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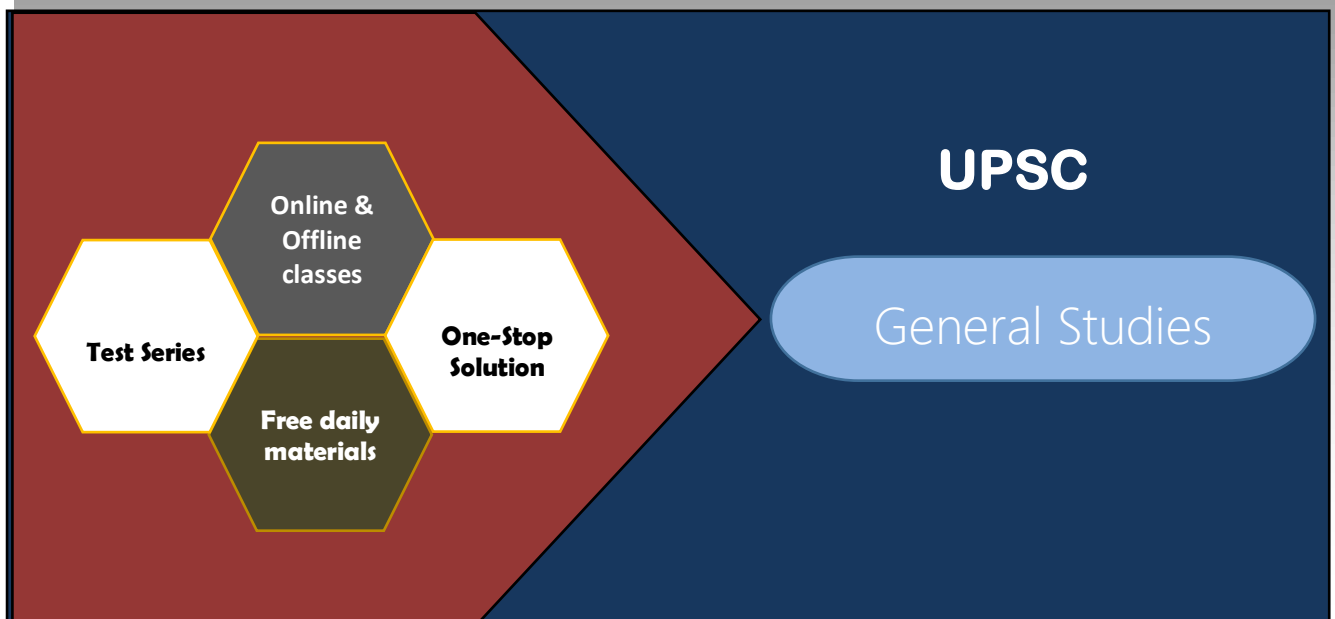
**Monthly current affairs magazine**

**SHIKSHA**

**A MAGAZINE FOR CIVILSERVICES PREPARATION**

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**Articles of the day  
THE HINDU & INDIAN EXPRESS**



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## **GS 1 : Heritage, culture ,Geography of the World and Society**

### **1. Delhi water crisis: Supreme Court orders Himachal Pradesh to release 137 cusecs of water to quench Delhi's thirst**

The Supreme Court ordered the release of **137 cusecs of surplus water** from upstream **Himachal Pradesh** through the **Hathnikund barrage** in **Haryana** into the **Wazirabad barrage** to quench Delhi's drinking water crisis.

#### **Delhi's Water Sources:**

- Delhi sources most of its water from the **Yamuna, Ravi-Beas, and Ganga rivers**.
  - From the **Ganga** via the **Upper Ganga Canal** in **UP**, Delhi receives **470 cusecs** of water.
  - Two channels from **Haryana**, the **Carrier Lined Channel (CLC)** and the **Delhi Sub Branch (DSB)**, supply water from the **Yamuna and Ravi-Beas rivers**, providing a total of roughly **565 MGD**.
- The **Delhi Jal Board (DJB)** also **draws water directly from the Yamuna** and supplements its supply with around **135 MGD from groundwater**.

#### **Causes of the Water Shortage:**

- The **water treatment plant (WTP)** in **Wazirabad** operated **below capacity** from May 12 to 14 and again from May 18 to June 1.
- This coincided with **record-high temperatures** and a **surge in water demand**.
- The **Wazirabad WTP**, with a capacity of **131 MGD**, is the **third largest of DJB's nine WTPs** and primarily depends on water from the **CLC and DSB**.
- Issues arose from the plant's dependency on the **Yamuna** at the **Wazirabad reservoir**.

#### **Water Allocation to Delhi:**

- A **1994 water-sharing agreement** on the 'surface flow' of the **Yamuna** among **Haryana, Uttar Pradesh, Rajasthan, Himachal Pradesh** and **Delhi** specifies that **Delhi** is to receive **0.076 billion cubic metres** of water from March to June, with an annual allocation of **0.724 BCM (roughly 435 MGD)**.
- This allocation is regulated by the **Upper Yamuna River Board**, and the agreement is due for revision in **2025**.

- In **1996**, the Supreme Court directed that **Delhi** should continue to receive adequate water from Haryana to fill the Wazirabad and Hyderpur reservoirs to capacity.

#### **Upper Yamuna River Board:**

- A subordinate office under the Department of Water Resources, RD & GR, Ministry of Jal Shakti, Government of India.
- A memorandum of Understanding (MoU) was signed by the **Chief Ministers of Himachal Pradesh, Haryana, Utter Pradesh, Rajasthan** and the **National Capital Territory of Delhi** on 12th May **1994** regarding the allocation of utilizable surface flow of **River Yamuna** up to **Okhla Barrage** among the **co-basin States**.
- The MoU provides for the **creation** of a **board** called the **Upper Yamuna River Board (UYRB)**.

## **2. Sanskrit scholars, Archaeologists tie up to decipher Rigveda text**

- In order to establish a relationship between the **Harappan civilisation and the people of the Vedic age**, a group of archeologists are now collaborating with Sanskrit scholars to decipher the text of the Rigveda.

#### **More on news:**

- According to scholars, a clear understanding of what is mentioned in the **Rigveda text is important in order to co-relate archaeological evidence** unearthed by his team in excavations of **Harappan settlements at Haryana's Rakhigarhi and Banawali**, at Kalibanga on the Haryana-Rajasthan border, and at Dholavira in Gujarat.

#### **Key highlights:**

#### **NCERT new additions:**

- The Harappan Civilisation', based on DNA evidence from the 4,600-year old remains of a woman, indicating that the Harappans were an indigenous people.

#### **Evidence from Rakhigarhi:**

- While excavating the site of Rakhigarhi, evidence of ritual platforms and fire altars are found.
- Parallely, fire worship is mentioned in Rig Vedic texts.

### **Saraswati: a common thread:**

- The mention of the river is recorded at least 71 times in the Rigvedic text.
- During archaeological excavations, scholars discovered a majority of Harappan settlements along the banks of river Saraswati.
- Of the nearly 2,000 known Harappan settlements spread over the Indus basin, Saraswati, and in Gujarat, of which almost two-thirds, at least 1,200 are located along the basin of the river Saraswati.

### **Cities and Towns life:**

- DNA evidence now suggests that cities and towns first came into existence during the Harappan times, dating 4,500 to 4,600 years ago.
- They again later came into existence 2,400 years ago, by which time proofs of use of iron also emerged.
- In the middle, there seems to be a decline, where humankind reverted back to rural life.
- The later settlements were not along the banks of river Saraswati.
- The Rigveda talks about river Saraswati, and we only have proof of dense Harappan settlements there, dating back to 4,600 years ago.
- Rigvedic texts do not mention the use of iron, so co-relation with early historic settlements which came much later and are 2,400 year old ones (near the Ganga Basin and the Deccan region) is not possible.

### **A debate on animal bones:**

- Another point of reference which may link the Harappans with Vedic times is a set of animal bones found and studied by two archaeo-zoologists in the Surkotada region of Kutch, Gujarat.
- Some terracotta figurines of horse-like animals have been excavated from the Harappan sites of Lothal and Mohenjo Daro.

### **Linkage with Modern Humans:**

- Studies wrt to DNA analysis from the blood samples of 3,000 modern south Asians from different linguistic and religious groups were carried out.
- It was found that most of them were from the Andaman and Nicobar islands to Ladakh and Kashmir, and from Afghanistan to Bengal and carried genetic similarities to the Harappan woman's skeleton.

### **About Harappan Civilisation:**



- Indus Valley Civilization was the first major civilization in South Asia, which spread across a vast area of land in present-day India and Pakistan (around 12 lakh sq.km).
- The time period of mature Indus Valley Civilization is estimated between BC. 2700- BC.1900 ie. for 800 years.

### **Indus Valley Sites and Specialties:**

#### **Harappa**

- Seals out of stones
- Citadel outside on banks of river Ravi

#### **Mohenjodaro**

- Great Bath, Great Granary, Dancing Girl, Man with Beard, Cotton, Assembly hall
- The term means " Mount of the dead"
- On the bank of river Indus
- Believed to have been destroyed by flood or invasion(Destruction was not gradual).

#### **Chanhudaro**

- Bank of Indus river. - discovered by Gopal Majumdar and Mackey (1931)
- Pre-Harappan culture - Jhangar Culture and Jhukar Culture.

#### **Kalibangan**

- At Rajasthan on the banks of river Ghaggar, discovered by A.Ghosh (1953)
- Fire Altars
- Bones of camel
- Evidence of furrows
- Horse remains ( even though Indus valley people didn't use horses).
- Known as the third capital of the Indus Empire.

### **About Rig Vedic Age or Early Vedic Period (1500-1000 BCE):**

- In the **Rig Vedic period**, the Aryans were mostly confined to the **Indus region**.
- It refers to Sapta Sindhu or the land of seven rivers.
- This includes the five rivers of **Punjab, namely Jhelum, Chenab, Ravi, Beas and Sutlej along with the Indus and Saraswati.**



- The Rigveda Samhita contains about 10552 Mantras, **classified into ten books called Mandalas.**
- Each Mandala is divided into several sections called **Anuvakas.**
- **Each Anuvaka consists of a number of hymns called Suktas and each Sukta is made up of a number of verses called riks**

#### **About Saraswati River:**

- The Saraswati is called the Ghaggar-Hakra river and flows only during the monsoon season.
- It originates from the Shivaliks, the foothills of the Himalayas, then flows through Punjab, Haryana, and a part of Rajasthan before entering what is now Pakistan.
- The Indian part of the river is named the Ghaggar, while the one in Pakistan is the Hakra

### **3. Connection Between the Harappan and the Vedic Age**

Recently, a group of archaeologists are collaborating with Sanskrit scholars to decipher the text of the Rigveda that establish a relationship between the Harappan civilisation and the people of the Vedic age.

#### **Key highlights of the recent research**

- **Debate on the period of origin of the Vedas-** One set of historians says that the Vedas originated between **1,500 BC and 2,000 BC.**
- Another set of historians believe that the Vedas date farther back to **2,500 BC (4,500 years ago).**
- This would coincide with the age of the genetic evidence from the erstwhile Harappan woman's bone samples tested at the Rakhigarhi site.
- **Harappan genes-** DNA analysis of 3,000 modern South Asians from various linguistic and religious groups revealed genetic similarities to a Harappan woman's skeleton.
- This similarity spans from the **Andaman and Nicobar Islands to Ladakh, Kashmir, Afghanistan, and Bengal.**
- Scholars suggest that most Indians carry Harappan genes, typically **25% to 30%**, and should be considered descendants of a common "**ancient ancestor South Asian**" due to the widespread presence of these genes across India.

**What are the counter arguments against the similarities between Harappa culture and Vedic culture?**

- **Use of Iron-** Cities and towns first came into existence during the Harappan times, dating 4,500 to 4,600 years ago.
- They again later came into existence 2,400 years ago, by which time proofs of use of iron also emerged but Rigvedic texts do not mention the use of iron.
- **Animal bones-** We don't have strong evidence to prove that the domesticated horse was present during Harappan times.
- Those historians who date the Rigveda to after 2,000 BC, believe that the animal bones were that of a wild ass.
- **South Asian ancestor theory-** Contrary to this theory the NCERT textbook revisions mention that the Harappans were indigenous to India, dating back to 10,000 BC.

South Asian ancestor theory states that there was a large scale immigration of 'Aryans' from Europe to central Asia and then to south Asia

#### 4. UNESCO's State of Ocean Report highlights key knowledge gaps in research

The **UNESCO State of Ocean Report 2024** highlights critical issues concerning the **ocean's role in climate regulation** and the **insufficient understanding and data** needed to address multiple ocean crises and validate **new carbon dioxide removal technologies**.

**Key points from the report include:**

##### 1. **Inadequate Data and Research:**

- The report emphasizes a **lack of adequate and aggregated data** necessary for comprehensive ocean observations and research.
- There is a pressing need for **regular data to monitor ocean warming** and its impacts, supporting the challenge for healthy and resilient oceans.

##### 2. **Ocean Warming:**

- From **1960 to 2023**, the **upper 2,000 meters of oceans warmed** at a rate of  **$32 \pm 0.03 \text{ W/m}^2$** , which has accelerated to  **$0.66 \pm 0.10 \text{ W/m}^2$**  in the past two decades.
- This warming trend is expected to continue, causing irreversible changes over centennial to millennial timescales.

##### 3. **Energy Imbalance and Heat Content:**

- Oceans absorb about **90%** of the **Earth's energy imbalance (EEI)**, leading to **increased ocean heat content (OHC)** in the **upper 2,000 meters**.

- **Increased OHC inhibits ocean layer mixing**, causing **deoxygenation**, which **negatively impacts** marine ecosystems and coastal communities reliant on oceans.
4. **Ocean Acidification:**
- The report identifies a **mean global increase in ocean acidification across all ocean basins**.
  - There has been a **continuous decline** in open ocean pH levels, with a drop of **0.017-0.027 pH units per decade** since the late **1980s**.
  - Current monitoring is limited, with only **638 stations recording ocean pH**, and more extensive, long-term data sets are needed.
5. **Sea Level Rise:**
- From **1993 to 2023**, the **global mean sea level** rose at a rate of **4 ± 0.3 mm/year**.
  - Enhanced monitoring systems are needed to track sea level rise at various scales.
6. **Marine Carbon Dioxide Removal (mCDR):**
- The report notes a growing interest in **mCDR technologies** since **2020**, driven by scientific research, start-up initiatives, and significant funding from the U.S. and EU.
  - **mCDR techniques** include **altering seawater chemistry** and **adding nutrients to promote plankton growth**, but they pose various challenges and uncertainties regarding their **efficacy** and **potential unintended consequences**.
7. **Coastal Blue Carbon Habitats:**
- There is **increased interest in restoring coastal blue carbon habitats** like **mangroves, seagrasses, and tidal marshes** to **enhance carbon sequestration**.
  - The **effectiveness of these habitats in sequestering carbon** remains uncertain.

#### **Important terms:**

- **Carbon sequestration-** the process of capturing carbon dioxide from the atmosphere, measured as a rate of carbon uptake per year.
- **Carbon storage-** the long-term confinement of carbon in plant materials or sediment, measured as the total weight of carbon stored.

#### **Carbon Dioxide Removal (CDR):**

- It is using technologies, practices, and approaches to remove carbon dioxide from our atmosphere through deliberate and intentional human actions.

- This includes traditional methods like afforestation, as well as more sophisticated technologies like direct air carbon capture and storage (DACCS).

#### Different CDR methods:

- **Biochar:**
  - It is the substance produced by **burning organic waste** from **agricultural lands and forests** in a **controlled process** called **pyrolysis**.
  - Although it **resembles common charcoal** in appearance, the production of **biochar** reduces contamination and is a method to safely store carbon.
  - **Pyrolysis** involves the burning of wood chips, leaves, dead plants, etc. with very little oxygen, and the process releases a significantly small quantity of fumes.
  - **Biochar** is a stable form of carbon that cannot easily escape into the atmosphere.
- **Bioenergy with carbon capture and storage (BECCS)★**
  - It involves **bioenergy production** often through combustion to generate electricity or heat.
  - The resulting **CO<sub>2</sub> emissions** from this combustion are captured and stored underground, preventing them from contributing to the greenhouse effect.
  - It **sequesters photosynthetically fixed carbon** as **post-combustion CO<sub>2</sub>**.
- **Direct air carbon capture and storage (DACCS)**
  - It **extracts CO<sub>2</sub> directly** from the atmosphere at any location.
  - This **captured CO<sub>2</sub>** is then permanently stored in deep geological formations or used for other applications.
  - It uses **electricity to remove CO<sub>2</sub>** from the air.
- **Enhanced rock weathering**
  - It involves **pulverising silicate rocks** to bypass the conventionally slow weathering action.
  - The resultant product, usually a powder, has a higher reactive surface area, which is then spread on agricultural lands for further chemical reactions.
- **Ocean alkalinity enhancement**
  - It involves adding alkaline substances to seawater to accelerate this natural sink.

## 5. An Ageing India: The Magnitude and the Multitude

The phenomenon of ageing stands out as one of the most significant developments of this century, characterized by notable advancements in human longevity alongside historically low reproduction rates.

