore.
- India's refusal to accept demonetised bills with the Nepal Rastra Bank and the unknown fate of the report submitted by the Eminent Persons Group (EPG) have not helped in securing it a better image in Nepal.

NATO Membership for Finland and Sweden

Why in News?

Recently, Finland and Sweden have shown interest to join the **North Atlantic Treaty Organization (NATO)**.



Why are Sweden and Finland Not NATO Members?

- **Finland:**
 - It has stayed out of such alliances because it **always wanted to maintain cordial relations with its neighbour, Russia.**
 - For a long time, the idea of not joining NATO or getting **too close to the West was a matter of survival** for the Finns.
 - However, the change in perception and an overwhelming support to join NATO came about following the Russian invasion of Ukraine.
- **Sweden:**

- Unlike Finland, whose policy stance was a matter of survival, Sweden has been opposed to joining the organisation for ideological reasons.

What would a Membership mean and will it Benefit NATO as well?

- **Give Security Guarantee:**
 - Being a member of NATO will **give the nations a security guarantee** under the alliance's **"Article 5" on collective defence.**
 - The article essentially guarantees a **military response and protection by NATO countries** if any member of the organisation comes under attack.
- **Strengthen the Alliance's Position:**
 - Finland's **geographical location plays in its favour** as once it becomes a member, the length of borders Russia shares with NATO would double and it would also **strengthen the alliance's position in the Baltic Sea.**
- **Counter Russia's Aggression:**
 - More sovereign powers siding with the west and increasing its strength is a direct blow to Russia.
 - If Sweden and Finland do join NATO, especially under these circumstances, **"it would show Russia that the war is counterproductive** and it only strengthens Western unity, resolve and military preparedness".

How have Russia and other Countries Reacted?

- **Russia:**
 - Russia threatened to **take military measures if the membership goes through** and warned Finland to be aware of the consequences of this move.
- **European and US:**
 - **European Nations** and the United States have welcomed the announcement.
 - Norway and Denmark have said they will push for NATO admission faster.
 - Until the membership is formally accepted, the US stated it is prepared to provide any necessary defence support or address any concerns.
- **Turkey:**
 - Turkey opposes Finland and Sweden joining NATO.
 - The Turkish government claimed that it could use its membership in the Western alliance to veto moves to admit the two nations.

Note:



- The Turkish government cited Sweden and other Scandinavian countries for supporting Kurdish militants and other groups it considers terrorist.

What is NATO?

- It is a military alliance established by the North Atlantic Treaty (also called the Washington Treaty) of April, 1949, by the United States, Canada, and several Western European nations to provide collective security against the **Soviet Union**.
- There are currently 30 member states.
 - Its **original members were** Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom, and the United States.
 - Joining the original signatories were **Greece and Turkey** (1952), **West Germany** (1955, from 1990 as Germany), **Spain** (1982), the **Czech Republic, Hungary, and Poland** (1999), **Bulgaria, Estonia, Latvia, Lithuania, Romania, Slovakia, and Slovenia** (2004), **Albania and Croatia** (2009), **Montenegro** (2017), and **North Macedonia** (2020).
 - France withdrew from the integrated military command of NATO in 1966 but remained a member of the organization, it resumed its position in NATO's military command in 2009.
- **Headquarters:** Brussels, Belgium.
- **Headquarters of Allied Command Operations:** Mons, Belgium.

What are the Objectives of NATO?

- NATO's essential and enduring purpose is to **safeguard the freedom and security** of all its members by political and military means.
 - **Political objectives:** NATO promotes democratic values and enables members to consult and cooperate on defense and security-related issues to solve problems, build trust and, in the long run, prevent conflict.
 - **Military Objectives:** NATO is committed to the peaceful resolution of disputes. If diplomatic efforts fail, it has the military power to undertake crisis-management operations.
 - These are carried out under the collective defence clause of NATO's founding treaty - Article 5 of the Washington Treaty or under a United Nations mandate, alone or in cooperation with other countries and international organisations.

- NATO has only once invoked Article 5, on 12th September 2001 following the 9/11 attacks on the World Trade Center in the US.

WHO Reforms

Why in News?

Recently, the Prime Minister addressed the **Second Global Covid Virtual Summit** of the **World Health Organisation (WHO)**, where he emphasized on WHO Reforms.

- The Indian government has repeatedly raised the need to reform WHO at multilateral forums such as the **G20** and **BRICS** this year (2021-22). India's calls for WHO reforms, especially after the body's initial handling of the Covid-19 pandemic, **have been backed by countries around the world**.

What are the Reforms Suggested by India?

- **Strengthening the Public Health Emergency of International Concern (PHEIC) declaration process:**
 - It is important to devise **objective criteria with clear parameters for declaring PHEIC**.
 - The **emphasis must be on transparency and promptness** in the declaration process.
 - A PHEIC **implies a situation** that is:
 - Serious, sudden, unusual or unexpected;
 - Carries implications for public health beyond the affected State's national border; and
 - May require immediate international action.
- **Funding:**
 - Most of the financing for Programmatic Activities of the WHO comes from extra budgetary contributions, which though voluntary in nature, are normally earmarked. The WHO enjoys very little flexibility in the use of these funds.
 - There is a **need to ensure that extra budgetary or voluntary contributions are unearmarked to ensure that the WHO has the necessary flexibility for its usage in areas** where they are required the most.
 - There is also a **need to look at increasing the regular budget of the WHO so that most of the core activities of the WHO are financed** from it, without putting an overwhelming financial burden on developing countries.

- **Ensuring transparency of funding mechanism and accountability framework:**
 - There is **no collaborative mechanism** wherein the actual projects and activities are decided in consultation with member states, there is no review with respect to value for money and whether projects are being done as per the member states priorities or if there are abnormal delays.
 - Establishing strong and robust financial accountability frameworks will enable maintaining integrity in financial flows.
 - It is also **crucial to establish a significant amount of transparency with respect to data reporting and disbursement of funds for increased accountability.**
- **Enhancement of the Response Capacities of the WHO and Member States:**
 - Implementation of the IHR 2005 has highlighted critical gaps in the basic health infrastructure of member States. This has become more evident in their dealing with COVID 19 pandemic.
 - It is important that the **programmatic activities carried out by the WHO, under its General Programme of Work**, should focus on **building and strengthening capacities in member states as required under IHR 2005**, which are found lacking or deficient on the basis of the self-reporting on IHR 2005 done by the Member States.
- **Improvement of the WHO's Governance Structure:**
 - Being a technical Organisation, most of the work in WHO is done in Technical Committees composed of independent experts. Moreover, considering the growing risks associated with emergence of disease outbreaks the role of the Independent Oversight and Advisory Committee (IOAC), responsible for the performance of the WHO Health Emergencies Programme (WHE), becomes extremely crucial.
 - It is important that the **member States have a greater say in the functioning of the WHO**, given that it is the States which are responsible for implementation on the grounds of the technical advice and recommendations coming from the WHO.
 - There is a need to **devise specific mechanisms like a Standing Committee of the Executive Board to ensure effective supervision by member States.**
- **Improvement in IHR Implementation:**
 - The Member States have a **self-reporting obligation under IHR (International Health Regulations)**

2005. However, review of IHR implementation is voluntary.

- IHR (2005), represents a binding international legal agreement involving 196 countries across the globe, including all the Member States of the WHO.
- Their aim is to help the international community prevent and respond to acute public health risks that have the potential to cross borders and threaten people worldwide.
- The review of the **IHR implementation should continue to be on a voluntary basis.**
- It is critical to **accord priority to enhance international cooperation, which should be directed at aiding** developing countries in areas which they have been identified as lacking the necessary capacity to implement the IHR.
- **Access to Therapeutics, Vaccines and Diagnostics:**
 - It has been felt that the **TRIPS flexibilities** provided for public health, under Doha Declaration, may not be sufficient to deal with crises such as Covid-19 pandemic.
 - It is important **to ensure fair, affordable, and equitable access to all tools for combating Covid-19 pandemic** and, therefore, the need to build a framework for their allocation.
- **Creation of Global Framework for Management of Infectious Diseases & Pandemics:**
 - There is a need to create a monitoring mechanism and support to member states on International Health Regulations, preparedness of infrastructure, human resources and relevant health systems capacities such as testing and surveillance systems.
 - Enhancement of capacities of countries in preparation for and response to infectious diseases of pandemic potential, including guidance on effective public health and economic measures for health emergencies by leveraging a multidisciplinary approach which includes social science alongside health and natural sciences.
- **Role of Hosted Partnerships in Pandemic Management:**
 - The risks imposed on humankind by new influenza viruses causing more disease outbreaks are very real.
 - There is an urgent need for the global community to address this issue by making bold efforts and ensuring vigilance and preparedness in our healthcare systems.

Note:



- The primary objective should be to improve capacity for global pandemic prevention, preparedness, and response, and strengthening our ability to fight back any such pandemic in future.

BRICS High Level Meeting on Climate Change

Why in News?

Recently, the Union Minister of Environment, Forest and Climate Change participated in the **BRICS** high-level meeting on Climate Change where he highlighted the **relevance of the forum to jointly address climate change, to explore approaches to accelerate low-carbon and resilient transition, and to achieve sustainable recovery and development.**

- The Meeting was chaired by People's Republic of China and was attended by Environment Ministers of **BRICS nations including Brazil, Russia, India and South Africa.**

What are the Highlights of the Meeting?

- India underscored its commitment to **strong climate action including the promotion of sustainable lifestyles based on mindful consumption and reduction of waste.**
- India is today leading by example by taking several robust steps in the field of renewable energy, sustainable habitats, creation of **carbon sinks** through additional forest and tree cover, transition to sustainable transport, **E-mobility**, mobilizing the private sector to make climate commitments, etc.
- India has progressively **continued decoupling economic growth from greenhouse gas emissions.**
- Ambitious implementation of climate actions by developing countries is contingent on the ambitious and adequate delivery of climate finance, technology transfer, and other implementation support, as mandated by the **United Nations Framework Convention on Climate Change (UNFCCC)** and the **Paris Agreement.**
- BRICS nations expressed optimism towards the **delivery of climate finance as per the Glasgow decision and the Climate Finance Delivery Plan released by the COP 26 Presidency.**
- BRICS Environment Ministers **expressed commitment to strengthen collaboration on climate change and broaden and deepen the contents of cooperation.**

- Further, the countries agreed to **carry out policy exchanges and cooperation in areas of environment and climate change.**

What is BRICS?

- BRICS is an acronym for the grouping of the world's leading emerging economies, namely **Brazil, Russia, India, China, and South Africa.**
 - In 2001, the British Economist Jim O'Neill coined the term BRIC to describe the four emerging economies of Brazil, Russia, India, and China.
 - The grouping was formalised during the first meeting of BRIC Foreign Ministers' in 2006.
 - South Africa was invited to join BRIC in December 2010, after which the group adopted the acronym BRICS.
- The BRICS **brings together five of the largest developing countries of the world, representing 41% of the global population, 24% of the global GDP and 16% of the global trade.**
- The chairmanship of the forum is rotated annually among the members, in accordance with the acronym B-R-I-C-S.
 - **India was the chair for 2021.**
- During the Sixth BRICS Summit in Fortaleza (Brazil) in 2014, the leaders signed the Agreement establishing the **New Development Bank (NDB - Shanghai, China).** They also signed the BRICS Contingent Reserve Arrangement to provide short-term liquidity support to the members.

SCO 'Regional Anti-Terrorist Structure (RATS)' Meeting

Why in News?

Recently, a meeting held between the member nations of the **SCO** under the framework of the **SCO's Regional Anti-Terrorist Structure (RATS)**. It is the first such meeting in India since Russia's evasion of Ukraine and China's transgression along the Line of actual control.

- In the SCO-RATS meeting agenda to boost cooperation in fighting different global and regional security challenges have been discussed.
- **India was the chairman** of the Council of Regional Anti-Terrorist Structure of SCO (RATS SCO).

What is the Agenda Discussed in the Meeting?

- Situation of Afghanistan and security concerns raised due to the fall of Afghanistan in the hands of the Taliban was the main agenda of the meeting.
- India has expressed a strong desire to strengthen its security cooperation with the **SCO** and its **Regional Anti-Terrorism Structure**, which focus on security and defence matters.

What is Regional Anti-Terrorist Structure-SCO?

- **SCO-RATS** is a permanent body of the **Sanghai Cooperation Organization (SCO)**.
- It is promoting coordination and interaction between the **SCO** member states as per as fight against **terrorism, extremism and separatism** are concern.
- The main functions of **SCO-RATS** are **information sharing**.
- As a member, India has actively participated in the activities of **SCO-RATS**.
- India's permanent membership would enable it to generate greater understanding among members for its perspective.

What is the Shanghai Cooperation Organization?

- **About:**
 - SCO was created in 2001.
 - The **Shanghai Cooperation Organization (SCO)** was established as a **multilateral association** to ensure security and maintain stability across the vast **Eurasian region**.
 - It envisages joining forces to counteract emerging challenges and threats, and enhance trade, as well as cultural and humanitarian cooperation.
 - Prior to the creation of SCO in 2001, **Kazakhstan, China, Kyrgyzstan, Russia and Tajikistan** were members of the **Shanghai Five**.
 - **Shanghai Five (1996)** emerged from a series of border demarcation and demilitarization talks which the four former Soviet republics held with China to ensure stability along the borders.
 - Following the accession of **Uzbekistan** to the organization in 2001, the **Shanghai Five** was renamed the SCO.
 - The SCO Charter was signed in 2002 and entered into force in 2003. The SCO's official languages are **Russian and Chinese**.

- SCO has two Permanent Bodies:
 - SCO Secretariat in Beijing,
 - Executive Committee of the Regional Anti-Terrorist Structure (RATS) in Tashkent.
- **Member Nations:** Kazakhstan, China, Kyrgyzstan, Russia, Tajikistan, Uzbekistan, India, Pakistan.
 - Recently, **Iran's bid to become a full member of the SCO has been approved**.

Investment Incentive Agreement (IIA)

Why in News?

Recently, India and the United States signed an **Investment Incentive Agreement (IIA)** at Tokyo, Japan.

What is an Investment Incentive Agreement (IIA)?

- **About:**
 - This IIA **supersedes the Investment Incentive Agreement** signed between both the countries in the year 1997.
 - There have been significant developments since the earlier IIA was signed in 1997, such as the **founding of a new organization called Development Finance Corporation (DFC)**.
 - DFC as a **successor agency of the erstwhile Overseas Private Investment Corporation (OPIC)** after the enactment of a recent legislation of USA, the **BUILD Act 2018**.
- **Purpose:**
 - To **keep pace with the additional investment support programmes**, offered by the DFC, such as debt, equity investment, investment guaranty, investment insurance or reinsurance, feasibility studies for potential projects and grants.
 - The Agreement is the **legal requirement for DFC**, to continue providing investment support in India.
 - It is expected that **signing of IIA would lead to enhanced Investment support provided** by DFC in India, which shall further help in India's development.

What is the Status of DFC in India?

- DFC or their predecessor agencies **have been active in India since 1974** and have so far **provided investment**

Note:



support worth USD 5.8 billion of which USD 2.9 billion is still outstanding.

- Proposals worth USD 4 billion are under consideration by DFC for providing investment support in India.
- DFC has provided investment support in sectors that matter for development such as **Covid-19 vaccine** manufacturing, healthcare financing, renewable energy, **Small and Medium Enterprises (SME) financing**, financial inclusion, infrastructure etc.

What is the current

Status of India-US Relations?

➤ About:

- India-US bilateral relations have **developed into a “global strategic partnership”**, based on shared democratic values and increasing convergence of interests on bilateral, regional and global issues.
- In 2015, both the countries issued a **Delhi Declaration of Friendship** and adopted a **Joint Strategic Vision for Asia-Pacific** and the **Indian Ocean Region**.

➤ Civil-Nuclear Deal:

- The **bilateral civil nuclear cooperation** agreement was signed in October 2008.

➤ Energy and Climate Change:

- As a priority initiative under the **PACE (Partnership to Advance Clean Energy)**, the US Department of Energy (DOE) and the Government of India have established the Joint Clean Energy Research and Development Center (JCERDC) designed to promote clean energy innovations by teams of scientists from India and the United States.
- **India-US Clean Energy Agenda 2030 Partnership** was launched at the Leaders climate summit 2021.

➤ Defence Cooperation:

- Defence relationship has emerged as a major pillar of India-US strategic partnership with the signing of **‘New Framework for India-US Defense Relations’ in 2005** which was further updated for 10 years in 2015.
- India and US inked **important defence pacts in the last few years** and also formalised the four nation alliance of **QUAD (India, US, Japan and Australia)**.
 - The alliance is seen as an important counter to China in the Indo-Pacific.

- The **Malabar exercise** in November 2020 portrayed a high point in Indo-US strategic ties, it was the **first time in 13 years** that all four countries of QUAD came together sending a strong message to China.

- India now has access to American bases from **Djibouti in Africa** to Guam in the Pacific. It can also access advanced communication technology used in US defence.

- India and US have **four foundational defence agreements**:

- **Basic Exchange and Cooperation Agreement for Geospatial Intelligence (BECA).**
- **General Security of Military Information Agreement (GSOMIA).**
- Logistics Exchange Memorandum of Agreement (LEMOA).
- **Communication Compatibility and Security Agreement (COMCASA).**

- India-US Counter-Terrorism Cooperation Initiative was signed in 2010 to expand collaboration on counter-terrorism, information sharing and capacity building.

- A tri-services exercise – **Tiger Triumph** – was conducted in November 2019.

- Bilateral and regional exercises include: Yudh Abhyas (Army); **Vajra Prahar** (Special Forces); RIMPAC; Red Flag.

➤ Trade:

- The US is **India’s second largest trading partner** and a major destination for India’s exports of goods and services.

- The US replaced Mauritius as the second largest source of **foreign direct investment** into India during 2020-21.

- The previous US government **ended India’s special trade status (GSP withdrawal)** and also imposed several bans, India also retaliated with bans on 28 US products.

➤ Science & Technology:

- **Indian Space Research Organization (ISRO)** and **National Aeronautics and Space Administration (NASA)** are working together to realize a joint microwave remote sensing satellite for Earth observation, named **NASA-ISRO Synthetic Aperture Radar (NISAR)**.

Note:



Indo-Pacific Economic Framework

Why in News?

Recently, India's Prime Minister participated in an event in Tokyo to launch the **Indo-Pacific Economic Framework (IPEF)**.

- This economic initiative came a day before the **second in-person summit** of the **Quad leaders** (India, the US, Australia and Japan) in Tokyo.

What is QUAD?

- It is the grouping of **four democracies** – India, Australia, the US, and Japan.
- All four nations find a common ground of being democratic nations and also support the common interest of unhindered **maritime trade and security**.
- The Quad is billed as four democracies with a shared objective to ensure and support a **"free, open and prosperous"** Indo-Pacific region.
- The idea of Quad was first mooted by **Japanese Prime Minister Shinzo Abe in 2007**. However, the idea couldn't move ahead with Australia pulling out of it, apparently due to Chinese pressure.
- Finally in 2017, **India, Australia, the US, and Japan**, came together and formed this **"quadrilateral"** coalition.

What is the Significance of IPEF?

- **About:**
 - It is a **US-led initiative** that aims to strengthen economic partnership among participating countries to enhance resilience, sustainability, inclusiveness, economic growth, fairness, and competitiveness in the **Indo-Pacific region**.
 - The IPEF was launched with a dozen initial partners who together represent **40% of the world GDP**.
- **Opportunity for Indo-Pacific Region:**
 - It is a declaration of a collective desire to make the Indo-Pacific region an engine of global economic growth.
- **An Economic Vision:**
 - The Indo-Pacific covers half the population of the world and more than **60% of the global GDP** and the nations who will join this framework in the

future, are signing up to work toward an economic vision that will deliver for all people.

- **Focus Areas:** Unlike traditional trade blocs, IPEF won't negotiate tariffs or market access, and the framework will focus on integrating partner countries in **four areas which include:**
 - **Trade:** It intends to build high-standard, inclusive, free, and fair-trade commitments and develop new and creative approaches in trade and technology policy that advance a **broad set of objectives that fuels economic activity** and investment, promotes sustainable and inclusive economic growth, and benefits workers and consumers.
 - **Supply Chains:** IPEF is committed to improving transparency, diversity, security, and sustainability in supply chains to make them more resilient and well-integrated.
 - To coordinate crisis response measures; expand cooperation to better prepare for and mitigate the effects of disruptions to better ensure business continuity; improve logistical efficiency and support; and ensure access to key raw and processed materials, semiconductors, critical minerals, and clean energy technology.
 - **Clean Energy, Decarbonization, and Infrastructure:** In line with the **Paris Agreement** goals and efforts to support the livelihood of peoples and workers, it plans to accelerate the development and deployment of clean energy technologies to decarbonize our economies and build resilience to climate impacts.
 - This also involves deepening cooperation on technologies, on mobilizing finance, including concessional finance, and on seeking ways to improve competitiveness and enhance connectivity by supporting the **development of sustainable and durable infrastructure** and by providing technical assistance.
 - **Tax and Anti-Corruption:** It is committed to promoting fair competition by enacting and enforcing effective and robust tax, anti-money laundering, and anti-bribery regimes in line with existing multilateral obligations, standards, and agreements to curb tax evasion and corruption in the Indo-Pacific region.
 - This involves sharing expertise and seeking ways to **support the capacity building** necessary to advance accountable and transparent systems.

Note:



What is India's Vision for Indo-Pacific Region?

- India's trade in this region is growing rapidly, with overseas investments being directed towards the East, e.g., the **Comprehensive Economic Partnership Agreements** with Japan, South Korea, and Singapore, and the Free Trade Agreements with **ASEAN (Association of Southeast Asian Nations)** and Thailand.
- India has been active in **championing a Free and Open Indo-Pacific**. The US, Australia, and the members of the ASEAN have all expressed a common view that **India plays a greater role in the region**.
- India, along with its **Quad partners**, is upping its game in the Indo-Pacific.
- India's view is to work with other like-minded countries in the Indo-Pacific region to cooperatively manage a rules-based multipolar regional order and **prevent any single power from dominating the region or its waterways**.

Bongosagar Exercise

Why in News?

Recently, the third edition of **Exercise Bongosagar**, bilateral naval exercise between India and Bangladesh, commenced at Port Mongla, Bangladesh.



What are the Key Highlights of the Exercise?

- **About:**
 - It is an **annual exercise**. **Second edition** of the exercise, held in **Northern Bay of Bengal in 2020**.
 - The exercise is aimed at **developing a high degree of interoperability and joint operational skills** through the conduct of a wide spectrum of maritime exercises and operations between the two navies.

Participants in the Third Edition:

- Participating in the exercise are **Indian Naval Ships Kora**, a guided missile corvette, and **Sumedha**, an offshore patrol vessel.
- Bangladesh Navy is being represented by BNS Abu Ubaidah and Ali Haider, both Guided Missile Frigates.

What are the other Related Exercises between two Countries?

- **Bilateral:**
 - **SAMPRITI**: Military Exercise
- **Multinational:**
 - **Bangladesh's Military exercise 'Shantir Ogroshena'**
 - **TABLE TOP (Air)**
 - **IN-BN CORPAT (Navy)**
 - **SAMVEDNA** (Multinational Air Exercise with Bangladesh, Nepal, Sri Lanka and UAE).

India-Canada Science and Technology Cooperation

Why in News?

Recently, two memorandums of understanding (MoUs) were renewed at the 7th India-Canada Joint Science and Technology Cooperation Committee (JSTCC) meeting.

- The MoUs were signed by the **Indian Ministry of Science and Technology** with the **Natural Sciences and Engineering Research Council of Canada (NSERC)** and **National Research Council Canada (NRC)**, respectively, under the **2005 Agreement for Scientific and Technological Cooperation**.



- Earlier, India and Canada held the **fifth Ministerial Dialogue on Trade & Investment (MDTI)**, where

Note:



Ministers agreed to formally re-launch the negotiations for **India-Canada Comprehensive Economic Partnership Agreement (CEPA)** and consider an Interim Agreement or **Early Progress Trade Agreement (EPTA)** that could bring early commercial gains to both the countries.

What are the Highlights of the Meeting?

- The focus areas of the collaboration include national missions, **quantum computing, artificial intelligence (AI)**, and **cyber-physical systems**, among others.
 - A large number of Indian students studying in Canadian universities will benefit from the collaboration.
- India and Canada benefit from strong bilateral relations and are **committed to deepening ties, with science, technology, and innovation being key pillars of the relationship**.
- Under the terms of the agreement made in 2005, the JSTCC meets **every two years to review ongoing collaborations between Canadian and Indian researchers and set priorities for the next period** in fields like agriculture and food security, healthcare and healthtech, clean technologies and environmental research, marine and polar research, quantum tech and AI, and human capacity development and researcher mobility.
- Both countries **agreed to continue monitoring progress on key priorities in bilateral science, technology, and innovation projects (STIP) during the 2022-2024 period**.
- India plays an active role in the **global technology research and development ecosystem by facilitating academic and scientific relationships** with other countries.

How is India-Canada Cooperation in Various Spheres?

- **Political:**
 - India and Canada share **commonalities in Parliamentary structure and procedures**. After the general election in October 2019, Mr Raj Saini, MP from the House of Common has been appointed as the Chair of the Canada-India Parliamentary Association.
 - As of 2020, the House of Common in Canadian Parliament (total strength of 338) has 22 Members of Indian origin.
 - In India, **Canada is represented by the High Commission of Canada in New Delhi**. Canada also

has Consulates General in Bengaluru, Chandigarh and Mumbai, as well as trade offices in Ahmedabad, Chennai, Hyderabad and Kolkata

- India is represented in Canada by a High Commission in Ottawa and by consulates in Toronto and Vancouver.
- **Economic:**
 - Bilateral trade between India and Canada stands **at USD 5 billion**.
 - More than 400 Canadian companies have a presence in India, and more than 1,000 companies are actively pursuing business in the Indian market.
 - Indian companies in Canada **are active in the field such as Information Technology, software, steel, natural resources and banking sectors**.
 - **India's exports to Canada** include pharma, iron and steel, chemicals, gem and jewelry, nuclear reactors and boilers.
 - Energy has been a primary area of our focus, considering that Canada is an 'energy superpower' with one of the world's largest resources of uranium, natural gas, oil, coal, minerals and advanced technologies in hydropower, mining, renewable energy and nuclear energy.
- **Science and Technology:**
 - Indo-Canadian Science and Technology cooperation has been **primarily focused on promoting Industrial R&D (Research and Development)** which has potential for application through development of **new IP (Intellectual property) processes**, prototypes or products
 - Department of Biotechnology under **IC-IMPACTS program implements joint research projects in health care, agri-biotech and waste management**.
 - IC-IMPACTS (the India-Canada Centre for Innovative Multidisciplinary Partnerships to Accelerate Community Transformation and Sustainability) is the first, and only, Canada-India Research Centre of Excellence established through the Canadian Networks of Centres of Excellence (NCE) as a Centre dedicated to the development of research collaborations between Canada and India.
 - Department of Earth Science and Polar Canada have started a **programme for exchange of knowledge and scientific research on Cold Climate (Arctic) Studies**.

➤ **Space:**

- India and Canada are pursuing successful **cooperative and commercial relations in the field of Space since 1990s** mainly on space science, earth observation, satellite launch services and ground support for space missions.
- **ISRO and Canadian Space Agency (CSA) have signed MOUs** in the field of exploration and utilisation of outer space.
- **ANTRIX**, the Commercial arm of **ISRO**, has launched several nanosatellites from Canada
- ISRO in its 100th Satellite **PSLV launched in 2018**, also flew Canadian first LEO (Low earth Orbit) satellite, from Indian spaceport Sriharikota.