### About the Magnitude and Multiplication of the aged population

- **The magnitude of Aging Population:** The 21st century is witnessing a significant demographic shift marked by a notable increase in human longevity.
  - Improved healthcare and living conditions have contributed to a rise in life expectancy, leading to a larger elderly population. By mid-century, India is projected to have around 319 million elderly people, growing at a rate of approximately 3% annually.
- **Multiplication of Aging Phenomenon:** Despite longevity gains, there is a simultaneous decline in fertility rates, leading to an ageing population with a lower proportion of younger generations.
  - This demographic shift poses challenges related to healthcare, social security, and economic sustainability. The elderly population is becoming increasingly feminized, with a higher prevalence of elderly women due to longer life expectancy and higher widowhood rates.

### Aged Population as per the 2011 Census:

- According to the 2011 Census of India, the population of people aged 60 and older in India was 104 million, which is 8.6% of the total population. This is an increase from 5.6% in 1961.
  - The census also found that 53 million of the elderly population were female and 51 million were male, with a sex ratio of 1033. 71% of the elderly population lived in rural areas and 29% lived in urban areas. Additionally, 5.18% of the elderly population, or 53,76,619 people, had some disability

### Issues and Challenges

- **Vulnerabilities of the Elderly:** Many elderly individuals in India face significant vulnerabilities, including limitations in activities of daily living (ADL), multi-morbidity, poverty, and lack of financial security.
  - A substantial proportion of the elderly report poor health conditions, with a high prevalence of chronic diseases such as diabetes and cancer.
  - Mental health issues, particularly depression, are also prevalent among the elderly population.

- **Social and Economic Insecurities:** Food insecurity affects a notable percentage of the elderly, with reports of reduced portions or skipped meals due to economic constraints.
- **Lack of legal protection:** Awareness and access to welfare measures and legal protections for the elderly are low, with limited knowledge about schemes like IGNOAPS, IGWPS, and Annapurna.
- **Abuse and Neglect:** Elder abuse is a significant concern, especially for elderly women in rural areas who often experience neglect and mistreatment within their families and communities.
  - Social exclusion and limited opportunities for productive engagement exacerbate feelings of insecurity and marginalization among the elderly.

### Way Forward:

- **Enhancing Social Support and Welfare Measures:** Strengthening awareness and accessibility of welfare schemes and legal protections for the elderly. Implementing social security measures to ensure financial stability and improve quality of life for ageing populations.
- **Healthcare and Mental Well-being:** Prioritizing healthcare interventions tailored to the needs of the elderly, including preventive measures against chronic diseases and mental health support. Promoting healthy ageing through lifestyle interventions and healthcare policies that address the unique challenges of an ageing population.
- **Empowerment and Social Inclusion:** Fostering social inclusion through community engagement and initiatives that empower the elderly to contribute actively to society. Developing innovative institutional frameworks that value the elderly as assets and promote their participation in societal development.

## 6. Critical Minerals under iCET

- India and the U.S. aim to quickly conclude a bilateral agreement on Critical Minerals cooperation under the Initiative for Critical and Emerging Technology (iCET) dialogue.
  - Focus include on graphite, gallium, and germanium to strengthen supply chains.

### What are Critical Minerals?

- Critical minerals are elements that are crucial to modern-day technologies and are at **risk of supply chain disruptions**.



- These minerals are mostly **used in making electronic equipment** such as mobile phones, computers, batteries, electric vehicles, and green technologies like solar panels and wind turbines.
- Many of these are required to meet the manufacturing needs of green technologies, high-tech equipment, aviation, and national defence.

### List of critical minerals includes:

The centre has released a list of 30 critical minerals for India in 2023:

1. **Identified Minerals:** Antimony, Beryllium, Bismuth, Cobalt, Copper, Gallium, Germanium, Graphite, Hafnium, Indium, Lithium, Molybdenum, Niobium, Nickel, Platinum Group elements (PGE), Phosphorous, Potash, Rare Earth Elements (REE), Rhenium, Silicon, Strontium, Tantalum, Tellurium, Tin, Titanium, Tungsten, Vanadium, Zirconium, Selenium and Cadmium.
2. **Fertilizer Minerals:** Two minerals critical for fertilizer production, phosphorous and potash, are also included in the above list.

### Critical Mineral Blocks in India

- **Distribution:** There are 20 blocks spread across eight states, including Tamil Nadu, Odisha, Bihar, Uttar Pradesh, Gujarat, Jharkhand, Chhattisgarh, and Jammu & Kashmir.
- **Types of Licenses:** Four blocks are for a Mining License (ML), allowing immediate mining post-clearance. The remaining 16 blocks are for a Composite License (CL), permitting further exploration before potentially converting to an ML.
- **Approvals Required:** Licensees must obtain various approvals, including forest clearance and environmental clearance.
- **Forest Land:** Approximately 17% of the total concession area, or 1,234 hectares, is forest land.

### India's Critical Mineral Imports

- **Lithium Imports:** In FY23, India imported 2,145 tonnes of lithium carbonate and lithium oxide, costing Rs 732 crore.
- **Nickel and Copper Imports:** The country imported 32,000 tonnes of unwrought nickel and 1.2 million tonnes of copper ore, costing Rs 6,549 crore and Rs 27,374 crore, respectively.
- **Import Dependence:** India relies entirely on imports for lithium and nickel, and 93% for copper.

### Country-wise dependence:



1. **China:** India heavily relies on China for the import of critical minerals like lithium, cobalt, nickel, and graphite.
  2. **Australia:** India is actively engaged with Australia for acquiring mineral assets, particularly lithium and cobalt, to secure its supply chain for critical minerals.
- **Argentina, Bolivia, and Chile:** India is engaging with these countries, known for their reserves of battery metals like lithium and cobalt, to diversify its sources for critical minerals.

### India's Strategic Mineral Initiatives

- **Amendments to the Mines and Minerals (Development and Regulation) Act, 1957** support expanded exploration.
- **Establishment of Khanij Bidesh India Ltd. (KABIL)** with equity from National Aluminium Company Ltd, Hindustan Copper Ltd, and Mineral Exploration and Consultancy Ltd for global mineral asset acquisition.

### International Collaborations and Partnerships

- India joined the U.S.-led mineral security partnership to secure critical mineral supply chains.
- Creation of an India-U.S. advanced materials research forum to foster collaboration in universities, laboratories, and private sectors.
- Bilateral technology collaboration on neodymium-iron-boron and studies on minerals like lithium, titanium, gallium, and vanadium.

## 7. PM inaugurates Nalanda University

The Prime Minister has inaugurated the **new campus of Nalanda University**, an international institution located near the ancient ruins of Nalanda in Rajgir, Bihar.

### Revival of Nalanda University

- The idea to revive Nalanda University was proposed by former president **Dr APJ Abdul Kalam in 2006**, leading to the passing of the **Nalanda University Bill in 2010**.
- The university's revival was **operationally launched in 2014** from a temporary location.
- Former president **Pranab Mukherjee** laid the **foundation stone** for the permanent campus in **2016**, with **construction starting in 2017** and culminating in today's inauguration.

- The Parliament established the university following decisions from the **second East Asia Summit (EAS)** in 2007 and the fourth EAS in 2009.

### International Collaboration and Courses

- Nalanda University has participation from **17 countries**, including **Australia, Bangladesh, Bhutan, China, Indonesia, and others**, which have signed MoUs to support the university.
- It offers **137 scholarships** to international students, sponsored by the ASEAN-India Fund, BIMSTEC, and Bhutan's Ministry of External Affairs.
- The university provides **postgraduate and doctoral research courses**, as well as short-term certificate courses.

### Historical Background

- Nalanda University was established in the **5th century CE** in the ancient kingdom of **Magadha** (modern-day Bihar) and was the **world's first residential university**.
- **Establishment and Patronage:**
  - The **Gupta dynasty**, under **Emperor Kumaragupta I**, established Nalanda University in **427 AD**, promoting it as a premier center for Buddhist scholarship.
  - It received substantial endowments from monarchs like **King Harsha** and rulers of the Pala Empire, enhancing its stature and influence across Asia.
- **Countries:** It attracted scholars from **China, Korea, Japan, Tibet, Mongolia, Sri Lanka, and Southeast Asia**.
- Subjects taught included medicine, **Ayurveda, Buddhism, mathematics, grammar, astronomy**, and Indian philosophy.
- The university thrived under the patronage of the **Pala dynasty** during the 8th and 9th centuries CE and made significant contributions to mathematics and astronomy.
- **Aryabhatta**, a pioneer of Indian mathematics and the **inventor of zero**, was one of the esteemed educators at Nalanda.

### Admission and Academic Rigor

- Admission to Nalanda was **highly competitive**, akin to today's top institutions like IIT, IIM, or Ivy League schools.
- Students underwent **rigorous interviews** and were mentored by scholars and Buddhist masters like **Dharmapala and Silabhadra**.

- The university's library, known as 'Dharma Gunj' or the 'Mountain of Truth,' contained **9 million handwritten palm-leaf manuscripts**, making it the richest repository of Buddhist knowledge.

### **Destruction and Rediscovery**

- In the **1190s**, **Bakhtiyar Khilji**, a **Turko-Afghan military general**, destroyed Nalanda University by arson, which **burned for three months** and destroyed invaluable Buddhist manuscripts.
- Some **surviving manuscripts are preserved in the Los Angeles County Museum of Art** and the Yarlung Museum in Tibet.
- The university was **rediscovered in 1812** by **Scottish surveyor Francis Buchanan-Hamilton** and officially identified in **1861** by **Sir Alexander Cunningham**.

### **Scholarly Influence**

- Nalanda's intellectual legacy includes contributions from scholars like **Nagarjuna**, known for his foundational work in the **Madhyamaka school of Mahayana Buddhism**, and his disciple **Aryadeva**.
- **Dharmapala's commentaries** further enriched Buddhist philosophy.
- These scholars' insights into **metaphysics and epistemology** extended Nalanda's influence, shaping religious and philosophical thought across Asia and inspiring subsequent generations of thinkers.

## **GS 2 : Polity, Governance, International Relations**

### **1. Impact of the 2024 election of the USA on world politics**

- Former U.S. President Donald Trump has become the first to be convicted of a felony, with a New York jury finding him guilty on all 34 charges related to hush money paid to Stormy Daniels in 2016.
- This conviction includes falsifying business records and election fraud.

#### **Charges and Convictions:**

- **Falsifying Business Records:** Trump was reimbursed \$130,000 through his lawyer Michael Cohen to cover up his alleged affair with Daniels.
- **Election Fraud:** The attempt to conceal this payment from voters on the eve of the 2016 election led to a charge of election fraud.

### **Sentencing and Potential Outcomes:**

- Sentencing is set for July 11, just before the Republican National Convention.
- Possible penalties include up to four years in prison, though Trump may receive a fine or probation considering his age, lack of previous convictions, and the non-violent nature of the crimes.

### **Other Legal Issues:**

- Trump faces three other criminal indictments related to interference in the 2020 election and mishandling classified documents, which carry more severe sentences but are unlikely to go to trial before the November 5 election.

### **Issues**

#### **Constitutional Eligibility:**

- Despite the New York conviction, Trump remains eligible to run for President as per the U.S. Constitution.
- He meets the requirements: being a natural-born citizen, at least 35 years old, and a U.S. resident for at least 14 years.

#### **Governance from Prison:**

- The possibility exists that Trump could serve as President from prison if convicted in future cases.

### **Significance**

#### **Political Polarization:**

- Trump's conviction is already polarizing public discourse, with Republican factions uniting in support of him.
- Conversely, 53% of swing state voters indicated they would not support Trump if convicted, according to early 2023 polls.

#### **Impact on the 2024 Election:**

- The upcoming election could be a pivotal moment for American voters to decide on Trump's fitness for office amidst his legal challenges.

### **Solutions**

#### **Public Discourse:**

- Ensuring balanced and fact-based public discourse is essential to navigate the polarized environment.
- Media and public figures should promote informed discussions on the implications of Trump's legal issues.

### Legal Reforms:

- Consideration of reforms to address the complexities of a presidential candidate facing serious criminal charges, potentially including clearer guidelines on eligibility and governance from prison.

## 2. Tobacco Epidemic in India

Tobacco is the most widely recognized preventable cause of disease and death globally, posing significant health and environmental challenges.

### Steps taken by India to control tobacco use

- **COTPA, 2003-** The Cigarettes and Other Tobacco Products Act regulates tobacco advertising, promotion and sale, it bans tobacco sales within 100 yards of educational institutions.

COTPA ensures effective implementation of WHO's Framework Convention on Tobacco Control

- **National Tobacco Control Program (NTCP), 2007-** It aims to raise awareness about tobacco harms and assist people in quitting.
- **Prohibition of Electronic Cigarette Act (PECA), 2019-** Prohibition on the sale of e-cigarettes and related products which includes Electronic Nicotine Delivery Systems (ENDS) and Heated Tobacco Products.
- **mCessation program-** It is a mobile technology based program by Ministry of Health and Family Welfare, WHO, and International Telecommunication Union that provides customized guidance via text messages to encourage tobacco users to quit.
- **Ban by FSSAI-** Food Safety and Standards Authority of India (FSSAI) banned tobacco and nicotine in food items, this resulted in ban of gutka and flavored smokeless tobacco products.
- **Tobacco taxation-** India has implemented tobacco taxes to discourage consumption.
- **Smoke free places-** Smoking is completely banned in many public places and workplaces, including healthcare facilities, educational institutions, government offices, and public transport.

## What are the impacts of tobacco use in India?

- **Passive smoking-** Non-smokers, including children and pregnant women, are at risk due to exposure to secondhand smoke, leading to respiratory infections, low birth weight, sudden infant death syndrome (SIDS), and other health problems.
- **Occupational Hazards-** Those employed in the tobacco industry, especially in cultivation and processing, face health risks from absorbing nicotine through their skin, which can cause nicotine poisoning and other related illnesses.
- **Impact on health-** It is a major risk factor for many chronic diseases, including cancer, lung disease, cardiovascular disease and stroke.
- **Lack of legislative framework-** In 2020, an amendment under COTPA has aimed to make licensing mandatory for tobacco product production, supply, and distribution, but the bill was not passed.
- **Policy paralysis-** A study found no significant difference in bidi or cigarette consumption reduction between NTCP and non-NTCP districts as there were challenges like insufficient staffing, resource allocation and monitoring mechanisms.
- **Economic burden-** India incurred a loss exceeding 1.7 lakh crore rupees due to tobacco's health effects in 2017-2018.
- **Productivity loss-** Workers suffering from tobacco-related diseases are less productive, and the economic contribution of those who die prematurely is lost.
- **Tobacco taxation-** It is not regularly adjusted for inflation, and over time tobacco products are becoming increasingly affordable.
- **Tax evasion-** Illegal methods such as smuggling, illicit manufacturing affects tobacco taxation efforts.
- **Industry influence-** India's tobacco interference index has worsened, indicating industry influence in governance.
- **Soil erosion-** Tobacco cultivation is erosive and depletes soil nutrients.
- **Deforestation-** It occurs due to tobacco production in the rate of 5.4 kg of wood per 1 kg of tobacco.
- **Waste accumulation-** Tobacco production and consumption generate a substantial amount of waste, including cigarette butts, packaging, and plastic waste, contributing to environmental pollution.

## What lies ahead?

- Ensure strict enforcement of the COTPA and increase fines for violations to ensure regular monitoring and compliance checks.
- Increase the tax burden on all tobacco products (cigarettes, bidis, and smokeless tobacco) to at least 75% of the retail price, as recommended by the WHO Framework Convention on Tobacco Control (FCTC).



- There is a need to launch sustained, high-impact mass media campaigns to educate the public about the dangers of tobacco use.

### 3. Silence period

**Silence period** was recently observed in some states just before Lok Sabha voting.

- The **silence period** is a **48-hour** timeframe during which all election campaigning must cease, governed by **Section 126** of the **Representation of the People Act, 1951**.
- It applies to political parties, candidates, and the media, aiming to **prevent influence** on voters immediately before voting.
- Directive issued by the **District Magistrate** to enforce these regulations.

**Regulations during the silence period:**

- Ban on **unlawful assemblies**, public meetings, and use of loudspeakers.
- Restriction on gatherings to less than **five people**, though door-to-door campaigning is allowed.
- Prohibition on displaying election matters like **opinion polls** on TV or similar apparatus.
- Ban on **political advertisements** through **electronic** and **social media**.
- Prohibition on **musical concerts**, theatrical performances, and other entertainments intended to attract public attention.
- Ban on the sale or distribution of **alcohol** within polling districts.
- Political leaders and star campaigners must **refrain** from **media interactions**.

### 4. Decline in Women's Workforce Representation

Representation of women in the overall workforce increased from 23.9% in 2016 to 27.3% in 2022.

- Stagnation occurred in 2023, with a slight decrease to 26.8% in January 2024.
- LinkedIn's Economic Graph data reveals these trends from self-reported data of over 1 billion members across 68 million companies globally.

**Slow Progress in Leadership Roles:**

Women's promotion to senior leadership roles has been slow, increasing by only one percentage point every four years.



- The share of women in senior positions rose from 18.8% in 2016 to 25.2% in 2021, then declined.
- The downturn in January 2024, if it persists, will halt this slow-paced increase.

### **Sector-Specific Representation:**

**Sectors with lowest representation:** oil, gas, mining, construction, utilities, wholesale, manufacturing, transportation, real estate (11%-14% women in leadership).

- **Moderate representation:** Accommodation and food services, financial services, retail, technology, media (15%-20% women in senior roles).
- **Highest representation:** Administrative and support services, healthcare, consumer services, government administration, education (22%-30% women in senior positions).
- The education sector has the highest share of women in senior roles at 30%.

### **Structural Barriers and Legal Compliance:**

Women still face bias, societal norms, and structural barriers in reaching leadership roles despite recent efforts.

- Laws such as the Companies Act, 2013, mandating women directors on company boards, are not strictly followed.
- Between April 2018 and December 2023, 507 companies were fined for non-compliance, with 90% being listed companies.

## **5. 'Managed care' organization**

Universal healthcare poses a multifaceted challenge, yet managed care organizations may offer a piece of the solution that Indian healthcare requires.

- A managed care organization (MCO) is a health care company or a health plan that is focused on managed care as a model to limit costs, while keeping quality of care high.

### **The background of managed care organizations (MCOs) in the United States and India:**

#### **Evolution of MCOs in the United States:**

- **Early Precedents:** MCOs have their origins in rudimentary prepaid healthcare practices in the 20th century.

- **1970s Impetus:** The mainstreaming of MCOs gained momentum in the 1970s due to concerns over healthcare costs. The economic slowdown post-1970s made high insurance premiums less attractive to purchasers.
- **Structural Shift:** A shift occurred towards integrating insurance and healthcare provisioning functions. Focus areas included prevention, early management, and cost control, all under a fixed premium paid by enrollees.
- **Evolution and Impact:** MCOs have evolved through multiple generations and forms, deeply penetrating the health insurance market. While evidence of their effectiveness in improving health outcomes and prioritizing preventive care is mixed, they have been effective in reducing costly hospitalizations and associated costs.

### Evolution of MCOs in India:

- **Historical Context:** The first public commercial health insurance emerged in the 1980s. The focus has primarily been on indemnity insurance and covering hospitalization costs.
- **Market Dynamics:** There is a significant market for outpatient consultations, valued at nearly \$26 billion.
- **Challenges:** Health insurance in India has traditionally lagged behind life and general insurance. The sector faces issues such as lack of innovation and high, often unsustainable, operational costs.
- **As per Thomas (2011):** Health insurance has played a secondary role to other forms of insurance. The industry's operational inefficiencies and high costs have been persistent issues.

### Challenges in India:

- **Lack of Natural Incentives for Cost Control:** The evolutionary trajectory of Indian health insurance has not incentivized consumer-driven cost control.
- **Target Demographic:** Health insurance has mainly targeted a thin, urban, well-off segment, neglecting broader demographics.
- **Informality in Outpatient Practices:** There is widespread informality among outpatient practices, complicating efforts to standardize and regulate care.
- **Lack of Clinical Protocols:** The absence of widely accepted clinical protocols hampers the quality and consistency of care.
- **Economic Viability:** Unprofitable operations and unaffordable premiums pose significant economic challenges, preventing sustainable growth and systemic improvement.
- **Limited Impact on UHC:** Private initiatives, despite their potential, are unlikely to significantly contribute to Universal Health Coverage (UHC) without public support.

- **Insufficient Control Over Patient Journeys:** Health insurers have little control over the patient's journey before hospitalization, limiting their ability to manage early interventions and reduce costs through comprehensive outpatient care.

### Prospective Solutions and Remaining Issues:

- **Potential for Big Healthcare Brands:** Large healthcare brands with loyal urban patient bases and substantial resources may initiate successful managed care projects.
- **Need for Public Patronage:** Exploring managed care with cautious and incremental public patronage could be promising, indicating a need for government involvement to achieve broader impacts.
- **Underutilization of Outpatient Insurance:** Given the low share of insurance in outpatient care spending and the average of three consultations per year per person, there is significant potential to reduce healthcare costs through early interventions and comprehensive outpatient care coverage.

### NITI Aayog Report:

- **Outpatient care insurance scheme:** In 2021, NITI Aayog released a report advocating for an outpatient care insurance scheme based on a subscription model to enhance savings through improved care integration.
- **Yield significant benefits:** A well-functioning managed care system can yield significant benefits, including consolidating practices, streamlining management protocols, and emphasizing preventive care in the private sector.
- **Catering for the beneficiaries of PMJAY:** The report highlights the potential of incentives under the Ayushman Bharat Mission to encourage the establishment of hospitals in underserved areas catering to beneficiaries of the Pradhan Mantri Jan Arogya Yojana (PMJAY).

**Conclusion:** While Managed Care Organizations are not a perfect solution, they can play a role in addressing the complexities of achieving Universal Health Coverage (UHC) in India by being part of a broader strategy.

## 6. India joins U.S.'s Red Flag air and RIMPAC naval exercises

### Exercise Red Flag:

- **Multinational air exercise Red Flag, Alaska (USA),** May 30 – June 13, 2024.
- **Indian Air Force (IAF)** will participate.
- **Deployment:**

- **Aircraft:** 8 Rafale fighters, 3 C-17 transport aircraft, 2 IL-78 mid-air refuelling aircraft.
- **Transit:** Staging halts in **Greece** and **Portugal**.
- **Objective:** To integrate aircrews in a multinational environment and provide advanced aerial combat training.
- **Participants:** Approximately 3,100 service members and over 100 aircraft from 4 nations.
- **Operations:** Conducted over the **Joint Pacific Alaska Range Complex**, the **largest combat training range** in the world.
- **IAF History:** Previous participation included **SU-30MKI fighter jets**.

#### Exercise RIMPAC:

- **Event:** **Rim of the Pacific (RIMPAC)**, Hawaii, June 25 – August 2, 2024.
- **Indian Navy** will participate.
- **Deployment:** Indigenous stealth frigate **INS Shivalik**.
- **Objective:** Enhance interoperability with the **Japan Maritime Self-Defense Force (JMSDF)**, **US Navy**, and **other partner navies**.
- **Participants:** 29 nations, 40 surface ships, 3 submarines, 14 national land forces, over 150 aircraft, and more than 25,000 personnel.
  - This year's participants in **RIMPAC** include forces from Australia, Belgium, Brazil, Brunei, Canada, Chile, Colombia, Denmark, Ecuador, France, Germany, India, Indonesia, Israel, Italy, Japan, Malaysia, Mexico, Netherlands, New Zealand, Peru, the Republic of Korea, the Republic of the Philippines, Singapore, Sri Lanka, Thailand, Tonga, U.K. and the U.S.
- **Scope:** The world's largest international maritime exercise, held **biennially** since **1971**.

#### Japan-India maritime exercise JIMEX-24:

- **Indian Navy** said that **INS Shivalik**, mission deployed to the **South China Sea** and **Pacific Ocean**, departed **Singapore** on May 30 for onward passage to **Yokosuka, Japan** to participate in **Japan-India maritime exercise JIMEX-24** scheduled to be held mid-June and then onward to **RIMPAC-24**.

### 7. Major health issues faced by women

Recent analysis published by The Lancet reveals significant differences in disease burden and health outcomes between men and women globally.

#### Key highlights of the report

- **Difference in disease burden-**

- **Impact of Gender Norms-** The differences between men and women become apparent during adolescence, influenced by both biological and gender norms.
- **Healthcare bias-** Women are more frequently diagnosed with mental disorders, which might reflect biases in healthcare systems.
- **Pain management -** Women in pain, particularly with musculoskeletal disorders like lower back pain, are often dismissed or undertreated by healthcare providers.
- **Musculoskeletal disorders-** Biological factors (e.g., fluctuating hormones, differences in skeletal shapes) and the physical stress of pregnancy and childbirth contribute to women's higher rates of musculoskeletal pain.
- **Triple burden-** Women often juggle work, household maintenance, and caregiving duties, which may limit their access to appropriate health services.
- **Stability of gender disparities-** Despite decreasing rates of certain conditions since 1990, the gender gap remains stable, particularly for conditions like lower back pain and depressive disorders.
- **Cancer-** Breast cancer and Cervical cancer remain the most common cancer among women in India.
- **Menstrual pain-** Menstrual cramps, which cause throbbing, agonizing pain in the lower abdomen, are the most common cause of the discomfort.
- **Reduction in bone density-** Almost 80% of Indian women suffer from bone thinning. The danger of osteoporosis, which can lead to joint pain and easily cracked bones, rises with bone density loss.
- **Mental health-** In accordance with the National Family Health Survey from 2019 to 2021, 30% of women in India experience gender-based violence, which puts a third of all Indian women at an increased risk of having anxiety and depressive disorders.
- **Dysfunctional pelvic floor-** A weaker or malfunctioning pelvic floor is a very frequent issue that several Indian women who have given birth and/or are over 40 years old deal with.
- **Tribal women-** The high incidence of breast lumps among Adivasi women of Adilabad in Telangana has created apprehension of more serious health impacts for this remote population.
- **Cardiovascular health-** Indians account for 60% of the world's heart disease burden, despite accounting for less than 20% of the world's population.
- **Suicide-** Indian women have higher rates of suicide than women in most developed countries. Women in India also have a higher rate of suicide compared to men.

### What lies ahead?



- **Data Collection-** Consistently collecting health data categorized by sex and gender is crucial for understanding and addressing health disparities.
- **Targeted health interventions-** Health interventions should consider the specific needs of men and women.
  - For example, addressing mental health more robustly and reducing biases in diagnosing and treating pain.
- **Increased Funding for Women's health-** More funding is needed for conditions disproportionately affecting women, such as mental health issues and musculoskeletal disorders.
- **Holistic approach-** Moving beyond reproductive health to address broader health issues faced by women, acknowledging their unique health challenges throughout their lives.
- **Awareness generation-** Educating healthcare providers to recognize and address biases, ensuring both men and women receive appropriate and effective care.
- **National health plans-** Proper plan and strategies to address the health needs of men throughout their lives, including interventions targeting behavioural risks such as alcohol use and smoking that typically begin at a young age.
- **Technology intervention-** Early detection of cancers, including cervical cancer, can be improved through the use of technology.

## 8. Major challenges faced by India in healthcare costs

Recently, seeing the dynamic landscape of Indian healthcare, cost considerations are increasingly shaping service delivery and patient care.

- **Medical inflation-** The cost of medical services, pharmaceuticals, and medical devices is rising faster than general inflation, making healthcare increasingly unaffordable for many.
- **Technological advances-** While technology improves care, it also raises costs due to the high investment required for advanced medical equipment and procedures.
- **Regional disparity-** There is a significant disparity in healthcare access between urban and rural areas. Rural regions often lack adequate healthcare facilities, skilled professionals, and essential medicines.
- **Socioeconomic inequities-** Lower-income groups struggle to afford quality healthcare, leading to poorer health outcomes and increased financial strain.
- **Lack of quality-** Supreme Court's standardizing medical procedure rates could drastically slow the development of new treatments and technologies, especially in fields like cancer research and robotic surgery, where significant investment is crucial.

- **Limited insurance coverage-** A significant portion of the population lacks health insurance, leading to high out-of-pocket expenses for medical treatments.
- **Infrastructure gaps-** Many public healthcare facilities lack the necessary infrastructure, equipment, and staff to provide quality care.
- **Price caps-** One-size-fits-all price caps could undermine healthcare quality.
  - A Health Care Management Review study shows hospitals facing price caps report a 15% increase in patient dissatisfaction.

### What should be done?

- **Invest in infrastructure-** The need of the hour is to invest in top-tier infrastructure and advanced technologies, seamlessly integrating telemedicine and remote care to broaden access and build patient trust.
- **Private hospitals-** Private hospitals in India, particularly those accredited by the Joint Commission International (JCI) and the National Accreditation Board for Hospitals (NABH), have emerged as hubs of innovation.
- **Enhance patient outcomes-** These institutions invest in advanced technologies and top-tier infrastructure, enhancing patient outcomes in complex procedures.
- **Value-based pricing-** This could be the ultimate solution where payments reflect health outcomes rather than service volume.
- **Inclusivity-** Broader Internet access and improving digital literacy will empower more people to benefit from these advancements, setting the stage for India to lead globally in health-care innovation.
- **Holistic approach-** Engaging all stakeholders including private healthcare providers, is essential for crafting effective, sustainable policies.
- **Legislative reforms-** States like Rajasthan and Tamil Nadu highlight gaps in rate provisions, advocating for strong legal frameworks to address these issues.
- **Technology intervention-** It has revolutionized health care, making diagnostics faster and more accurate with artificial intelligence and improving care coordination through electronic health records.
  - Telemedicine initiatives in Karnataka have slashed hospital visits by 40%.
- **Utilize big data-** Data analytics can shed light on patient outcomes, treatment efficacy, and cost-efficiency, informing more nuanced rate-setting frameworks.
- **Implement pilot projects-** This can be done in selected districts to assess the impact of rate caps, allocate government subsidies for private hospital R&D, and establish public-private partnerships to integrate advanced technologies in public hospitals.



- **Thailand model-** Thailand's tiered system considers income and necessity, balances cost and care and could model India's diverse economy.

## 9. Rising tension in the Indo-Pacific and steps taken by different countries

### Recruitment Policy Changes

- Australia will allow non-citizens to join its armed forces.
- From July, eligibility criteria will be loosened to include "permanent residents who have been living in Australia for 12 months."
- Citizens from Britain, Canada, New Zealand, and the United States will be favoured.

### Recruitment Challenges:

- Australia struggles to meet recruitment targets due to its sparsely populated nature.
- The country has a vast coastline but a population of just 26 million.
- Experts warn there are too few Australians in uniform to meet current and future military requirements.

### Defence Spending and Needs:

- Canberra has increased defence spending, acquiring submarines, jets, and fighting vehicles.
- The Australian Defence Forces need more pilots, mariners, and troops to operate and maintain new equipment.
- The current personnel count is about 90,000, including reservists, according to the Australian Strategic Policy Institute.

### Strategic Considerations:

- The expansion of eligibility criteria is part of a broader strategy to bolster the military.
- Mounting regional tensions necessitate a more robust defence capability.
- The new policy aims to ensure that Australia can meet its defence obligations and future military needs.

## 10. MISSION KARMAYOGI

Indian Institute of Public Administration assessed the impact of mission karmayogi by seeking inputs on recently trained staff from their supervisors and reported increased proficiency in data analytics and e-governance tools

- Improved governance and efficient and competent civil services are required for achieving India's ambitions.

### **About Mission Karmayogi**

- Mission Karmayogi, also known as the National Programme for Civil Services Capacity Building (NPCSCB), is an ambitious program launched by the Government of India.
- The mission was launched by the Union Cabinet on 2nd September 2020.
- It aims to transform the government's human resource management, making the bureaucracy more efficient, effective, and accountable.
- The goal is to develop the skills and competencies of civil servants to deliver better results for citizens.
- The mission intends to lay down the foundations for the Indian civil servants' capacity building and aims to enhance governance.

The guiding principles of Mission Karmayogi include:

- Shift from rule to role-based training and capacity building: Capacity building of government officials under Mission Karmayogi focuses on enhancing the attitudes, skills, and knowledge of these individuals through role-based training.
- Moving to a competency-driven approach for capacity development: A competency-driven capacity building approach focuses on developing competencies critical for public officials to effectively undertake their various roles.
- Democratising and enabling continuous, lifelong learning opportunities: Mission Karmayogi aims to make available to all government officials, across hierarchies and geographies, the opportunity to continuously build and strengthen the competencies required for their roles.
- The NPSCSB aims to embark on a learning transformation program that will address the capacity building issues of the Civil Services through a comprehensive online platform – iGOT Karmayogi.
- iGOT Karmayogi aims to provide online, face-to-face and blended learning and manage lifelong learning records of the officials.
- Implementing and managing a platform of the complexity and size of iGOT requires a specialized institutional mechanism, with core competency in technology and innovation. Considering the specialist skills and management autonomy needed, the government has instituted a Special Purpose Vehicle (SPV) termed Karmayogi Bharat, to operate the iGOT Karmayogi platform and any other digital assets pertaining to the Program.

Institutional framework for Mission Karmayogi

- The Institutional Framework includes four institutions and functional bodies, with representation from the Centre, State and civil society, and oversight from the highest level of political office.
- These are the Prime Minister's Human Resource Council, the Cabinet Secretariat Coordination Unit, the Capacity Building Commission and the SPV Karmayogi Bharat.
- As of now, there are 3506824 Total Karmayogis Onboarded and 1039 Total Courses available. The courses range from AI Using Google Bard and ChatGPT for Beginners by Invest India, Microsoft Excel for Beginners by Microsoft, to Women Self Defense Techniques Course by Central Reserve Police Force (CRPF), and many more.

## 11. Major challenges faced by the government to implement AMRUT scheme

AMRUT scheme recently made news due to challenges in improving infrastructure related to water supply, mobility, and pollution.