➤ **Security and Defence:**

- India and Canada **collaborate closely in international fora particularly through the UN, Commonwealth and G-20.**
- A Statement of Intent (Sol) on Cooperation between DRDO and **Canada's Defence Research and Development Council has been signed in 2015.**
- The security cooperation was further enhanced with the **Framework for Cooperation between India and Canada on Countering Terrorism** and Violent Extremism signed by the National Security Advisor of India and the National Security and Intelligence Advisor of Canada in 2018.
- There is **substantial engagement on counter terrorism issues** particularly through the framework of the Joint Working Group (JWG) on Counter Terrorism.

India's Trade with the USA

Why in News?

Recently, the Ministry of Commerce and Industry has released the data, which showed that the **US has surpassed China** becoming India's **top trading partner in 2021-22.**

- Major export items from India to the US include **petroleum, polished diamonds, pharmaceutical products, jewellery, frozen shrimp**, whereas major imports from the US include **petroleum, rough diamonds, liquefied natural gas, gold, coal, waste and scrap, almonds** and so on.

- The data showed that China was India's top trading partner from 2013-14 till 2017-18 and also in 2020-21.
 - Before China, the UAE was the country's largest trading partner.

What are the Key Points?

➤ **Bilateral Trade with the US:**

- Bilateral trade between the US and India stood at **USD 119.42 billion (2021-2022)** as against USD 80.51 billion in 2020-21.
- Exports to the US increased to USD 76.11 billion in 2021-22 from USD 51.62 billion in the previous fiscal year, while imports rose to USD 43.31 billion as compared to about USD 29 billion in 2020-21.
- America is **one of the few countries with which India has a trade surplus.**
 - In 2021-22, India had a trade surplus of USD 32.8 billion with the US.

➤ **Bilateral trade with China during the Same Period:**

- During 2021-22, **India's two-way commerce with China aggregated at USD 115.42 billion** as compared to USD 86.4 billion in 2020-21.
- Exports to China **marginally increased to USD 21.25 billion last FY 2021-22** from USD 21.18 billion in 2020-21.
- On the other hand, imports from China jumped to USD 94.16 billion from about USD 65.21 billion in 2020-21.
- The trade gap (Import - Export) rose to USD 72.91 billion in 2021-22 from USD 44 billion in the previous fiscal year.

What Factors made the US Largest Trading Partner?

- India is emerging as a trusted trading partner and global firms are reducing their dependence on China for their supplies and are diversifying business into other countries like India.
- India has joined a **US-led initiative to set up an Indo-Pacific Economic Framework (IPEF)** and this move would help boost economic ties further.
- The US has consistently been India's largest market for services exports, but the recent overseas sales of merchandise goods to that country overtook China, making it the largest bilateral trading nation of India.

Note:



- India's total merchandise exports touched a record USD 418 billion in 2021-22, exceeding the Center's target by about 5% and clocking a 40% growth over the previous year.

How have been India's Relations with the US Lately?

- India-US bilateral partnership today encompasses a whole host of issues including the response to **Covid-19**, economic recovery post-pandemic, the **climate crisis and sustainable development**, **critical and emerging technologies**, **supply chain resilience**, **education**, the **diaspora**, and **defence and security**.
- The breadth and depth of Indo-US ties remain **unmatched and the drivers of this partnership have been growing** at an unprecedented rate.
 - The relationship remains unique insofar as this is driven at both levels: at the strategic elite as well as at the people-to-people level.
- Although India and the US have **quite contradictory responses towards the Russia-Ukraine crisis**.
- India and the US have **underscored their commitment to continue to build on the momentum of recent years** and not lose sight of the larger strategic picture.

What are the Associated Challenges of India-US Ties?

- **Tariff Imposition:** In 2018, the US imposed a 25% tariff on certain steel products and a 10% tariff on certain aluminum products from India.
 - India retaliated in June 2019, by increasing tariffs on 28 products worth about USD 1.2 billion on US imports.
 - However, after the imposition of the Section 232 tariffs, steel exports to the US declined by 46% year-on-year.
- **Misunderstanding Self-Reliance as Protectionism:** The **Atmanirbhar Bharat Campaign** has exacerbated the view that India is increasingly becoming a protectionist closed market economy.
- **Exemption from US' Generalised System of Preferences:** Effective since June 2019, the USA decided to withdraw duty-free benefits to Indian exporters under the GSP programme.
 - Consequently, **special duty treatment on USD 5.6 billion worth of exports to the US was removed**, affecting India's export-oriented sectors such as

pharmaceuticals, textiles, agricultural products and automotive parts.

➤ US' Hostility towards Other Countries:

- Some of the differences between India and the US are not direct consequences of India-US relationship but due to **US' hostility towards third countries** like Iran and Russia – the traditional allies of India.
- The other issues that are challenging India-US relationship include India's ties with Iran and India's purchase of S-400 from Russia.
- The US' call for India to distance itself from Russia may have a far-reaching consequence to South Asia's status quo.

➤ US' policy in Afghanistan:

- India is also concerned over the US' policy in Afghanistan as it is jeopardizing India's security and interest in the region.

US-Taiwan Relations

Why in News?

Ahead of the **Quad summit** in Japan, the **US President** made a controversial statement giving **affirmative reply** in response to a question with regards to providing **military aid to Taiwan in case of China's invasion**.

- This has raised questions about **whether the US is shifting from its long-standing policy of strategic ambiguity over Taiwan to that of strategic clarity**.
- **Quad grouping includes India, the US, Australia and Japan.**



What is the Taiwan Issue?

➤ China-Taiwan Relations:

- Taiwan is an **island territory across the Taiwan Strait**, located off the coast of mainland China.

Note:



- The ruling Kuomintang (Nationalist) government of China fled to Taiwan after being defeated by the communist forces in the Chinese civil war of 1945-1949.
- Following the split of China and Taiwan in the civil war, the Republic of China (ROC) government was relocated to Taiwan. On the other hand, The Communist Party of China (CPC) established the People's Republic of China (PRC) in the mainland.
 - Since then, the PRC observes Taiwan as a traitor province and awaits reintegration with Taiwan, if possible, by peaceful means.
- Simultaneously, the United Nations membership was continued by the ROC maintaining its permanent seat at the UN Security Council (UNSC).
- PRC allied itself with the Union of Soviet Socialist Republics (USSR) and ROC with the US in the cold war further straining the China-Taiwan relations.
- Consequently, two Taiwan Strait crises of the 1950s happened.
- **Reconciliation of the US with China and the Subsequent Events:**
 - The US and China reconciled in the 1970s due to the Cold War's shifting geopolitics, so that the growing influence of the USSR could be countered.
 - This was followed by the visit of the then US President to the PRC in 1972.
 - Subsequently, ROC was displaced by the PRC as the official representative at the UN.
 - Then, "One-China Principle" came into picture.
- **One-China Principle and its Impact:**
 - This means that the nations who want to have diplomatic relations with the PRC have to recognize the PRC but not the ROC as China, breaking the relations with ROC.
 - Simultaneously, China evolved as a multi-party democracy alongside the reformation of its economic system.
 - Since then, the two countries became economically entangled and continuously competing.

How has the Standpoint of the US on the Taiwan Issue Unfolded?

- **The evolution of the US's Stance:**
 - The Shanghai Communiqué (1972), the Normalisation Communiqué (1979) and the 1982 Com-

muniqué are the three documents outlining the US-China mutual understanding on the Taiwan question.

- As per the 1979 communiqué, the US accepts the 'one China principle' considering Taiwan, a part of China.
- However, the US started maintaining unofficial relations with Taiwan in the name of people of both the nations.
- In the 1982 communiqué, China expressed its concerns over the likelihood of continued supply of arms by the US to Taiwan as per the provisions of Taiwan Relations Act (TRA), 1979.
- In this way, the US has balanced its recognition of the PRC along with the concerns of Taiwan.
- **Impact on Taiwan:**
 - In Taiwan, Democratic People's Party (DPP) has become the most powerful political force in Taiwan catering to the pro-independence constituency in Taiwan.
 - The DPP wants to expand its economic relations away from China.
 - China considers Taiwan as a territory with high geopolitical significance as it is centrally located in the First Island Chain between Japan and the South China Sea.
 - Throughout this region, military outposts of the US are scattered. Therefore, it would be a significant breakthrough for China in case it takes Taiwan's control.
 - But the chances of a peaceful reunification are very slim.
 - Also, the tensions are happening in parallel with the Russo-Ukrainian conflict.

Bilateral Security and Defence Cooperation: Indo-Japan

Why in News?

Recently, India and Japan agreed to further enhance Bilateral Security and Defence Cooperation, including in defence manufacturing.

What are the Highlights of the Meeting?

- Both sides should work jointly towards implementing their decision to have 5 trillion yen in public and

Note:



private investment and financing from Japan to India in the next five years.

- India highlighted the steps taken by it to **improve ease of doing business, logistics through the 'Gati Shakti' initiative** and urged Japan to support greater investments by Japanese companies in India.
 - Such investments would help in creating resilient supply chains and would be mutually beneficial.



- India appreciated that **Japanese companies are increasing their investments in India** and that 24 Japanese companies had successfully applied under the various **Production Linked Incentive** schemes.
- Both Countries noted the **progress in implementation of Mumbai-Ahmedabad High Speed Rail project** and welcomed the signing of **exchange of notes of the 3rd tranche of loan for this project**.
- Agreed to encourage **greater collaboration between private sectors of both sides** in the development of **next generation communication technologies**.
- Also agreed to deepen cooperation in the area of Clean Energy including **green hydrogen**.
- Took note of the progress in implementation of the **Specified Skilled Workers (SSW) programme** and agreed to further scale up this programme, boosting people to people linkages.
- Concurred that the **India-Japan Act East Forum** was useful in prioritising development of India's North East Region.

What are other Recent Developments between India and Japan?

- In March 2022, the Japanese Prime Minister was on an official visit to India for the **14th India-Japan Annual Summit** between the two Countries.

- Earlier, the Indian PM virtually inaugurated a Japanese **'Zen Garden - Kaizen Academy'** at the Ahmedabad Management Association (AMA) in Gujarat.
- Recently, India, Japan and Australia have formally launched the **Supply Chain Resilience Initiative (SCRI)** in a move to counter China's dominance of the supply chain in the Indo-Pacific region.
- In 2020, India and Japan signed a **logistics agreement** that will allow armed forces of both sides to coordinate closely in services and supplies. The agreement is known as the Acquisition and Cross-Servicing Agreement (ACSA).
- In 2014, India and Japan upgraded their relationship to 'Special Strategic and Global Partnership'.
- The India-Japan Comprehensive Economic Partnership Agreement (CEPA) that came into force in August 2011 covers trade in goods, services, movement of natural persons, investments, Intellectual Property Rights, custom procedures and other trade related issues.
 - Japan is India's 12th largest trading partner, and trade volumes between the two stand at just a fifth of the value of **India-China bilateral trade**.
- **Defence Exercises:** India and Japan defence forces organize a series of bilateral exercises namely, **JIMEX (naval)**, **SHINYUU Maitri (Air Force)**, and **Dharma Guardian (Army)**. Both countries also participate in **Malabar exercise (Naval Exercise)** with the USA and Australia.
- Both India and Japan are members of **Quad, G20 and G-4**.
- They are also member countries of the **International Thermonuclear Experimental Reactor (ITER)**.

India and Senegal

Why in News?

Recently, the **Indian Vice President visited Senegal** and three **MoUs (Memorandums of Understanding)** for **cultural exchange, cooperation in youth matters and visa free regime** were signed.

- Both countries are celebrating **60 years of their diplomatic relations**.

What are the Highlights of the Recent Visit?

- **Visa-Free Regime:**

Note:





- The first MoU pertains to visa-free regime for diplomatic and official passport holders which would strengthen cooperation between the two countries through seamless travel of officials/diplomats.
- **Cultural Exchange Programme:**
 - MoU for Cultural Exchange Programme (CEP) for the period 2022-26 was renewed.
 - With the renewal of the CEP, **there will be more cultural exchanges, thereby strengthening people-to-people contacts.**
- **Bilateral Cooperation in Youth Matters:**
 - Recognizing that both India and Senegal have a relatively young population, this MoU will be **mutually beneficial to both the countries through sharing of information, knowledge and good practices**, and youth exchanges.
- **Diversification of Trade Basket:**
 - Indo-Senegalese trade saw a 37% increase to USD 1.5 billion during last one year despite Covid-19 pandemic. India called for diversifying trade basket, particularly in the sectors of Agriculture, Oil & Gas, Health, Railways, Mining, Defence, green energy etc.
 - In view of the **large number of phosphates imported by India from Senegal**, Indian companies, especially those producing heavy earth moving equipment, can offer their expertise in this area.
- **Upgradation of Entrepreneurial Training & Development Centre:**
 - Phase II of the upgradation of Entrepreneurial Training & Development Centre (CEDT) at Dakar was approved.
 - The CEDT was set up in Dakar in 2002 under Indian grant assistance and every year around 1000 youth, though mainly from Senegal, but many also from 19 other African countries, **get trained in six different disciplines at the Centre.**

- **ITEC Course:**
 - Noting that Senegal, being a French speaking country, is **not able to avail various training/capacity building programmes under ITEC (Indian Technical and Economic Cooperation)** which are in English language, India offered a Special ITEC Course on the English training for Senegalese public servants for 20 persons at a time.
- **E-Vidya Bharati and E-Aarogya Bharati initiative:**
 - Recognizing that many African students come to India for higher studies, India called for enhanced cooperation with Senegal in implementing the E-Vidya Bharati and E-Aarogya Bharati (E-VBAB) initiative (tele-education and tele-medicine) for the larger benefit of Senegalese students.
- **Issue of Indian Nationals Detained:**
 - India took up the issue of **four Indian nationals, crew members of ship M.V. Asso-6, who have been detained in Senegal since June 2021** on alleged drug trafficking charges and **requested the Senegalese government to expedite their trial** so that if released, they could return to their anxious families.
- **India's permanent UNSC membership:**
 - Appreciating Senegal's support for India's permanent UNSC membership, India reiterated **India's unwavering support to the Common African Position, enshrined in the Ezulwini Consensus and the Sirte Declaration** and underscored the need to rectify the historical injustice done to the African continent.
 - The Ezulwini Consensus (2005) is a position on international relations and reform of the United Nations, agreed by the African Union.
- **Non-Aligned Movement:**
 - India called for **re-energizing and re-invigorating Non-Aligned Movement (NAM)** and making it more responsive to contemporary issues of relevance to the developing world.
 - India sought **Senegalese support for early adoption of the Comprehensive Convention on International Terrorism (CCIT)** under the UN umbrella, terming it vital to combat the menace of **cross-border terrorism.**
- **Presidency of African Union:**
 - India congratulated Senegal on its assumption of the Presidency of African Union.

Note:



What are the Key Points of India-Senegal Relations?

➤ **Political Relations:**

- Diplomatic relations between the two countries **were established at Ambassadorial level in 1962**, with a resident Indian Mission in Dakar.
- Both countries enjoy warm and friendly bilateral relations **sharing common values of democracy, development and secularism.**
- They are **both members of the Non-Aligned Movement and G-15** and that of **International Solar Alliance.**
 - G-15 was essentially conceived as an economic forum designed to foster South-South cooperation.

➤ **Commercial Relations:**

- Major items of export from India include textiles, food items, automobiles and pharmaceuticals. Major items of import from Senegal are phosphoric acid and raw cashew.

➤ **Development Assistance Programmes:**

- India has extended Lines of Credit to Senegal in such sectors as agriculture and irrigation, transport, rural electrification, fisheries, women poverty alleviation, IT training and equipment, medical, railways etc.

- India supplied **250 e-Rickshaws with lithium-ion batteries to Senegal.**

➤ **Cultural Cooperation:**

- Some of the Indian cultural events organized in 2019 Senegal included TIRANGA 3.0 – the 3rd edition of Festival of India in Senegal, Dakar; Tiranga Holi, **4th International Day of Yoga**; and, and various events related to 150th Mahatma Gandhi Birth Anniversary celebrations.
- India also offers **10 ICCR (Indian Council for Cultural Relations) Scholarships.**

➤ **Indian Diaspora:**

- The Indian community numbers around 500 (five hundred). Most of them are working for Indian companies including those executing development projects under Lines of Credit extended by India. Some of them are running their own businesses.

Science and Technology

Highlights

- Artificial Intelligence (AI) Chips
- Respiratory Syncytial Virus (RSV)
- Private Players in Space Sector
- Endosulfan
- HS200 Solid Rocket Booster for Gaganyaan Mission
- India's First 5G Testbed
- Sudden Infant Death Syndrome
- PARAM PORUL Supercomputing Facility
- National AI Portal
- Electric Vertical Take off and Landing (eVTOL) Aircraft

Artificial Intelligence (AI) Chips

Why in News?

The adoption of **Artificial Intelligence (AI)** chips have risen in recent times with chipmakers designing different types of these chips to power AI applications.

What are AI chips?

➤ About:

- AI chips are **built with specific architecture and have integrated AI acceleration** to support **deep learning-based applications**.
 - **Deep learning**, more commonly known as **Active Neural Network (ANN)** or **Deep Neural Network (DNN)**, is a subset of **machine learning** and comes under the broader umbrella of AI.

➤ Functions:

- It **combines a series of computer commands or algorithms** that stimulate activity and brain structure.
- DNNs **go through a training phase, learning new capabilities from existing data**.
 - DNNs can then **inference, by applying these capabilities learned during deep learning training** to make predictions against previously unseen data.
 - Deep learning can make the process of collecting, analysing, and interpreting enormous amounts of data faster and easier.
- Chips like these, with **their hardware architectures, complementary packaging, memory, storage, and interconnect solutions**, make it possible for

AI to be integrated into applications across a wide spectrum to turn data into information and then into knowledge.

THE GIST

AI chips with their hardware architectures and complementary packaging, memory, storage and interconnect technologies, make it possible to infuse AI into a broad spectrum of applications to help turn data into information and then into knowledge.

The use of AI chips for NLP applications has increased due to the rise in demand for chatbots and online channels such as Messenger, Slack, and others that use NLP to analyse user messages and conversational logic.

Nvidia Corporation, Intel Corporation, IBM Corporation, Alphabet Inc., Samsung Electronics Co., Ltd, and Apple Inc. are some of the key players in the AI chip market.

➤ Types of AI Chips Designed for Diverse AI Applications:

- Application-Specific Integrated Circuits (ASICs), Field-Programmable Gate Arrays (FPGAs), Central Processing Units (CPUs) and GPUs.

➤ Applications:

- AI applications include **Natural Language Processing (NLP)**, **computer vision**, robotics, and network

Note:



security across a wide variety of sectors, including automotive, IT, healthcare, and retail.

➤ **Reasons for the Rise:**

- The increasing adoption of **AI chips in data centres** is one of the major factors driving the growth of the market.
- Additionally, the **rise in the need for smart homes and cities**, and the surge in investments in AI start-ups are expected to drive the growth of the global AI chip market.
 - The Worldwide AI chip industry **accounted for approx. USD 8 billion in 2020** and is expected to **reach USD 195 billion by 2030**, growing at a **Compound Annual Growth Rate (CAGR)** of **37.4%** from 2021 to 2030.

What is the Significance of AI Chips over using General Purpose Hardware?

➤ **Faster Computation:**

- Artificial intelligence **applications typically require parallel computational capabilities** in order to run sophisticated training models and algorithms.
- **AI hardware provides more parallel processing capability** that is estimated to have up to 10 times more computing power in ANN applications compared to traditional semiconductor devices at similar price points.

➤ **High Bandwidth Memory:**

- Specialized AI hardware is **estimated to allocate 4-5 times more bandwidth** than traditional chips.
 - This is necessary **because due to the need for parallel processing**, AI applications require significantly more bandwidth between processors for efficient performance.

Respiratory Syncytial Virus (RSV)

Why in News?

Recently, in a study it was found that the lower respiratory infections caused by the **Respiratory Syncytial Virus (RSV)** are more frequent in children under the age of five.

- According to a report published by the **Lancet**, it is responsible for the death of 1,00,000 children in the world during the year 2019.

What is the Respiratory Syncytial Virus (RSV)?

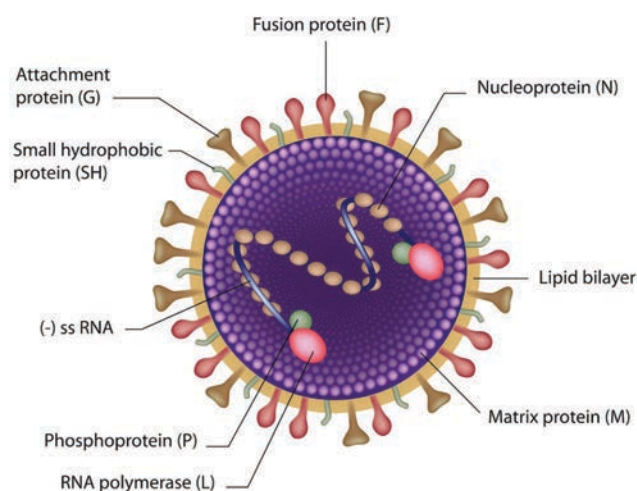
➤ **About:**

- **Respiratory Syncytial Virus** is a common respiratory virus.
- It is characterized by its **highly contagious nature** i.e., it has a high potential to infect people.
- It exacerbated the seasonal lung infection.
- It commonly infects children especially under **2 to 6 years** of age.
- In most of the cases it has symptoms like the **common cold** but in advanced stages it converts into **pneumonia** and **bronchiolitis**.

➤ **Key Findings:**

- In the year 2019, over **45000 infant fatalities** under the **age of six** were reported.
- **One child** out of every **five RSV infected children** died in the entire world.
- Children **six months and younger** are most vulnerable to this virus.
- According to the research, the **annual incidence rate** in India is **53 per 1,000 children (5.3%)**, with an estimated **61,86,500 cases of RSV associated with acute lower respiratory infection** in children under the **age of five**.
 - **RSV killed 97 percent** of children under the **age of five** in **low- and middle-income nations**.

Respiratory Syncytial Virus



What is the Cure for Respiratory Syncytial Virus?

- There is no reliable cure available for RSV infection.

Note:



- Scientists, Government and concerning authority are promoting research and development in this domain to find out appropriate medicine and vaccination to save the life of infants and children.

Private Players in Space Sector

Why in News?

Recently, the Minister of State for the Department of Space (DOS) informed the **Lok Sabha** that the **government was looking at opening the space sector to Foreign Direct Investment**.

How this Step will be Beneficial for ISRO?

- **Research and Development Activities:**
 - These reforms will allow **ISRO to focus more on new technologies**, exploration missions and **human spaceflight programme**.
 - Some of the planetary exploration missions will also be opened up to the private sector through an 'announcement of opportunity' mechanism.
- **Fruitful Dissemination of Space Technologies:**
 - Allowing industries and others like students, researchers or academic bodies greater access to space assets **would lead to a much better utilisation of India space resources**.
- **Global Technology Powerhouse:**
 - It will **enable Indian Industry to be an important player in the global space economy**.
 - With this, **there is an opportunity for large-scale employment** in the technology sector and India becoming a Global technology powerhouse.
- **Cost-effective:**
 - The operating costs of setting up base and launching space vehicles in India is comparatively much less compared to its counterparts like **National Aeronautics and Space Administration (NASA)**.
 - The FDI will also ensure that the newer technology makes it more effective in price as well as efficiency.
- **Exceptional Success Rate:**
 - ISRO is the **6th largest space agency in the world** and holds an exceptional success rate.
 - India has **made a name for itself by successful launch of about 342** (three hundred and forty-two) foreign satellites from over 34 (thirty-four) countries.

What are the Benefits for Foreign Investors?

- **Innovative Equipment:**
 - ISRO holds the **cutting-edge equipment and is also in process of launching SSLV (small satellite launch vehicle)** in partnership with private companies.
 - This will provide a greater benefit to foreign investors to form partnerships with the Indian space sector.
- **Liberalised Space Sector:**
 - Over the years, **ISRO has forged strong relationships with numerous industrial ventures** that will be beneficial to foreign players who wish to set up base in India.

What is the Need for Reforms of Space Sector?

- **To increase the Scale of the Sector:**
 - ISRO is **centrally funded and its annual budget is between Rs 14-15,000 crore**, which is a drop in the ocean and most of this is used in building rockets and satellites.
 - To increase the scale of the sector, it is **imperative for private players to enter the market**.
 - ISRO is **planning to share knowledge and technology**, such as manufacturing rockets and satellites, to all the private players.
 - **The United States, Europe, Russia** — all have space industries with big players like Boeing, SpaceX, Air Bus, Virgin Galactic, etc.
- **Reforms in Private Players:**
 - Private players can **bring in the innovation needed for developing space-based applications and services**.
 - Additionally, the demand for these services is soaring worldwide and in India, with satellite data, imageries and space technology being used across most sectors.
 - The **Private players can participate in setting up of ground stations** for space crafts which constitute 48% of the space sector budget and also in application of space technology which result in 45% of space economy.

What are the Related Initiatives taken?

- **IN-SPACE:**
 - IN-SPACe was launched to **provide a level playing field for private companies** to use Indian space infrastructure.

Note:



- It acts as a **single-point interface** between Indian Space Research Organisation (ISRO), and everyone who wants to participate in space-related activities or use India's space resources.
- **NewSpace India Limited (NSIL):**
 - Announced in Budget 2019, its aim is to **use research and development carried out by ISRO** over the years for commercial purposes through Indian industry partners.
- **Indian Space Association (ISpA):**
 - ISpA **aspires to be the collective voice of the Indian Space industry**. ISpA will be represented by leading domestic and global corporations that have advanced capabilities in space and satellite technologies.

Endosulfan

Why in News?

The Supreme Court has slammed the Kerala government for doing “virtually nothing” for Endosulfan pesticide exposure victims.

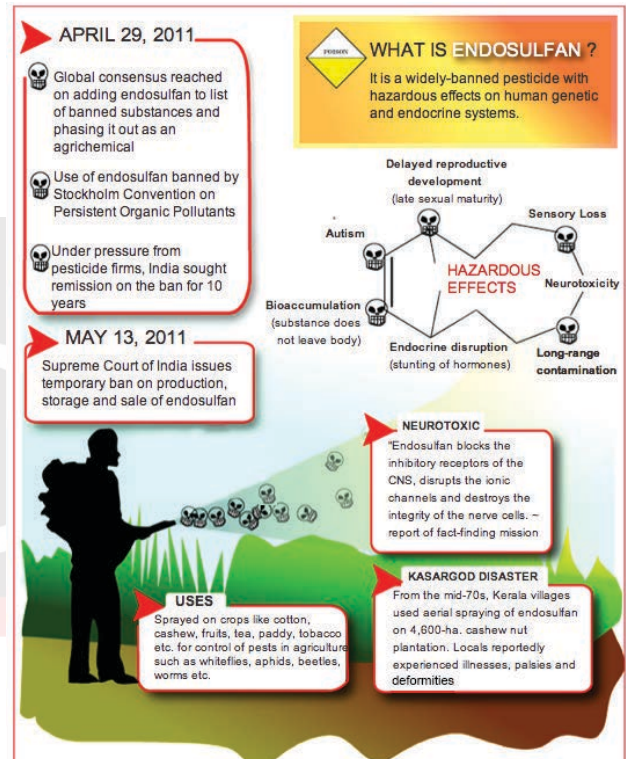
- The court said the **State's inaction was “appalling” and amounted to a breach of the apex court's 2017 judgment**, which had ordered the State to pay Rs 5 lakh each to the victims in three months.
- Five years since the judgment, the court has realised that **only eight out of 3,704 victims have been paid compensation**.
- The SC has banned the **manufacture, sale, use, and export of endosulfan throughout the country**, citing its harmful health effects in 2015.