### AMRUT scheme

- **Ministry-** Ministry of Housing and Urban Affairs.
- **Launch year-** 2015, AMRUT 2.0 is launched in 2021.
  - It is a revamped version of the earlier similar scheme, Jawaharlal Nehru National Urban Renewal Mission (JNNURM).
- **Coverage-** The mission was drawn to **cover 500 cities and towns** with a **population of over 1 lakh** with notified municipalities.
- **Purpose of the mission-**
  - Ensure that every household has access to a tap with assured supply of water and a sewerage connection.
  - Increase the value of cities by developing greenery and well-maintained open spaces such as parks.
  - Reduce pollution by switching to public transport or constructing facilities for non-motorised transport.
- **Water supply system-** Ensuring that every household has access to a tap with assured water supply.
- **Sewerage-** Providing sewerage connections to households.
- **Storm water drainage-** Developing robust stormwater drainage systems.
- **Urban transport-** Focusing on public transport and non-motorized transport facilities (e.g., walking and cycling).
- **Green space and parks-** Enhancing amenity value by creating well-maintained open spaces and parks.

- **Capacity building-** Encouraging reforms to improve financial health, transparency, and citizen services in urban local bodies.
- **Fund allocation-** INR 50,000 crore for five years from FY 2015-16 to FY 2019-20.

Around 36% of India's population is living in cities and by 2047 it will be more than 50%.

**Death-** It is estimated that about 2,00,000 people die every year due to inadequate water, sanitation and hygiene.

- **Structural issues-** AMRUT was designed for cities mainly driven by private interests and lacking organic participation from elected city governments.
- **Monopoly-** The project was owned by bureaucrats, parastatals, and large technology-based companies. Peoples' representatives are completely missing, in violation of the 74th constitutional amendment.
- **Environmental damage-** With big private players driving development, urban planning is sidelined, this leads to lost water bodies, disrupted stormwater flow, and poor drainage.
- **Disease burden-** The disease burden due to unsafe water and sanitation is considerably higher in India than in neighboring countries like China.
- **Reservoir capacity-** Reservoirs critical for drinking and irrigation water are often underfilled, with major cities facing groundwater depletion.
- **Urban infrastructure gaps-** 31% of urban households lack piped water, and 67.3% lack piped sewerage systems, with water supply far below the required levels.
- **Untreated wastewater increases disease risk:** the central government monitors 150 key reservoirs, crucial for drinking, irrigation, and hydroelectricity. Currently, they are only at 40% capacity.
- **Water crisis in India-** A NITI Aayog report warns that 21 major cities in India will soon deplete their groundwater, leaving 40% of the population without drinking water by 2030.

The average water supply per person is only 69.25 litres/day, far below the required 135 litres.

- **Degraded air quality-** Air quality in AMRUT cities and in other large urban settlements continue to worsen.
- **NCAP-** A National Clean Air Programme was launched by the central government in 2019, as AMRUT 2.0 focused only on water and sewerage and because the air quality concerns of AMRUT 1.0 were far from addressed.

**What lies ahead?**

- The scheme needs nature based solutions and a comprehensive methodology with a people centric approach and empowering local bodies.
- The need of the hour is holistic integrated urban planning that addresses the challenges in AMRUT scheme.

## 12. Declining credibility and legitimacy of the U.S. worldwide

- A survey by the Eurasia Group's Institute for Global Affairs revealed low confidence among Western Europeans in the United States' reliability for security.
- Only 6% of respondents from Britain, France, and Germany believe the United States will be a "very reliable" guarantor of European security over the next decade.
- In contrast, 24% of Americans view their country as very reliable in this regard.

### Comparison with Previous Years:

- This survey is the first time the question about U.S. reliability has been asked in the annual survey.
- The results are surprising given President Joe Biden's strong support for Ukraine against the Russian invasion over the past two years.

### Factors Influencing Doubts:

- Mark Hannah, a senior fellow at the institute, finds the low confidence levels remarkable despite the United States' significant contributions.
- The primary reason for the scepticism is likely former President Donald Trump's stance on NATO and aid to Ukraine, which he has criticized as wasteful and unfair to the U.S.

**American Perspective:** While Western Europeans show low confidence, a higher percentage of Americans (24%) believe in their country's reliability in guaranteeing European security.

## 13. Special Category Status

N Chandrababu Naidu has demanded the Special Category State status for Andhra Pradesh.

### Special Category Status (SCS)



- **About-** It is a classification granted by the Centre to assist the development of States that face geographical or socio-economic disadvantages.
- **Aim-** To assist certain states in their development and fast-tracking growth if they faced historical economic or geographical disadvantages.
- **Launch year-** It was introduced in 1969 on the recommendation of the 5th Finance Commission (FC).
- **Gadgil formula-** It was named after the then Deputy Chairman of the Planning Commission, Dr Gadgil Mukherjee which earmarked nearly 30% of the total central assistance for States to the SCS States.
- **Role of National Development Council-** It grants special category status, it is composed of the prime minister, union ministers, chief ministers and members of the planning commission.
- **Scrap SCS-** The system was **scrapped** on the recommendation of the **14th Finance Commission**.
- **Purpose-** It suggested that the resource gap of the states should be filled by **increasing the devolution of tax to 42% from the existing 32%**.

### Why Andhra Pradesh wants Special Category Status?

- **Bifurcation-** When Andhra Pradesh was bifurcated to create Telangana in 2014 through the Andhra Pradesh Reorganisation Act, the Centre promised Special Category Status (SCS) to Andhra Pradesh to compensate for the loss of revenue and Hyderabad, the development hub.
- **Loss of revenue-** When Andhra Pradesh was divided to create Telangana, Hyderabad, a major economic hub, went to Telangana. This resulted in a significant loss of revenue for AP
- **Need of SCS-** It aimed at **more funds to be made available from the Centre** to overcome the “distressing” financial situation of the state.
- **Unjust bifurcation-** AP argues that the undivided state was **bifurcated in an unjust and inequitable manner**.
- **Telangana-** The successor state inherited nearly 59% of the population, debt, and liabilities of the original state, but only 47% of its revenues.

Hyderabad accounted for a significant portion of software exports, benefiting Telangana disproportionately.

- **Status of Andhra Pradesh-** AP is essentially an **agrarian state**, with low economic buoyancy, leading to huge revenue disabilities.

The per capita revenue in Telangana was significantly higher than in AP.

### What is the significance of SCS?

- **Centre-State funding-** Centrally sponsored schemes is divided in the ratio of **90:10**, far more favourable than the 60:40 or 80:20 splits for the general category States.
- **Special treatment-** Preferential treatment in getting Central funds as **30% of the Centre's gross budget** also goes to special category.
- **Incentives-** These States can avail the benefit of debt-swapping and debt relief schemes.
- **Tax exemption-** States with special category status are exempted from customs duty, corporate tax, income tax and other taxes to attract investment.
- Concession is provided to excise duty for attracting industries to the State.
- **Carry forward-** If they have unspent money in a financial year, it does not lapse and gets carry forward for the next financial year.
- **Increased devolution-** Assistance to SCS states has been subsumed in an increased devolution of the divisible pool funds for all States (increased to 41% in the 15th FC from 32%).
- **High grants-in-aid-** SCS would mean **higher grants-in-aid** to the state government from the Centre.
- **Promote investment-** SCS would **encourage investments** in specialty hospitals, five-star hotels, manufacturing industries, high-value service industries such as IT, and premier institutions of higher education and research.

#### 14. Current trend of women's participation in politics

Over the years, Lok Sabha's gender composition has shown a general trend towards increasing women's representation, but progress has been slow and not linear.

- In 1952, women made up just 4.41% of the strength of the Lower House.
- India has elected **74 women MPs to Lok Sabha this year**, four fewer than in 2019 and 52 more than in India's first elections in 1952.
- These 74 women make just 13.63% of the elected strength of the Lower House, much less than the **33% that will be reserved** for women after the next delimitation exercise.
- India was ranked **149th out of 193 nations** in terms of the percentage of women who serve in the lower house of parliament.
- In the **Global Gender Gap Report 2023**, India ranked **127th out of 146 countries**.
- **Global study-** India still lags behind several countries 46% of MPs in South Africa, 35% in the UK, and 29% in the US, are women.



- **Asia specific study-** IPU data of 2022 showed that women's representation in Nepal was 34 percent, in Bangladesh 21%, in Pakistan 20%, in Bhutan 17% and in Sri Lanka 5%.

### Major challenges regarding women's Participation in politics

- **Patriarchal society-** India is a traditionally patriarchal society where women often face societal pressure to conform to traditional roles of homemaking and caregiving, which limits their participation in public life, including politics.
- **Lack of support-** Women often lack support from their families and communities to pursue political ambitions due to entrenched gender biases.
- **Under-representation-** Despite the Preamble providing for equality as one of the objectives and inclusion of fundamental rights, directives principles, **Art. 324, Art 325, Art 326** the representation of women in electoral politics is not up to the mark.
- **Societal issues:** The various reasons of low women representation in politics are patriarchal mindset with male domination of most fields, women being viewed as homemaker only, child bearing role is emphasised as the most important priority of women, absence of equal opportunities etc.
- **Lack of political will-** Political parties are reluctant to distribute tickets to female contestants as they are considered weak by the society thus reducing the chances of winning election.
- **Sarpanch pati concept-** The reservation to women in Panchayats and urban local bodies through 73rd and 74th constitutional amendments respectively have bestowed women with an opportunity to participate in politics at village and local levels though the problems such as Sarpanch pati can't be neglected.
- **Illiteracy-** In India, women have a literacy rate of 65% compared to men's 82%.
- **Employment disparities-** Women in India generally have lower levels of employment and income, which reduces their capacity to fund political campaigns and activities.
- **Slander and abuse:** This is one of the primary barriers that prevent women from running in elections that they encounter during campaigning. Lack of safety is the additional factor stated.

### What should be done?

- The increased representation of women in politics ensures not only women empowerment but also betterment of society at large.

- Women's participation in decision making can result in increased efforts to reduce infant mortality, maternal mortality, anemia, malnourishment and various other challenges related particularly to women and children.
- The need of the hour is to bring about behavioural change through socialization process with significant role being played by family, school, peers.
- **128<sup>th</sup> Amendment Act, 2023** also called as Women reservation Act is rightly perceived as a powerful and indispensable tool for eliminating gender inequality and discrimination.

## 15. Issues of Israel and Gaza Strip

Spain has become the first European country to request permission to join South Africa's case at the International Court of Justice (ICJ) accusing Israel of genocide in Gaza. This legal action comes amid ongoing military operations in Gaza and aims to address alleged violations of the genocide convention by Israel.

- **Initial Case Filing:** South Africa filed the case with the ICJ in late 2023, alleging Israel's military actions in Gaza breach the genocide convention.
- **Court Order:** The ICJ ordered Israel to halt its military offensive in Rafah but did not enforce a cease-fire for the entire Gaza Strip.

### Spain's Involvement

- **Foreign Minister's Statement:** Spanish Foreign Minister José Manuel Albares emphasized the decision was made due to the ongoing military operations in Gaza and the need for peace.
- **Role in the Case:** If admitted, Spain will be able to submit written statements and participate in public hearings, further supporting the legal process.

### International Support

- **Other Countries:** Mexico, Colombia, Nicaragua, Libya, and the Palestinians have also requested to join the case.
- **Recognition of Palestine:** Spain, along with Ireland and Norway, recognized a Palestinian state on May 28.

### Israel's Position

- **Denial of Genocide:** Israel denies allegations of genocide, stating its military actions are aimed at combating Hamas, particularly following the deadly attacks on October 7.

## Issues

### Legal and Diplomatic Implications

- **Legal Precedents:** The case could set significant precedents in international law regarding the definition and prosecution of genocide.
- **Diplomatic Tensions:** Spain's involvement may strain its diplomatic relations with Israel, reflecting broader geopolitical tensions.

### Humanitarian Concerns

- **Civilian Impact:** The ongoing military operations have resulted in substantial civilian casualties and infrastructure destruction in Gaza, heightening international concern.
- **Human Rights Violations:** Allegations of human rights violations and war crimes have been central to the discourse on both sides.

## Significance

### European Involvement

- **First European Country:** Spain's request marks a notable shift in European engagement with the Israeli-Palestinian conflict at the judicial level.
- **Support for Palestinians:** Spain's action aligns with its broader support for Palestinian statehood and rights, reinforcing its stance on international platforms.

### International Justice

- **ICJ's Role:** The involvement of multiple countries underscores the ICJ's role in adjudicating complex international disputes and upholding international law.
- **Global Attention:** The case brings significant global attention to the conflict, potentially influencing international diplomatic and humanitarian responses.

## Solutions

### Diplomatic Efforts

- **Peace Negotiations:** Renewed international efforts to mediate peace negotiations between Israel and Palestine could be pivotal.

- **UN Involvement:** Enhanced UN involvement in monitoring and facilitating humanitarian aid and conflict resolution.

### Legal Mechanisms

- **ICJ Proceedings:** Ensuring a fair and transparent legal process at the ICJ to address the allegations and deliver justice.
- **International Cooperation:** Increased cooperation among international legal bodies and human rights organizations to support the case.

## 16. NHRC directives on Anti-Human Trafficking (AHT)

The National Human Rights Commission has taken significant actions in response to incidents involving the trafficking of minor girls in Rajasthan, issuing directives to combat human trafficking effectively.

### Key Directives of NHRC:

#### Appointment of Anti-Human Trafficking (AHT) Nodal Officers:

- Each state is directed to appoint an AHT Nodal Officer at a high level, specifically not below the rank of a **State Secretary** or an **Inspector General of Police**.

#### Role of District Anti-Human Trafficking Units (DAHTUs):

- These units are essential in the fight against human trafficking and should be led by officers not below the rank of **Deputy Superintendent of Police (DSP)**.
- The DAHTUs are to be staffed with representatives from departments such as **Women and Child Welfare, Health and Family Welfare, Labour and Employment**, reputable local NGOs, experts in human trafficking, and legal counsellors.

#### Obligations of State and UT Governments:

- Governments are urged to take all effective measures to **prevent and eradicate practices** such as **child prostitution and the selling of minor girls** on stamp papers.
- They are also tasked with spreading awareness about the constitutional prohibition of child prostitution and educating the public about these illegal activities.

### Compliance and Reporting:

- The Commission has issued notices to the **chief secretaries of all states and Union Territories**, demanding reports on compliance with its directives within eight weeks.

## 17. Securing India's energy transition

India has signed new agreements and updated existing ones with a dozen African countries to secure critical minerals. This initiative is crucial for achieving India's energy transformation goals.

### India's Critical Mineral Acquisition Plans in Africa

- India has signed new agreements and updated existing ones with a dozen African countries to secure critical minerals.
- This initiative is crucial for India's energy transformation goals, aiming to diversify sources and reduce dependence on any single supplier.
- The agreements are part of a broader strategy to secure access to minerals necessary for renewable energy technologies and electric vehicles.

### Demand for Energy in India and China's Dominance

- **Energy Demand in India:** India's peak power demand increased to 250 GW in 2023-24, marking a 12.7% increase from the previous year. By 2030, India's peak power demand is expected to reach 366 GW, up from the current level of 240 GW.
- **China's Dominance:** China leads in securing and processing critical minerals, having established long-term relationships with mineral-rich countries in Africa and Latin America. Chinese companies dominate mining rights in economically poor yet mineral-rich nations.
  - China has built significant capacities for processing and refining minerals, making it the primary global hub for critical mineral processing.

### India's Other Overseas Critical Mineral Acquisition Plans

- Earlier this year, India signed an agreement with Argentina to explore and develop five lithium brine blocks.
- The Geological Survey of India (GSI) discovered inferred lithium reserves of 5.9 million tonnes in Jammu & Kashmir.

- India aims to diversify its sources of critical minerals by securing mining leases abroad, ensuring a stable and sustainable supply chain.

### Government Initiatives to Secure Critical Minerals

- **Exploration and Geological Studies:** The government is pushing for more extensive exploration and geological studies within India to identify potential reserves of critical minerals. The Geological Survey of India has been tasked with accelerating the exploration of India's 3.2 lakh sq km land mass using new data and technologies.
- **Securing Mining Leases Abroad:** India is focusing on securing mining leases in other countries to ensure a diversified supply of critical minerals. The agreements with African countries and Argentina are examples of this strategy.
- **Building Domestic Capacities:** The government is providing incentives to build refining and processing capacities within India for critical minerals. There is an emphasis on attracting private miners, both domestic and global, to participate in critical mineral exploration within India.
- **Policy and Auction Reforms:** The government is analyzing why auctions often fail to generate enough interest and is considering policy changes to attract big players. Coordinated efforts between the Centre and state governments on clearances and royalty payments are being emphasized to streamline the auction process.
- **White Hydrogen Exploration:** There is a call for active exploration of potential White Hydrogen deposits within India's geographical borders.

### Way forward:

- Accelerate exploration efforts across India's 3.2 lakh sq km land mass.
- Utilize new data sources and advanced technologies to identify potential reserves of critical minerals.
- Focus on unexplored areas for potential discoveries of critical minerals, including White Hydrogen deposits.