What is Endosulfan?

- Endosulfan is an **organochlorine insecticide** which was first introduced in the 1950s and is commonly known by its trade name **Thiodan**.
- It is linked to a **slew of grave medical conditions, such as neurotoxicity, physical deformities, poisoning and more**.
- It is sprayed on crops like **cotton, cashew, fruits, tea, paddy, tobacco etc. for control of pests** such as whiteflies, aphids, beetles, worms etc.
- Endosulfan is listed under both the **Rotterdam Convention on the Prior Informed Consent** and the **Stockholm Convention on Persistent Organic Pollutants**.

What are the Impacts of Endosulfan?

- **Environment:**
 - Endosulfan in the environment gets accumulated in food chains leading to higher doses causing problems.
 - If Endosulfan is released to water, it is expected to absorb to the sediment and may bioconcentrate in aquatic organisms.
- **Humans And Animals:**
 - The endosulfan ingestion results in diseases ranging from physical deformities, cancer, birth disorders and damage to the brain and nervous system.



What is the Rotterdam convention 1998?

- The convention aims to promote cooperation and responsibility sharing measures amongst different countries dealing with trade in hazardous chemicals and pesticides.
- PIC, Prior Informed Consent is the main feature of the convention and is legally binding on the party members.
- PIC facilitates information exchange about nature and trade-related information amongst the party members.
- The Convention creates obligations for the implementation of the Prior Informed Consent (PIC) procedure.

Note:



What is Stockholm convention 2001?

- The convention aims to reduce the concentration of persistent organic pollutants (POPs) which are chemical substances that not only remain in the atmosphere for longer periods but also possess the ability to bio-accumulate.
- The convention listed 12 POPs as 'dirty dozen'.

HS200 Solid Rocket Booster for Gaganyaan Mission

Why in News?

Recently, the **Indian Space Research Organization (ISRO)** has completed the static test of the **human-rated solid rocket booster (HS200)** for Gaganyaan programme.

What is the HS200 Solid Rocket Booster?

- The booster engine is **part of the Geosynchronous Satellite Launch Vehicle MkIII (GSLV Mk III) rocket** that will carry Indian astronauts to space.
 - The GSLV Mk-III rocket which will be used for the Gaganyaan mission will have **two HS200 boosters** which will supply the thrust for lift-off.
 - The HS200 is a 20-metre-long booster with a diameter of 3.2 metres and is the **world's second largest operational booster using solid propellants**.
- The HS200 is the **human-rated version of the S200 rocket booster of satellite launch vehicle GSLV Mk III**, popularly known as LVM3.
 - Since Gaganyaan is a crewed mission, the GSLV Mk-III will have improvements to increase reliability and safety to meet the requirements of 'human rating.'
- The S200 motor - the first stage of the LVM3 launch vehicle **designed to deliver 4,000 kg satellites to geosynchronous transfer orbit** - was configured as a strap-on rocket booster.
- This full-duration test of the first stage of the launch vehicle marks a major milestone for the Gaganyaan programme.
- Design and development of the HS200 booster was completed at the Vikram Sarabhai Space Centre (VSSC) in Kerala's Thiruvananthapuram, and propellant casting was completed at Sriharikota.
- Out of the three propulsion stages of LVM3, the human-rated versions of the second-stage known as

L110-G loaded with liquid propellant and the third stage C25-G with cryogenic propellant are in the final phase of qualification, including tests with static firing.

What is GSLV?

- GSLV is a much more powerful rocket, meant to carry heavier satellites much deeper into space. Till date, GSLV rockets have carried out 18 missions, of which four ended in failure.
- It can take 10,000-kg satellites to lower earth 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 for launching its satellites.
 - Before this, it used to depend on the European Arienne launch vehicle to take its heavier satellites into space.
 - GSLV-Mk III is a fourth generation, three stage launch vehicle with four liquid strap-ons. The indigenously developed CUS, which is flight proven, forms the third stage of GSLV Mk III.
 - The rocket has three-stages with two solid motor strap-ons (S200), a liquid propellant core stage (L110) and a cryogenic stage (C-25).

What is Gaganyaan Mission?

- **About:**
 - Gaganyaan is a mission by the **Indian Space Research Organisation (ISRO)**.
 - Under the Gaganyaan schedule (to be launched in 2023):
 - Three flights will be sent into orbit.
 - There will be two unmanned flights and one human spaceflight.
 - The Gaganyaan system module, called the Orbital Module will have three Indian astronauts, including a woman.
 - It will circle Earth at a **low-earth-orbit** at an altitude of 300-400 km from earth for 5-7 days.
- **Payloads:**
 - **The payload will consist of:**
 - Crew module - spacecraft carrying human beings.
 - Service module - powered by two liquid propellant engines.
 - It will be equipped with emergency escape and emergency mission abort.

Note:



➤ **Launch:**

- **GSLV Mk III**, also called the LVM-3 (Launch Vehicle Mark-3,) the three-stage heavy lift launch vehicle, will be used to launch Gaganyaan as it has the necessary payload capability.

➤ **Training in Russia:**

- In June 2019, the Human Space Flight Centre of the ISRO and the Russian government-owned Glavkosmos signed a contract for the training, which includes Russian support in the selection of candidates, their medical examination, and space training.
 - The candidates will study in detail the systems of the Soyuz manned spaceship, as well as be trained in short-term weightlessness mode aboard the Il-76MDK aircraft.
 - The Soyuz is a Russian spacecraft. The Soyuz carries people and supplies to and from the space station.
 - The Il-76MDK is a military transport plane specially designed for parabolic flights of trainee astronauts and space tourists.

➤ **Significance:**

- It will help in **enhancement of science and technology levels** in the country and help inspire youth.
 - Gaganyaan will involve numerous agencies, laboratories, disciplines, industries and departments.
- It will help in **the improvement of industrial growth**.
 - Recently, the Government has announced a new organisation, IN-SPACe, part of reforms to increase **private participation in the space sector**.
- It will **help in the development of technology** for social benefits.
- It will help in improving international collaboration.
 - One **International Space Station (ISS)** put up by multiple countries may not be enough. Regional ecosystems will be needed and Gaganyaan will focus on regional needs: food, water and energy security.

➤ **India's Other Upcoming Projects:**

- **Chandrayaan-3 Mission:** India has planned a new moon mission named **Chandrayaan-3**. It is likely to be launched in 2022.

- **Shukrayaan Mission:** The ISRO is also planning a mission to Venus, tentatively called Shukrayaan.

India's First 5G Testbed

Why in News?

Recently, Prime Minister **inaugurated the country's first 5G testbed** that will enable **start-ups** and industry players to test their products locally, thereby reducing dependence on facilities abroad.

What is the Significance of this Step?

- It was an important step towards self-reliance in the direction of critical and modern technologies in the **telecom sector**.
 - The **5G testbed** had been set up at a **cost of about Rs. 220 crore**.
 - In the **absence of a 5G testbed**, startups and other industry players were **required to go abroad to test and validate their products** for installation in a 5G network.
- India's own **5G standard had been made in the form of 5Gi** which would **play a big role in bringing 5G technology** to the villages of the country.
 - **5Gi** is basically a Made in India 5G standard created through a collaboration between IIT Hyderabad and Madras (Chennai).

What is 5G Technology?

➤ About:

- 5G is the **5th generation mobile network**. It is a new global wireless standard after 1G, 2G, 3G, and 4G networks.
- It **enables a new kind of network** that is designed to connect virtually everyone and everything together including machines, objects, and devices.
- Internet speeds in the **high-band spectrum of 5G has been tested to be as high as 20 Gbps (gigabits per second)**, while, in most cases, the maximum internet data speed in 4G has been recorded at 1 Gbps.
- In India, **Satcom Industry Association-India (SIA)** has voiced concerns over the Government's plan to include the **Millimetre Wave (mm Wave) bands** in the 5G spectrum auction.

➤ **Significance:**

- 5G technology would also **bring positive changes in the governance of the country**, ease of living and **ease of doing business**.
 - This would **boost growth in every sector** like agriculture, health, education, infrastructure and logistics.
- This will also **increase convenience and create many employment opportunities**.

What are the Challenges for 5G Rollout in India?

- **Low Fiberization Footprint:** There is a **need to upgrade fibre connectivity across India**, which at present connects only 30% of India's telecom towers.
 - For an efficient 5G India launch and adoption, this number has to double.
- **'Make in India' Hardware Challenge:** The ban on **certain foreign telecom OEMs (original equipment manufacturer)** upon which most of the 5G technology development depends, presents a hurdle in itself.
- **High Spectrum Pricing:** India's 5G **spectrum** pricing is several times costlier than the global average.
 - This will be of detriment to India's cash-strapped telcos.
- **Choosing the Optimal 5G Technology Standard:** The tussle between the homegrown 5Gi standard and the global 3GPP standard needs to be concluded in order to hasten 5G technology implementation.
 - While 5Gi brings obvious benefits, it **also increases 5G India launch costs** and interoperability issues for telcos.
 - 3GPP is a **collaborative Project Agreement between telecommunications industry partners (Organizational Partners)** for formalizing global mobile 3G wireless systems based on radio access technologies and Global System for Mobile Communications (GSM) specifications.

Sudden Infant Death Syndrome

Why in News?

A team of researchers in Australia has identified a biochemical marker in the blood that could help identify newborn babies at risk for the **Sudden Infant Death Syndrome (SIDS)**.

- The researchers **used dried blood spots from newborn infants and screened the samples for BChE (Butyrylcholinesterase) level and total protein content**.

What is SIDS?

- Sudden infant death syndrome is the **unexpected death of an apparently healthy infant**.
- It usually occurs **while the baby is asleep**, although in **rare cases**, it can also occur while the child is awake.
- The condition is also called **"Cot Death"**.
- Newborn babies **delivered prematurely or with low weight at birth are believed to be at a greater risk** of SIDS.
- The exact cause of SIDS is unknown, although revelations from the new research look promising.

What are the Findings?

- Babies who died of SIDS **showed lower levels of the BChE enzyme shortly after birth**.
 - A low level of the BChE enzyme **affects a sleeping infant's ability to wake up or respond to their environment**.
 - The enzyme is **an important part of the autonomic nervous system** of the body and controls unconscious and involuntary functions.
- The previously conducted studies have found that **low BChE activity is associated with severe systemic inflammation and considerably higher mortality** after sepsis and cardiac events.
 - Prior to this research on SIDS, **inflammation has been thought to be a factor in SIDS cases**.
- The mild inflammatory changes on the walls of air passages of the lungs were observed in SIDS infants as early as 1889.
- **Prematurely-delivered babies have been considered to be at a higher risk** for SIDS, although a 1957 study that evaluated BChE in infancy found that there was no difference in the levels of the enzyme in premature and mature newborn infants.
- Smoking during pregnancy is **associated with a significant increase in SIDS events**.

What are the Limitations of the study?

- Even though BChE levels can be a possible cause of SIDS, the research points out that **the samples were**

Note:



over two years old and hence would not accurately reflect BChE specific activity in fresh dried blood samples.

- The researchers also added that **despite analysing over 600 control samples, they are unaware of how common abnormality is in the wider population.**
- Furthermore, the study did not use autopsy details of the subjects of the study but used **Coroners' Diagnosis (when a death is reported to the coroner, the coroner investigates who has died, where, when and how the death occurred. If the cause of death is unclear, the coroner will order a post-mortem) where possible.**

PARAM PORUL Supercomputing Facility

Why in News?

PARAM PORUL, a state-of-the art **Supercomputer** at **NIT Tiruchirappalli** under **National Supercomputing Mission (NSM)** was inaugurated.

- **PARAM PORUL** supercomputing facility is established under **Phase 2 of the NSM**. Majority of the components have been manufactured and assembled within the country, along with an indigenous software stack developed by C-DAC, in line with the **Make in India initiative..**

What are the Features of PARAM PORUL?

- **PARAM PORUL** system is equipped with a mix of CPU (Central Processing Unit) nodes, GPU (Graphics Processing Unit) nodes, High Memory nodes, High throughput storage and high-performance InfiniBand interconnect to cater the computing needs of various scientific and engineering applications.
 - This system is based on **Direct Contact Liquid Cooling technology** to obtain a high-power usage effectiveness and thereby reducing the operational cost.
 - Multiple applications from various scientific domains such as Weather and Climate, Bioinformatics, Computational Chemistry, Molecular Dynamics, Material Sciences, Computational Fluid Dynamics etc. have been installed on the system for the benefit of researchers.

What is the National Supercomputing Mission?

- **In 2015**, the National Supercomputing Mission was launched to enhance the research capacities and capabilities in the country by connecting them to form a Supercomputing grid, with National Knowledge Network (NKN) as the backbone.
 - The NKN project is aimed at establishing a strong and robust Indian network which will be capable of providing secure and reliable connectivity.
 - A supercomputer is a computer that performs at or near the currently highest operational rate for computers.
- The Mission **plans to build and deploy 24 facilities with cumulative compute power of more than 64 Petaflops.**
 - Generally, PETAFLUP is a measure of a Supercomputer's processing speed and can be expressed as a thousand trillion floating point operations per second.
- It **supports the government's vision of 'Digital India' and 'Make in India' initiatives.**
- The Mission is being **jointly steered by the Department of Science and Technology (DST) and the Ministry of Electronics and Information Technology (MeitY).**
 - It is **implemented by the Centre for Development of Advanced Computing (C-DAC), Pune, and the IISc, Bengaluru.**
- The mission was planned in **three phases:**
 - Phase I looking at assembling supercomputers,
 - Phase II looking at manufacturing certain components within the country.
 - Phase III where a supercomputer is designed by India.
- **Recent developments under National Supercomputing Mission:**
 - Under Phase 1 & Phase 2, 15 systems with computer power of 22 Petaflops (PF) have been built at IIT's, C-DAC, NIT, JNCASR, and IISER.
 - NSM deployed "**PARAM Ganga**" at IIT Roorkee in March 2022 with a supercomputing capacity of 1.66 Petaflops as a part of phase 2.
 - **PARAM Siddhi-AI** is the fastest supercomputer in India built under NSM with a capacity of 5.26 PF.
 - **USA's Frontier** is the world's fastest super-computer.

National AI Portal

Why in News?

Recently, the second-year anniversary of **National AI Portal** was celebrated on 30th May, 2022.

What is the National AI Portal?

➤ About:

- Launched in 2020, it is a **joint initiative by the Ministry of Electronics and IT (MeitY)**, National e-Governance Division (NeGD) and **NASSCOM (National Association of Software and Services Companies)**.

➤ Objectives:

- The portal **focuses on creating and nurturing a unified AI ecosystem in the country to drive excellence and leadership in knowledge creation to develop an AI-ready robust workforce** for the future and use AI to foster economic growth.

➤ Significance:

- Over the past two years, the portal has played a crucial role in evangelising and nurturing the AI ecosystem through numerous impactful initiatives such as the lab2market, Women in AI Roundtable, AI patent report, Responsible AI handbook for startups, Responsible AI Startups survey, podcasts, and the AI Standards.

What is Artificial Intelligence?

➤ About:

- It describes the **action of machines accomplishing tasks** that have historically required human intelligence.
- It includes technologies like **machine learning, pattern recognition, big data, neural networks, self algorithms etc.**
- AI involves complex things such as **feeding a particular data into the machine and making it react as per the different situations.**
- AI is being **used across different industries** including finance and healthcare.
- As per a report by PwC, India reported a **45% increase in the use of AI**, the highest among all countries, following the outbreak of the virus.

➤ Barriers to Adoption of AI:

- **Limited understanding of AI:** Many Indian companies may have not yet understood the full benefits of leveraging AI in their companies.
- **Low Investments and Less Evolved Startup Ecosystem:** Startup/investment funding ecosystem in India is yet to scale up in terms of AI startups and service providers.
- **Limited Availability of AI Trained Talent:** There is limited infrastructure to 'democratise' and scale-up important AI skills such as deep learning and neural networks.

➤ Recent Examples of Use of AI in India:

- **For the Covid-19 Response:** An **AI-enabled Chatbot** was used by **MyGov** for ensuring communications.
- **In Judicial System:** An AI based **portal 'SUPACE'** is aimed at assisting judges with legal research.
- **In Agriculture:** ICRISAT has developed an **AI-power sowing app**, which utilises weather models and data on local crop yield and rainfall to more accurately predict and advise local farmers on when they should plant their seeds.
- **In Disaster Management:** An **AI-based flood forecasting model** that has been **implemented in Bihar** is now being expanded to cover the whole of India to ensure that around 200 million people get alerts and warnings 48 hours earlier about impending floods.
- **In Banking & Financial Services Industry:** Few banks in India have adopted AI **to increase digitisation to improve customer experience and use algorithms in risk management** (for example, fraud detection).

➤ Initiatives Taken to Boost Use of AI:

- The **National Strategy for Artificial Intelligence** (NITI Aayog, June 2018) which is focused on inclusive AI (AI for all), and the **New Education Policy (NEP, 2020)** which addresses the need to inculcate AI in the curriculum are the right strategic steps to encourage core and applied research.
- The **Ministry of Tribal Affairs (MTA)** has inked a **MoU with Microsoft** to support the **digital transformation of schools such as Eklavya Model Residential Schools (EMRS)** and Ashram Schools, among others under the Ministry.
- **US India Artificial Intelligence (USIAI) initiative** has been launched to scale up the science and technology relationship between India and the United States.

Note:



- In 2020, India joined the 'Global Partnership on Artificial Intelligence (GPAI)' as a founding member to support the responsible and human-centric development and use of AI.
- 'RAISE 2020 - Responsible AI for Social Empowerment 2020', a mega virtual summit, was jointly organised by the NITI Aayog and the MeitY.
- The larger aim of the program "Responsible AI for Youth" is to provide an equal opportunity to all Indian youths - in urban, rural and remote corners of India - to become human-centric designers who can create real AI solutions to solve economic and social impact issues of India.

Electric Vertical Take off and Landing (eVTOL) Aircraft

Why in News?

The Government of India is exploring the possibility of inviting manufacturers of **Electric Vertical Take off and Landing (eVTOL) aircraft** to set up base in India.

What is eVTOL Aircraft?

➤ About:

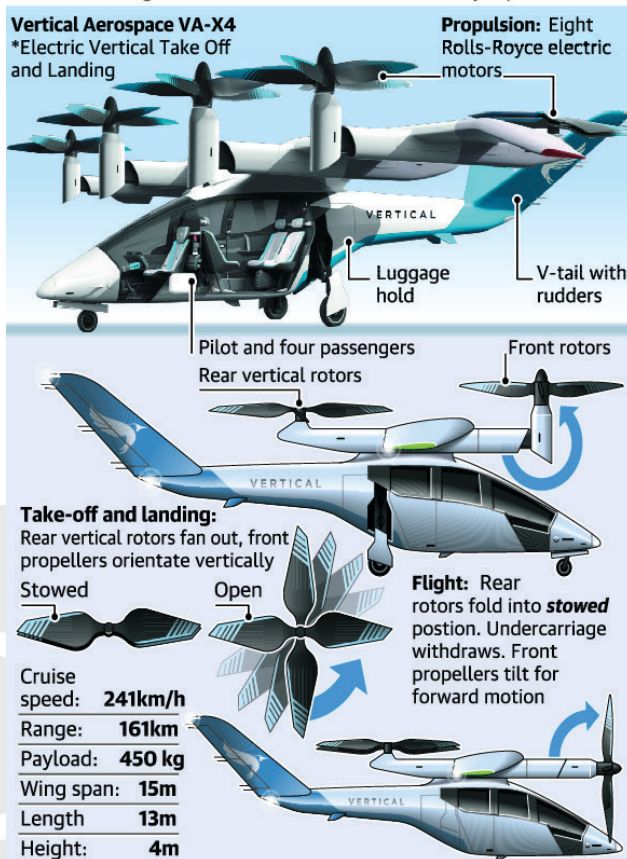
- An eVTOL aircraft is one that uses **electric power to hover, take off, and land vertically**.
- Most eVTOLs also use what is called as **distributed electric propulsion technology** which means integrating a complex propulsion system with the airframe.

➤ Features:

- In order to maximize efficiency, and to also ensure safety, there are **multiple motors**.
- This is technology that has **grown on account of successes in electric propulsion** based on progress in motor, battery, fuel cell and electronic controller technologies and also fuelled by the need for new vehicle technology that ensures **Urban Air Mobility (UAM)**.
 - Thus, eVTOL is **one of the newer technologies and developments** in the aerospace industry.
- There are an **estimated 250 eVTOL concepts or more being fine-tuned** to bring alive the concept of UAM.

What are electric aircraft?

The Union Aviation Minister while speaking at the seventh edition of the India Ideas Conclave in Bengaluru, stated that India is in 'conversation' with a number of eVTOL producers. But how are Electric Vertical Take off and Landing aircraft structured? And what are they capable of?



Sources: Vertical Aerospace, Future Flight, Business Wire Picture: Vertical © GRAPHIC NEWS

- Some of these include the **use of multi-rotors, fixed-wing and tilt-wing concepts** backed by sensors, cameras and even radar. Here the key word here is "**autonomous connectivity**".
- Some of these are in **various test phases** and there are also others undergoing test flights so as to be certified for use.
- In short, **eVTOLs have been likened to a third wave in an aerial revolution**.
 - The first being the advent of commercial flying and the second, the age of helicopters.

How are Developments in eVTOLs being Made?

- The roles eVTOLs adopt depends on battery technology and the limits of onboard electric power.
- Power is **required during the key phases of flight** such as take off, landing and flight (especially in high wind conditions).

Note:



- **Weight is also an important factor.**
 - BAE Systems, for example, is **looking at formats using a variety of Lithium batteries.**
 - BAE Systems is a **British multinational arms, security, and aerospace company** based in London, England.
 - Nano Diamond Batteries is looking at **“Diamond Nuclear Voltaic (DNV) technology”** using minute amounts of **carbon-14 nuclear waste** encased in layered industrial diamonds to create self-charging batteries.
- **The use of only batteries and looking at hybrid technologies** such as hydrogen cells and batteries depending on the flight mission has been questioned by experts.
- There is even one that **uses a gas-powered generator** that powers a small aircraft engine, in turn charging the battery system.
 - But **whatever the technology**, there will be very stringent checks and certification requirements.

What are the Challenges?

- **Crash Prevention Systems:**
 - As the technology so far is a **mix of unpiloted and piloted aircraft**, the areas in focus include “crash prevention systems”.

- These use cameras, radar, **GPS (Global Positioning System)** and infrared scanners.
- **Ensuring Safety:**
 - There are also **issues such as ensuring safety in case of powerplant** or rotor failure. Aircraft protection from cyberattacks is another area of focus.
- **Navigation and Flight Safety:**
 - A third area is in **navigation and flight safety and the use of technology** when operating in difficult terrain, unsafe operating environments and also bad weather.

What is the Value of the Market?

- The global market for eVTOLs was put at **USD8.5 million in 2021** and is to grow to **USD30.8 million by 2030.**
- The **demand will be on account of green energy** and noise-free aircraft, cargo carrying concepts and the need for new modes of transport.
- The **UAM market is expected to expand at a compound annual growth rate of 25%** between 2018-25.
 - By 2025, it is anticipated to be a USD74 billion market. This includes the eVTOLs market since UAM ideally focuses on the use of eVTOLs.

Environment and Ecology

Highlights

- Seoul Forest Declaration
- Urban Heat Islands
- National Policy on Biofuels
- UN Plans to Promote Renewable Energy
- NTPC's Biodiversity Policy
- Community Forest Resource
- SC Judgement on Eco Sensitive Zone
- Fishing Cats
- Draft Notification for E-Waste Management
- Compliance Deadline for Category-C Coal Plants
- Coal Gasification
- Non CO₂ Pollutants

Seoul Forest Declaration

Why in News?

Recently, the **Seoul Declaration** was adopted at the **XV World Forestry Congress**, held in Seoul, South Korea.

- The Declaration, **signed by 141 participant countries**.
- Earlier, the **State of the World's Forests 2022 (SOFO 2022)** was released by the **United Nations Food and Agriculture Organization (FAO)**.

What are the Highlights of the Declaration?

- **Urges for Shared Responsibility:**
 - The declaration urges that **responsibility for forests should be shared and integrated across institutions**, sectors and stakeholders.
 - It was Underlined that **forests transcend political, social and environmental boundaries** and are vital for biodiversity and the carbon, water and energy cycles at a planetary scale.
- **Investment in Forest:**
 - **Investment in forest and landscape restoration globally needs to triple by 2030** to meet internationally agreed commitments and targets on restoring degraded land.
- **Circular Bioeconomy and Climate Neutrality:**
 - One of the key takeaways from Congress was the **importance of moving towards a circular bioeconomy** and climate neutrality.
 - The **Declaration called for innovative green financing mechanisms** to upscale investment in forest conservation, restoration and sustainable

use, and highlighted the potential of sustainably produced wood as a renewable, recyclable and versatile material.

Steps to Prevent Future Pandemics:

- **Healthy, productive forests must also be maintained** to reduce the risk of future **pandemics** and to provide other essential benefits for human physical and mental health.

What is the World Forestry Congress?

About:

- It is held **every six years**.
- This year's event, hosted by the Republic of Korea and co-organized with FAO, was the second congress held in Asia.
 - Indonesia hosted the **first Congress in Asia in 1978**.
- The Congress has been **providing a forum for inclusive discussion** on the key challenges and way forward for the forestry sector.

Theme for 2022: Building a Green, Healthy and Resilient.

Aim:

- To build a new vision – a new way of thinking and acting – for the future of forests and forestry in sustainable development at all levels.
 - Investing in forests and forestry is **investment in people and their livelihoods**, especially the rural poor, youth and women.
 - In turn, **this is investment in sustainable development** and in achieving the **Sustainable Development Goals** by 2030.

Note:



➤ **Need for Innovative Technologies and Mechanisms:**

- The Declaration urged the **continued development and use of emerging innovative technologies** and mechanisms to enable evidence-based forest and landscape decision-making.

What are the other Highlights of the XV World Forestry Congress?

- Other Initiatives undertaken at the Congress to boost international participation and cooperation.
 - **Assuring the Future of Forests with Integrated Risk Management (AFFIRM) Mechanism:**
 - AFFIRM aims to **develop integrated risk management plans** to use as examples for other countries to follow, creating a methodology that will enable countries to better conduct disturbance risk assessments and provide an improved understanding of forest hazards and forest-related risks.
 - **Sustaining an Abundance of Forest Ecosystems (SAFE) Initiative**
 - The **Platform for REDD+ Capacity Building:**
 - REDD+ is a framework created by the **United Nations Framework Convention on Climate Change (UNFCCC)** Conference of the Parties (COP) to guide activities in the forest sector that reduces emissions from deforestation and forest degradation, as well as the sustainable management of forests and the conservation and enhancement of forest carbon stocks in developing countries.

What are the Major Initiatives of India for Forests?

- **National Mission for a Green India:**
 - It is one of the eight Missions under the **National Action Plan on Climate Change (NAPCC)**.
 - It was launched in February, 2014 with the **objective to safeguard the biological resources of our nation and associated livelihoods** against the peril of adverse climate change and to recognise the vital impact of forestry on ecological sustainability, biodiversity conservation and food-, water- and livelihood-security.
- **National Afforestation Programme (NAP):**
 - It has been implemented since 2000 for the afforestation of degraded forest lands.

- It is being implemented by the **Ministry of Environment, Forest and Climate Change (MoEFCC)**.

➤ **Compensatory Afforestation Fund Management and Planning Authority, (CAMPA Funds):**

- Launched in 2016, **90% of the fund is to be given to the states** while 10% is to be retained by the Centre.
- The funds can be **used for treatment of catchment areas, assisted natural generation, forest management, wildlife protection and management**, relocation of villages from protected areas, managing human-wildlife conflicts, training and awareness generation, supply of wood saving devices and allied activities.

➤ **National Action Programme to Combat Desertification:**

- It was prepared in 2001 to address issues of increasing **desertification** and to take appropriate actions.
- It is implemented by the MoEFCC.

➤ **Forest Fire Prevention & Management Scheme (FFPM):**

- It is the only centrally funded program specifically dedicated to assist the states in dealing with forest fires.

Urban Heat Islands

Why in News?

Recently, several parts of India are experiencing severe heat waves. Urban areas and cities are the places which have higher temperatures than rural places. This phenomenon is referred to as "**Urban Heat Island**".

- According to experts, these temperature discrepancies are caused by variations in heating over highly urbanized and semi-urbanized areas, as well as the relative availability of open and green spaces in the surrounding areas.

What is an Urban Heat Island?

- Urban heat island may be defined as the local and temporary phenomenon in which certain pockets within a city are experiencing higher heat load than its surrounding area.

- This rise of heat basically happens due to buildings and houses of cities made up of concrete where the heat is trapped and not able to dissipate easily.
 - Urban heat island is basically induced due to trapped heat between establishments made up of concrete.
 - The temperature variation can range between 3 to 5 degrees Celsius.

Why are Cities Hotter than Rural Areas?

- It has been observed that greener localities experienced lower temperatures than non-green localities.
- Green vegetation like plants, trees and forests are prominent factors to regulate the incidences of the urban heat islands.
- Rural areas are blessed with more green cover in the form of plantations, farmlands, forests, and trees than urban areas.
- Transpiration is the phenomena which the plants carry to regulate the temperature.
- In urban areas is the basic cause of Urban Heat Island in urban areas.
 - Frequent construction of Highrise structures, roads, parking spaces, pavements, and public transportation transit lines have accelerated the incidences of urban heat islands.
- It occurs by black or any dark colored material.
 - Buildings in cities are often made of glass, bricks, cement, and concrete. All of them are dark-colored materials, which attract and absorb more heat

What are the Causes of Urban Heat Island?

- **Manifold increase in construction activities:** For building simple urban dwellings to complex infrastructures, carbon absorbing material like asphalt and concrete is needed for the expansion of cities. They trap huge amounts of heat which increases the mean surface temperatures of urban areas.
- **Dark surfaces:** Many buildings found in urban areas have dark surfaces, thereby decreasing albedo and increased absorption of heat.
- **Air conditioning:** Buildings with dark surfaces heat up more rapidly and require more cooling from air conditioning, which requires more energy from power plants, which causes more pollution. Also, air conditioners exchange heat with atmospheric air, causing

further local heating. Thus, there is a cascade effect that contributes to the expansion of urban heat islands.

- **Urban Architecture:** Tall buildings, and often accompanying narrow streets, hinder the circulation of air, reduce the wind speed, and thus reduce any natural cooling effects. This is called the Urban Canyon Effect.
- **Need for mass transportation system:** Transportation systems and the unimpeded use of fossil fuels also add warmth to urban areas.
- **Lack of Trees and green areas:** which impedes evapo-transpiration, shade and removal of carbon dioxide, all the processes that help to cool the surrounding air.

How can Urban Heat Islands be Reduced?

- **Increase Area Under Green Cover:** Plantation and effort to increase the area under green cover are the primary requirement to cut heat load within urban areas.
- **Passive Cooling to Reduce Urban Heat Islands:** Passive cooling technology, a widely-used strategy to create naturally ventilated buildings, can be a vital alternative to address the urban heat island for residential and commercial buildings.
 - **The IPCC report** cites ancient Indian building designs that have used this technology, which could be adapted to modern facilities in the context of global warming.
- **Other methods** of heat mitigation include using appropriate construction materials.
 - Roof and terraces should be painted in white or light colors to reflect heat and reduce the absorption.
 - Terrace plantation and kitchen gardening should be promoted.

What are the NASA's Observations about India's Urban Heat Islands?

- **NASA** has observed that higher incidences of heat islands in urban parts of Delhi is occurring.
 - Temperatures were significantly higher in the urban part of Delhi than in surrounding farm areas.
- The image was acquired by **NASA's Ecosystem Spaceborne Thermal Radiometer Experiment (Ecostress)**, which revealed a massive red spot over Delhi and smaller red patches around neighboring cities Sonipat, Panipat, Jind, and Bhiwani.

Note:



- Ecostress is a radiometer-equipped device that was sent to the **International Space Station** in 2018 by NASA.
- Ecostress is primarily responsible for assessing the temperature of plants, as well as knowing their water requirements and the influence of the climate on them.
- These red patches in the data of Ecostress indicated greater temperatures i.e., incidents of urban heat islands, whereas the rural areas surrounding cities had lower temperatures.

National Policy on Biofuels

Why in News?

Recently, the Union Cabinet approved amendments to the **National Policy on Biofuels, 2018**.

What are the Key Amendments approved?

- **More Feedstocks:**
 - One of the amendments is that the **government will allow more feedstocks** for the production of biofuels.
- **Ethanol Blending Target:**
 - Instead of 2030, the Centre plans to move ahead with its **ethanol blending target of 20% of petrol containing ethanol by 2025-26**.
 - It will **promote the production of biofuels in the country**, under the **Make in India program**, by units located in **Special Economic Zones (SEZ)/ Export Oriented Units (EoUs)**.
- **New members to the NBCC:**
 - The government has allowed the addition of new members to the **National Biofuel Coordination Committee (NBCC)**.
 - NBCC was constituted **under the Chairmanship of Minister, Petroleum & Natural Gas (P&NG)** to provide overall coordination, effective end-to-end implementation and monitoring of biofuel programme.
 - NBCC has members from 14 other ministries.
- **Export of Biofuels:**
 - Permission will be granted for the **export of biofuels in specific cases**.

What is the Significance of the Amendments?

- **Boost Make in India Drive:**
 - The proposed amendments are expected to pave the way for the **Make in India drive** thereby leading to a **reduction in the import of petroleum products** by the generation of more and more biofuels.
- **Promote the Atmanirbhar Bharat Initiative:**
 - Since many more feedstocks are being allowed for the production of biofuels, this will promote the **Atmanirbhar Bharat** and give an impetus to the Prime Minister's vision of **India becoming 'energy independent' by 2047**.
- **Generate More Employment:**
 - Also, the proposed amendments are **expected to attract and foster developments of indigenous technologies** which will pave the way for the Make in India drive and thereby generate more employment.

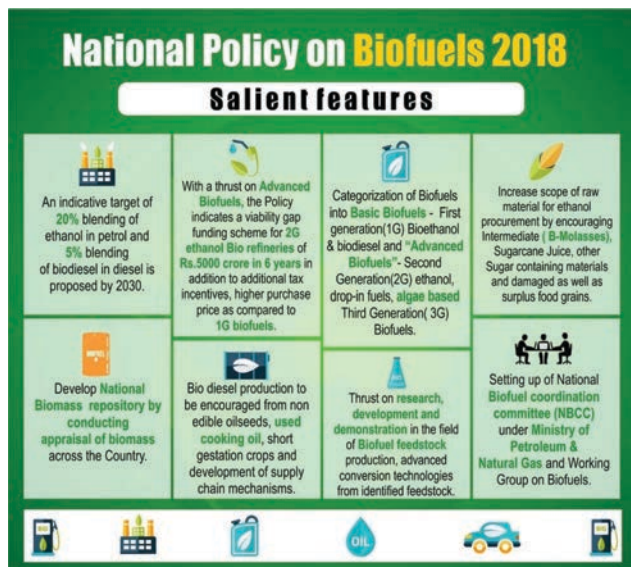
What is the National Policy on Biofuels, 2018?

- **About:**
 - The "National Policy on Biofuels was notified by the **Ministry of Petroleum and Natural Gas in 2018**.
 - The policy was **notified in supersession of the National Policy on Biofuels**, promulgated through the Ministry of New & Renewable Energy, in 2009.
- **Categorisation:**
 - The Policy **categorises biofuels as**
 - **"Basic Biofuels"** viz. First Generation (1G) bioethanol & biodiesel and "Advanced Biofuels".
 - **"Advance Biofuels"** viz. Second Generation (2G) ethanol, Municipal Solid Waste (MSW) to drop-in fuels.
 - Third Generation (3G) biofuels, bio-CNG etc. to enable extension of appropriate financial and fiscal incentives under each category.
- **Features:**
 - It expands the **scope of raw material for ethanol production** by allowing use of sugarcane juice, sugar containing materials like sugar beet, sweet sorghum, starch containing materials like corn, cassava, damaged food grains like wheat, broken rice, rotten potatoes, unfit for human consumption for ethanol production.

Note:



- The Policy allows use of surplus food grains for production of ethanol for blending with petrol with the approval of National Biofuel Coordination Committee.
- With a thrust on Advanced Biofuels, the Policy indicates a viability gap funding scheme for 2G ethanol Bio refineries of Rs. 5000 crore in 6 years in addition to additional tax incentives, higher purchase price as compared to 1G biofuels.



What are the Related Initiatives?

- **Ethanol Blended Petrol (EBP) programme:**
 - It seeks to achieve blending of Ethanol with a view to reducing pollution, conserve foreign exchange and increase value addition in the sugar industry enabling them to clear cane price arrears of farmers.
- **Pradhan Mantri JI-VAN Yojana, 2019:**
 - To create an ecosystem for setting up commercial projects and to boost Research and Development in 2G Ethanol sector.
- **GOBAR (Galvanizing Organic Bio-Agro Resources) DHAN scheme:**
 - It focuses on managing and converting cattle dung and solid waste in farms to useful compost, biogas and bio-CNG, thus keeping villages clean and increasing the income of rural households.
- **Repurpose Used Cooking Oil (RUCO):**
 - It was launched by Food Safety and Standards Authority of India (FSSAI) and aims for an ecosystem that will enable the collection and conversion of used cooking oil to biodiesel.

UN Plans to Promote Renewable Energy

Why in News?

Recently, The UN's weather agency **World Meteorological Organization** reported that greenhouse gas concentrations, ocean heat, sea-level rise, and ocean acidification all set new records last year.

- According to the **World Meteorological Organization** Extreme weather has resulted in fatalities, sickness, migration, and economic losses.
- The number of **extreme weather occurrences** has been **doubled by 2020**, according to the United Nations.
- The UN's chief launched a **five-point plan to jump-start broader use of renewable energies** in the hopes of reigniting global attention on **climate change**.

What did the United Nations Secretary General Urge?

- The **United Nations General Secretary** supported **technology transfer** along with lifting the protection on **intellectual property rights** regarding **renewable technologies**.
- Supply chains for **renewable energy technology** should be **broadened** which are now concentrated in the hands of the few developed nations in the wake of high rise in the level of pollution and its consequences.
- The **United Nations Secretary-General** urges states to **restructure its energy demand and supply** in ways that favor renewable energy, such as speeding up **solar** and **wind projects**.
- **Subsidies to fossil fuels** should be removed by the states.
- **Investment** in the field of **renewable energy production** should be prompted to grow at least \$4 trillion dollars a year.

Why should Fossil Fuels be Avoided?

- **Burning of fossil fuels emits hazardous chemicals** such as sulfur dioxide and nitrogen oxides and other harmful gases are released in the atmosphere.
- **Sulfur dioxide and nitrogen oxides form acid rain:** Quick dissolution of the SO_2 and NO_2 in water resulted in acid rain.

Note:



- **Use of fossil fuel should be curtailed** and use of renewable sources of energy should be promoted to keep pollution in Control.
- **Fossil fuel intensifies global warming and climate change** which ultimately leads to extreme weather events.
- **Fossil fuel extraction devastated huge stretches of land** for establishment of infrastructure such as roads, pipelines, processing facilities, and waste storage in addition to the main extraction site.

What is the State of the Climate Report 2021?

- **About:**
 - **The State of the Climate Report for 2021** is published by the **World Meteorological Organisation**.
- **Key Features:**
 - The global mean temperature in 2021 was around $1.11 \pm 0.13^\circ\text{C}$ above the 1850–1900 pre-industrial average.
 - The most recent seven years, 2015 to 2021, were the seven warmest years on record.
 - Global mean sea level reached a new record high in 2021, rising an average of 4.5 mm per year over the period 2013–2021.
 - The compounded effects of conflict, extreme weather events and economic shocks, further exacerbated by the **Covid-19 pandemic**, undermined decades of progress towards improving food security globally.
 - **Carbon dioxide concentration is increasing** in the atmosphere due to continuous growth in fossil fuel combustion.
- According to the report, extreme weather events globally are :
 - **Hurricane or cyclone:** Strong wind, heavy rain.
 - **Dust storm:** Strong winds, arid conditions.
 - **Flood:** Heavy rainfall.
 - **Hailstorm:** Cold or warm temperatures, rain, ice.
 - **Ice storm:** Freezing rain.
 - **Tornado:** Clouds, strong wind, rain, hail.
 - **Blizzard:** Heavy snow, ice, cold temperatures.
- **Risks and impacts:**
 - **Food Security Challenges:**
 - The number of undernourished people in the world significantly increased during the Covid-19

pandemic, from 650 million people in 2019 to 768 million people in 2020.

- Global warming has exacerbated the issues of food insecurity in the less developed countries.
- **Humanitarian Impacts and Population Displacement:**
 - Refugees, internally displaced people and stateless people are often among those most vulnerable to climate and weather-related hazards.
 - Many vulnerable individuals who are displaced end up settling in high-risk areas, where they are exposed to climate and weather hazards at a range of scales.
- **Climate Impacts on Ecosystems:**
 - Ecosystems are degrading at an unprecedented rate, limiting their ability to support human well-being and harming their adaptive capacity to build resilience.
 - Climate change is also affecting climate sensitive species. There is evidence that temperature-sensitive plants are flowering and starting to produce leaves earlier in spring and dropping their leaves later in autumn.

What are the Shortcomings and Associated Lacunae?

- **Clean energy is not a cheap source of energy:** If we want to attain the goal of net zero emissions, we must first make renewable energy affordable to middle-income and poor countries.
- **Accelerated accumulation of the carbon dioxide** in regions such as the Amazon, Africa and southern Asia.
- **Carbon cutting commitment is not achieved by Nations:** Except India, other nations are not able to make carbon-cutting commitments taken at the **United Nations climate meeting** in Glasgow, Scotland.

NTPC's Biodiversity Policy

Why in News?

Recently, **National Thermal Power Corporation Limited (NTPC Ltd.)** has issued a renewed **Biodiversity Policy 2022** to establish a comprehensive vision and guiding principle for conservation, restoration, and enhancement of biodiversity.

Note:



- It is an **integral part of NTPC's Environmental Policy** and its objectives are **aligned with environmental and sustainability policies**.

What are the Objectives of the Policy?

- **Support Professionals to achieve Biodiversity Target:**
 - The policy is **designed to support all the professionals of the NTPC Group** to help them contribute toward the achievement of the targets set in this field.
 - NTPC has always been **mindful about avoiding operations in areas** with the highest biodiversity value and judiciously selecting project sites.
 - Company's efforts will be **further strengthened to ensure that biodiversity is not lost** at any of its currently operating sites and that there is a net positive balance wherever possible.
- **Mainstreaming the Concept of Biodiversity:**
 - The major aim is **to mainstream the concept of biodiversity** across NTPC's value chain.
 - It also **aims to adopt a precautionary approach** for sustainable management of biodiversity in all the decision-making processes to ensure the Earth's variety of life in and around the business units of NTPC.
- **Addressing Local Threats:**
 - The policy also **aims to adopt systematic consideration of local threats** to biodiversity beyond the company's business activities.

What are the other Related Steps taken by NTPC?

- **Raising Awareness:**
 - NTPC is **raising awareness among local communities, employees, and its associates** across the supply chain about biodiversity through project-specific and national level training in collaboration with experts.
- **Through Collaboration:**
 - NTPC is also **collaborating with local communities, organizations, regulatory agencies** and research institutes of national/international repute in the field of biodiversity.
- **Adhering to Legal Compliances:**
 - NTPC will be **adhering to legal compliances** with respect to biodiversity by complying with rules and regulations related to the environment, forest,

wildlife, coastal zone, and green cover during planning and execution of its projects.

➤ **Related Agreement Signed:**

- NTPC has signed a five-year agreement with Andhra Pradesh Forest Department for conservation of **Olive Ridley Turtles** in the coastline of Andhra Pradesh.

What is Biodiversity?

➤ **About:**

- It refers to the **variety of living species on Earth**, including plants, animals, bacteria, and fungi.
- While Earth's biodiversity is so rich that many species have yet to be discovered, many species are being threatened with extinction due to human activities, putting the Earth's magnificent biodiversity at risk.

➤ **Significance:**

- **Biodiversity Hotspot:** India is home to **nearly 8% of global biodiversity** on just 2.3% of global land area and contains sections of four of the 36 global biodiversity hotspots.
- **Staggering Economic Value:** While the precise economic value of all ecosystem services provided by biodiversity may not be known, estimates suggest that **India's forests alone may yield services worth more than a trillion rupees per year**.
 - Further, it can be imagined how much greater this value will be with grasslands, wetlands, freshwater, and marine can add.
- **Protection From Natural Disasters:** The varied ecosystems across land, rivers, and oceans, feed our people, **enhance public health security, and shield us from environmental disasters**.
- **Spiritual Enrichment:** Our biodiversity **also serves as a perpetual source of spiritual enrichment**, intimately linked to our physical and mental well-being.
- **Related Initiatives:**
 - **India's:**
 - **India Business & Biodiversity Initiative (IBBI):** It serves as a **national platform for businesses and its stakeholders** for dialogue sharing and learning, ultimately leading to mainstreaming sustainable management of biological diversity into businesses.
 - **Global:**
 - **Kunming Declaration**

Note:



- Convention on Biological Diversity
- Convention on International Trade in Endangered Species of Wild Fauna and Flora
- World Wide Fund for Nature

What is NTPC Limited?

- NTPC is India's largest power utility with an installed capacity of 68,961.68 MW plans to become a 130 GW company by 2032.
- Established in 1975, NTPC aims to be the world's largest and best power major.
- NTPC has comprehensive Rehabilitation & Resetlement and Corporate Social Responsibility (CSR) policies well integrated with its core business of setting up power projects and generating electricity.
- The company is committed to generating reliable power at competitive prices in a sustainable manner by optimising the use of multiple energy sources with innovative eco-friendly technologies thereby NTPC is contributing to the economic development of the nation and upliftment of the society.

Community Forest Resource

Why in News?

Chhattisgarh has become only the second state in the country to recognise Community Forest Resource (CFR) rights of a village inside a Kanger Ghati National Park.

- While CFR rights are an important empowerment tool, getting a consensus amongst various villages about their traditional boundaries often proves a challenge.
- In 2016, the Odisha government was the first to recognise Community Forest Resources (CFRs) inside the Simlipal National Park.

What are the Highlights about the Kanger Ghati National Park?

- Kanger Valley National Park is located in the Bastar district (Near Jagdalpur) of the state of Chhattisgarh.
- The Kanger Valley National park is also known as Kanger Ghati National Park.
- It was declared as a National park in the year of 1982. Total area of the park is about 200 Km².
- The national Park is situated on the valley of river Kanger. The park derives its name from the Kanger River, which flows throughout its length.

- The Park is a typical mixed humid deciduous type of forest, in which the Sal, Saugaun, teak and bamboo trees are available in abundance.
- The most popular species in this area is Bastar Maina which enchant everyone with their human voice.

National Parks & Sanctuaries of Chhattisgarh



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What is Community Forest Resource (CFR)?

- **About:**
 - It is the common forest land that has been traditionally protected and conserved for sustainable use by a particular community.
 - The community uses it to access resources available within the traditional and customary boundary of the village; and for seasonal use of landscape in case of pastoralist communities.
 - Each CFR area has a customary boundary with identifiable landmarks recognised by the community and its neighboring villages.
- **Categories:**
 - It may include forest of any category – revenue forest, classified & unclassified forest, deemed forest, District Level Committee (DLC) land, reserve forest, protected forest, sanctuary and national parks etc.

What are Community Forest Resource Rights?

- Under Section 3(1)(i) of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act (commonly referred to as the Forest Rights Act or the FRA), 2006 the Community Forest Resource rights provide for recognition of the right to “protect, regenerate or conserve or manage” the community forest resource.

Note:



- These **rights allow the community to formulate rules for forest use** by itself and others and thereby discharge its responsibilities under Section 5 of the FRA.
- CFR rights, along with Community Rights (CRs) under Sections 3(1)(b) and 3(1)(c), which **include nistar rights** (used erstwhile in princely states or zamindari, etc.) **and rights over non-timber forest products**, ensure sustainable livelihoods of the community.
- These rights give the **authority to the Gram Sabha to adopt local traditional practices** of forest conservation and management within the community forest resource boundary.

What are the Benefits of CFR Rights Recognition?

- **Giving Justice to Forest Communities:**
 - Aimed at **undoing the "historic injustice" meted out to forest-dependent communities** due to curtailment of their customary rights over forests.
 - It is important as it **recognises the community's right to use, manage and conserve forest resources**, and to legally hold forest land that these communities have used for cultivation and residence.
- **Underlines Role of Forest Dwellers:**
 - It also **underlines the integral role that forest dwellers play in sustainability of forests** and in conservation of biodiversity.
 - It is of **greater significance inside protected forests like national parks, sanctuaries and tiger reserves** as traditional dwellers then become a part of management of the protected forests using their traditional wisdom.

What is the Forest Rights Act?

- **FRA enacted in 2006 recognises the rights of forest-dwelling tribal communities** and other traditional forest dwellers to forest resources on which these communities were dependent for a variety of needs, including livelihood, habitation and other sociocultural needs.
- It recognizes and vests the forest rights and occupation in Forest land in **Forest Dwelling Scheduled Tribes (FDST)** and **Other Traditional Forest Dwellers (OTFD)** who have been residing in such forests for generations.
- It **strengthens the conservation regime of the forests** while ensuring livelihood and food security of the FDST and OTFD.

- The **Gram Sabha** is the authority to initiate the process for determining the nature and extent of **Individual Forest Rights (IFR)** or **Community Forest Rights (CFR)** or both that may be given to FDST and OTFD.

SC Judgement on Eco Sensitive Zone

Why in News?

Recently, the **Supreme Court** directed that every protected forest, national park and wildlife sanctuary across the country should have a **mandatory eco-sensitive zone (ESZ) of a minimum one km** starting from their demarcated boundaries.

- The judgment came on a petition instituted for the protection of forest lands in the Nilgiris district of Tamil Nadu.

What are the Key Highlights of Judgement?

- The **Centre** had while coming out with **February 2011 guidelines on ESZ** had prescribed a **10-kilometre boundary** based on responses received from states and UTs.
 - The Court was conscious of the fact that a **uniform ESZ for all national parks and sanctuaries would not be feasible** as it noted special cases such as Sanjay Gandhi National Park in Mumbai and Guindy National Park in Chennai which are situated very close to the metropolis.
- If the existing ESZ goes **beyond the 1 km buffer zone** or if any statutory instrument prescribes a higher limit, then **such extended boundary shall prevail**.
- **Mining** within the national parks and wildlife sanctuaries **shall not be permitted**.
- The judgement would **apply in all such states/UTs** where the minimum ESZ is not prescribed.
- The **minimum width of ESZ may be diluted in the overwhelming public interest**.
 - The state or UT concerned shall approach the Court-appointed **Central Empowered Committee (CEC)** and **MoEFCC** (Ministry of Environment Forest and Climate Change) and both these bodies shall give the respective opinions or recommendations before this Court based on which this Court shall pass appropriate order.

Note:



- The Court directed the **Principal Chief Conservator of Forests (PCCF)** of each state and UT to submit a **report in three months** to the Court providing a list of activities continuing in the ESZ of every national park or wildlife sanctuary.
- The Court entrusted the PCCF to ensure that **no new permanent structure comes up within ESZ** and those already carrying out any activity will have to apply for permission afresh from the PCCF within six months.

What are Eco Sensitive Zones?

- **About:**
 - The **National Wildlife Action Plan (2002-2016)** of the **Ministry of Environment, Forest and Climate Change (MoEFCC)** stipulated that state governments should declare land falling within **10 km of the boundaries of national parks and wildlife sanctuaries** as eco fragile zones or **Eco Sensitive Zones (ESZs)** under the **Environmental (Protection) Act, 1986**.
- **Purpose:**
 - The purpose of declaring ESZs around national parks, forests and sanctuaries is to create some kind of a **“shock absorber”** for the protected areas.
 - These zones would act as a **transition zone** from **areas of high protection** to those involving **lesser protection**.
- **Prohibited activities:**
 - Commercial mining, saw mills, industries causing pollution, establishment of major hydroelectric projects (HEP), commercial use of wood.
 - Tourism activities like hot-air balloons over the National Park, discharge of effluents or any solid waste or production of hazardous substances.
- **Regulated activities:**
 - Felling of trees, establishment of hotels and resorts, commercial use of natural water, erection of electrical cables, drastic change of agriculture system, e.g. adoption of heavy technology, pesticides etc, widening of roads.
- **Permitted activities:**
 - Ongoing agricultural or horticultural practices, rainwater harvesting, organic farming, use of renewable energy sources, adoption of green technology for all activities.
- **Significance:**

- **Minimize the impact of development activities**
 - To minimize the impact of urbanization and other developmental activities, the areas adjacent to protected areas have been declared as Eco-Sensitive Zones.
- **In-situ conservation:**
 - ESZs help in in-situ conservation, which deals with conservation of an endangered species in its natural habitat, for example the conservation of the One-horned Rhino of Kaziranga National Park, Assam.
- **Minimize Forest Depletion and Man-Animal Conflict**
 - Eco-Sensitive Zones minimize forest depletion and man-animal conflict.
 - The protected areas are based on the core and buffer model of management, through which local area communities are also protected and benefitted.

What are the challenges to Eco-Sensitive Zones?

- **Developmental activities:**
 - Activities such as construction of dams, roads, urban and rural infrastructures in the ESZ, create interference, negatively impact upon the environment and imbalance the ecological system.
- **Governance and new laws:**
 - The Environmental Protection Act 1986 and the Wildlife Protection Act 1972 ignore forest communities' rights and fail to stop poaching of animals. This is in order to support development activities in ESZs.
- **Tourism:**
 - To cater to the increasing demand for eco-tourism, land around parks and sanctuaries is being cleared through deforestation, displacement of local people etc.
- **Introduction of exotic species:**
 - Exotic species like Eucalyptus and Acacia auricularis etc., and their plantations create a competing demand on naturally occurring forests.
- **Climate change:**
 - Climate change has generated land, water and ecological stress on the ESZs. For example, frequent forest fires or the Assam floods which badly affected the **Kaziranga National Park** and its wildlife.
- **Local communities:**

Note:



- Shifting cultivation, pressure of increasing population and the rising demand for firewood and forest produce, etc. exert pressure on the protected areas.

Fishing Cats

Why in News?

According to a census conducted by Chilika Development Authority, the Chilika Lake has 176 Fishing Cats.

- The Census was conducted in Collaboration with The Fishing Cat Project (TFCP). This is the **world's first population estimation of the fishing cat**, which has been conducted outside the protected area network.
- **Spatially Explicit Capture Recapture (SECR) method** was used to analyze the data. SECR is used to estimate the density of an animal population from capture–recapture data collected using an array of ‘detectors’.