## 18. History of India Canada relations

Recently, a parliamentary committee report in Canada has described India as the second-biggest foreign threat to the country's democracy displacing Russia.

### What are the major highlights of the report?



- The report added to the negative state of the bilateral relation between India-Canada which have been caught in a diplomatic spat since 2023 killing of a **pro-Khalistan ideologue** in Surrey, British Columbia.
- Alleged interference by India has slowly increased but at the same time the operation has become expanded.
- Such threat assessment is part of the Canadian government's practices, in recent years the focus has increasingly shifted to China and India.
- It described **China as the topmost foreign threat** to Canada's democracy.
- **Political relation-** India shared diplomatic relation with Canada in 1947, Canada supported plebiscite in Kashmir in 1948, which reflects the diplomatic relation shared by both countries.
- India-Canada Track 1.5 Dialogue was established involving experts, government officials and business leaders from both sides to explore the possibility of future cooperation.
- **Geopolitics-** Both Canada and India are member nations of the Commonwealth association and also part of G20, a group of world's largest economies.
- **Economic relations-** In 2022, India was Canada's 9th-largest merchandise trading partner in the Indo-Pacific region, the 13th-largest merchandise trading partner globally, and the 14th-largest destination for merchandise exports.
- **Trade agreement-** Both nations are working toward a Comprehensive Economic Partnership Agreement and a Foreign Investment Promotion and Protection Agreement (FIPA).

Canada was ranked as the 17th largest foreign investor in India.

- **Science and Technology:** MoUs were renewed at the 7th India-Canada Joint Science and Technology Cooperation Committee (JSTCC) focussing on quantum computing, artificial intelligence (AI), and cyber-physical systems etc.
- **Agriculture:** Canada has agreed to examine the request for Conformity Verification Body (CVB) status to APEDA (Agricultural and Processed Food Products Export Development Authority) for hassle-free export of Indian organic products.
- **Nuclear cooperation-** Nuclear Cooperation Agreement (NCA) was signed with Canada in 2010.
- **Space relations-** ANTRIX, the Commercial arm of ISRO, has launched several nanosatellites from Canada. ISRO in its 100th Satellite launched in 2018, flew Canadian 1st LEO satellite, from Indian spaceport Sriharikota, Andhra Pradesh.

- **Education-** Shastri Indo-Canadian Institute (SICI) is a unique bi-national organization fostering, since 1968, education and cultural cooperation and collaboration between India and Canada.
- **Indian diaspora-** Canada hosts one of the largest Indian diasporas in the world, numbering 1.6 million (PIOs and NRIs) which account for more than 4% of its total population.
- **Cultural relations-** Canada was the Country of Focus at the 48th International Film Festival of India held in Goa in 2017.
- **IC-IMPACTS** (India-Canada Centre for Innovative Multidisciplinary Partnerships to Accelerate Community Transformation and Sustainability) is the Centre of Excellence for development of research collaborations between Canada and India

### What are the major challenges in India-Canada relations?

- **Nijjar assassination controversy-** The two countries have expelled senior diplomats and issued travel advisories for their citizens. The controversy has damaged the trust and goodwill between the two governments and has inflamed the sentiments of the Sikh community in Canada.
- **Khalistan Issue-** India has accused Canada of being soft on pro-Khalistan groups and individuals, who have allegedly used Canadian soil to carry out anti-India activities.

The Khalistan issue, which refers to the demand for a separate Sikh homeland in India, has been a source of friction between India and Canada for decades.

- **Trade Impasse-** Despite having a bilateral trade agreement since 2011, India and Canada have not been able to finalize a comprehensive free trade agreement (FTA) or an investment protection agreement (IPA).
- **Human rights Concerns:** Canada has expressed concerns over the human rights violations in India, especially in relation to the Kashmir conflict, the Citizenship Amendment Act, the farmers' protests, and the crackdown on dissent.
- **Security dilemmas-** India and Canada have different views and interests on issues such as Afghanistan, Iran, China, Pakistan, and terrorism. India sees Canada as a close ally of the US, which has often been at odds with India on these issues.
- **Diaspora dynamics-** It has also been a source of tension and controversy, as some segments of the diaspora have been involved in political activism, lobbying, fundraising, and propaganda for various causes related to India or their respective communities.

- **Leadership gap-** The personal rapport and chemistry between Prime Minister Narendra Modi and Prime Minister Justin Trudeau have deteriorated over time due to their differences in personality, ideology, and style.

### What should be done?

- While the Canada-India dispute is a serious diplomatic matter, the relationship between their people remains robust.
- The need of the hour is quiet diplomacy, which is a diplomatic approach that focuses on negotiations and discussions.
- Canada should show respect for India's interest especially in Khalistan issue, which is a longstanding crisis between two countries.
- India should constructively engage with Canada on the entire gamut of legal processes and practices of both countries so that all grievances can be satisfactorily addressed.

## 19. Significance of regional parties in Indian democracy

The results of the general election 2024 have indicated a shift towards greater democratization in India, with regional parties gaining significant representation in Parliament. This development is expected to enhance federalism, which is crucial for managing India's diversity.

- However, the contentious relationship between the Centre and Opposition-ruled States, exacerbated during the election campaign, remains a critical issue.

### The Electoral Shift and Its Implications

- **Regional Parties' Success:** The success of regional parties in the 2024 elections signifies a move towards a more decentralized political landscape. These parties will now have a substantial presence in both ruling and opposition benches, potentially leading to a more balanced and representative governance structure.
- **Federalism at a Crossroads:** The enhanced role of regional parties is likely to strengthen federalism, a system that has been under strain. Federalism is vital for a diverse country like India, where different states have unique needs and challenges.

### Contentious Centre-State Relations

- **Election Campaign Tensions:** During the 2024 election campaign, issues such as 'one nation one election' and threats of imprisonment for corrupt leaders were seen as attacks on Opposition-ruled States.
- **Allegations of Discrimination:** Opposition-ruled States have accused the Centre of discriminatory treatment, leading to protests and legal challenges. States like Kerala, Karnataka, and West Bengal have raised concerns about inadequate resource transfers and biased implementation of central schemes.

### **Financial Conflicts and Resource Allocation**

- **Revenue Collection and Distribution:** The Centre's predominant role in tax collection creates a dependency for states. The Finance Commission, responsible for resource devolution, often faces criticism for perceived biases favoring the Centre.
- **Rich vs. Poor States:** The disparity in resources between richer and poorer states leads to tensions. Rich states resent higher contributions with lower returns, while poor states struggle to catch up despite proportional allocations.

### **Governance and Political Dynamics**

- **Political Influence on Resource Allocation:** The Centre's allocation of resources can be politically motivated, favoring states aligned with the ruling party. The concept of 'double engine ki sarkar' (same party governing at both Centre and State) undermines the autonomy of Opposition-ruled States.
- **Need for Balanced Governance:** Effective governance requires a balance between national interests and state autonomy. Corruption and inefficiency at both levels need to be addressed to ensure optimal resource utilization.

### **Issues in Federalism**

- **Finance Commission's Role:** The Sixteenth Finance Commission has the task of addressing the fraying federalism. It should aim for even-handed treatment of states and reduce friction by ensuring proportional resource transfers to reduce inequality.
- **Reducing Centre's Dominance:** Increasing the devolution of resources from the Centre to states from the current level of 41% could empower states. Joint decision-making on resource utilization would reflect a true partnership.

### **Solutions**

- **Strengthening Cooperative Federalism:** Encourage mechanisms for cooperative federalism where both Centre and States collaborate on national issues while respecting state autonomy.

- **Transparent Resource Allocation:** Implement transparent criteria for resource allocation to avoid perceptions of bias and ensure fair treatment of all states.
- **Empowering Regional Parties:** Recognize the role of regional parties in representing local interests and incorporate their perspectives in national policymaking.
- **Enhanced Governance Practices:** Promote good governance practices to reduce corruption and inefficiency, ensuring that resources are used effectively for public welfare.

## 20. Mission Karmayogi

Recently, Mission Karmayogi was in the news with reference to various achievements and positive impacts it created on the society.

### What is Mission Karmayogi?

- **About-** It is a **National Programme for Civil Services Capacity Building**.
- **Aim-** To transform India's three million civil servants into citizen-centric, future-ready and result-oriented karmayogis.
- **Implementation-** Ministry of Personnel, Public Grievances and Pensions.
- **Paradigm shift-** Shift from rule to role-based training and capacity building, this means training is no longer generic but tailored to the specific needs, responsibilities, and aspirations of individual officials.
- **Competency driven framework-** In alignment with the National Training Policy (2012), Mission Karmayogi adopts a competency-driven approach that encompasses attitudes, skills, and knowledge (ASK) necessary for public officials to perform their duties effectively.
- **Lifelong learning-** The use of technology plays a pivotal role in democratizing access to world-class capacity building resources, ensuring that learning is ongoing and inclusive.
- **Moving beyond silos-** This approach not only improves coordination and efficiency but also promotes a holistic and integrated approach to governance, aligning with the broader vision of Viksit Bharat by 2047.
- **Karmayogi Prarambh module-** It is an online orientation course for all new appointees in various government departments that would provide a code of conduct for government servants, including directives on workplace ethics and integrity.
- **70-20-10 mandate-**
  - 70% of learning comes from on-the-job experiences and reflections.
  - 20% is derived from interactions and working with others.
  - 10% comes from formal training programs.



## What are the major positive changes witnessed via this mission?

- **PM Gati Shakti platform:** Training provided by this mission integrated all legal and geographic layers, including forests, wildlife sanctuaries, roads and railway lines, as well as planning and execution of mega infrastructure projects.
- **Citizen centric approach-** It partnered with the Ministry of Home Affairs to train over 50,000 police personnel in Union Territories to promote a service-oriented approach.
- **Promoted tourism-** Enhanced police training has contributed to a surge in tourism, with nearly 21 million tourists visiting Kashmir in 2023, indicating improved public security.
- **iGOT Karmayogi Bharat-** Capacity Building Commission (CBC) curated an online learning module on emerging technologies like Artificial Intelligence, Internet of Things, Big Data analysis which was uploaded on the online learning portal.
- **Railway reforms-** citizen satisfaction on service provision and solution response increased by 1.5 to 1.9 times after the training.
- **Gramin Dak Sevaks-** Over 4 lakh Gramin Dak Sevaks and nearly 1 lakh village-level CSCs under the Ministry of Electronics and IT were trained in enhanced citizen service delivery.
- **Tax reforms-** CBC partnered with the Central Board of Direct Taxes to curate an online module on systemic solutions to repeated taxpayer grievances.
- **Municipal reforms-** Services, infrastructure and public goods like drinking water, sanitation, and roads delivered by municipal governments witnessed a positive change after the training courses.
- **Administrative reforms-** Indian Institute of Public Administration assessed the impact by seeking inputs on recently trained staff from their supervisors and reported increased proficiency in data analytics and e-governance tools.
- **Local government capacity building-** Pilot projects in cities like Ahmedabad, Nagpur, and Mysuru focused on enhancing the skills of municipal staff.

## What lies ahead?

- Improved governance and efficient and competent civil services are required for achieving India's ambitions.
- To aspire Vision 2047 dream of becoming a manufacturing hub in the global supply chain, critical exporter of value-added services and mass supplier of human skills to an ageing developed world, Mission Karmayogi is a step in a right way.
- Mission Karmayogi can make our civil services more capable of doing what is needed to achieve the 30 trillion dollars economy by 2047.



## 21. World Summit on the Information Society (WSIS) +20 Forum High-Level Event

India recently participated in the **International Telecommunication Union's (ITU) World Summit on the Information Society (WSIS) +20 Forum High-Level Event 2024**, held in Geneva, Switzerland.

### About WSIS:

- The WSIS is a **two-phase** UN summit designed to foster a multi-stakeholder platform that addresses issues related to **ICTs** (information and communication technologies) through a **structured** and **inclusive** approach at national, regional, and international levels.
- Its primary goal is to establish a people-centric, inclusive, and development-oriented **Information Society** where everyone can create, access, utilize, and share information.

## 22. Madras High Court's Interpretation of POSH Act, 2013

Madras HC upheld the '**Right to Report**' serious incidents of sexual harassment a time, **rejecting the 3-month deadline** under the Sexual Harassment of Women at Workplace (Prevention, Prohibition, and Redressal) Act (POSH), 2013.

- Long-term emotional and psychological damage on victims underscored the need for a broader application of the law.

### Right to Report under POSH Act, 2013

- **Case Background:** The decision came while addressing a police officer's petition to quash an enquiry report for alleged sexual assault against a female colleague.
  - **Madras HC Reasoning:** Serious allegations leading to "grave mental trauma" and "stress" constitute a "continuing offence" under POSH, allowing victims to report and investigate at any time.
  - **Notable Observations:** the Madras HC distinguished between isolated incidents and serious allegations like assault or molestation.
1. **Isolated Incidents:** Must adhere to strict deadlines under POSH.
  2. **Serious Allegations:** Treated as continuous misconduct until addressed, allowing flexibility in reporting timelines due to fear of victimisation.

## What is the POSH Act?

- The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act was passed in 2013.
- It **defined sexual harassment**, laid down the procedures for a complaint and inquiry, and the action to be taken.
- It broadened the **Vishakha Guidelines**, which were already in place.

## The POSH Act broadened these guidelines:

- It mandated that **every employer must constitute an Internal Complaints Committee (ICC)** at each office or branch with 10 or more employees.
- It lays down **procedures and defines various aspects of sexual harassment**, including the aggrieved victim, who could be a woman “of any age whether employed or not”, who “alleges to have been subjected to any act of sexual harassment”.
- This meant that the **rights of all women working or visiting any workplace**, in any capacity, were protected under the Act.

## Definition of Sexual Harassment

Under the 2013 law, sexual harassment includes “**any one or more**” of the following “**unwelcome acts or behaviour**” committed directly or by implication:

- Physical contact and advances
- A demand or request for sexual favours
- Sexually coloured remarks
- Showing pornography
- Any other unwelcome physical, verbal or non-verbal conduct of a sexual nature.

The Ministry of Women & Child Development has published a Handbook on Sexual Harassment of Women at the Workplace with more detailed instances of **behaviour that constitutes sexual harassment** at the workplace. These include, broadly:

- Sexually suggestive remarks or innuendos; serious or repeated offensive remarks; inappropriate questions or remarks about a person’s sex life
- Display of sexist or offensive pictures, posters, MMS, SMS, WhatsApp, or emails
- Intimidation, threats, blackmail around sexual favours; also, threats, intimidation or retaliation against an employee who speaks up about these

- Unwelcome social invitations with sexual overtones, commonly seen as flirting
- Unwelcome sexual advances.

### Unwelcome behaviour

- The Handbook says “unwelcome behaviour” is experienced **when the victim feels bad or powerless; it causes anger/sadness or negative self-esteem.**
- It adds unwelcome behaviour is one which is “illegal, demeaning, invading, one-sided and power based”.

### Circumstances amounting to SHW

The Act mentions five circumstances that amount to sexual harassment implied or explicit:

1. The promise of preferential treatment in her employment
2. The threat of detrimental treatment
3. Threat about her present or future employment status
4. Interference with her work or creating an offensive or hostile work environment
5. Humiliating treatment likely to affect her health or safety

### 23. SWM Cess and Why is It Levied on Waste Generators

The **Bruhat Bengaluru Mahanagara Palike (BBMP)** has proposed a **Solid Waste Management (SWM) Cess of ₹100 per month** for each household.

- A cess is a form of tax or levy imposed by governments to fund specific services or purposes, such as waste management or infrastructure development.

### How has the SWM cess fared so far?

- **Purpose of SWM Cess:** SWM Cess is intended to cover a portion of the costs incurred by **Urban Local Bodies (ULBs)** in providing SWM services, which are resource-intensive and crucial for maintaining cleanliness and health standards in urban areas.
- **Legal Provisions:** According to the **Solid Waste Management Rules, 2016**, ULBs are mandated to collect user fees/cess for SWM services. The proposed increase reflects the rising costs and challenges faced by ULBs in managing solid waste effectively.

### Why has it hit the headlines suddenly?

- **Significant Increase in User Fee:** The proposed SWM Cess represents a substantial increase from the previous user fees typically charged by ULBs (Urban Local Bodies) across India, which are generally in the range of ₹30-50 per month. Such a significant rise in fees has garnered attention and sparked debate among residents and stakeholders in Bengaluru.
- **Impact on Residents:** The SWM Cess directly affects every household in Bengaluru, potentially adding financial burden on residents. This has led to widespread discussions and concerns among citizens about the affordability and justification of the proposed increase.

### Present Status in Bengaluru:

- Bengaluru faces significant challenges in solid waste management (SWM) due to its large population and high daily waste generation of approximately 5,000 tonnes. Managing such volumes requires **extensive resources and infrastructure**.
- The Bruhat Bengaluru Mahangara Palike (BBMP) primarily focuses its SWM efforts on the collection and transportation of waste. These activities are **labor-intensive** and consume a major portion of BBMP's budget allocated for SWM services.
- SWM services constitute a substantial portion of BBMP's budget, with limited revenue generated from these services. This financial strain necessitates the proposal of initiatives like the SWM Cess **to bridge the funding gap and ensure sustainable service delivery**.