What are Fishing Cats?

- **Scientific Name:** *Prionailurus viverrinus*.
- **Description:**
 - It is twice the size of a house cat.
 - The fishing cat is nocturnal (active at night) and apart from fish also preys on frogs, crustaceans, snakes, birds, and scavenges on carcasses of larger animals.
 - The species breed all year round.
 - They spend most of their lives in areas of dense vegetation close to water bodies and are excellent swimmers.
- **Habitat:**

- Fishing cats have a patchy distribution along the **Eastern Ghats**. They abound in estuarine floodplains, tidal **mangrove forests** and also inland freshwater habitats.
- Apart from Sundarbans in West Bengal and Bangladesh, fishing cats inhabit the **Chilika lagoon** and surrounding wetlands in Odisha, Coringa and Krishna mangroves in Andhra Pradesh.

➤ Threats:

- **Habitat Destruction:** A major threat for fishing cats is the destruction of wetlands, their preferred habitat.
- **Shrimp Farming:** Shrimp farming is another growing threat to **mangrove habitats** of the Fishing Cat.
- **Hunting:** This unique cat also faces threats from hunting for meat and skin.
- **Ritual Practices:** Tribal hunters indulge in ritual hunting practices throughout the year.
- **Poaching:** It is also occasionally poached for its skin.
- **Poisoning:** Indiscriminate trapping, snaring and poisoning.

➤ Protection Status:

- **IUCN Red List:** Vulnerable. Despite multiple threats, the Fishing Cat was recently downlisted to “Vulnerable” from “Endangered” in the IUCN Red List species assessment.
- **CITES:** Appendix II
- **Indian Wildlife Protection Act, 1972:** Schedule I

➤ Conservation Efforts:

- Earlier, Chilika Development Authority had declared its intent to adopt a **five year action plan for fishing cat conservation** in Chilika.
- In 2021, the **Fishing Cat Conservation Alliance** initiated a study of the bio-geographical distribution of the **fishing cat** in the unprotected and human-dominated landscapes of the northeastern Ghats of Andhra Pradesh.
- The Fishing Cat Project, launched in 2010 started raising awareness about the Cat in West Bengal.
- In 2012, the West Bengal government officially declared the Fishing Cat as the State Animal and the Calcutta Zoo has two big enclosures dedicated to them.
- In Odisha, many NGOs and wildlife conservation Societies are involved in Fishing Cat research and conservation work.

Note:



What are the Key Points of Chilika Lake?

- Chilika is Asia's largest and **world's second largest lagoon**.
- In 1981, Chilika Lake was designated the first Indian wetland of international importance under the **Ramsar Convention**.



- Major attraction at Chilika is the **Irrawaddy dolphins** which are often spotted off Satapada Island.
- The large Nalabana Island (Forest of Reeds) covering about 16 sq km in the lagoon area was declared a bird sanctuary in 1987.
- Kalijai Temple - Located on an island in the Chilika Lake.
- Chilika lake hosts birds migrating from thousands of miles away from the Caspian Sea, Lake Baikal, Aral Sea, remote parts of Russia, Kirghiz steppes of Mongolia, Central and South East Asia, Ladakh and the Himalayas.
- The birds find the vast mud-field and abundant fish stock here suitable to congregate.

Draft Notification for E-Waste Management

Why in News?

The Ministry of Environment, Forest and Climate Change has released the **draft notification for Electronic Waste Management** for public feedback.

- India has a formal set of rules for electronic waste management, first announced **these rules in 2016 and amended it in 2018**. The latest rules are expected to come into effect by August 2022.

- Earlier, the Ministry had notified the **Plastic Waste Management Amendment Rules, 2021**. These rules prohibit specific **single-use plastic** items which have "low utility and high littering potential" by 2022.

What is the Draft Notification for Electronic Waste Management?

- **Electronic Goods Covered:** A wide range of electronic goods, including laptops, landline and mobile phones, cameras, recorders, music systems, microwaves, refrigerators and medical equipment have been specified in the notification.
- **E-Waste Collection Target:** Consumer goods companies and makers of electronics goods have to ensure at least 60% of their electronic waste is collected and recycled by 2023 with targets to increase them to 70% and 80% in 2024 and 2025, respectively.
 - Companies will have to **register on an online portal** and specify their annual production and e-waste collection targets.
- **EPR Certificates:** The rules bring into effect a **system of trading in certificates, akin to carbon credits, that will allow companies to temporarily bridge shortfalls**.
 - The rules lay out a system of companies securing **Extended Producer Responsibility (EPR) certificates**.
 - These certificates **certify the quantity of e-waste collected and recycled in a particular year by a company and an organisation** may sell surplus quantities to another company to help it meet its obligations.
- **Focus on Circular Economy:** New Rules emphasizes on the EPR, recycling and trading.
 - This follows from the government's objective to promote a **Circular Economy**.
- **Penalty:** Companies that **don't meet their annual targets will have to pay a fine or an 'environmental compensation'** but the draft **doesn't specify the quantum of these fines**.
- **Implementing Authority:** The **CPCB (Central Pollution Control Board)** will oversee the overall implementation of these regulations.
- **Responsibility of the State Governments:** The State governments have been entrusted with the responsibility of earmarking industrial space for e-waste dismantling and recycling facilities, undertaking industrial skill development and establishing measures for protecting the health and safety of workers engaged in the dismantling and recycling facilities for e-waste.

Note:



What is E-Waste?

➤ About:

- E-Waste is **short for Electronic-Waste** and the term is used to describe old, end-of-life or discarded electronic appliances. It includes their components, consumables, parts and spares.
- Laws to manage e-waste have been **in place in India since 2011, mandating that only authorised dismantlers and recyclers collect e-waste**. E-waste (Management) Rules, 2016 was enacted in 2017.
- India's first **e-waste clinic** for segregating, processing and disposal of waste from household and commercial units has been set-up in Bhopal, Madhya Pradesh.
- Originally, the **Basel Convention (1992)** did not mention e-waste but later it addressed the issues of e-waste in 2006 (COP8).
 - The Nairobi Declaration was adopted at COP9 of the Basel Convention on the Control of the Trans-boundary Movement of Hazardous Waste. It aimed at creating innovative solutions for the environmentally sound management of electronic wastes.

➤ Challenges Related to Management of E-Waste in India:

- **Less Involvement of People:**
 - A key factor in used electronic devices not being given for recycling was because consumers themselves did not do so.
 - However, in recent years, countries around the world have been attempting to pass effective '**right to repair**' laws.
- **Involvement of Child Labor:**
 - In India, about **4.5 lakh child laborers in the age group of 10-14 are observed to be engaged in various E-waste activities** and that too without adequate protection and safeguards in various yards and recycling workshops.
- **Ineffective Legislation:**
 - There is absence of any public information on most State Pollution Control Boards (SPCBs)/ PCC websites.
- **Health hazards:**
 - E-waste contains over 1,000 toxic materials, which contaminate soil and groundwater.

○ Lack of incentive schemes:

- No clear guidelines are there for the unorganized sector to handle E-waste.
- Also, no incentives are mentioned to lure people engaged to adopt a formal path for handling E-waste.

○ E-waste Imports:

- Cross-border flow of waste equipment into India- 80% of E-waste in developed countries meant for recycling is sent to developing countries such as India, China, Ghana and Nigeria.

○ Reluctance of Authorities' involved:

- Lack of coordination between various authorities responsible for E-waste management and disposal including the non-involvement of municipalities.

○ Security Implications:

- End of life computers often contain sensitive personal information and bank account details which, if not deleted leave opportunity for fraud.

Compliance Deadline for Category-C Coal Plants

Why in News?

The Ministry of Power (MoP) has sought a **blanket extension of 20 years again for 398 thermal Category C coal power plants to comply with the emission norms**.

- The **Union Ministry of Environment, Forest and Climate Change (MoEF&CC)** set-up the **original deadline of 2017** for the units accounting for 78% coal-fired thermal power capacity of the nation. In 2021, this **deadline was revised to 2024**.

What are the Reasons for the Extension?

➤ Background:

- India had **initially set a 2017 deadline for thermal powerplants to install Flue Gas Desulphurization (FGD) units** that cut emissions of sulphur dioxides.
- In 2021, the **Mop requested the Environment Ministry** to extend the deadline for meeting emission norms for all thermal plants from 2022 to 2024, citing delay due to various reasons, including the coronavirus pandemic and import restrictions.

Note:



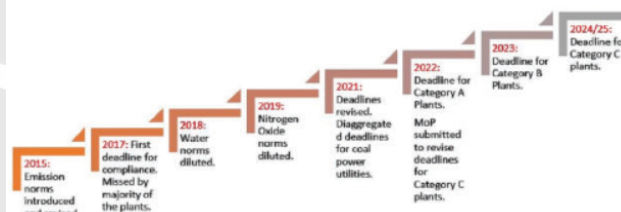
- In April 2021, the Environment Ministry **extended timelines for coal-based power plants to comply with emission norms by three to five years.**
 - The amended norms stagger the timeline for compliance based on location of a power plant.
 - All the thermal power plants were categorised into three groups- Category A, B and C.
- **Emissions from Coal-fired Power Plants:**
 - Thermal power companies, which produce three-fourths of the country's electricity, account for some **80% of its industrial emissions of particulate matter, sulphur- and nitrous-oxides, which cause lung diseases, acid rain and smog.**
 - These are also responsible for **70% of the total freshwater withdrawal** by all industries.
- **Reasons for Extension:**
 - Phased manufacturing programme for **Flue Gas Desulfurisation (FGD)** to encourage '**Atmanirbhar Bharat**'.
 - FGD is the process of **elimination of sulphur-dioxide viz. SO₂** from exhaust flue gases produced due to thermal processing, treatment, and combustion furnaces, boilers, and other industrial processes.
 - **High cost of FGD due to demand-supply gap** and escalated prices of FGD to Rs 1.14 crore from 0.39 crore per unit of generation.
 - The planning, tendering and implementation of FGD was **disrupted on account of the Covid-19 pandemic.**
 - Further, there exist **import constraints for the components of FGD like absorber lining and borosilicates** owing to the geopolitical conditions.

What are the Different Categories of Coal Plants?

- Based on their aerial distance from the million-plus population cities, critically polluted areas, non-attainment cities, and Delhi-National Capital Region region, coal plants are categorized into **Category-A, Category-B** and **Category-C plants.**
- **Category-A:**
 - The power plants **within the radius of 10 km of the National Capital Region (NCR) or cities having million-plus population** have to meet the **December 2022 deadline.**

- As per the list prepared by the **Central Pollution Control Board (CPCB)**, there are **79** such coal-based power plants.
- **Category-B and C:**
 - The power plants **within the radius of 10 km of critically polluted areas or non-attainment cities** have to meet the **December 2023 deadline.** There are **68 Category-B plants.**
 - The **remaining plants comprising 75% of total** fall under **Category-C** those were expected to meet the December 2024 deadline. There are **449 Category-C plants.**
- The **2021 amendment** for the first time introduced a **penalty mechanism.** The **maximum fine** upon deadline breach for **non-retiring plants in Category-A is 20 paisa per unit; 15 paisa per unit for plants in Category-B; and 10 paisa per unit for those in Category-C.** The penalty for **retiring plants** is set at **20 paisa per unit.**

Chain of events for implementation



What is the compliance status of Category-A and Category-B plants?

- Around half of the **Category-A plants (54%) may not comply with the December 2022 deadline.** Till date, just **13% of plants have met the emission norms.**
- **Only 8% Category-B plants claim to be compliant and 30% are likely to meet the deadline.** 61% are expected to miss the deadline.

Coal Gasification

Why in News?

The Ministry of Coal has prepared a **National Mission** document to achieve **100 MT (Million Tonnes) Coal Gasification by 2030.**

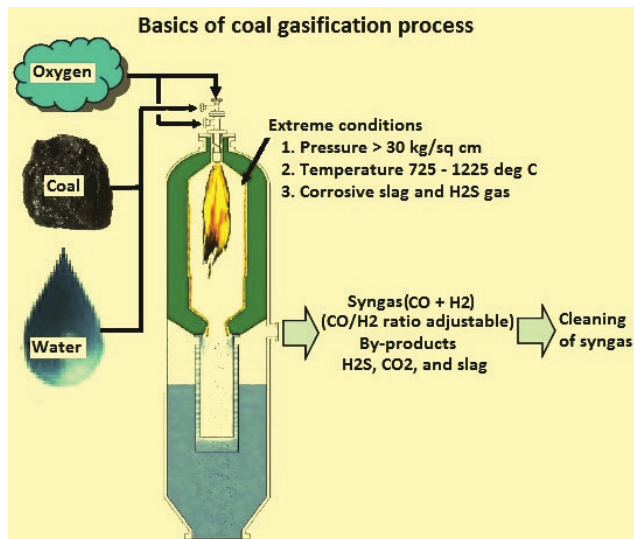
What is Coal Gasification?

- **Process:** Coal gasification is a process in which **coal is partially oxidised with air, oxygen, steam or carbon dioxide to form a fuel gas.**

Note:



- This gas is then used instead of piped natural gas, methane and others for deriving energy.
- **In-situ gasification of coal – or Underground Coal Gasification (UCG) – is the technique of converting coal into gas while it is still in the seam and then extracting it through wells.**
- **Production of Syngas:** It produces Syngas which is a mixture consisting primarily of methane (CH_4), carbon monoxide (CO), hydrogen (H_2), carbon dioxide (CO_2) and water vapour (H_2O).
- Syngas can be used to **produce a wide range of fertilizers, fuels, solvent and synthetic materials.**



What is the Significance of Coal Gasification?

- Steel companies typically use coking coal in their manufacturing process. Most of the coking coal is imported and is expensive. To **cut costs, plants can use syngas**, which comes from coal gasification plants in the place of coking coal.
- It is primarily **used for electricity generation**, to produce chemical feedstocks.
- The **hydrogen obtained from coal gasification can be used for various purposes** such as making ammonia, powering a **Hydrogen Economy**.
- India's hydrogen demand is likely to increase to **11.7 million tonnes by 2030 from 6.7 million tonnes per year as of now**. Refineries and fertiliser plants are the largest consumers of hydrogen now, which is being produced from natural gas. It can be produced through coal in the processes during coal gasification.

What are the Concerns

associated with Coal Gasification Plants?

- **Environmental Perspective:** Coal gasification **produces more carbon dioxide than a conventional** coal-powered thermal power plant.
 - According to CSE estimates, one unit of electricity generated by burning gasified coal generates 2.5 times more carbon dioxide than what would result when burning the coal directly.
- **Efficiency Perspective:** The syngas process converts a relatively high-quality energy source (coal) to a lower quality state (gas) and consumes a lot of energy in doing so.
 - Thus, the efficiency of conversion is also low.

What is the Hydrogen Economy?

- It is an economy that relies on hydrogen as the commercial fuel that would deliver a substantial fraction of a nation's energy and services.
- Hydrogen is a zero-carbon fuel and is considered an alternative to fuel and a key source of clean energy.
- It can be produced from renewable sources of energy such as solar and wind.
- It is an envisioned future where hydrogen is used as fuel for vehicles, energy storage and long-distance transport of energy.
- The different pathways to use hydrogen economy includes hydrogen production, storage, transport and utilization.
 - In 1970, the term 'Hydrogen Economy' was coined by John Bockris.
 - He mentioned that a hydrogen economy can replace the current hydrocarbon-based economy, leading to a cleaner environment.

Non CO_2 Pollutants

Why in News?

According to a new study, world needs to target both non- CO_2 pollutants and CO_2 pollutants to achieve climate targets.

- Global temperatures are likely to exceed 1.5 degrees Celsius over pre-industrial levels by 2035 and 2°C by 2050 if the focus is merely on decarbonisation efforts.

Note:



What are Non-CO₂ Pollutants?

- **About:** The Non-CO₂ Pollutants include **methane, black carbon, hydrofluorocarbons (HFC), tropospheric ozone and nitrous oxide.**
 - **Methane:** Methane is a potent greenhouse gas. It contributes to the formation of ozone.
 - **Black Carbon:** Black carbon is a **major component of PM2.5** and a potent warming agent in the atmosphere, and contributes to regional environmental disruption and accelerates glacier melting.
 - **Hydrofluorocarbons (HFC):** Hydrofluorocarbons (HFCs) are greenhouse gases (GHGs) commonly used in refrigeration, air-conditioning (AC), building insulation, fire extinguishing systems, and aerosols.
 - **Tropospheric ozone** is formed by the interaction of sunlight, particularly ultraviolet light, **with hydrocarbons and nitrogen oxides**, which are emitted by automobile tailpipes and smokestacks.
 - **Nitrous oxide:** Nitrous oxide is a greenhouse gas which is 300 times more potent than carbon dioxide (CO₂). A major proportion of the N₂O emissions came from the agricultural sector.
- **Sources:** These gases are emitted from a broad range of sectors and sources, namely:
 - Methane is mostly emitted from extraction, distribution and combustion of fossil fuel, industrial processes, enteric fermentation, rice cultivation, manure management, other agricultural sources, and the waste sector.
 - N₂O is mostly emitted from industrial processes, agricultural soils, manure management and wastewater.
 - F-gases are mostly emitted from industrial processes.
- **Contribution in Global Warming:** The share of non-CO₂ pollutants contributing to global warming is almost as much as carbon dioxide.

- IPCC WGI reports have shown that the contribution of **CO₂ and non-CO₂ greenhouse** gases to global heating was 52-57% and 43-48 %, respectively.

What is the Issue?

- The **Working Group III report of the Intergovernmental Panel for Climate Change (IPCC)** deals with mitigating climate change, focuses on CO₂ and a few greenhouse gasses, but **excludes other non-CO₂ pollutants.**
- Warming from non- CO₂ greenhouse gasses and black carbon soot was close to 80%.
- Without tackling non- CO₂ pollutants, these gasses will continue to trap heat and keep the warming above 1.5°C, as there are not many cooling aerosols to mask the warming.

What are the Recent

Initiatives to Tackle Non-CO₂ pollutants?

- The **Glasgow Climate Pact**, an agreement signed during the 2021 United Nations Climate Change Conference (COP26), recognised the need to consider further actions to reduce non-carbon dioxide greenhouse gas emissions, including methane, by 2030.
 - **Global Methane Pledge:** The US and the European Union launched the Global Methane Pledge at the COP26 in Glasgow. More than 100 countries have committed to cut methane emissions by 30% by 2030.
 - India **has not signed up** for the Global Methane Pledge
- **Indian Council of Agricultural Research (ICAR)** has developed an anti-methanogenic feed supplement '**Harit Dhara**' (HD), which can cut down cattle methane emissions by 17-20%.



History

Highlights

- Raja Ram Mohan Roy

- Puri Heritage Corridor Project

Raja Ram Mohan Roy

Why in News?

Recently, the Ministry of Culture has organized an inaugural Ceremony to commemorate **Raja Ram Mohan Roy** on his 250th Birth Anniversary.



- The inaugural ceremony was organized at the Raja Ram Mohan Roy Library Foundation, Salt Lake, Kolkata, and at Science City Auditorium, Kolkata.
- It is an year long celebration which will continue till next 22nd May.
- It was the 250th birth anniversary of Raja Ram Mohan Roy and the 50th foundation day of the Raja Ram Mohan Roy Library Foundation.
- The Ministry of Culture has inaugurated an **Iconic Statue of Raja Ram Mohan Roy at the Raja Ram Mohan Roy Library Foundation.**

Who Was Raja Ram Mohan Roy?

- **About:**
 - Raja Ram Mohan Roy was the **father of Modern India's Renaissance** and a tireless social reformer who inaugurated the age of enlightenment and liberal reformist modernisation in India.
- **Life:**
 - Raja Ram Mohan Roy was born on 22nd May 1772 in Bengal. His early education included the **study of Persian and Arabic at Patna** where he read the Quran, the works of Sufi mystic poets and the Arabic translation of the works of Plato and Aristotle.
 - In Benaras, he studied Sanskrit and read Vedas and Upanishads.

- From 1803 to 1814, he worked for East India Company as the personal diwan first of Woodforde and then of Digby.
- In 1814, he resigned from his job and moved to Calcutta in order to devote his life to religious, social and political reforms.
- In November 1830, he sailed for England to be present there to counteract the possible nullification of the Act banning Sati.
- Ram Mohan Roy was given the title of 'Raja' by the titular Mughal Emperor of Delhi, Akbar II whose grievances the former was to present before the British king.
- In his address, entitled 'Inaugurator of the Modern Age in India,' Tagore referred to Ram Mohan as 'a luminous star in the firmament of Indian history'.

Ideology:

- Ram Mohan Roy was greatly influenced by **western modern thought and stressed on rationalism and modern scientific approach.**
- Ram Mohan Roy's **immediate problematique was the religious and social degeneration** of his native Bengal.
- He believed that **religious orthodoxies have become causes of injury and detrimental to social life** and sources of trouble and bewilderment to the people, instead of tending to the amelioration of the condition of society.
 - Raja Ram Mohan Roy concluded that religious reform is both social reform and political modernisation.
 - Ram Mohan believed that each sinner must make restitution for his sins and it is to be done through self-purification and repentance and not through sacrifices and rituals.
- He believed in **social equality of all human beings** and thus was a strong opposer of the caste system.

Note:



- Ram Mohan was **attracted to Islamic monotheism**. He said that monotheism is also the **fundamental message of Vedanta**.
 - His idea of a single, unitarian god was a corrective to the polytheism of orthodox Hinduism and to Christian trinitarianism. He believed that monotheism supported one universal model for humanity.
- Raja Ram Mohan Roy believed that unless women were freed from unhuman forms of oppression like illiteracy, child marriage, sati, purdah, Hindu society can not progress.
 - He characterised sati as the violation of every humane and social feeling and as symptomatic of the moral debasement of a race.

What are the Contributions?

➤ Religious reforms:

- Raja Ram Mohan Roy's first published work **Tuhfat-ul-Muwahhiddin** (a gift to deists) published in 1803 exposed irrational religious beliefs and corrupt practices of the Hindus as the belief in revelations, prophets, miracles etc.
- In 1814, he founded Atmiya Sabha in Calcutta to campaign against idolatry, caste rigidities, meaningless rituals and other social ills.
- He criticized the ritualism of Christianity and rejected Christ as the incarnation of God. In **Precepts of Jesus** (1820), he tried to separate the moral and philosophical message of the New Testament, which he praised, from its miracle stories.

➤ Social reforms:

- Raja Ram Mohan Roy conceived reformist religious associations as instruments of social and political transformation.
 - He founded the Atmiya Sabha in 1815, the Calcutta Unitarian Association in 1821, and the Brahmo Sabha in 1828 which later became the Brahmo Samaj.
- He campaigned against the caste system, untouchability, superstitions and use of intoxicants.
- He was well known for his pioneering thought and action on the emancipation of women and especially on the abolition of sati and widow remarriage.
- He attacked child marriage, illiteracy of women and the degraded state of widows and demanded the right of inheritance and property for women.

➤ Educational reforms:

- Roy did much to disseminate the benefits of modern education to his countrymen. He supported David Hare's efforts to find the Hindu College in 1817, while Roy's English school taught mechanics and Voltaire's philosophy.
- In 1825, he established Vedanta college where courses in both Indian learning and Western social and physical sciences were offered.

➤ Economic and Political Reforms:

- **Civil liberties:** Roy was impressed and admired the British system of constitutional government for the civil liberties it gave to the people. He wanted to extend the benefits of that system of government to Indian people.
- **Press freedom:** Through his writings and activities, he supported the movement for free press in India.
 - When press censorship was relaxed by Lord Hastings in 1819, Ram Mohan found three journals – The Brahmanical Magazine (1821); The Bengali weekly, Samvad Kaumudi (1821); and the Persian weekly, Mirat-ul-Akbar.
- **Taxation reforms:** Roy condemned oppressive practices of Bengali zamindars and demanded fixation of minimum rents. He also demanded the abolition of taxes on tax-free lands.
 - He called for a reduction of export duties on Indian goods abroad and the abolition of the East India Company's trading rights.
- **Administrative reforms:** He demanded the Indianisation of superior services and separation of the executive from judiciary. He demanded equality between Indians and Europeans.

Puri Heritage Corridor Project

Why in News?

The Odisha government's ambitious temple corridor project in Puri has become a subject of political controversy.

What is the Puri Heritage Corridor Project?

- It is a **redevelopment project of the Odisha government in Puri to create an international heritage site, including the Jagannath temple**. Though conceived in 2016, it was unveiled in December 2019.

Note:



- Under the umbrella project falls the **Shree Jagannatha Heritage Corridor (SJHC) or the Shree Mandira Parikrama Project**, for the revamp of the area around the temple.
 - The project includes Shree Jagannath Temple Administration (SJTA) building redevelopment, a 600-capacity Srimandir reception centre, Puri Lake, Musa River revival plan, etc.
- The Odisha government has listed **three objectives** for the revamp of the area around the temple- the security of the temple, the safety of devotees, and the creation of a religious atmosphere for devotees.
- The government allotted funds for the Project from its Augmentation of Basic Amenities and Development of Heritage and Architecture at Puri (**ABADHA**) scheme.
 - The ABADHA scheme includes Land Acquisition Charges/Re-habitation& Resettlement/ Road Improvement for providing better facilities in & around Shree Jagannath Temple.

Why has the Project become a Subject of Controversy?

- Experts and members of civil society objected to the use of heavy machinery for digging, citing the **possibility of an adverse impact on the 12th Century temple**.
- Questions started being raised about whether the construction around the temple had the due permissions and clearances.
- The Jagannath temple has been **designated a monument of national importance by the Archaeological Survey of India** and is a centrally protected monument.
- Massive demolition and construction works are taking place within a 100 and 200-meter area of the temple which is **prohibited by the Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act (AMSAR) 2010**.

What is the Ancient Monuments and Archaeological Sites and Remains (Amendment and Validation) Act (AMSAR) 2010?

- As per the AMSAR (Amendment and Validation) Act, **construction is prohibited within a 100-meter periphery of a protected area**.
- The area extending to 200 meters around the monument in all directions is called a **regulated area**.

- As per the provisions of the AMSAR Act, the **National Monuments Authority (NMA), set up in 2011 under the Ministry of Culture**, is charged with protecting and preserving ASI-protected sites by managing the prohibited and regulated area in the periphery of such a site.
- If construction has to be undertaken in a regulated or prohibited area, permission from the NMA is required.
- The term **“construction”** as defined in the AMSAR Act **does not include the construction of public toilets, urinals, and “similar conveniences”**.
 - It also does not include works for the supply of water, electricity or “provision of similar facilities for publicity”.
- Besides, an impact assessment is also required to be done by the NMA before development around a monument if the built-up area of the monument is beyond 5,000 square meters.

What are the Features of Jagannath Temple?

- The temple is believed to be **constructed in the 12th century by King Anatavarman Chodaganga Deva of the Eastern Ganga Dynasty**.
- Jagannath Puri temple is called **‘Yamanika Tirtha’** where, according to the Hindu beliefs, the power of ‘Yama’, the god of death has been nullified in Puri due to the presence of Lord Jagannath.
- This temple was **called the “White Pagoda”** and is a **part of Char Dham pilgrimages** (Badrinath, Dwaraka, Puri, Rameswaram).
- There are **four gates to the temple**- Eastern ‘Singhdwara’ which is the main gate with two crouching lions, Southern ‘Ashwadwara’, Western ‘Vyaghra Dwara and Northern ‘Hastidwara’. There is a carving of each form at each gate.
- In front of the entrance **stands the Aruna stambha or sun pillar**, which was originally at the Sun Temple in Konark.