### What is about to change?

- **Proposed Changes:** Going forward, Bengaluru plans to implement several changes in its SWM strategy.
  - These include revising user fees and potentially increasing charges on bulk waste generators to better cover operational costs and enhance service efficiency.
- **Strategies for Improvement:** BBMP aims to enhance waste management practices through initiatives such as waste segregation at source, promoting decentralized composting centres, and launching public awareness campaigns. These efforts are aimed at optimizing resource utilization and improving overall SWM effectiveness in the city.

## 24. Under Kafala, workers are dispensable

Shortly after a fatal fire claimed the lives of 49 migrant workers, predominantly Indians, in the Mangaf area of Al Ahmadi municipality, Kuwait

### Gulf Cooperation Council (GCC)

- It is a regional intergovernmental organization that aims to promote economic, political, and cultural cooperation among its member states.
- The GCC was established in 1981 and currently consists of six Arab countries: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates. The council's main headquarters is located in Riyadh, Saudi Arabia.

### Kafala system

- The Kafala system is a sponsorship system used in several Gulf Cooperation Council (GCC) countries, including Saudi Arabia, Qatar, Kuwait, Bahrain, Oman, and the United Arab Emirates. It governs the legal status of migrant workers, particularly those from other countries in Asia and Africa, who come to work in these countries. It binds migrant workers to a specific employer, known as the “kafeel,” who is responsible for the worker's visa and legal status.
- **Note:** sponsorship by local sponsor or employer in West Asian countries

### Migrants' Rights in GCC countries:

- **Vulnerabilities of Migrant Workers:** Migrant workers in GCC countries face systemic vulnerabilities due to the Kafala system, tying their legal status to employers who control their accommodation, wages, and freedom of movement. Lack of independent legal status and dependency on employers make them susceptible to exploitation, poor living conditions, and arbitrary deportations.
- **Living Conditions and Safety:** Many migrants live in crowded and substandard accommodations, which exacerbate risks during emergencies such as fires, as seen in the Mangaf tragedy. Safety standards in workplaces and living spaces often fall short, posing significant risks to migrants' health and well-being.
- **Legal Protections and Access to Justice:** Legal protections for migrant workers vary, with some categories like domestic workers often excluded from labor laws and protections. Limited access to justice and the ability to organize or unionize further restrict their ability to advocate for improved rights and conditions.

### India's Relationship with GCC Countries:

- **Economic Dependence and Migrant Workforce:** India has a significant economic relationship with GCC countries, with millions of Indian migrants working across sectors such as construction, healthcare, and services. Remittances from GCC countries contribute significantly to India's economy, highlighting the mutual economic interdependence.
- **Diplomatic and Policy Engagements:** India engages diplomatically with GCC countries to safeguard the interests and welfare of its migrant workers, advocating for better working conditions, legal protections, and safety measures. Bilateral agreements and negotiations focus on labour rights, remittance flows, and crisis management during emergencies affecting Indian migrants.

### What India can do? (Way forward)

- **Diplomatic Engagement and Advocacy:** Strengthen diplomatic ties with GCC countries to advocate for better working conditions, legal protections, and safety measures for Indian migrants.
- **Consular Services and Support:** Enhance consular services and support networks in GCC countries to provide timely assistance, legal aid, and emergency relief to Indian migrant workers.
- **Skill Development and Empowerment:** Collaborate with GCC governments and employers to ensure skill development programs for Indian migrants, enhancing their employability and negotiating power.

## 25. India needs to close the gender gap in education and politics

While global gender parity has improved to 68.5% in 2024 from 68.4% in 2023, progress remains slow. The World Economic Forum's report indicates it will take 134 years to achieve full parity at this rate.

### The Global Gender Gap Report 2024

- It is released by the World Economic Forum (WEF), and highlights significant disparities in gender parity across various sectors.

### Present Scenario:

#### Global Gender Gap Report 2024:

- The global gender gap stands at 68.5% closed, indicating slow progress towards gender parity.
- Iceland leads with over 90% closure, while India has slipped to 129th position out of 146 countries, with 64.1% closure.



- India's slight regression is attributed to declines in education and political empowerment indices.

### **Challenges in India:**

- Despite improvements in economic participation, India needs to bridge gaps in education and political representation.
- The labour force participation rate for women is 45.9%, indicating significant untapped potential.
- Gender disparity in literacy rates persists, with women lagging 17.2 percentage points behind men, impacting India's global ranking.

### **Significance of Low Gender Gap in the Education Sector:**

- Bridging the gender gap in education is crucial for enhancing women's economic opportunities.
- Measures such as preventing dropout rates among girls, imparting job skills, and ensuring workplace safety are essential.
- Improving literacy rates and educational attainment levels for women can lead to higher economic productivity and empowerment.

### **Significance of Low Gender Gap in Political Representation:**

- India shows low representation of women in political bodies despite some progress. Women constitute only 13.6% of the Lok Sabha members, reflecting inadequate political empowerment.
- Implementation of the Women's Reservation Bill, aimed at reserving one-third of seats in legislative bodies, remains crucial for enhancing women's political participation and influence.

### **Way forward:**

- **Enhancing Education Access and Quality:** Implement targeted policies to reduce the gender gap in education, focusing on increasing girls' enrollment and retention rates.
- **Promoting Women's Political Empowerment:** Implement initiatives to encourage women's active participation in politics, such as leadership training programs, awareness campaigns, and support networks.

## 26. G-7 Outreach Summit Apulia, Italy

- PM Modi was placed at centre stage for a group photograph at the G-7 Outreach Summit held in Italy.
  - This marks India's 11th participation in the G7 Summit and PM Modi's fifth consecutive attendance.

### G-7 (Group of Seven)

- The G7 is an **informal bloc** of industrialized democracies comprising the United States, Canada, France, Germany, Italy, Japan, and the United Kingdom (UK).
- It **convenes annually** to address global economic governance, international security, and more recently, issues related to artificial intelligence (AI).
- **Formation and Expansion:**
  - - Originally formed as the **Group of Six in 1975** by the United States, France, Italy, Japan, the UK, and West Germany, with Canada joining in 1976.
    - It was formed as a result of the **oil crisis** to stabilize global economic policies and international relations.
    - The group's formation coincided with the **challenges of the Cold War era**, aiming to address economic concerns such as inflation and recession exacerbated by the OPEC oil embargo.
- **Key statistics about G7 countries:**
  - **Wealth:** They control 60% of the global net wealth.
  - **Growth:** They drive 46% of the global GDP.
  - **Population:** They represent 10% of the world's population.

### Russia's Joining and Suspension

- Russia **joined in 1998**, transforming it into the **G8**, aimed at enhancing its international prestige and fostering closer ties with Western nations.
- Russia was **suspended in 2014** following its **annexation of Crimea**, leading to ongoing tensions and challenges with both Russia and increasingly, China.

### Functioning of the G7

- Unlike formal institutions like the United Nations or NATO, the G7 **lacks a charter and secretariat**.
- Its **presidency rotates annually** (Canada in 2025), responsible for setting the agenda and logistical arrangements for the summit.

- Policy initiatives are crafted by **ministers and envoys known as Sherpas**, who prepare discussions and agreements before the annual gathering.
- **Non-member countries** are **occasionally invited** to participate in G7 meetings.

### Why G7 needs India?

- **Economic Significance and Democratic Stability:** India's regular participation in G7 meetings highlights its economic importance and stable democratic framework.
- **Rising Economic Power:** With India poised to become the world's fourth-largest economy, its involvement in global issues is increasingly crucial.
- **Leadership in the Global South:** Modi's initiatives, such as the Voice of the Global South Summit, have bolstered India's global standing.
- **G20 Presidency:** India's recent presidency of the G20 demonstrated its ability to build consensus on contentious global issues.
- **Neutrality and Strategic Partnerships:** India's neutral stance on Western concerns over China's actions in the South China Sea and its economic policies enhances its partnership with G7 nations.
- **Balancing with Russia and the West:** As the West confronts Russia over Ukraine, India's neutral stance positions it as a key ally while maintaining diplomatic balance.

### Divergence within G7

- **Geopolitical Tensions:** The G7 nations often face disagreements and tensions over geopolitical matters, such as responses to Russian aggression, conflicts in regions like Ukraine, and strategic alliances with emerging economies.
- **Economic Policies:** Economic policies and trade relations are frequent topics of debate within the G7. Issues include trade tariffs, market regulations, financial stability, and economic cooperation in the face of global economic challenges.
- **Climate Change:** Addressing climate change and achieving environmental sustainability are critical concerns for the G7. Discussions typically focus on climate action commitments, renewable energy investments, and international cooperation on climate policies.
- **Security and Defense:** Security and defence cooperation, including responses to global terrorism, cybersecurity threats, and military alliances, are important agenda items for the G7.
- **Technology and Innovation:** Managing technological advancements, including AI regulation, digital governance, cybersecurity standards, and technological innovation policies, is another area of focus.

- **Social Issues:** Social issues such as gender equality, human rights, immigration policies, and global development aid are also part of the G7 agenda, reflecting broader societal concerns and international commitments.

## 27. Invisible suffering of Rohingya refugees

International attention is urgently needed to address the worsening mental health crisis among Rohingya refugees in India.

### Rohingya Sufferings

- **Trauma and Mental Health:** Rohingya refugees in Delhi experience severe trauma, including anxiety, dissociative episodes, and depression, often due to past experiences in Myanmar and ongoing re-traumatization from living conditions and violence in India.
- **Living Conditions:** Rohingya refugees live in shanty-like huts prone to accidental and intentionally set fires, leading to constant fear and re-traumatization.
- **Discrimination and Legal Status:** Officially labelled as “illegal immigrants,” Rohingya refugees face severe discrimination in India. They are denied full access to education, healthcare, legal services, and formal employment opportunities.
- **Detention and Deportation:** Fear of arbitrary detention and deportation is widespread, despite many having UNHCR refugee cards. At least 500 Rohingya, including women and children, are detained in centres across India without criminal charges, some for decades.
- **Civil Society and Funding:** Civil society organizations working with Rohingya refugees face funding challenges due to cancelled FCRA licenses. Many support programs have shut down or reduced operations, leaving few UNHCR-supported organizations to cautiously continue their work.

### About unsolved Tibetan issue

The Tibetan issue in India is a complex and contentious topic with historical, cultural, and political implications.

### Historical Background

- **Pre-20th Century:** Tibet recognized itself as an autonomous nation under Chinese protection, while China claimed formal incorporation into its borders during the Yuan Dynasty.

- **20th Century:** The relationship between Tibet and China became increasingly strained, culminating in the 1950 Chinese invasion of Tibet and the subsequent annexation of the region.

### Ongoing Challenges

- **Tibetan Independence Movement:** The Tibetan independence movement continues to push for greater autonomy and recognition of Tibet as a sovereign nation.
- **Chinese Censorship and Suppression:** The Chinese government maintains strict control over information and suppresses any dissent or opposition to its rule in Tibet.

### Current Situation

- **Declining Refugee Numbers:** Over the last seven years, the Tibetan refugee community in India has dropped by 44 percent, from around 150,000 in 2011 to 85,000, according to Indian government data.
- **Economic Uncertainty:** Many Tibetans face economic uncertainty due to limited job opportunities and restrictions on property ownership and bank credit.
- **Lack of Recognition:** Tibetans are not officially recognized as refugees in India, instead being designated as “foreigners” under Indian law.
- **No National Refugee Law:** India has no national refugee law, and its policies are not in accordance with international standards.

### Way forward:

- **Implement National Refugee Law:** Advocate for the establishment of a comprehensive national refugee law in India that aligns with international standards, ensuring legal recognition, protection, and access to basic rights and services for all refugees, including Rohingya and Tibetans.
- **Enhance Mental Health Support:** Develop and fund specialized mental health programs for refugees, focusing on trauma-informed care. This includes training local healthcare providers, increasing access to mental health services, and creating safe spaces for refugees to receive consistent psychological support.

## 28. 10th International Yoga Day

Prime Minister Narendra Modi is leading the celebrations of the 10th International Day of Yoga at the Sher-e-Kashmir International Convention Centre (SKICC) in Srinagar.

### International Day of Yoga

- The International Day of Yoga is observed **annually** on **June 21** worldwide **since 2014** to celebrate the practice of Yoga, which originated in ancient India.
- Yoga is renowned for its **physical and mental health benefits**, promoting well-being globally.
- PM Modi proposed the idea of a Yoga Day during his **UN address** in **September 2014**.
- In **December 2014**, India's Permanent Representative to the UN introduced the **draft resolution** in the UN General Assembly.
- It was **adopted** with support from **177 countries** without a vote.
- The **first International Day of Yoga** was successfully celebrated on **June 21, 2015**, in cities around the world, including New York, Paris, Beijing, and New Delhi.

### Why 21st June was chosen for this day?

- The date of June 21 was chosen because it is the **longest day of the year** in the Northern Hemisphere, symbolizing **spiritual significance** across various cultures.
- In Hindu mythology, this day marks the **transition to Dakshinayana** and is associated with the **first yogi, Shiva**, who **began teaching Yoga** to humanity.

## 29. Why the Russia-North Korea pact is a big deal?

Russia's President Vladimir Putin concluded his recent visit to Pyongyang with a significant agreement: both Russia and North Korea pledged to provide swift military aid in the event of armed aggression against either nation.

### Historical Context

- **Post-World War II Context:** The Soviet Union aimed to establish a communist regime in Korea. USSR provided Significant military aid provided to North Korea's founder, Kim Il Sung, during the Korean War. Post-war support from the USSR and China included substantial military and other aid to North Korea.



- **1961 Russo-North Korea Treaty:** The Treaty of Friendship, Cooperation, and Mutual Assistance included a mutual defence agreement.
- **Post-Soviet Union Period:** Relations deteriorated after the Soviet Union dissolved in 1991, voiding the treaty.
- **Early 2000s Reconnection:** Under Putin, Russia moved closer to North Korea despite not supporting its nuclear ambitions initially. Supported sanctions against North Korea aimed at curbing nuclear capabilities.
- **Post-2022 Dynamics:** After Russia's invasion of Ukraine, Russia faced international isolation. Russia and North Korea solidified their alliance against the Western liberal order.

### What the Pact Says

- **Scope of Cooperation:** Cooperation on a wide range of issues, including mutual military support and unspecified technological assistance.
- **Mutual Defense Provision:** Under Article 4 of the Pact in case of armed invasion, the other side shall provide military and other assistance without delay, following Article 51 of the UN Charter and respective national laws.
- **Technological Assistance:** Crucial for North Korea, which currently has nuclear weapons but lacks advanced missile guidance systems and other technologies for long-range nuclear weapons.

### Strategic Implications

- **Direct Threat to South Korea and Japan:** Both countries perceive the pact as a security threat due to North Korea's nuclear capabilities and the added Russian security umbrella.
- **Potential Arms Race:** Japan is revisiting its pacifist stance and enhancing military capabilities, while South Korea is considering new defence strategies, potentially including arms exports.
- **Strengthening of US Alliances:** South Korea and Japan are likely to deepen their alliances with the United States in response to heightened regional security concerns.
- **NATO and Global Security:** The pact raises alarms among NATO allies and other global stakeholders, prompting reassessments of security strategies and commitments.
- **Nuclear Proliferation Concerns:** Increased collaboration between Russia and North Korea could lead to advancements in North Korea's nuclear and missile capabilities, impacting global non-proliferation efforts.
- **Global Strategic Repercussions:** The pact sets a precedent for authoritarian regimes aligning against Western liberal orders, influencing geopolitical strategies and alliances beyond Asia.

### Way forward:

- **Enhanced Diplomatic Engagement and Dialogue:** Engage in robust diplomatic efforts to mitigate tensions and enhance transparency regarding the intentions behind the Russia-North Korea pact. Encourage multilateral dialogues involving key stakeholders such as the United States, South Korea, Japan, and other concerned parties to foster mutual understanding and reduce the likelihood of miscalculation.
- **Reinforcement of Regional Security Mechanisms:** Strengthen existing regional security mechanisms, particularly alliances with the United States underpinned by treaties such as the Mutual Defense Treaty with Japan and the mutual defence commitments with South Korea.

## 30. India- Bangladesh Bilateral Relations

Shortly after Hasina commenced her two-day state visit to India, External Affairs Minister S. Jaishankar convened with her to discuss several bilateral matters.

### Bangladesh's Prime Minister Sheikh Hasina's Visit to India

**Purpose of Visit:** To boost bilateral ties between India and Bangladesh.

- Sheikh Hasina will hold talks with Prime Minister Narendra Modi. Meetings with President Droupadi Murmu and Vice President Jagdeep Dhankhar.
- Bilateral cooperation in security, trade, commerce, energy, connectivity, science and technology, defence, and maritime affairs. Potential agreements in various sectors to enhance cooperation.