Other Important Monuments of Odisha

- **Konark Sun Temple (UNESCO World Heritage Site)**
- **Lingaraj Temple**
- **Tara Tarini Temple**
- **Udaygiri and Khandagiri Caves**



Geography

Highlights

- Pre-Monsoon Devastation in Assam

- Twin Cyclones

Pre-Monsoon Devastation in Assam

Why in News?

While the **Monsoons** are yet to arrive, Assam has already been beset by **Floods and Landslides** that have left 15 people dead and more than 7 lakh affected.

- The hill district of **Dima Hasao**, in particular, has been ravaged by flash floods and landslides, with connectivity to the rest of the state snapped.

What are the Factors behind this Unprecedented Devastation?

- **Excess Pre-Monsoon Rainfall:**
 - The average rainfall for the period of 1st March to 20th May in Assam is 434.5 mm, the corresponding number for this year is 719 mm which amounts to a 65 % excess.
 - The neighbouring state of Meghalaya has recorded an even greater excess of 137%.
- **Climate Change:**
 - The Timing and the Scale of Rainfall can be attributed to Climate Change.
 - Because of climate change, **there are more and more concentrated rain and heavy rainfall episodes.**

What is Causing the Landslides During Pre-monsoon?

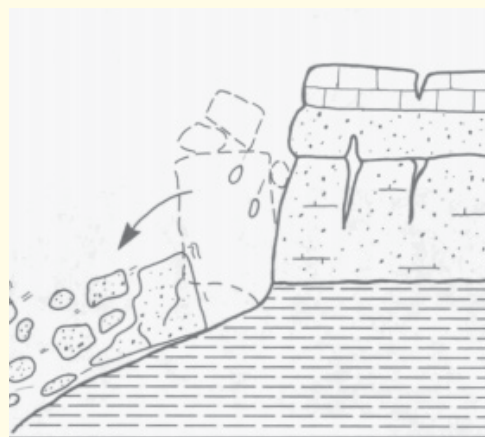
- It is because of **undesirable, unpragmatic, unplanned structural intervention on the fragile landscape** of hills.
- Over the years, there has **not only been massive deforestation for the extension of the railway line and the four-line highway**, but there has also been **rampant riverbed mining often done in collusion with the district authorities.**

- Many roads are being built over streams and spring water sources and hastily carried out infrastructure developmental work in assam and Nearby States has led to an **increase in landslides in the state in recent years.**

What is Landslide?

➤ About:

- A landslide is defined as the **movement of a mass of rock, debris, or earth down a slope.**
- They are a **type of mass wasting**, which denotes any downward movement of soil and rock under the direct influence of gravity.
- The term landslide encompasses **five modes of slope movement: falls, topples, slides, spreads, and flows.**



➤ Related Steps:

- The **Geological Survey of India (GSI)** has done a **national landslide susceptibility mapping** for 85% of the entire 4,20,000 square km landslide-prone area in the country. The **areas have been divided into different zones according to the propensity of the disaster.**
 - **Improvement in early warning systems, monitoring and susceptibility zoning** can reduce the damage caused by landslides

Note:



Twin Cyclones

Why in News?

Recent satellite images have Captured Twin Cyclones in the Indian Ocean region, one in the northern hemisphere and one in the southern hemisphere, named cyclone Asani and cyclone Karim respectively.

What are Cyclone Karim and Asani?

- Karim is classified as a **category II hurricane**, with a wind speed of 112 kilometers per hour (kmph).
- Asani remains a **Severe Cyclonic Storm over the Bay of Bengal**, with wind speeds of 100-110 kmph gusting to 120 kmph.
- Both were formed in the **Indian Ocean region**.
- Both cyclones **originated in the same longitude and now drifting apart**.
- Cyclone Karim has **created a path in the open seas west of Australia**.
- The name Karim was given by the South African country Seychelles. The name Cyclone Asani was suggested by Sri Lanka.

What are Twin Cyclones?

- The interplay of the wind and the **monsoon system** combined with the Earth system produces these synchronous cyclones.
- The twin tropical cyclones are caused by what are called **equatorial Rossby waves**.
 - **Rossby waves are huge waves in the ocean with wavelengths of around 4,000–5,000 kilometres.**
 - Rossby waves are named for famous meteorologist Carl-Gustaf Rossby who was the first to explain that **these waves arose due to the rotation of the Earth.**
- This **system has a vortex in the northern hemisphere and another in the southern hemisphere**, and each of these is a mirror image of the other.
- The vortex in the **north spins counterclockwise and has a positive spin**, while the one in the southern hemisphere spins clockwise in the clockwise direction and therefore has a negative spin.
- Both have a **positive value of the vorticity which is a measure of the rotation**.
- Very often **twin cyclones are formed from these Rossby waves**.

How do Cyclones Form?

- When the vorticity is positive in both Northern and Southern hemispheres, as is the case with Rossby waves, the air in the boundary layer, which is moist, is lifted slightly.
- That is **enough to set off a feedback process**.
- When the air is lifted slightly, the water vapour condenses to make clouds. As it condenses, **it lets out the latent heat of evaporation**.
- The atmosphere warms, this parcel of air rises, and positive feedback is set off by this process. The warmer parcel of air can rise further because it is lighter than the surrounding air, and it can form deeper clouds. Meanwhile, moisture comes in from both sides. This leads to the formation of a cyclone if certain conditions are present.
- The ocean's surface temperature has to be 27 degrees or warmer; the wind shear in the atmosphere must not be too high.
 - For example, if you have westerly winds at the lower level and easterly winds at the upper level, if the difference between them is too high, **cyclones will not form**.
 - But **if the difference is modest, cyclones will still form**.
- There will be a big, tall vortex with all sorts of clouds inside. Once they are stronger, they will spin faster and faster and organise themselves into the big storms.

Will the Two Cyclones Necessarily Move to Different Hemispheres?

- Yes, once formed they will generally move west. In the Northern Hemisphere, they will have a slightly northerly component of motion, while in the southern hemisphere they usually have a slightly southern component to their movement.
- So, this means that in the northern hemisphere the cyclone is moving north and west, while the southern one is moving south and west.

Does Madden-Julian Oscillation (MJO) Give Rise to Twin Cyclones?

- The MJO is a **large cluster of clouds and convection**, about 5,000-10,000 kilometers in size.
- It is **composed of a Rossby wave and a Kelvin wave**, which is a type of wave structure that we see in the ocean. On the eastern side of the MJO is the Kelvin

Note:



wave, while on the western, trailing edge of the MJO is the Rossby wave, again with two vortices on either side of the equator.

➤ However, **not all tropical cyclones are born from the MJO**. Sometimes it's just a Rossby wave with two eddies on either side.



Note:



Social Issues

Highlights

- Indira Gandhi Shahri Rozgar Guarantee Yojana
- Fortification of Rice
- Global Report on Assistive Technology
- Child Online Safety Toolkit
- World No Tobacco Day
- 75th Session of World Health Assembly
- Surrogacy

Indira Gandhi Shahri Rozgar Guarantee Yojana

Why in News?

The Rajasthan government has come up with the job description under its much-touted **Indira Gandhi Shahri Rozgar Guarantee Yojana**.

- Announcing the employment scheme for urban areas on the lines of **Mahatma Gandhi NREGA** for rural areas in his budget speech
- While MGNREGA assists people in rural areas, there is no such scheme for street vendors, as well as those working at dhabas and restaurants in urban areas.

What is the Scheme?

- **About:**
 - Under the scheme, **100 days of employment per year will be provided to families residing in urban areas.**
 - The ratio of cost of material to payment for labour work of "general nature" will be in the ratio of 25:75, while for special works, it will be 75:25.
 - The **focus is on providing as many jobs as possible.**
 - On the other hand, **creation of assets** will require a higher material component, hence **under 'special works' the ratio is 75:25.**
- **Eligibility:**
 - All those aged between **18 and 60 years and residing within urban body limits are eligible for the scheme**, and in special circumstances such as a pandemic or a calamity, migrant labourers may be included.

➤ Components:

○ Environmental Conservation:

- The tree plantation in public places, maintenance of parks, watering plants on footpaths and dividers, preparing nurseries under departments of **Urban Local Bodies (ULBs)**, forest, horticulture and agriculture.

○ Water conservation:

- One may undertake works for improvement of cleanliness and improvement of ponds, lakes, step-wells, etc.; construction, repair and cleaning of rainwater harvesting structures; and restoration of water sources.

○ Cleanliness and Sanitation-Related Works:

- This includes works related to solid waste management, labour work, including door to door garbage collection and segregation, separation of waste at the dumping sites, cleanliness and upkeep of public/community toilets, cleaning of nullah/drain as well as removing waste created due to construction and demolition works.

○ Works Related to Defacement of Property:

- This includes labour work to remove encroachments, as well as illegal boards/hoardings/banners, etc. and painting of dividers, railings, walls and other publically visible spaces.

○ Convergence:

- People under this scheme can be employed in other centre or state level schemes, already having a material component, and which require labour work.

○ Service:

- It includes labour work at gaushalas and 'multitask services' at offices of civic bodies,

Note:



record keeping, etc. Also, work related to heritage conservation.

- Miscellaneous works, such as those related to security/fencing/boundary wall/guarding of urban civic bodies and public lands; development and management of parking spots within urban civic body limits; catching and management of stray animals, etc.

Why is Social Security needed for Urban Areas?

- **Major Contributor to Economy:** Urban areas is an integral part of the development process of the country. As in most countries, India's urban areas make a major contribution to the country's economy.
 - Indian cities contribute to about **two-third of the economic output**, host a growing share of the population and are the main recipients of **FDI** and the originators of innovation and technology.
- **Magnet For Businesses:** The cities are a collective magnet for a great diversity of economic activities.
 - The cities attract business and people, as a result of scale and agglomeration advantages (supply of educational facilities, presence of suppliers, etc).
- **Hotbed of Social Capital:**
 - The cities are a hotbed of social capital or as a 'melting pot' of culturally or socially diversified groups.
- **Cities are Power Centres:**
 - The city is an ever-expanding power-block, which reinforces its position to the detriment of towns and villages in its hinterland.

What is the Significance of Urban Employment Schemes?

- Ensures **social inclusion by strengthening the livelihood base** of rural poor.
- It gives **urban residents a statutory right to work and thereby ensures the right to life (Art 21) guaranteed under the Constitution**.
 - E.g. in Madhya Pradesh, the new State government has launched the "Yuva Swabhiman Yojana"
- It provides **employment for skilled and unskilled workers** among urban youth and addresses the concerns of underemployment and unemployment.
- **Such programmes can bring in much-needed public investment in towns, which, in turn, could boost local**

demand, improve the quality of urban infrastructure and services, restore urban commons, skill urban youth, increase the capacity of ULBs.

What are the other Initiatives by Government?

- **Support for Marginalized Individuals for Livelihood and Enterprise (SMILE)**
- **PM-DAKSH (Pradhan Mantri Dakshta Aur Kushalta Sampann Hitgrahi)**
- **Mahatma Gandhi National Rural Employment Guarantee Act (MGNREGA)**
- **Pradhan Mantri Kaushal Vikas Yojana (PMKVY)**
- **Start Up India Scheme**
- **Jharkhand:**
 - Birsa Harit Gram Yojana (BHGY), Neelambar Pitambar JAL Sammridhi Yojana (NPJSY) and Veer Sahid Poto Ho Khel Vikas Scheme (VSPHKVS).

Fortification of Rice

Why in News?

According to the recent findings, the Union government's plan to **distribute subsidised iron-fortified rice may do more harm than good to Adivasis, or indigenous populations**, who suffer from **sickle-cell anaemia** and **thalassemia** and are genetically prone to these ailments.

What is Food Fortification?

- **Fortification:**
 - Fortification is the **addition of key vitamins and minerals** such as iron, iodine, zinc, Vitamin A & D to staple foods such as rice, milk and salt to improve their nutritional content.
 - These nutrients may or may not have been originally present in the food before processing.
- **Fortification of Rice:**
 - According to the Food Ministry, **fortification of rice is a cost-effective and complementary strategy** to increase vitamin and mineral content in diets.
 - **According to FSSAI norms**, 1 kg fortified rice will contain iron (28 mg-42.5 mg), folic acid (75-125 microgram) and Vitamin B-12 (0.75-1.25 microgram).
 - In addition, **rice may also be fortified with micronutrients**, singly or in combination, with

Note:



zinc, Vitamin A, Vitamin B1, Vitamin B2, Vitamin B3 and Vitamin B6.

What is the Need of Food Fortification?

- **India has very high levels of malnutrition** among women and children. According to the Food Ministry, every second woman in the country is anemic and every third child is stunted.
- India has slipped to **101st position in the Global Hunger Index (GHI) 2021** of 116 countries, from its 2020 position of 94th.
- The deficiency of micronutrients or micronutrient malnutrition, also known as “hidden hunger”, is a serious health risk.
- **Rice is one of India's staple foods**, consumed by about two-thirds of the population. Per capita rice consumption in India is 6.8 kg per month. Therefore, fortifying rice with micronutrients is an option to supplement the diet of the poor.

What are the Issues with the Fortification of Rice?

- **Inconclusive Evidence:**
 - Evidence supporting fortification is **inconclusive and certainly not adequate** before major national policies are rolled out.
 - Many of the studies which FSSAI relies on to promote fortification are **sponsored by food companies** who would benefit from it, leading to conflicts of interest.
- **Hypervitaminosis:**
 - According to some studies published in the medical journal Lancet and in the American Journal of Clinical Nutrition which show that both anaemia and Vitamin A deficiencies are overdiagnosed, meaning that mandatory fortification could lead to hypervitaminosis.
 - Hypervitaminosis is a condition of abnormally high storage levels of vitamins, which can lead to various symptoms such as over excitement, irritability, or even toxicity.
- **Toxicity:**
 - One major problem with chemical fortification of foods is that **nutrients don't work in isolation but need each other for optimal absorption**.

- Undernourishment in India is caused by monotonous cereal-based diets with low consumption of vegetables and animal protein.
- **Adding one or two synthetic chemical vitamins and minerals will not solve the larger problem**, and in undernourished populations can lead to toxicity.
- A **2010 study that showed iron fortification causing gut inflammation** and pathogenic gut microbiota profile in undernourished children.

➤ **Cartelisation:**

- Mandatory fortification **would harm the vast informal economy of Indian farmers and food processors** including local oil and rice mills, and instead benefit a small group of multinational corporations who will have sway over a Rs.3,000 crore market.

➤ **Decrease Value of Natural Food:**

- Dietary diversity was a **healthier and more cost-effective way to fight malnutrition**.
- **Once iron-fortified rice is sold as the remedy to anaemia**, the value and the choice of naturally iron-rich foods like millets, varieties of green leafy vegetables, flesh foods, liver, to name a few, will have been suppressed by a policy of silence.

Global Report on Assistive Technology

Why in News?

Recently, the **World Health Organisation (WHO)** and **United Nations Children's Fund (UNICEF)** jointly launched the **first Global Report on Assistive Technology (GReAT)**.

What is the purpose of the Global Report on Assistive Technology (GReAT)?

- This report is the **culmination of the 71st World Health Assembly resolution in 2018** to prepare a global report on effective access to assistive technology.
- The report assumes significance as **90% of those who need assistive technology do not have access to it globally**, and including assistive technology into health systems is critical for progress towards the targets in the **Sustainable Development Goals (SDG)** relating to **Universal Health Coverage (UHC)**.

What are the Key Highlights of the Report?

- **People Need Assistive Products:**
 - More than **2.5 billion people need one or more assistive products**, such as wheelchairs, hearing aids, or apps that support communication and cognition.
- **People Denied Assistive Products:**
 - A **billion of them are denied access**, particularly in low- and middle-income countries, where access can be **as low as 3% of the need** for these life-changing products.
- **Number of People in Need of Assistive Products in Future:**
 - The number of people in **need of one or more assistive products is likely to rise to 3.5 billion by 2050**, due to populations aging and the prevalence of non-communicable diseases rising across the world.
 - Also, **affordability is a major barrier** to access.
- **Large Gaps in Service Provision and Trained Workforce:**
 - A survey of **70 countries featured in the report found large gaps in service provision and trained workforce** for assistive technology, especially in the domains of cognition, communication and self-care.

What is Assistive Technology (AT)?

- AT is any **item, piece of equipment, software program or product system** that is used to increase, maintain or improve the functional capabilities of persons with disabilities.
 - **Examples:**
 - **Technologies and devices** such as prosthetics, braces, walkers, special switches, special-purpose computers, screen readers and specialised curricular software.
- **Universal assistive technology coverage implies** that everyone, everywhere receives the AT that they need without financial or other hardships.
 - **Priority Assistive Products List** launched by WHO in 2018 include hearing aids, wheelchairs, communication aids, spectacles, artificial limbs, pill organisers, memory aids and other essential items for the elderly and person with disabilities.

What is the Magnitude of the Problem in India?

- **2011 Census:**
 - The **2011 Census** puts the **national estimate of the number of people with disabilities at 2.21% of the total population** including persons with visual, hearing, speech, locomotor and mental disabilities with the majority in the 19-59 age group.
 - The **country's disabled population increased by 22.4%** between 2001 and 2011 census periods; the total population increased by 17.6%, however.
- **NSS Survey:**
 - Subsequent to the notification of the **Rights of Persons with Disabilities (RPWD) Act in 2016**, the **76th round (July-December 2018)** of the **National Sample Survey (NSS)** reported that among persons with disabilities, **21.8% reported receiving aid/help from the government and another 1.8% from other organisations.**
 - The **rapid Assistive Technology Assessment (rATA)** is a tool developed by the WHO for national representative survey to measure unmet need for assistive technology; this shall provide granular evidence of the demand-side as and when it is available for India.

What is the Need for a Health-Industry Interface?

- **Ensure Universal Assistive Technology Coverage:**
 - Upholding the UHC approach is **necessary to ensure universal assistive technology coverage** that will entail every citizen access to assistive technology they need without financial hardship.
 - **The tasks include:** (i) production and provision of the entire spectrum of AT; (ii) integrating rehabilitative services as an essential strategy in long-term care; (iii) including rehabilitation at the primary health-care level; and, (iv) promoting community-based rehabilitation.
- **Necessary to Meet the Needs of a Diversity of Users:**
 - Manufacturing and provision of components of the AT system is **necessary to meet the needs of a diversity of users** and provide a broader range of products that match their needs.
 - **Collaboration across academia, industry and the government will help in analysing manufacturing capacity**, ascertaining immediate need of specific AT and products and create a regulatory framework to provide users with products that are safe, secure and effective as per approved norms.

Note:



➤ Related Initiatives:

- Ongoing initiatives such as **Make in India, Digital India** along with the health insurance schemes such as **Ayushman Bharat – Pradhan Mantri Jan Arogya Yojana (PM-JAY)** can cater to the AT demands of the most vulnerable 40% of the population to address their rehabilitation needs.
- **Assistance to Disabled Persons Scheme**
- **Accessible India Campaign: Creation of Accessible Environment for PwDs**
- **DeenDayal Disabled Rehabilitation Scheme**
- **National Fellowship for Students with Disabilities**
- **Unique Disability Identification Project**
- **International Day of Persons with Disabilities**

What are the Recommendations?

- **Improve access within education, health and social care systems**
- **Ensure availability, safety, effectiveness and affordability of assistive products**
- **Enlarge, diversify and improve workforce capacity**
- **Actively involve users of assistive technology and their families**
- **Increase public awareness and combat stigma**
- **Invest in data and evidence-based policy**
- **Invest in research, innovation, and an enabling ecosystem**
- **Develop and invest in enabling environments**
- **Include assistive technology in humanitarian responses**
- **Provide technical and economic assistance through international cooperation to support national efforts.**

Child Online Safety Toolkit

Why in News?

Recently, the **child online safety toolkit** was launched in an attempt to make the online experience safe for children.

What does the Toolkit Provide?

- **About:**
 - It is a **hands-on, comprehensive guide to making the online world free from harm for children.**

- It **builds on existing international agreements and best practices**, developed in consultation with international experts from a range of backgrounds.
- It has **accessible worksheets and resources** both online and in print to help make child online safety a reality.
- **The toolkit** supports the implementation of the following important international agreements and frameworks:
 - The **Sustainable Development Goals (SDGs)**
 - The **United Nations Convention on the Rights of the Child (UNCRC) General comment No. 25 (2021)** on children's rights in the digital environment.
 - The objective of the General Comment is to **explain how States Parties should implement the Convention on the Right of the Child in relation to the digital environment.**
 - It also **provides guidance on relevant legislation, policy and other measures** designed to ensure full compliance with their obligations under the Convention.
 - The **We Protect Global Alliance Model National Response.**
 - WeProtect Global Alliance is a **global movement of more than 200 governments, private sector companies and civil society organisations** working together to transform the global response to child sexual exploitation and abuse online.
 - The **International Telecommunication Union's Guidelines** on Child Online Protection.
 - It is a **comprehensive set of recommendations for children, parents and educators, industry and policymakers** on how to contribute to the development of a safe and empowering online environment for children and young people.
- It also tapped into **UNICEF's Draft Policy Guidance on Artificial Intelligence (AI)** for Children.
 - The guidance is designed to **promote children's rights in government and private sector AI** (artificial intelligence) policies and practices, and to raise awareness of how AI systems can uphold or undermine these rights.

What is the Significance of the Toolkit?

- **Vulnerability:**

Note:



- India has witnessed a **whopping 50% of internet penetration in 2020** as against 34.4% in 2019, predominantly as an after-effect of the pandemic.
- The surge in online activity by children, therefore, becomes apparent as out of India's 749 million internet users, 232 million are children.
- The internet serves as a **double-edged sword with enabling connectivity, access to knowledge, and entertainment on one hand and potential exposure to harmful and inappropriate content on the other.**

➤ **Addressing Child Sexual Exploitation:**

- **Child sexual exploitation and abuse are also major concerns**, not only offline but also online.
 - In 2020, **65 million pieces of child sexual abuse material were reported** to the National Center for Missing and Exploited Children of the United States, while many more went undetected.

➤ **Building a Digital Environment:**

- The toolkit argues that **guaranteeing online safety is not just about responding to risks and harms**, it means actively designing a digital environment that is safe for every child.
- With **one in three people online under the age of 18**, the centrality of digital technology in children's lives means that it must be formed with their privacy, safety and rights by design and by default.

What are the Related Steps taken?

➤ **Online Complaint Management System:**

- The National Commission of Protection of Child Rights (NCPCR) has **established an online complaint management system that enables a confidential platform for victims** (or their representatives) to report cases of child abuse and sexual assault.

➤ The Ministry of Home Affairs has sanctioned a **'Cyber Crime Prevention against Women and Children (CCPWC)' scheme** which comprises an online cybercrime reporting portal for cases of Child Pornography/ Child Sexual Abuse Material, rape/gang rape imageries or sexually explicit content.

➤ **Child Abuse Prevention and Investigation Unit:**

- It probe offences covered under various provisions of the **Indian Penal Code (IPC)**, the **Protection of Children from Sexual Offences (POCSO) Act** and the **Information Technology (IT) Act**, apart from other relevant laws.

World No Tobacco Day

Why in News?

31st May is observed as **'World No Tobacco Day'** every year to spread awareness around the deadly effects of tobacco consumption.

- The Member States of the **World Health Organization** created World No Tobacco Day in 1987 to draw global attention to the tobacco epidemic and the preventable death and disease it causes.
 - In 1988, Resolution WHA 42.19 was passed, calling for the celebration of World No Tobacco Day, every year on 31 May.

What are the Key Highlights?

- The theme of World No Tobacco Day 2022 is **"Protect The Environment"**.
 - As per WHO, "The harmful impact of the tobacco industry on the environment is vast and growing, adding unnecessary pressure to our planet's already scarce resources and fragile ecosystems."
- Every year, the WHO honours governments, organisations and individuals for their efforts and contributions to curbing tobacco use.
 - This year, the WHO has selected **Jharkhand for the World No Tobacco Day (WNTD) Award-2022.**

What are the Health

Implications of Tobacco?

- **Tobacco addiction** has been recognised as the **single largest cause of preventable death and disability** worldwide.
- Every year **millions of people die** due to tobacco use.
 - **India** accounts for nearly **1.35 million deaths** every year and it is also the **second largest consumer and producer** of tobacco.
 - Nearly 80 lakh people die every year globally, of whom 13.5 lakh are Indians.
- Smoking causes death through **cancer, heart attacks, brain strokes, Chronic Obstructive Pulmonary Disease (COPD) and peripheral vascular diseases.**
- **Women smokers are increasing.** Women face additional hazards like **adverse pregnancy outcomes**, female specific cancers such as **cancer of breast, cervix, and increased cardiovascular risks.**

Note:



- Unless sustained and effective initiatives are implemented the prevalence of **female smoking is likely to rise to 20% by 2025**.

What are the Environment Effects of Tobacco?

- **Emission of Greenhouse Gas:** More than 84 megatons of GreenHouse gas emissions occur in a year.
- **Contamination of soil and water:** Tobacco contaminates soil and water due to toxins and contamination of soil by the micro plastics in the cigarette butts and single use non-biodegradable pouches and e-cigarettes.
- **Tonnes of water** are used to make cigarettes.
- **Deforestation:** More than 60 million trees are chopped down to make cigarettes.

What is the Data for India?

- The **Global Adult Tobacco Survey (2010)**, carried out in 29 States and two Union Territories i.e Chandigarh and Pondicherry, has shown a **declining trend among males**, and an **overall increasing trend of female smoking during 2005-09**.
 - The growing spending power among women and weakening of social and cultural constraints due to globalization and economic transition are seen as some of the reasons for this alarming trend.

What are the initiatives to prevent Tobacco consumption?

- **WHO Framework Convention on Tobacco Control (FCTC):** It is the first international treaty negotiated under the **auspices of the WHO**.
 - It was adopted by the **World Health Assembly** on **21st May 2003** and entered into force on **27th February 2005**.
 - The **FCTC's** measures to combat tobacco use include:
 - **Price and tax** measures.
 - **Large, graphic warnings** on tobacco packages.
 - **100% smoke-free** public spaces.
 - **A ban** on tobacco marketing.
 - Support for **smokers** who want to quit.
 - Prevention of **tobacco industry** interference.
 - WHO introduced **MPOWER**, a package of technical measures and resources, each of which corresponds to **at least one provision of the WHO FCTC**.
- **National Tobacco Control Programme (NTCP):** Government of India launched the National Tobacco Control Programme (NTCP) in 2007 to

- create awareness about the harmful effects of tobacco consumption,
- reduce the production and supply of tobacco products,
- ensure effective implementation of the provisions under "The Cigarettes and Other Tobacco Products (Prohibition of Advertisement and Regulation of Trade and Commerce, Production, Supply and Distribution) Act, 2003" (COTPA)
- help the people quit tobacco use,
- and facilitate implementation of strategies for prevention and control of tobacco advocated by WHO Framework Convention of Tobacco Control.

75th Session of World Health Assembly

Why in News?

World Health Assembly's 75th session is being held at **World Health Organization (WHO)** Headquarters (HQ), Geneva from 22nd to 28th May, 2022.

- Union Minister of Health and Family Welfare emphasized upon **India's commitment towards building a more resilient global health security architecture**
- **Health for peace, peace for health** is the theme of the World Health Assembly, 2022.
- India's six **Accredited Social Health Activists (ASHA) workers** were awarded the **Global Health Leaders Award** at the ongoing 75th World Health Assembly to recognize their "outstanding contributions to advancing global health, demonstrated leadership, and commitment to regional health issues."

What is World Health Assembly?