### India-Bangladesh Relations and the Teesta Water Dispute

#### Bilateral Relations:

- **Strategic Importance:** Bangladesh is a key partner under India's "Neighbourhood First" policy.
- **Trade:** Bangladesh is India's largest trade partner in South Asia. India is the second biggest trade partner of Bangladesh in Asia.
- **Connectivity:** The Maitri Setu bridge over river Feni in Tripura and the Chilahati-Haldibari rail link are notable projects.
- **Development Partnership:** Bangladesh is India's largest development partner with significant commitments under the Line of Credit.

- **Border Cooperation:** Active cooperation on police matters, anti-corruption activities, combating illicit drug trafficking, fake currency, and human trafficking.

### Teesta Water Dispute:

- **Controversy:** The sharing of Teesta River water has been a contentious issue between India and Bangladesh, affecting bilateral relations.
- **Current Status:** Discussions and negotiations are ongoing to reach a mutually acceptable agreement.

### Way Forward

- **Enhanced Bilateral Cooperation:** Continue to strengthen ties through regular high-level visits and dialogues.
- **Resolution of Teesta Dispute:** Focus on finding a fair and sustainable solution to the Teesta water-sharing issue to improve relations.
- **Economic Integration:** Expand trade and investment opportunities to boost economic ties.
- **Infrastructure Development:** Further develop connectivity projects to enhance trade and people-to-people exchanges.
- **Security Cooperation:** Strengthen cooperation on security issues, including counter-terrorism and border management.
- **Cultural and Educational Exchanges:** Promote cultural and educational exchanges to build stronger people-to-people ties.

## GS 3 : Economy, Science and Technology, Environment

### 1. Heatwave Crisis

The recent heatwave in North and Central India has led to severe consequences, with multiple fatalities reported due to sunstroke and heatstroke.

#### Heatwave

- **About-** According to IMD, heatwave is a period of abnormally high temperatures, more than the normal maximum temperature that occurs during the summer season in the North-Western parts of India.
- **Occurrence-** Heatwaves typically occur between March and June, and in some rare cases even extend till July.
- **Impact-** The extreme temperatures and resultant atmospheric conditions adversely affect people living in these regions as they cause physiological stress, sometimes resulting in death.
- **Qualitatively-** Heat wave is a condition of air temperature which becomes fatal to human body when exposed.
- **Quantitatively-** Heatwave is defined based on the temperature thresholds over a region in terms of actual temperature or its departure from normal.
- **Heatwave-** If the prevalent temperature is 4.5°C to 6.4°C more than normal, it is classified as a heatwave.
- **Severe heatwave-** A rise of more than 6.4°C is considered a severe heatwave. May is the peak month for heatwaves in India.

#### What causes heatwave in North India?

- **Influence of El Nino-** During El Nino trade winds weaken and surface temperature rise, this disrupts Indian monsoon reducing moisture flow from the Indian Ocean to the subcontinent.

El Niño refers to the warming of sea surface temperatures in the Central and Equatorial Pacific.

- **Continentality-** As an inland city, Delhi is less influenced by the moderating effects of nearby oceans, thus the city experiences intensified heat due to the movement of hot, dry air masses from arid regions like the Thar Desert.
- **Urbanization-** A recent study has revealed that urbanization alone has led to a 60% enhancement in warming in Indian cities.

- **Urban heat island effect-** Urban areas experience higher temperatures than rural surroundings due to the replacement of natural landscapes with buildings, roads, and other infrastructure which increases the temperature.
- **Reduced green spaces-** The decrease in vegetation and tree cover reduces natural cooling through shade and evapotranspiration.
- **Heat absorbing materials-** Urban materials such as concrete, asphalt, and bricks have high thermal inertia, meaning they absorb and retain heat longer than natural surfaces.
- **Energy consumption-** Increased energy usage for cooling in urban areas leads to higher emissions of greenhouse gases, further warming the environment.
- **Global warming-** The Urban Heat Island contributes to global warming, as cities grow and demand more energy, greenhouse gas production increases.
- **Night time impact-** A report by Centre for Science and Environment suggests that cities are not cooling down at nights as they used to be, denying people a chance to recover from daytime heat.
- **Loss of evapotranspiration-** Due to deforestation and changing land use pattern there is loss of trees and vegetation, it leads to less cooling through evapotranspiration, leading to higher local temperatures.
- **Policy concerns-** Delhi has a Heat Action Plan (HAP) for 2024-2025, but it needs further development and implementation to be effective, experts suggest that the plan requires proper financing, legal backing, and a focus on vulnerable populations.

### What are the impacts of heatwave?

- **Heat exhaustion-** It is characterized by heavy sweating, weakness, dizziness, nausea, and fainting which occurs when the body loses excessive amounts of water and salt.
- **Heat stroke-** A severe, life-threatening condition where the body fails to regulate its temperature, leading to dry, warm skin, confusion, unconsciousness, and potential organ failure. Immediate medical intervention is critical.]
- **Health impact-** Heatwaves increase the incidence of heat-related illness such as heatstroke, dehydration, heat exhaustion and heat cramps.
- **Drought-** Prolonged heatwaves can exacerbate drought conditions by increasing evaporation rates and reducing soil moisture.
- **Water scarcity-** Reduced water availability affects both human populations and natural ecosystems.
- **Ecosystem stress-** Wildfires can destroy habitats, reduce biodiversity, and disrupt ecological balances.

- **Economic impact**-Farmers and the food industry face significant economic losses due to reduced productivity and increased costs for irrigation and livestock care.
- **Food security**- Reduced agricultural output can lead to food shortages and increased food prices, affecting food security for populations.
- **Infrastructural damages**-Prolonged heat can damage infrastructure such as roads, railways, and power lines, further compounding the challenges during heatwave.

### What lies ahead?

- The ongoing heatwave in India underscores the urgent need for effective climate adaptation strategies and robust urban planning to mitigate the adverse effects of rising temperatures.
- Addressing the heatwave requires a multifaceted approach, including climate adaptation strategies, improved urban planning, and measures to enhance green cover and reduce heat absorption in cities.

## 2. GDP growth surges to 8.2% on manufacturing gains

The National Statistical Office (NSO) released provisional estimates indicating India's real Gross Domestic Product (GDP) grew by 8.2% in FY24, up from 7% in FY23.

- Initial projections had forecasted a 7.3% growth for FY24.

### Growth Metrics:

- **Nominal GDP Growth:** Increased by 9.6% in FY24, compared to 14.2% in FY23.
- **Real Gross Value Added (GVA):** Expanded by 7.2% in FY24, higher than the 6.7% growth in FY23.

### Sectoral Contributions:

- **Manufacturing:** Grew by 9.9% in FY24, recovering from a 2.2% contraction in FY23.
- **Mining and Quarrying:** Increased by 7.1% in FY24, up from 1.9% in FY23.

### Quarterly Performance:

- **Q4 Real GDP:** Estimated at ₹47.24 lakh crore, a 7.8% increase from ₹43.84 lakh crore in Q4 FY23.



- **Q4 Real GVA:** Estimated at ₹42.23 lakh crore, a 6.3% increase from ₹39.74 lakh crore in Q4 FY23.
- **Q4 Nominal GDP and GVA:** Grew by 9.9% and 8% respectively.

### Issues

- **Divergence in GDP and GVA Growth:** Observed in Q3 FY24, continued into Q4 with net taxes growing by 22%, propelling GDP growth.
- **Sector-Specific Concerns:** Agriculture growth remained muted due to weather-related disruptions. The services sector continued robust growth while manufacturing benefited from lower input costs.

### 3. Foreign direct investment (FDI) equity inflows in India decreased

According to the latest data released by the government, foreign direct investment (FDI) equity inflows in India decreased by 3.49 per cent in FY24 to \$44.42 billion. Reduced investments in sectors such as services, computer hardware and software, telecom, auto, and pharma, are being attributed as the primary reasons for the slump.

- Foreign investment, including FDI equity inflows, is needed to supplement domestic resources and finance the current account deficit. FDI inflows are a good indicator of a nation's appeal as a long-term investment destination.
- The total FDI, which includes equity inflows, reinvested earnings, and other capital, saw a slight decrease of 1 per cent to \$70.95 billion in FY24, down from \$71.35 billion in FY23, as reported by the Department for Promotion of Industry and Internal Trade (DPIIT).

### Key Takeaways

- The FDI inflows into the manufacturing sector in FY24 are one of the lowest in the past five years, according to the provisional FDI data published in the RBI annual report.
- The manufacturing sectors received \$9.3 billion FDI in FY24, which was 17.7 per cent less than the \$11.3 billion inflows in FY23. In FY22, the manufacturing sector received \$16.3 billion in FDI.
- Computer services received \$4.9 billion during the financial year 2023-24, down from \$5.6 billion in FY23.
- The decline in financial services was more significant, with FDI inflows dropping by 35 per cent to \$4.4 billion.
- Retail and trade experienced a 22.7 per cent decrease in FY24, amounting to \$4.1 billion.

- FDI inflows in communication services fell by 17.8 per cent in FY24.
- Conversely, FDI in electricity transmission and generation surged by two-thirds, rising from \$3.3 billion in FY23 to \$5.5 billion in FY24.
- Singapore remained the largest source of FDI into India in FY24, contributing \$11.8 billion, although this was \$5.4 billion less than the previous year.
- It was followed by Mauritius (\$7.97 billion), the United States (\$4.99 billion), Netherlands (\$4.92 billion), Japan (\$3.18 billion), the United Kingdom (\$1.21 billion), the United Arab Emirates (\$2.92 billion), Cyprus (\$806 million), Germany (\$505 million), and Cayman Islands (\$342 million).
- FDI inflows from Mauritius increased by 31% in FY24. This rise followed the new tax treaty with Mauritius, effective from April 1, 2017, which eliminated several tax benefits and prompted investors to shift their base to Singapore for channelling FDIs into India.
- The fall in FDI equity inflows can be attributed to two reasons – globally, investible funds have fallen and interest rates have hardened. Several sectors, including IT (information technology) and startups are seeing saturation of investment.
- Maharashtra continued to be the most favoured destination of investors, receiving \$15.11 billion worth of investments, although inflows declined 2 per cent.
- This was followed by Karnataka with \$6.57 billion in FY23 from \$10.42 billion a year ago.

#### 4. Proposed changes to the BRSR framework

Sebi proposes changes to the **Business Responsibility and Sustainability Reporting (BRSR) framework**.

**Key Proposed Changes:**

**Integration of the Green Credit Program:**

- Companies and their value chain partners can generate **Green Credits** by planting trees on waste or degraded lands and river catchment areas.
- These credits will now be included as a leadership indicator under **Principle 6** of the BRSR, which focuses on environmental respect and restoration.

**Redefinition of Value Chain (VC) Partners:**

- The new definition covers significant partners, specifically those involved either upstream or downstream, who individually constitute **2% or more** of the company's purchases or sales by value.

- Reduces compliance burdens by limiting the scope to **significant partners only**.

#### Reporting Flexibility:

- For FY 2024-25, reporting on value chain partners in the annual report is voluntary.
- Companies can opt to report either an **assessment** or **assurance** of their ESG data under the BRSR framework. This choice aims to reduce the **regulatory burden** and **costs** associated with the assurance process.

#### Adjustments to BRSR Core:

- Companies now have the flexibility to choose between assessment and assurance for the nine **Key Performance Indicators (KPIs)** under the BRSR Core, which focuses on **ESG factors**.

#### 5. Form panel to visit forest diverted on Assam-Nagaland border: NGT to Environment Ministry

- The **National Green Tribunal (NGT)** instructed the **Ministry of Environment, Forest and Climate Change (MoEFCC)** to form a **three-member committee** to survey a section of a reserve forest on the **Assam-Nagaland border**, allegedly diverted for an Assam police commando battalion.

#### Assam- Nagaland Border dispute:

##### Details:

- The petition claimed that M.K. Yadava, Assam's former Principal Chief Conservator of Forests, **illegally diverted** a significant part of the **forest area without completing compensatory afforestation** and **net present value requirements**, making him liable for restoring the damage.
- **Using forest land for non-forestry activities without prior central government permission** violated the **Van (Sanrakshan Evam Samvardhan) Adhiniyam, 1980**.
- The battalion was intended to **prevent encroachment** by people from Nagaland along the **interstate border**, amid a **long-standing boundary dispute** between Assam and Nagaland.
- In **2023**, the **Environment Ministry** criticized Yadava for approving the construction of a **commando battalion** on **approximately 44 hectares** of

forest land on the Assam-Mizoram border to address encroachment issues, noting that Assam also has a boundary dispute with Mizoram.

### Net Present Value (NPV):

- NPV is a **monetary approximation** of the value that is **lost** when a **piece of forest land has been razed**.
  - It is a **mandatory one-time payment** that a user has to make for **diverting forestland for non-forest use**, under the **Forest (Conservation) Act, 1980**.
- This is on the basis of the **services and ecological value** and there are **prescribed formulae** for calculating this amount which depends on the **location and nature of the forest** and the **type of industrial enterprise** that will replace a particular parcel of forest.
- It was **developed** by a **committee** led by **Professor Kanchan Gupta**, of the Institute of Economic Growth.
- These payments go to the **Compensatory Afforestation Fund (CAF)** and are used for afforestation and reforestation.
- **When was it introduced?**
  - To regulate forest diversions, the **Supreme Court** introduced a high '**net present value**' (NPV) charge on the lands diverted.

### Compensatory afforestation:

- Compensatory afforestation means that every time forest land is diverted for non-forest purposes such as mining or industry, the user agency pays for planting forests over an equal area of non-forest land, or when such land is not available, twice the area of degraded forest land.

### Compensatory afforestation Fund:

- The **CAF Act** was passed by the centre in **2016** and the related **rules** were notified in **2018**.
- The **CAF Act** was enacted to **manage the funds collected for compensatory afforestation** which till then was **managed by ad hoc Compensatory Afforestation Fund Management and Planning Authority (CAMPA)**.
- As per the rules, **90%** of the **CAF money** is to be given to the **states** while **10%** is to be retained by the **Centre**.
- The funds can be used for the 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.

## Compensatory Afforestation Fund Management and Planning Authority (CAMPA) Act:

- It seeks to **mitigate the impact of the diversion of forest land for non-forest purposes** by making sure through a **well-defined institutional mechanism**, that the funds are released and utilized quickly, efficiently and transparently.
- The CAMPA law is **applicable to States, Union Territories, and the Centre** as well.
- **The objectives of the CAMPA Law are stated below:**
  - To promote afforestation and development activities in order to compensate for forest land that is intended to be diverted to non-forest uses.
  - To lay down effective guidelines for the State
  - To facilitate necessary assistance in terms of scientific, technological and other requisites that may be required by the authority responsible for the State CAMPA.
  - To recommend measures based on strategic planning to the authorities of the State CAMPA
  - To resolve issues that arise between inter-state or Centre-State.

## 6. AGNIBAAN SOrTeD (suborbital technological demonstrator)

Chennai-based space startup AgniKul Cosmos launched a single-stage technology demonstrator rocket – Agnibaan SOrTeD (suborbital technological demonstrator) – from Sriharikota.

- Founded in 2017 by Srinath Ravichandran, Moin S P M, and S R Chakravarthy, AgniKul became the first Indian firm to sign an agreement with Isro in December 2020. This pioneering agreement was facilitated under the IN-SPACE initiative, granting AgniKul unprecedented access to Isro's expertise and cutting-edge facilities. The company is one of the highest-funded space startups in India and has raised \$42 million so far.

### Key takeaways

- India made history in the space sector on Thursday with the first launch from a private launchpad of the country's second privately built rocket and the first using a combination of gas and liquid fuel.
- SOrTeD uses the world's first single-piece 3D-printed engine, designed and built indigenously.



- This launch is also considered historic because the Indian Space Research Organisation (ISRO) has not yet successfully flown a semi-cryogenic engine, in which a mix of liquid and gas is used as a propellant.
- Agnibaan also has the unique distinction of having been launched from India's first private launchpad Dhanush, established by AgniKul.
- The key purpose of this mission is to serve as a test flight, demonstrate in-house and home-grown technologies, gather crucial flight data, and ensure optimal functioning of systems for AgniKul's orbital launch vehicle, the 'Agnibaan'.
- The Agnibaan rocket is a customisable, two-stage launch vehicle that can carry up to 300 kilogram (kg) of payload to orbits nearly 700 kilometre in altitude, the company said.
- The startup is looking at flying an orbital mission towards the end of 2024–25 and is working with customers on flights starting regularly in the calendar year 2025.
- It was in November 2022 that a private company, Skyroot Aerospace, successfully developed and operated the launch vehicle Vikram-S on a sub-orbital flight from Satish Dhawan Space Centre SHAR, becoming the first player to do so.

### **7. Factors contributing to the drop in Global Food Prices:**

In 2023, world food prices dropped significantly from their 2022 highs. However, India's food inflation remained high at 9.5% in December 2023, contrasting with global deflation of -10.1%.

- The FAO Food Price Index, which tracks monthly changes in the international prices of commonly traded food commodities, was 13.7 percent lower last year than the 2022 average.
- Bumper harvests of major crops like wheat in 2023 led to a surplus in the global market. This abundance contrasts with concerns in 2022, when worries about supply disruptions due to the war in Ukraine, a major grain exporter, caused prices to spike.
- Despite the disruption of the Black Sea Grain Initiative in July 2023, both Russia and Ukraine have managed to maintain wheat exports. This continued flow of grain from the region has helped to alleviate some of the supply anxieties.
- The UN's Food and Agriculture Organization Vegetable Price Index saw the biggest drop in 2023, falling by 32.7%. This decline is due to a combination of factors, including improved vegetable oil supplies and a decrease in its use for biofuel production.