- **About:**
 - **World Health Assembly (WHA)** is WHO's decision-making body attended by delegations from all of WHO's member states,
 - It is held yearly at the HQ of WHO, i.e., **Geneva, Switzerland**.
 - Specific health agenda prepared by the Executive Board remains the focus of this assembly.
 - Since the start of the Covid-19 pandemic, 2022's assembly is the first in-person assembly
- **Functions of WHA:**

- Deciding on Organization's policies.
- Appointment of the Director-General of WHO.
- Administration of financial policies.
- Review and approval of the proposed programme budget.

➤ **Key Features of the Union Minister's address at the 75th Session:**

- **Streamlining of the WHO's approval process for vaccines and therapeutics** is needed to have a more resilient global health security architecture.
- **An equitable access to vaccines and medicines** should be allowed including the intellectual property aspects.
- **Cost-effective research, technology transfer and regional manufacturing capacities** must be on the priority list.
- As per WHO, **4.7 million Covid deaths (10 times the official figure)** have been reported in India. Therefore, **concern over WHO's recent exercise on all cause excess mortality on account of Covid-19** was expressed.
- India urged WHO to **consider the country-specific authentic data published through the Civil Registration System (CRS)** by the Registrar General of India (RGI)
- The use of **mathematical models of data prediction shouldn't be relied upon**. Consequently, the **Central Council of Health and Family Welfare** (set up under **Article 263** of the Constitution) **passed a unanimous resolution** condemning WHO's approach in this regard.

What is Accredited

Social Health Activist (ASHA)?

➤ **About:**

- One of the key components of **National Rural Health Mission (NHRM)** is ASHA.
- She is a **social health activist in the age group of 25-45 years** who serves as the first point of contact to cater any **health-related requirements of deprived sections of the rural population** including women and children, who pose a difficulty in accessing the health services.
- Generally, there is **"1 ASHA per 1000 population"**. However, this norm can be relaxed in tribal, hilly and desert areas to **"1 ASHA per habitation"** depending upon the workload.

➤ **Roles and Responsibilities:**

- **Creating awareness about health determinants** by providing information to the people about nutrition, basic sanitation & hygienic practices, healthy living and working conditions, etc.
 - She also provides information about existing health services and encourages people for the timely utilization of health & family welfare services.
- **Counselling of women** on birth preparedness, safe delivery's importance, breastfeeding, contraception, immunization, child care and prevention of Reproductive Tract Infection/Sexually Transmitted Infection (RTIs/STIs).
- **Facilitating the access of health services** such as Ante Natal Check-up (ANC), Post Natal Check-up (PNC), immunization, sanitation and other services at the village/sub-center/primary health centers by mobilizing the community.
- **Developing a comprehensive health plan** by working in collaboration with the Village Health & Sanitation Committee of the Gram Panchayat.
- **Providing primary medical care** for minor disorders like fever, diarrhoea and minor injuries. Under Revised National Tuberculosis Control Programme.
- **Arranging the escort for pregnant women and children** who need treatment or are required to be admitted in the nearest health-care facility.
- **Keeping the Sub-Centres/Primary Health Centre informed** about births and deaths in her village and any disease outbreaks/ unusual health concerns in the community.

Surrogacy

Why in News?

Recently, a petition was filed before Delhi High Court, challenging the exclusion of a single man and a woman having a child from surrogacy and demanded the decriminalization of commercial surrogacy.

- The petitioners have **challenged their exclusion from availing surrogacy under the Assisted Reproductive Technology (Regulation) Act, 2021 and Surrogacy (Regulation) Act, 2021**.
- The Petitioner argued that the personal decision of a single person about the birth of a baby through

surrogacy, i.e., the **right of reproductive autonomy is a facet of the right to privacy** guaranteed under **Article 21 of the Constitution**.

- Thus, the **right of privacy of every citizen or person to be free from unwarranted governmental intrusion** into matters fundamentally affecting a decision to bear or beget a child through surrogacy cannot be taken away.

What is the Surrogacy (Regulation) Act, 2021?

➤ **Provisions:**

- Under the Surrogacy (Regulation) Act, 2021, a woman who is a widow or a divorcee between the age of 35 to 45 years or a couple, **defined as a legally married woman and man, can avail of surrogacy** if they have a medical condition necessitating this option.
- It also **bans commercial surrogacy, which is punishable with a jail term of 10 years and a fine of up to Rs 10 lakhs**.
- The **law allows only altruistic surrogacy** where no money exchanges hands and where a surrogate mother is genetically related to those seeking a child.

➤ **Challenges:**

- **Exploitation of the Surrogate and the Child:**
 - One could argue that the state must stop the exploitation of poor women under surrogacy and protect the child's right to be born. However, the **current Act fails to balance these two interests**.
- **Reinforces Patriarchal Norms:**
 - The Act reinforces traditional patriarchal norms of our society that attributes **no economic value to women's work** and, directly affecting the fundamental rights of the women to reproduce under Article 21 of the constitution.
- **Denies Legitimate income to Surrogates:**
 - Banning commercial surrogacy also **denies a legitimate source of income of the surrogates**, further **limiting the number of women willingly to surrogate**.
 - Overall, this step indirectly **denies children to the couples choosing to embrace parenthood**.
- **Emotional Complications:**
 - In altruistic surrogacy, a friend or relative as a surrogate mother may lead to **emotional complications not only for the intending parents**

but also for the surrogate child as there is great deal of risking the relationship in the course of surrogacy period and post birth.

- Altruistic surrogacy also **limits the option of the intending couple in choosing a surrogate mother** as very limited relatives will be ready to undergo the process.

○ **No Third-Party Involvement:**

- In an altruistic surrogacy, there is no third-party involvement.
- A third-party involvement **ensures that the intended couple will bear and support the medical and other miscellaneous expenses** during the surrogacy process.
- Overall, a third party **helps both the intended couple and the surrogate mother navigate through the complex process**, which may not be possible in the case of altruistic surrogacy.

What is Surrogacy?

➤ **About:**

- Surrogacy is an arrangement in which a woman (the surrogate) agrees to carry and give birth to a child on behalf of another person or couple (the intended parent/s).
- A surrogate, sometimes also called a gestational carrier, is a woman who conceives, carries and gives birth to a child for another person or couple (intended parent/s).

➤ **Altruistic surrogacy:**

- It involves no monetary compensation to the surrogate mother other than the medical expenses and insurance coverage during the pregnancy.

➤ **Commercial surrogacy:**

- It includes surrogacy or its related procedures undertaken for a monetary benefit or reward (in cash or kind) exceeding the basic medical expenses and insurance coverage.

What is Assisted Reproductive Technology?

➤ **About:**

- ART is used to treat infertility. It includes **fertility treatments that handle both a woman's egg and a man's sperm**. It works by removing eggs from a woman's body and mixing them with sperm to make embryos. The embryos are then put back in the woman's body.

Note:



- **In Vitro fertilization (IVF)** is the most common and effective type of ART.
- ART procedures **sometimes use donor eggs, donor sperm, or previously frozen embryos**. It may also involve a surrogate carrier.

➤ **Legal Provisions:**

- The ART (Assisted Reproductive Technology Act) Regulation 2021 provides **a system for the implementation of the law on surrogacy by setting up of the National Assisted Reproductive Technology and Surrogacy Board**.
- The Act aims **at the regulation and supervision of ART clinics and assisted reproductive technology banks**, prevention of misuse, and safe and ethical practice of ART services.

➤ **Shortcomings:**

- **Exclusion of Unmarried and Hetrosexual Couples:**
 - The Act excludes unmarried men, divorced

men, widowed men, unmarried yet cohabiting heterosexual couples, trans persons and homosexual couples (whether married or cohabiting) from availing ART services.

- This exclusion is relevant as the Surrogacy Act also excludes above said persons from taking recourse to surrogacy as a method of reproduction.

- **Reduces the Reproductive Choices:**

- The Act is also limited to those commissioning couples who are infertile - those who have been unable to conceive after one year of unprotected coitus. Thus, it is limited in its application and significantly reduces the reproductive choices of those excluded.

- **Unregulated Prices:**

- The prices of the services are not regulated; this can certainly be remedied with simple directives.



Note:



Art & Culture

Highlights

- Cultural Significance of PM's Gifts for QUAD Leaders
- Kanheri Caves

Cultural Significance of PM's Gifts for QUAD Leaders

Why in News?

At the **QUAD Summit** held at Tokyo, Indian PM carried with him gifts for leaders of the US, Australia and Japan showcasing India's rich cultural heritage and art forms.

What are the Gifts and Significance?

➤ Sanjhi Art Panel for US President:

- The intricate sanjhi panel is based on the theme of **Thakurani Ghat**, which is one of the most famous ghats on the banks of the holy river of Yamuna in Gokul.
- The traditional art form that **originated out of the cult of Krishna**, involves creating stencils based on incidents from the life of the deity and then hand-cutting these on thin sheets of paper using scissors.

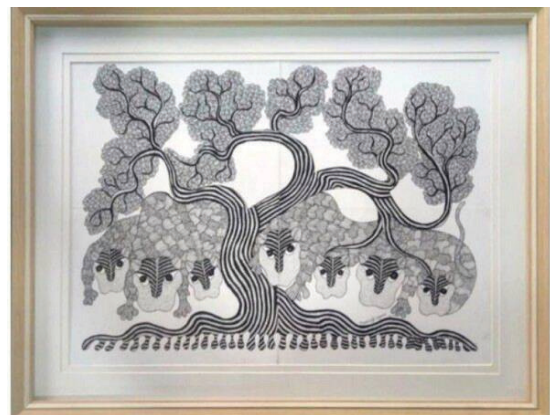


- In olden times, the **stencils were made using rough paper or banana leaves**, but now this has changed to **handmade** and recycled paper.
- Radha, according to **Hindu mythology**, used to **paint sanjhi patterns on the walls** for her beloved Krishna and later the gopis of Vrindavan followed suit.

- Later, the form **was used to make ceremonial rangolis in temples** dedicated to Lord Krishna.
- In fact, the term '**sanjhi**' is derived from '**sanjh**' or dusk (Evening) and is related to the practice of making rangolis in temples at dusk.
- In the form of painting, **sanjhi was popularised in the 15th and 16th centuries by the Vaishnava temples** and was practiced by Priests.
- During the **Mughal period**, **contemporary themes were added** and several families have continued to practice the form to this day.
- During the 2010 Commonwealth Games, the **pictograms were inspired by traditional Sanjhi art**.

➤ Gond art painting for Australian PM:

- A form of painting practised by one of the largest tribal groups in India, the Gond community in Madhya Pradesh.
 - The art in its visual form is often traced to Jangarh Shyam, who in the 1970s and '80s began drawing the largely oral myths and legends of the tribe onto the walls of homes in the village of Patangarh.



- The **dotted patterns, jagged patterns, dots, waves and squiggles** told the tale of their gods and goddesses and as well as the **flora and fauna of the deep forests** in Madhya Pradesh.

Note:



- The prominent names include Bhajju Shyam, Venkat Shyam, Durgabai Vyam, Ram Singh Urveti and Subhash Vyam, among others.
- PM Modi's gift to PM depicts a popular motif in Gond art — the Tree of Life, with intricate patterns and lines that are a trademark of Gond art.

➤ **Wooden hand-carved box with a Rogan painting for Japanese PM:**

- Rogan is a form of cloth painting that is considered to be more than four centuries old and is primarily practised in Kutch district of Gujarat.
- The word 'rogan' comes from Persian, meaning varnish or oil.
- The craft uses paint made from boiled oil and vegetable dyes, where castor seeds are hand-pounded to extract the oil and turned into a paste by boiling.



- Coloured powder is diluted in water and mixed to make pastes in different colours that are stored in earthen pots.
- Artists place a small amount of the paint paste into their palms and twirl it with a rod for a textured appearance on the fabric. The rod never really comes in contact with the fabric and by moving it above, the artist sketches thin lines on the fabric.
- Usually, only half the fabric is painted and it is folded to create a mirror image. While originally only men used to practice the art form, now several women in Gujarat also pursue it.

Kanheri Caves

Why in News?

Recently, the Ministry of Tourism has inaugurated the amenities in Kanheri Caves on the occasion of Buddha Purnima.

What are the Kanheri Caves?

➤ **About:**



- The Kanheri Caves are a group of caves and rock-cut monuments located on the western outskirts of Mumbai. The caves are located within the forests of the Sanjay Gandhi National Park.
- The name Kanheri is derived from 'Kanhagiri' in Prakrit and occurs in the Nasik inscription of the Satavahana ruler Vasisthiputra Pulumavi.
- Kanheri was mentioned in the travelogues of foreign travellers.
 - The earliest reference of Kanheri is ascribed to Fa-Hein who visited India during 399-411 CE and later by several other travellers.

What is Hinayana and Mahayana?

➤ **Hinayan:**

- Literally Lesser vehicle, also known as Abandoned Vehicle or Defective vehicle. It believes in the original teaching of Buddha or Doctrine of elders.
- It does not believe in Idol worship and tries to attain individual salvation through self discipline and meditation.
- Theravada is a part of Hinayana sect.

➤ **Mahayana:**

- This sect of Buddhism believes in the heavenliness of Buddha and believes in Idol Worship.
- It originated in northern India and Kashmir and then spread east into Central Asia, East Asia and some areas of Southeast Asia.
- Mahayana believes in Mantras.
- Its main principles were based on the possibility of universal liberation from suffering for all beings. That's why, this sect is called Mahayana (The Great Vehicle).
- Its principles are also based on the existence of Buddhas and Bodhisattvas embodying Buddha nature. It allows salvation through having faith and committing oneself to Buddha.

Note:



➤ **Excavations:**

- The Kanheri caves comprise more than 110 different rock-cut monolithic excavations and is one of the largest single excavations in the country.
- The scale and extent of excavations, with its numerous water cisterns, epigraphs, one of the oldest dams, a stupa burial gallery and excellent rainwater harvesting system, **indicate its popularity as a monastic and pilgrim centre.**

➤ **Architecture:**

- These excavations were **primarily undertaken during the Hinayana phase of Buddhism** but also has several examples of the **Mahayana stylistic architecture** as well as few printings of the **Vajrayana order.**

➤ **Patronage:**

- Kanheri flourished under the patronage of Satavahana, Traikutakas, Vakatakas and Silaharas

and through donations made by the wealthy merchants of the region.

➤ **Significance:**

- Kanheri caves are part of our ancient heritage as they provide evidence of evolution and our past.
- The architectural and engineering marvel of heritage sites like Kanheri caves or the **Ajanta Ellora caves** signify the **knowledge about art, engineering, management construction, patience and perseverance that people had back then.**
 - Many such monuments back then took **more than 100 years to be built.**
- Its importance is **heightened by the fact that it is the only centre where a continuous progression of Buddhist faith and architecture is observed** as an unbroken legacy right from 2nd century CE to 9th century CE is observed here.



Security

Highlights

- *Role of the Chief of Defence Staff*

Role of the Chief of Defence Staff

Why in News?

The Government is reassessing the concept of post of **Chief of Defence Staff (CDS)** as well as the Department of Military Affairs (DMA) and is **looking to streamline the setup**.

- The CDS is a **four-star General/Officer** who acts as the Principal Military Advisor to the Defence Minister on all tri-services (Army, Navy and Indian Air Force) matters.

What is the Role of the Chief of Defence Staff?

- CDS acts as **the permanent Chairman of the Chiefs of Staff Committee** which will also have three service chiefs as members.
 - His core function will be to foster greater operational synergy between the three service branches of the Indian military and keep inter-service frictions to a minimum.
- He also **head the newly created Department of Military Affairs (DMA)** in the Ministry of Defence.
 - The CDS will be the **single-point military adviser to the Defence Minister on matters involving all three services** and the service chiefs will be obliged to confine their counsel to issues pertaining to their respective services.
 - As the head of DMA, CDS is vested with the authority in prioritising inter-service procurement decisions as Permanent Chairman-Chiefs of Staff Committee.
- The CDS is also **vested with the authority to provide directives to the three chiefs**.
 - However, he does not enjoy any command authority over any of the forces.
- CDS is **first among equals, he enjoys the rank of Secretary within the DoD** (Department of Defence)

and his powers will be confined to only the revenue budget.

- He will also perform an advisory role in the **Nuclear Command Authority (NCA)**.

What is the Significance of CDS?

- **Synergy between Armed forces and Government:** CDS' role is not simply about tri-service cooperation, it is equally about fostering better cooperation between the Ministry of Defense bureaucracy and the Armed services.
 - Since 1947, there are three Service Headquarters (SHQ) designated as "Attached Offices" of the Department of Defense (DoD).
 - Due to this, communication between SHQ and DoD takes place largely through the medium of files.
 - With the creation of CDS as Principal Military Adviser (PMA) to Defense Minister, the process of decision-making will be accelerated.
- **Jointness in operations:** The Chiefs of Staff Committee-COSC (predecessor of CDS), has been dysfunctional because its chairmanship is held by one of the three chiefs on a part-time rotational basis.
 - Historically, the chairman COSC lacked the authority as well as capacity and inclination to tackle tri-service issues of substance.
 - With the CDS now being designated as "permanent chairman of COSC", he will be able to devote undivided attention to the administration of tri-service organisations.
- **Operationalisation of Theatre Command:** Creation of DMA will facilitate the operationalisation of joint/theatre command.
 - Although a successful template for joint operations was created in the **Andaman & Nicobar Command**, the lack of political direction and indifference of the COSC has led to inactivity of this joint command.

Note:



- Theatre commands would need staff with the knowledge and experience to deploy land, maritime and air forces. Given the disruptive impact of each of these measures, they would best be implemented by the CDS.
- **CDS as a key functionary in the nuclear command chain** will also administer the **Strategic Forces Command**.
 - This measure will go a long way in enhancing the credibility of India's nuclear deterrent.
 - The CDS would also initiate an early review of **India's Nuclear Doctrine**.
- **In the approaching era of dwindling defence budgets**, a crucial function of CDS will be "prioritising" the capital acquisition proposals of individual services.
 - CDS will have to ensure that the **"defence rupee" is spent judiciously**; on warfare-capabilities considered vital for national military power, and not on pandering to service demands.

Why Rethink the Role of CDS?

- It is experienced that the **appointment of a CDS in itself wasn't enough** and there are several issues with respect to roles and responsibilities, issues of equivalence among others.
- There is also a **dichotomy in the roles and responsibilities** with the several hats worn by the CDS and also overlap in responsibilities between the DMA and DoD.

- There is also a **rethink on the ambitious timelines set for the creation of Theatre Commands** and also the number of commands and their envisaged format.

What has been the Progress on Theatre Commands?

- An ambitious agenda was set for the first **CDS to reorganize the Indian armed forces into integrated theatre commands**, which would be the biggest reorganization of the military in 75 years and fundamentally change the way the three services operate together.
- Extensive studies were carried out by the Vice Chiefs of three Services on the theatre commands — land-based Western and Eastern theatre commands, maritime theatre command and an integrated air defence command had stated that the **Army's Northern Command would be left out of the ambit for now** and integrated at a later stage.
- However, **differences continue to remain on certain aspects with the Air Force having some reservations with regard to the air defence command** and the naming and rotation of the theatre commands among others.
- Additional studies were ordered, **which are currently underway but the overall process has stalled in the absence of a CDS** and continued differences.



Miscellaneous

Highlights

- Central Advisory Board on Archaeology
- INS Surat and frigate INS Udaygiri
- Thomas Cup
- Buddha Purnima
- Devasahayam Pillai
- National Startup Advisory Council (NSAC)
- World Governance Indicators
- World Metrology Day 2022
- Maya's Pit Viper
- Operation Mahila Suraksha
- INS Khanderi
- World Women's Boxing Championships
- INS GOMATI
- Money Spider, Ant-Mimicking Spider Discovered
- 'Tomb of Sand' won International Booker Prize
- Sela Macaque
- *Platygomphus Benritarum*

Central Advisory Board on Archaeology

Why in News?

Recently, the Government has re-constituted the Central Advisory Board on Archaeology (CABA).

What is CABA?

- It has been constituted to **strengthen contacts between the Archaeological Survey of India (ASI) and those in the field of archaeological research.**
- The board will include **"five persons nominated in their personal capacities by the Government of India"** and former **Director-Generals of ASI.**
- The board will meet **once a year** and its functions would include **advising the Centre on "matters relating to archaeology"** referred to by its members.
- It will promote **closer contacts of the Archaeological Survey of India with Indian Universities** conducting Archaeological Research.
- It will promote the studies related to application of archaeological principles, training future Archaeologists, and closer association of **learned societies in India and of the State Governments with the activities of the ASI.**

What is the Archaeological Survey of India?

- Archaeological Survey of India (ASI), under the **Ministry of Culture**, is the **premier organization for the archaeological research and protection of the cultural heritage** of the nation.
- It administers more than 3650 ancient monuments, archaeological sites and remains of national importance.
- Its activities include **carrying out surveys of antiquarian remains, exploration and excavation of archaeological sites, conservation and maintenance** of protected monuments etc.
- It was **founded in 1861 by Alexander Cunningham**- the first Director-General of ASI. Alexander Cunningham is also known as the **"Father of Indian Archaeology"**.

INS Surat and frigate INS Udaygiri

Why in News?

Recently, the Defence Minister launched the **Indian Navy destroyer warship INS Surat and frigate INS Udaygiri in Mumbai.**

What is INS Surat?

- **About:**
 - 'Surat' is the **fourth ship of Project 15B Destroyers** which heralds a significant makeover of the **P15A (Kolkata Class) Destroyers.**

Note:



- The **first ship (Visakhapatnam)** of this class was **commissioned in 2021**. The **second (Mormugao)** and **third (Imphal)** ships have been launched and are at different stages of outfitting/ trials.

➤ **Named After:**

- It is **named after the commercial capital of the state of Gujarat** and also the second largest commercial hub of western India after Mumbai.
 - Surat city has a **rich maritime & ship building history** and vessels built at the city in the 16th and 18th centuries were known for their longevity (of more than 100 years).
 - The ship Surat has been **built using the Block construction methodology**.
 - This methodology includes **hull construction at two different geographical locations** and has been joined together at MDL, Mumbai.

What is Project 15B?

➤ **Project-15B:**

- These ships are **amongst the most technologically advanced Guided Missile Destroyers** of the world, with state-of-the-art weapon/sensor package, advanced stealth features and a high degree of automation.
- In 2011, the deal to build four warships – **Visakhapatnam, Mormugao, Imphal, and Surat** – was signed under the Project-15B programme worth Rs 29,643.74 crore.
 - However, the final cost escalated to Rs 35,000 crore.
- All four ships have been **christened after cities from four corners of the country** and the induction of ships will be completed by 2024.

➤ **Features of the P-15B Ships:**

- These ships are equipped with **BrahMos super-sonic cruise missiles** and long-range **Surface-to-Air Missiles (SAM)**.
- The ship has **several indigenous weapons systems** like medium range Surface-to-Air Missile (SAMs), indigenous torpedo tube launchers, anti-submarine indigenous rocket launchers and 76-mm super rapid gun mount.

What is INS Udaygiri?

➤ **About:**

- It is the **third ship of Project 17A frigates**.

➤ **Named After:**

- The ship 'Udaygiri' is **named after a mountain range in the state of Andhra Pradesh**.
 - 'Udaygiri' is the **reincarnation of erstwhile 'Udaygiri'**, the Leander Class ASW Frigate, which saw numerous challenging operations in its illustrious service to the country spanning over three decades from 1976 to 2007.

➤ **Progress under P17A:**

- Under the P17A program, **a total of seven ships, with 04 at Mazagon Dock Limited (MDL), Mumbai and 03 at Garden Reach Ship Builders Limited (GRSE) are under construction**.
- **Various novel concepts and technologies** like Integrated Construction, Mega Block Outsourcing, Project Data Management/ Project Lifecycle Management (PDM/PLM) etc have been adopted for the first time in indigenous Warship Design and Construction in this project.

What is Project 17A Frigates?

➤ **About:**

- **Project 17A frigates** are follow-on of the **P17 Frigates (Shivalik Class)** with improved stealth features, advanced weapons and sensors and platform management systems.

➤ **Features:**

- The main advanced stealth features of P-17A pertain to the **smaller Radar cross-section of the ship** achieved through the use of a special super structure shape which reduces radar wave reflections.
- Another important feature is regarding the **ship's low acoustic noise emanating from propellers**, operating machinery like Diesel Generators etc., which helps sonars on other ships to detect its presence.
 - Such **stealth features play an important role in improving the ship's survivability** in any hostile environment during operations.

Thomas Cup

Why in News?

Recently, India's men's badminton team won the Thomas Cup title for the **first time ever**.

Note:



- India have **defeated the 14-time champions Indonesia**. The tournament was **held in Bangkok (Thailand)**.

What is Thomas Cup?

- **Related Field:** Thomas Cup, trophy signifies the **world supremacy in the sport of badminton**.
 - It is a **16-nation** team event.
- **Background & Managed By:** The cup was donated in 1939 by Sir George Thomas for a series of men's international team competitions to be managed by the **International Badminton Federation (IBF)**, of which Thomas was then president.
- **First Tournament:** The first tournament was held in **1948-49 and won by Malaya**.
 - **Thomas and Uber Cup is the biennial international badminton** championship contested by the men and women's national teams.
- **India's Win:** In the tournament's seven-decade-long history, the championship title has changed hands only among five nations - China, Malaysia, Indonesia, Japan and Denmark.
 - With its win, India became only the sixth country ever to break into this elite club.

Buddha Purnima

Why in News?

The Prime Minister has recalled the **principles of Lord Buddha** and reiterated his commitment to fulfill them on the occasion of Buddha Purnima.

- He also visited Nepal during this special occasion.

What do we know about Buddha Purnima?

- It is celebrated to **mark the birth of Gautam Buddha**, the founder of Buddhism.
 - It is also known as **Vesak**. In 1999, it became an **UN-designated day**, to acknowledge the contribution of Buddhism to society.
- It is considered a **'triple-blessed day'** - as Tathagata Gautam Buddha's birth, enlightenment, and Maha Parnirvana.
- Buddha Purnima falls on a full moon night, usually between April and May, and it is a **gazetted holiday in India**.

- Many devotees visit Mahabodhi Temple, a **UNESCO World Heritage Site**, located in Bodh Gaya, Bihar, on this occasion.
 - **Bodhi Temple** is the location where Lord Buddha is said to have attained enlightenment.

Who was Gautam Buddha?

- He was born as **Siddhartha Gautama** in circa 563 BCE, in Lumbini and belonged to the Sakya clan.
- Gautam attained Bodhi (enlightenment) under a pipal tree at Bodhgaya, Bihar.
- Buddha gave his **first sermon in the village of Sarnath**, near Varanasi in Uttar Pradesh. This event is known as **Dharma Chakra Pravartana** (turning of the wheel of law).
- He **died at the age of 80** in 483 BCE at Kushinagar, Uttar Pradesh. The event is known as **Mahaparinibban** or Mahaparinirvana.
- He is believed to be the **eighth of the ten incarnations of Lord Vishnu** (Dashavatar).

What is Buddhism?

- **About:**
 - **Buddhism** started in India over 2,600 years ago.
 - The main teachings of Buddhism are encapsulated in the basic concept of four noble truths or **ariya-sachchani** and **eight-fold path or ashtangika marg**.
 - Dukkha (Sufferings) and its extinction are **central to the Buddha's doctrine**.
 - The essence of Buddhism is the attainment of **enlightenment or nirvana** which was not a place but an experience that could be attained in this life.
 - There is **no supreme god or deity in Buddhism**.

Buddhist Councils:

Buddhist Council	Patron	Venue	Chairman	Year
First	Ajatashatru	Rajgriha	Mahakashyapa	483 BC
Second	Kalashoka	Vaishali	Sabbakami	383 BC
Third	Ashoka	Patliputra	Mogaliputra	250 BC
Fourth	Kanishka	Kundalban (Kashmir)	Vasumitra	72 AD

Schools of Buddhism:

- Mahayana (Idol Worship), Hinayana, Theravada, Vajrayana (Tantric Buddhism), Zen.

Note:



➤ **Buddhism Texts (Tipitaka):**

- **Vinaya Pitaka** (rules applicable to monastic life), **Sutta Pitaka** (main teaching or Dhamma of Buddha), **Abhidhamma Pitaka** (a philosophical analysis and systematization of the teaching).

➤ **Contribution of Buddhism to Indian Culture:**

- The concept of **ahimsa** was its chief contribution. Later, it became one of the cherished values of our nation.
- Its contribution to the art and architecture of India was notable. The stupas at Sanchi, Bharhut, and Gaya are wonderful pieces of architecture.
- It **promoted education through residential universities** like those at Taxila, Nalanda, and Vikramasila.
- The language of **Pali** and other local languages developed through the teachings of Buddhism.
- It had also promoted the spread of Indian culture to other parts of Asia.

➤ **UNESCO's Heritage Sites Related to Buddhism:**

- Archaeological Site of Nalanda Mahavihara at Nalanda, Bihar
- Buddhist Monuments at **Sanchi**, MP
- Mahabodhi Temple Complex at Bodhi Gaya, Bihar
- **Ajanta Caves** Aurangabad, Maharashtra.

Devasahayam Pillai

Why in News?

Recently, **Devasahayam Pillai** was declared **Saint by Pope Francis (Catholic Church) at The Vatican**.

- He had converted to Christianity in the 18th century in the then Kingdom of Travancore. Devasahayam had become the **first Indian layman to get sainthood for what The Vatican calls 'enduring increasing hardships'**.

Who was Devasahayam Pillai?

- Devasahayam was born on 23rd April 23, 1712 in Nattalam village in Kanyakumari district.
- He was baptized in 1745, and **assumed the name 'Lazarus', meaning 'God is my help'**.



- Baptism is a Christian sacrament marked by ritual use of water and admitting the recipient to the Christian community.

- His conversion **did not go well with the heads of his native religion**. False charges of treason and espionage were brought against him and he was divested of his post in the royal administration.
- He went on **to fight against Caste discrimination prevalent in the country** and was persecuted and then killed.
- On 14th January, 1752, Devasahayam was shot dead in the Aralvaimozhy forest. He is widely considered a martyr, and his mortal remains were interred inside what is now Saint Francis Xavier's Cathedral in Kottar, Nagercoil.
- The Vatican in **2012 recognised his martyrdom after a rigorous process**.

Why Devasahayam Pillai has been Declared Sainthood?

- Saint Devasahayam Pillai **stood for equality and fought against the evils of society** such as Casteism and Communalism.
- His sainthood also comes at a time in India when the country is facing a surge in communalism.
- Devasahayam Pillai **being declared a saint is also a great opportunity for the Church to stand against the prevailing communal poison**.
 - **Communalism** is blind allegiance to one's own religious community in our culture. It is defined as a tool for or against mobilising people by appealing for communal services. Communalism is related to dogmatism and religious fundamentalism.

National Startup Advisory Council (NSAC)

Why in News?

Recently, the Minister of Commerce and Industry launched the **NavIC Grand Challenge at National Startup Advisory Council (NSAC) meeting**.

- **NavIC Grand Challenge** is aimed at promoting adoption of NavIC as geo-positioning solution, a key proponent for digital Atma Nirbharta.

What is NSAC?

➤ About:

- It was constituted by the **Department for Promotion of Industry and Internal Trade (DPIIT)**.
- It **advises 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.

➤ Composition of the Council:

- **Chairman:** Minister for Commerce & Industry.
- **Convener of the Council:** Joint Secretary, Department for Promotion of Industry and Internal Trade.
- **Ex-officio Members:** Nominees of the concerned Ministries/Departments/Organisations not below the rank of Joint Secretary.
- **Non-official members**, to be nominated by the Central Government, from various categories like founders of successful startups, veterans who have grown and scaled companies in India, persons capable of representing the interests of investors into startups, etc. The term of the non-official members will be for a period of two years.

What are the Functions of NSAC?

- **Suggests measures to foster a culture of innovation** amongst citizens and students, promote innovation in all sectors of the economy across the country.
- **Suggests measures to facilitate public organisations** to assimilate innovation with a view to improving public service delivery, promote creation, protection and commercialization of intellectual property rights.
- **Suggest measures to make it easier to start, operate, grow and exit businesses** by reducing regulatory compliances and costs, promote ease of access to capital for startups.

What is the Status of Start-ups in India?

➤ About:

- Today, India is the **third largest start-up ecosystem globally** (by number of start-ups) with more than 15,000 start-ups established in 2020, up from 5000 in 2010.
- The underlying enablers of this startup ecosystem include smartphone and internet penetration, **cloud computing, application programming interfaces (APIs)**, and a national payments stack in place.

- Additionally, amid the **Covid-19 pandemic**, India has witnessed more number of **Unicorn startups** (startups having valuation of over USD1 billion) in just 2021 than it did in the period 2011-20.

- However, **still there are many challenges** (Building and Scaling an Indian Startup, Diversity and the Digital Divide, Complex Regulatory Environment) that act as a hindrance in realising the true potential of startups in India.

➤ Other Related Initiatives:

- **Ranking of States on Support to Startup Ecosystems:** It is an evolved evaluation tool **aimed to strengthen the support of States and UTs** to holistically build their startup ecosystems.
- **SCO Startup Forum:** The first-ever **Shanghai Cooperation Organisation (SCO)** Startup Forum was launched in October 2020 to develop and improve startup ecosystems collectively.
- **Prarambh:** The 'Prarambh' Summit aims to provide a platform to the startups and young minds from around the world to come up with new ideas, innovation and invention.
- **Startup India Seed Fund Scheme:** It aims to provide financial assistance to startups for proof of concept, prototype development, product trials, market entry, and commercialization.
- **Fisheries Startup Grand Challenge:** The Department of Fisheries, Ministry of Fisheries, Animal Husbandry & Dairying In association with Startup India, the Ministry of Commerce and Industry inaugurated the Fisheries Startup Grand Challenge.
- **National Startup Awards 2021:** It aims 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.

World Governance Indicators

Why in News?

Recently, the **World Governance Indicators (WGI)** has been released by the **World Bank**.

- WGI play a key role in deciding sovereign credit rating of any country. India is losing its sovereign credit rating due to low score in WGI parameters.

Note:



What are the World

Governance Indicators (WGI)?

- The **World Governance Indicators (WGI)** are a research dataset that aggregates the opinions of a substantial number of **corporate, citizen, and experts survey respondents** from both developed and developing nations on the **quality of governance**.
- **World Bank's World Governance Indicators:** It assesses **215 countries and territories** based on a certain set of criteria.
 - Voice and Accountability
 - Political Stability and Absence of Violence
 - Government Effectiveness
 - Regulatory Quality
 - Rule of Law
 - Control of Corruption
- India's **WGI score is much below the BBB Median** on all six indicators.
 - While BBB is an investment-grade rating issued by global rating agencies such as S&P and Fitch.
 - A WGI score below BBB Median would suggest that India falls below the middle when the scores of countries are arranged in a descending order.
- **Various reports on which India's WGI ranking based on -**
 - **Economist Intelligence Unit**
 - Varieties of Democracy Project
 - Heritage Foundation Index of Economic Freedom
 - **Freedom House Report**

What are the Important

Outcomes Associated With the WGI?

- Worsening of Sovereign Credit Rating of India deteriorating its **credit worthiness**.
- **Investment in India's Debt market will be risky.**
- It also includes political risk and provides insight to the Investor about the economic and political stability.

What are the Major Incidents

Which Hugely Affected India's WGI Rank?

- Kashmir was partly free from 2017 to 2019 but in 2020 its freedom was again curtailed. Considering these circumstances, the following scores were provided:
 - **Political Rights: 8 out of 40**

- **Civil Liberties: 20 out of 60**

- **Total score: 28 out of 110**

➤ US State Department mentioned the following:

- **Harassment of Activists:** Activists, lawyers, human rights defenders, and journalists have been harassed and persecuted.
- **Sedition and Counterterrorism Laws:** These are used to suppress free speech.
- **Misuse of Foreign Funding Regulations:** Misuse of regulations were prevalent to target NGOs that were critical to government policies or conduct.
- **Economic Intelligence Unit (EIU)** showed India's rank in the **EIU democracy index** fell from 27 in 2014 to 51 in 2019.

Economic Intelligence Unit

- Economic Intelligence Unit is a research and analysis division of The Economist Group.
- It was established in 1946, Its basic motive is to help businesses, financial firms and governments to navigate the ever-changing global landscape.

World Metrology Day 2022

Why in News?

CSIR-National Physical Laboratory, New Delhi in association with **Metrology Society of India (MSI)** organized the World Metrology Day (May 20th).

- Metrology is **the science of measurement and its application**.

What are the key highlights of the World Metrology Day?

➤ About

- World Metrology Day is celebrated in commemoration of the anniversary of the signing of the **Metre Convention in 1875**.
- This treaty provides the basis for a worldwide coherent measurement system.
- World Metrology Day recognizes and celebrates the contribution of all the people that work in intergovernmental and national metrology organizations and institutes throughout the year.
- **Theme**
 - Theme - **"Metrology in the Digital Era"**.

Note:



- This theme was chosen because **digital technology is revolutionizing our community** and is one of the most exciting trends in society today.
- The theme was announced jointly by the **International Bureau of Weights and Measures (BIPM)** and the **International Organisation of Legal Metrology (OIML)**.

What is the International Bureau of Weights and Measures (BIPM)?

- The **signing of the Metre Convention in 1875** created the **BIPM** and for the first time formalized international cooperation in metrology.
- The Convention established the BIPM and laid the foundations for worldwide uniformity of measurement.
- The BIPM is the hub of a worldwide network of national metrology institutes (NMIs) which continue to realize and disseminate the chain of traceability to the **International System of Unit (SI)** into national accredited laboratories and industry.

What is International Organisation of Legal Metrology (OIML)?

- In 1955 the **OIML** was established as an **Intergovernmental Treaty Organization** in order to promote the global harmonization of legal metrology procedures with the Bureau International de Métrologie Légale (BIML) as the Secretariat and Headquarters of the OIML.
- The OIML has developed a worldwide technical structure whose primary aim is to harmonize the regulations and metrological controls applied by the national metrological services, or related organizations.

What is CSIR-National Physical Laboratory?

- CSIR-National Physical Laboratory (NPL-India) is mandated to be **India's "National Metrology Institute" (NMI)** by the act of Parliament and is the custodian of "National Standards" with a responsibility of the dissemination of measurements to the needs of the Country.
- It maintains standards of SI units in India and calibrates the national standards of weights and measures.

Maya's Pit Viper

Why in News?

Recently, a new venomous green snake named

Trimeresurus mayaae or **Maya's Pit viper** was discovered from **Umroi Military station** in **Ri-Bhoi district** of **Meghalaya**.

What are the Key characteristics of Pit Viper?

➤ **About Maya's Pit viper**

- The snake measures about 750 mm in length
- It looked very similar to Pope's Pit Viper but the colour of the eyes was different.
- This snake and the Pope's Pit Viper have very different hemepenis, the copulatory organ.
- According to a herpetologist, this new species was relatively common in Meghalaya, Mizoram and even in Guwahati.



➤ **About Pit Viper**

- **Pit viper**, any species of viper (subfamily Crotalinae) that has, in addition to two movable fangs, a heat-sensitive pit organ between each eye and nostril which together help it accurately aim its strike at its warm-blooded prey.
- Pit vipers are found from deserts to rainforests.
- They may be terrestrial, arboreal, or aquatic. Some species lay eggs; others produce live young.
- The venomous pit vipers species includes hump-nosed pit viper, Mangrove pit viper and Malabar Pit Viper.
- Russell's Viper and Saw-scaled Viper are two most venomous vipers species found in India and member of big four poisonous and deadliest snakes in India.
- These snake species are responsible for the majority of **snake bites** in India.
- **Significance**
 - In a country where around 1.2 million people have

lost their lives owing to snakebite and many more have lost their limbs in the last two decades; a discovery of a new venomous snake means a lot in the context of public health.

- **Venom is a complex protein**, mostly typical to a species and thus unravelling a new species will help understanding its venom and its impact on human life.

Operation Mahila Suraksha

Why in News?

Under the Operation Mahila Suraksha, **Railway Protection Force (RPF)** has arrested more than 7000 persons who were traveling unauthorizedly in the coaches reserved for women.

- RPF also rescued girls/women from becoming the victims of **human trafficking (Operation AAHT)**.

What is Operation Mahila Suraksha?

- **About:**
 - The pan-India drive “Operation Mahila Suraksha” was launched from 3rd to 31st May 2022 to ensure women’s security.
- **Other Such Operation:**
 - With an objective of providing enhanced safety and security to lady passengers travelling by trains for their entire journey a pan India initiative “**Meri Saheli**” is also operational.
 - Indian Railways has launched “**Meri Saheli**” **initiative for focused action on security of women** across all zones with an objective to provide safety and security to lady passengers travelling by trains for their entire journey from starting station to destination station.

What is the Railway Protection Force (RPF)?

- The contingent of RPF is an **Armed Force of the Union of India**. It is a security force under the ownership of Indian Railways, Ministry of Railways.
 - The history of the RPF **dates back to 1882** when various railway companies appointed their own guards for protection of railway property.
- The **force was declared as statutory force in the year 1957** by an enactment of Parliament subsequently declared as an Armed Force of the Union of India in the year 1985.

- The **RPF Rules were enacted in 1959** and RPF Regulations published in 1966. In the same year, some limited powers to apprehend and prosecute offenders involved in railway property were conferred on the Force by enacting the **Railway Property (Unlawful Possession) Act, 1966**.
- Primarily RPF has been entrusted with **responsibility of the safety of Railway property**. But, while the provisions of RPF Act were soon found wanting for the maintenance of an effective and disciplined Force, the RPF Rules and Regulations too were found judicially unsound.
 - The RPF Act, 1957 was accordingly modified by **Parliament in 1985** for the constitution and maintenance of the Force as an armed force of the Union.

INS Khanderi

Why in News?

Defence Minister undertook a sea sortie on a **Scorpene class submarine ‘INS Khanderi’** at Karwar.

- During the trip he witnessed a wide range of operational drills with the submarine demonstrating the advanced sensor suite, combat system and weapon capability which provides it a distinct advantage in the subsurface domain.



What is a Scorpene Class Submarine?

- The submarines in the **Project-75** Scorpene Class are powered by **diesel-electric propulsion systems**.
- Scorpene is one of the most sophisticated submarines, capable of undertaking multifarious missions including anti-surface ship warfare, anti-submarine

Note:



warfare, intelligence gathering, mine laying, and area surveillance.

- The Scorpene class is the Navy's first modern conventional submarine series in almost two decades since INS Sindhusashtra, procured from Russia in July 2000.

What is Submarine Khanderi?

- Khanderi is a Kalvari class diesel-electric attack submarine.
- It has been named after a deadly sawfish Khanderi which is found in the Indian Ocean.
- Indian Navy had commissioned the first Khanderi submarine on December 6, 1968, and served till its decommissioning in October 1989.
- These submarines other than Khanderi include – **Karanj, Vela, Vagir, Vagsheer** and Kavalari have already been launched in water.

What is the Kavalari Class of Submarine?

- Kalvari class is based on Scorpene-class submarines built for the Indian Navy with diesel-electric attack capacity.
- The Defence Ministry of India approved Project-75 in 1997 that allows the Indian Navy to acquire 24 submarines.

What is Project-75?

- P-75 is one of two lines of submarines, the other being **P75I**, as part of a plan approved in 1999 for indigenous submarine construction with technology taken from overseas firms.
- The contract for six submarines under P75 was given to Mazgaon dock in October 2005 and delivery was to start from 2012, but the project has faced delays.
- The programme has been undertaken with **transfer of technology from French company** Naval Group (formerly known as DCNS) at the Mazagon Dock Limited (MDL).

World Women's Boxing Championships

Why in News?

Nikhat Zareen became the fifth Indian woman to win a World title at World Women's Boxing Championships 2022 in Istanbul by defeating Thai Olympian Jutamas Jitpong at 5-0 in the 52kg category.

- **Manisha Moun** and **Parveen Hooda** also won bronze medals in separate categories 57kg and 63kg respectively.
- India last won a World title when Mary Kom had become a six-time champion in Delhi in 2018.



What is the Achievements of India?

- Overall, India's medal tally has reached 39 including 10 gold, eight silver and 21 bronze medals in the 12th editions of the World championships and become the third-highest after Russia (60) and China (50).
- Six-time champion M.C. Mary Kom (2002, 2005, 2006, 2008, 2010 and 2018), Sarita Devi (2006), R.L. Jenny (2006) and K.C. Lekha (2006) are the other Indian women who have won the World title.

What is the World Boxing Championship?

- World Boxing Championships are amateur boxing competitions organized by the **International Boxing Association (IBA)**, which is the sport's governing body.
 - 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.

INS GOMATI

Why in News?

Recently, the Indian Navy Ship (INS) Gomati was decommissioned from the naval dockyard in Mumbai.

What are the Key Highlights about INS Gomati?

- **About:**
 - INS Gomati derives her name from the vibrant river Gomti.

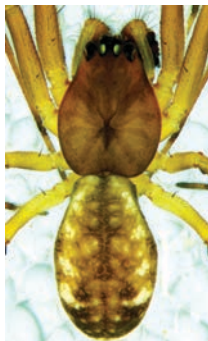
- Gomati River, also called Gumti, tributary of the **Ganga River**.
- When decommissioned, INS Gomati was also the oldest of the guided-missile frigates in the Western Fleet.
- It was commissioned in **1988 at Mazagon Dock Ltd, Bombay**.
- **Participated in:**
 - **Operations Cactus, Parakram and Rainbow**, and several bilateral and multinational naval exercises.
 - **1988:** Under Operation Cactus the Indian Armed Forces have helped the government of Maldives in the neutralization of the coup attempt.
 - **2001:** Operation Parakram launched in the wake of terrorist attack on Parliament, was the first full-scale mobilisation since the **1971 Indo-Pak war**.
 - **2004:** The Rainbow initiative was launched to **assist those affected by the Tsunami**, in partnership with the Sri Lankan government.
- **Awards Given:**
 - Awarded twice the **coveted Unit Citation**, once in 2007-08 and again in 2019-20.

Money Spider, Ant-Mimicking Spider Discovered

Why in News?

Money spiders, commonly found in European meadows, have been reported for the **first time in the country from the Muthanga range of the Wayanad Wildlife Sanctuary**.

- Researchers from Christ College (Kerala) have also discovered **ant-mimicking spiders**, belonging to the **group of jumping spiders**, from the **Mananthavady range**.



Key Points

- **About Money Spider:**
 - Money Spider **belongs to the family of dwarf spiders (Linyphiidae)** under the **genus Prosoponoides**.
 - Only six species of spiders belonging to this genus have been identified from across the world so far.

- It has been **given the name Prosoponoides biflectogynus**.
- The male and the female money spiders are typically 3 mm and 4 mm long respectively.
- Both sexes are dark brown and have irregular silver patches and black spots on the elliptical abdomen.
- There are numerous fine black spines on their olive-green legs.
- Eight dark eyes are arranged in two rows.
- Females build triangular webs in between dry tree twigs and feed on small insects, while males prefer to hide beneath dry leaves.
- Two or more male spiders can be found in the web of a single female.

➤ About Ant-mimicking Spiders:

- The ant-mimicking spider has been named **Toxeus alboclavus**.
- They belong to the **family of Salticidae**.
- The male and the female spiders of this species grow up to 4 mm and 6 mm long respectively.
- A pair of white stripes on the dark brown abdomen of females makes them distinct from other spiders of this group (jumping spiders).
- The male of the species is characterized by a brown cephalic region and black thorax with white hairs.
- The forward-projecting fangs have a characteristic shape of an antler.
- Long spines are present on the base of each leg.



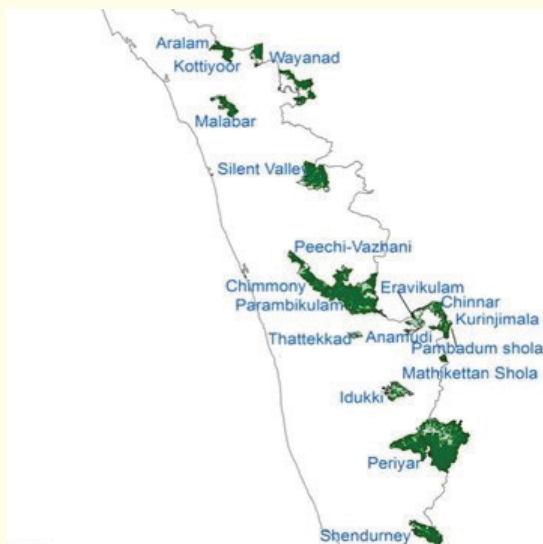
Wayanad Wildlife Sanctuary

- Located in Kerala, Wayanad Wildlife Sanctuary (WWS) is an **integral part of the Nilgiri Biosphere Reserve**. It was established in 1973.
 - Nilgiri Biosphere Reserve was the first from India to be included in the UNESCO designated World Network of Biosphere Reserves (designated in 2012).
 - Other wildlife parks within the Reserve are: **Mudumalai Wildlife Sanctuary, Bandipur National Park, Nagarhole National Park, Mukurthi National Park** and **Silent Valley**.

Note:



- Spread over 344.44 sq km, Wayanad Wildlife Sanctuary is **contiguous to the tiger reserves of Nagerhole and Bandipur of Karnataka and Mudumalai of Tamil Nadu.**
- **Kabini river** (a tributary of Cauvery river) flows through the sanctuary.
- The **forest types** include South Indian Moist Deciduous forests, West coast semi-evergreen forests and plantations of teak, eucalyptus and Grewelia.
- Elephant, Gaur, Tiger, Panther, Sambar, Spotted deer, Barking deer, Wild boar, Sloth bear, Nilgiri langur, Bonnet macaque, Common langur, Wild dog, common otter, Malabar giant squirrel etc are the major mammals.



'Tomb of Sand' won International Booker Prize

Why in News?

"Tomb of Sand", has become **the first book written in an Indian language** to be awarded the **International Booker Prize.**

- Originally published in Hindi as Ret Samadhi, the book is written by **Author Geetanjali Shree** and translated into English by Daisy Rockwell.

What is the International Booker Prize?

- The International Booker Prize is **awarded annually for a single book, translated into English and published in the UK or Ireland.**

Joins elite list of Indian authors

Geetanjali Shree's *Tomb of Sand* was awarded the prize, making her the first Indian author to win the International Booker. Only three other Indians have previously won the Booker Prize.



- Novels and collections of short stories are both eligible.
- The International Booker Prize **began life in 2005 as the Man Booker International Prize.**
- This prize aims to encourage more reading of quality fiction from all over the world and has already had an impact on those statistics in the UK.
- The vital work of translators is celebrated, with the **£50,000 prize money divided equally between the author and translator.**
 - Each shortlisted author and translator also receive £2,500.

Sela Macaque

Why in News?

A new species of old-world monkey recorded from Arunachal Pradesh has been named after Sela Pass, which is a strategic mountain pass at 13,700 ft above sea level, and the New Species has been named Sela Macaque.

- It was identified and analysed by a team of experts from the **Zoological Survey of India (ZSI)** and the **University of Calcutta.**
- Sela is situated between **Dirang and Tawang towns** in western Arunachal Pradesh.

What are the Findings?

- The phylogenetic analysis revealed that the **Sela macaque was geographically separated from the Arunachal macaque (*Macaca munzala*)** of Tawang district by Sela.
 - Phylogenetics relate to the evolutionary development and diversification of a species or group of organisms.



- It was found to be **genetically different from the other species of monkeys reported from this region.**
- The study describes the **Sela macaque as genetically closer to the Arunachal macaque.**
- The two have some similar physical characteristics such as **heavy-build shape and long dorsal body hair.** Both species have troops that either avoid proximity to humans or are used to human presence.
- There are some **distinct morphological traits to differentiate the two species.** While the Sela macaque has a pale face and brown coat, the Arunachal macaque has a dark face and dark brown coat.
- Sela macaque has a **tail longer than the Tibetan macaque, Assamese macaque, Arunachal macaque and the white-cheeked macaque but shorter than the bonnet macaque and toque macaque.**
- Sela macaque **belongs to the sinica species-group of Macaca**, but it **differs from all other members of this group through attributes such as brown collar hair and muzzle, thick brown hair around the neck and the absence of chin whiskers.**
- Sela macaque is a **major cause of crop loss in the West Kameng district of the State.**

What is the Zoological Survey of India?

- The Zoological Survey of India (ZSI), a **subordinate organization of the Ministry of Environment and Forests** was established in 1916.
- It is a national **centre for faunistic survey and exploration of the resources leading to the advancement of knowledge** on the exceptionally rich faunal diversity of the country.
- It has its headquarters at Kolkata and 16 regional stations located in different geographic locations of the country.

Platygomphus Benritarum

Why in News?

Recently, a new species of dragonfly '*Platygomphus benritarum*' discovered in Assam has been named after two women for their pioneering work in the northeast.

- It has been named after Monisha Behal, a founder

member of Northeast Network (NEN) and Rita Banerji, founder of Green Hub.

What are the Key Points?

- The species, a single male, was found by two researchers in June 2020 near the banks of the Brahmaputra in Assam.
- The male observed appeared to have freshly emerged judging by its shiny wings and abdomen.
- It has **turquoise blue eyes and dark brown face** covered with hair on the sides, was found resting on a large tree around 5-6 metres from the banks of Brahmaputra.
- The habitat along the banks is dominated by grasses, sparse trees, paddy fields and marshlands, along with some forest patches and tree plantations.
- Dragonflies and damselflies belong to the order **Odonata of insects.**
 - The order Odonata ("toothed ones") includes **some of the most ancient and beautiful insects that ever roamed Earth**, as well as some of the largest flying invertebrates ever to have lived.
 - Odonata consists of three groups: Anisoptera (which includes dragonflies), Zygoptera (which includes damselflies), and Anisozygoptera (a relict group represented by only two living species).



What are Dragonflies?

- **About:** It is an aerial predator insect most commonly found near freshwater habitats throughout most of the world.
 - Their distinctive colors make them look beautiful. This makes them valuable subjects for research on insect behavior, both for ecology and art.
- **Habitat:** Most species of dragonflies live in the tropics and particularly in the rainforests.
- **Significance:** Dragonflies act as important bio-indicators of the ecological health of an area. As they feed on mosquitoes and other insects that are vectors to life-threatening diseases like Malaria and Dengue.
- **Threats:** The rapid destruction of their habitat poses a direct threat to their survival making their conservation urgent.



Key Points

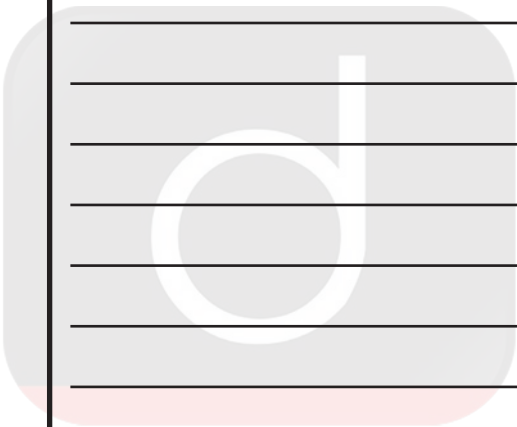
Details



Summary

Key Points

Details



Summary