- High inflation and fears of an economic recession have dampened consumer demand in many parts of the world, including in major food-importing regions, leading to a decline in import demand for certain food commodities and putting downward pressure on global prices.

Reasons for experiencing High Food Inflation in India despite falling Global Food Prices:

- While global food prices fell, India's food prices stayed elevated due to the limited transmission of international prices to domestic markets. India's import dependence is significant only for edible oils (60% of consumption) and pulses.
- The Indian government-imposed bans on exports of certain food items like wheat, non-basmati white rice, sugar, and onions and provided import duty waivers on others, effectively reducing global market influences on domestic prices.
- Domestic production challenges like weather conditions affecting crop yields, particularly for cereals, pulses, and sugar, contributed to supply shortages and higher prices domestically. Cereal and pulse inflation stood at 9.9% and 20.7% year-on-year, respectively, in December 2023.
- Low stock levels for commodities like wheat and sugar further exacerbated price pressures.

Way Forward:

- Investing in agricultural infrastructure, technology, and research to improve crop yields and reduce production costs can boost supply and stabilise prices.
- Enhancing logistics, storage facilities, and distribution networks can reduce wastage and ensure a steady supply of food items to the market, mitigating price fluctuations.
- Promoting diversification by encouraging the cultivation of a variety of crops and supporting alternative farming practices can reduce reliance on a few commodities and balance market dynamics.
- Monitoring food prices regularly and implementing effective price regulation mechanisms can prevent price manipulation and ensure fair pricing for consumers and producers alike.
- Addressing climate change challenges through sustainable farming practices, water management strategies, and crop diversification can reduce production risks and enhance food security in the long term.

## 8. Coastal Regulation Zones (CRZs)

The Southern Bench of the National Green Tribunal (NGT) has **halted** the Chennai Shoreline Renourishment and Revitalization Project in the **CRZ II zone** due to prohibited activities such as constructing cycle tracks and food courts.

- This project aimed to achieve **Blue Flag certification** for beaches.

### About Coastal Regulation Zone (CRZ):

- **Introduced** in 1991 by the Ministry of Environment, Forest and Climate Change (MoEF&CC) under the Environment Protection Act, 1986.
- **Revised** through notifications in 2011 (reviewed by Shailesh Nayak Committee) and 2019 to address evolving environmental and developmental needs.
- The **2019 CRZ Notification** requires states to update their Coastal Zone Management Plans (CZMPs), originally created under the 2011 notification.
- The **CRZ stretches** include coastal areas of seas, bays, estuaries, creeks, rivers, and backwaters affected by tidal actions up to **500 meters from the high tide line (HTL)** and **100 meters along the banks** of tidal-influenced water bodies.

### Institutional Mechanism:

- **National Coastal Zone Management Authority (NCZMA)** oversees at the Union level.
- **State/Union Territory Coastal Zone Management Authorities (SCZMAs/UTCZMAs)** manage implementation at the state/UT level.
- **District Level Committees (DLCs)** operational in each district with a coastal stretch.
- **Roles and Responsibilities:** MoEF&CC handles CRZ clearances for ecologically sensitive areas (CRZ-I) and aquatic regions (CRZ-IV), while SCZMAs manage urban (CRZ-II) and rural (CRZ-III) areas. Local communities, particularly fishing communities, play a role in managing ecologically sensitive zones.

## 9. Pulses imports have hit a 7-year high

In April 2024, India experienced significant **inflation** in **food prices**, particularly in **cereals** and **pulses**, affecting the cost of staple foods like roti and dal.

### Key Highlights:

- **Consumer price index** for cereals in April 2024 was **8.63%** higher than in April 2023.
- Retail inflation for **pulses** in April 2024 was **16.84%**, nearly twice that of cereals.
- **Patchy monsoon** and **winter rain** caused a decline in domestic pulses production.
- Major pulses import quantity increased to 4.54 mt in 2023-24 from 2.37 mt in previous fiscal years.

### Government Actions

- **Import Regulations:**
  - Phased out **tariffs** and **restrictions** on imports of pulses.
  - Lifted **annual QRs** and **duties** on arhar/tur, urad, moong, and masoor.
- **Duty-Free Imports:**
  - Permitted **duty-free imports** of arhar/tur, urad, masoor, and desi chana until March 2025.
  - Extended import permissions for yellow/white peas beyond October 2024.

## 10. Towards Tax Justice & Wealth Redistribution in India

A new research paper 'Towards Tax Justice & Wealth Redistribution in India' was recently released by World Inequality Lab.

### Key Highlights:

- The **top 1%** of the population holds **22.6% of income** and **40.1% of wealth** as of 2022-23, while the **bottom 50%** earn only **15% of income** and hold only **6.4% of total wealth**.
- The paper suggests imposing a **2% tax** on net wealth exceeding **Rs 10 crore** and a **33% inheritance tax** on estates exceeding **Rs 10 crore** to address rising inequality in India.
- This can help generate revenue between **2.5% - 5% of GDP**, which can be spent on social sectors like health and education for facilitating redistribution.
- Current public spending on education is **2.9% of GDP**, below the **6% target** set by the **National Education Policy 2020**.

### 11. What grade of coal does India produce?

- A recent report by the **Organized Crime and Corruption Reporting Project** alleged that in 2014, the **Adani Group** claimed 'low grade' coal, imported from Indonesia, to be 'high-quality' coal' inflated its value and sold it to Tamil Nadu's power generation company.

#### More on news:

- There are **17 grades of coal by this metric from grade 1, or top quality coal, with a kilo of it yielding higher than 7,000 kcal**, and the lowest producing anywhere between 2,200-2,500 kcal, as per a classification by the Coal Ministry.
- The Central Electricity Authority (CEA) in 2012 recommended that about 10-15% blending of imported coal can be safely used in Indian power boilers, which are designed for low quality Indian coal.

#### What are high grade' and 'low grade' coal?

- **Higher quality coal produces less smoke, burns longer, and provides more energy than lower quality coal.**
- **Low-rank coals are those that have undergone minimal metamorphic variation in the process of coal formation.**
- Compared with the high-rank coals – bituminous and anthracite, they retain more moisture and volatile and contain less fixed carbon.

#### Parameters to determine the quality of Coal:

- **High and low quality are relative terms** and only meaningful in the context of where the coal is used and how they are processed.
- **The Gross Calorific Value (GCV)**, or the amount of heat or energy that can be generated from burning the coal, determines the gradation of coal.
- **Coal being a fossil fuel is a mixture of carbon, ash, moisture and a host of other impurities.**
- **The higher the available carbon in a unit of coal, the greater is its quality or 'grade.'**
- The calorific value is not a useful metric on its own.
- The most important uses of coal are in running thermal power plants or powering a blast furnace to produce steel and both require different kinds of coal.
- **'Coking' coal is the kind needed to produce coke – an essential component of steel making – and thus requires minimal ash content.**
- Non-coking coal, despite its ash content, can be used to generate enough useful heat to run a boiler and turbine.

### What are the characteristics of Indian coal?

- Indian coal has historically been evaluated as being high in ash content and low in calorific value compared to imported coal.
- The **average GCV of domestic thermal coal ranges from 3,500-4,000 kcal/kg compared to imported thermal coals of +6,000 kcal/kg of GCV.**
- The average ash content of **Indian coals is more than 40% compared to imported coal which has less than 10% ash content.**
- The consequence of this is that high-ash coal when burnt results in higher particulate matter, nitrogen and sulfur dioxide.
- The government, since 1954, has controlled the price of coal in a way that power companies were disincentivised to use high-grade coking coal for power generation.

### What is clean coal?

- **Clean coal technologies** are several generations of technological advances that have led to more efficient combustion of coal with **reduced emissions of sulfur dioxide and nitrogen oxide.**
- **“Clean coal” usually means capturing carbon emissions from burning coal and storing them in underground pockets of porous rock**
- We get clean coal when the carbon content has been increased by reducing its ash content.
- **Coal plants have ‘washing plants’** on site which can process the coal in ways that reduce ash and moisture content.
- They employ huge blowers or a **‘bath’ to remove fine, coarse ash.**
- The other method to **clean coal is coal gasification.**
- The need to **directly burn coal is bypassed by converting it into gas.**
- By relying on an **integrated gasification combined cycle (IGCC) system,** steam and hot pressurized air or oxygen combine with coal in a reaction that forces carbon molecules apart.
- The resulting syngas, a mixture of carbon monoxide, hydrogen, CO<sub>2</sub> and water vapor, is then cleaned and burned in a gas turbine to make electricity.
- Since **IGCC power plants create** two forms of energy (steam from the gasification process apart from syngas as fuel), they increase efficiency of the coal used.

### What is the future of coal in India?

- **India is the second-largest coal producer in the world, after China.**
- **India, the world’s second largest coal consumer of coal.**
- Official data says that India in 2023-24 produced 997 million tonnes of coal, an 11% growth over the previous year.

- Most of this was produced by the **state-owned Coal India Ltd and its subsidiaries**.
- As of March 2024, India produced 261 tonnes of coal, of which 58 million tonnes was coking coal. Renewable energy accounted for 71.5% of the record 13.6 GW power generation capacity added by India in the first quarter of this year, while coal's share (including lignite) of total power capacity dropped below 50% for the first time since the 1960s.

## 12. Treaty on Intellectual Property, Genetic Resources, and Associated Traditional Knowledge

The Treaty on Intellectual Property, Genetic Resources, and Associated Traditional Knowledge was recently adopted at the Diplomatic Conference organized by the **World Intellectual Property Organization (WIPO)** in Geneva, Switzerland.

### About the Treaty:

- It aims to address issues related to **genetic resources and traditional knowledge** held by **Indigenous Peoples and local communities**.
- This is the **27th treaty** under WIPO and the first to deal with genetic resources and traditional knowledge held by Indigenous Peoples and local communities.
- **Patent applicants** must disclose:
- The **country of origin** or source of genetic resources for any claimed invention.
- If based on traditional knowledge, the disclosure of the **Indigenous Peoples or local community** who provided this knowledge.
- It is not applicable to patents filed prior to the treaty's entry into force.
- Any **member state of WIPO** may become a party to it.

## 13. India Records Trade Deficit with 9 of Top 10 Partners in 2023-24

As per the data from the **Union Ministry of Commerce and Industry**, India recorded a **trade deficit** with 9 of its top 10 trading partners in the **Fiscal Year 2023-24** (FY 2023-24).

### Key Highlights:

- **India's largest trading partners** in descending order are **China, USA, UAE, Russia, and Saudi Arabia**.



- India's trade deficit with China, Russia, South Korea, and Hong Kong increased compared to FY 2022-23, while it decreased with UAE, Saudi Arabia, Indonesia, and Iraq.
- The top 5 trading partners with whom India has a trade surplus are the US, Netherlands, UK, Belgium, and Italy.

#### 14. Cities warming due to the combined effect of urbanisation, climate change

- Recently, Delhi experienced daytime temperatures above 50°C for two consecutive days, the highest ever recorded in the city.
- Cities are experiencing higher temperatures due to ongoing climate change and rapid urbanization, which are defining the Anthropocene.

##### Details:

- India's urban population is projected to double by 2050, adding more than 450 million residents, surpassing the current total population of the United States and the European Union.
- The urban heat island (UHI) effect makes cities warmer than rural areas by trapping more heat due to altered thermodynamic and aerodynamic properties.
- Climate change is causing significant increases in record-breaking temperatures and prolonged heat waves, contributing to complex warming in cities.
- This altered micro-climate affects heat, rainfall distribution, air pollution dispersion, and public health, necessitating scientifically informed urban planning.

##### 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.

##### Study on warming effects:

- A recent study sought to **separate the warming effects of local urbanization and regional climate change in 141 major Indian cities.**
- The study used **high-resolution night-time land surface temperature data from NASA's MODIS sensor**, comparing **urban and rural temperatures from 2003 to 2020.**
- Results showed that the **rate of warming in cities is nearly twice that of the rest of the country**, with **urbanization** alone causing additional warming of about **60%.**
- An **average increase of 0.53°C per decade in night-time land surface temperature** was observed, with **tier-II cities in eastern India** experiencing **stronger urbanization-driven warming than larger metros.**

#### **India's efforts to reduce warming effects:**

- **India is actively reducing emissions and shifting to non-fossil fuel energy sources**, as outlined in its updated **nationally determined contribution (NDC) for climate justice.**
- **State-level heat action plans and early warning systems for heatwaves** show India's commitment to reducing heat-related mortality.

#### **Recommendations:**

- **Tailored city-specific action plans** are needed for **sustainable urban growth**, considering the predominant contributors to warming.
- **Urban heat management** should follow a **differential approach**: local-scale interventions (cool roofs, green infrastructure, urban forests) for cities with high urbanization contributions, and **regional-scale efforts** (large-scale afforestation, rejuvenation of water bodies) for cities with higher climate change impacts.

### **15. Insights from NASA's James Webb Space Telescope**

The **James Webb Space Telescope (JWST)**, launched by **NASA**, has unveiled a groundbreaking find. It has captured imagery of the universe's earliest-known galaxy, revealing unexpected brightness and size given its formation during the universe's infancy.

#### **James Webb Space Telescope (JWST)**

- JWST is a **joint venture** between NASA, the European Space Agency (ESA) and the Canadian Space Agency (CSA) launched in **December 2021.**

- It is an **orbiting infrared observatory** that will complement and extend the discoveries of the Hubble Space Telescope, with longer wavelength coverage and greatly improved sensitivity.
- Webb was **formerly known** as the “**Next Generation Space Telescope**” (NGST) and it was **renamed in 2002** after a former NASA administrator, James Webb.
- It will be a large infrared telescope with an approximately 6.5-meter primary mirror.
- JWST is positioned at the Earth-Sun **L2 Lagrange point**, 5 million km away.
- It consists of a **mirror**, spanning **6.5 meters in diameter** compared to Hubble’s 2.4 meters, as well as its specialized instruments optimized for infrared observations.

### Key Objectives:

- JWST observes deeper into the universe than Hubble.
- Observes celestial objects from earlier epochs.
- Enables the detection of light from the universe’s earliest stars, dating back over 13.5 billion years.

### About JADES-GS-z14-0 Galaxy

- Named JADES-GS-z14-0, this galaxy was formed approximately 290 million years after the Big Bang.
- Spanning about **1,700 light-years across**, it consists of a mass equivalent to **500 million stars akin** to our Sun.
- Despite its ancient age, the galaxy is **actively generating stars** at a rapid pace, producing around 20 new stars annually.

### Scientific Insights:

- **Historical Context:** Previously, the earliest-known galaxy was dated to approximately 320 million years post-Big Bang, indicating the significance of this new discovery.
- **Luminosity Theories:** While hypotheses suggest various explanations for the galaxy’s luminosity, including supermassive black holes or unusually bright stars, further research is required to validate these theories.

## 16. Framework for Facilitating Investments by Domestic Mutual Funds (MFs)

SEBI issued a consultation paper, proposing a framework to enable domestic Mutual Funds (MFs) to invest in their overseas counterparts or Unit Trusts (UTs) that allocate a portion of their assets to Indian securities.

- **Aim:** To clarify the process and regulations surrounding such investments to encourage domestic MFs to diversify globally while maintaining limited exposure to Indian securities.

### About the Proposals:

- **On Investment Cap:** SEBI proposes that overseas instruments being considered for investment by domestic MFs must not have more than **20% exposure to Indian securities**.
  - This cap is intended to balance facilitating global investments while preventing excessive exposure to Indian markets.
- **On Pooling of Contributions:** Indian MFs must ensure that all investors of the overseas MF/UT pool their contributions into a single investment vehicle. This ensures fair distribution of gains among investors, proportional to their contributions, without any preferential treatment.
- **On Autonomous Management:** Investments must be made autonomously by the manager of the overseas instrument, without influence from investors or undisclosed parties, to avoid conflicts of interest.
- **About Transparency and Disclosure:** SEBI requires periodic public disclosures of the portfolios of such overseas MF/UTs for transparency.
- **No Advisory Agreements:** SEBI warns against any advisory agreement between the Indian MF and the overseas MF/UT to prevent conflicts of interest and avoid undue advantage.
- **On Observance Period:** If an overseas instrument breaches the 20% limit, the Indian MF scheme will enter a six-month observance period for rebalancing the portfolio.
  - Further investments will only be allowed when the exposure is below the limit. If not rebalanced within six months, the MF must liquidate its investment in the overseas instrument.

### Impacts of the Regulation

- **Diversification of Opportunities:** The framework provides a structured path for Indian MFs to invest in overseas instruments, enhancing diversification opportunities for Indian investors.

- **Market Transparency:** The requirement for periodic public disclosures of portfolios will increase transparency and investor confidence in overseas investments.
- **Risk Management:** The 20% exposure cap and autonomous management of investments help mitigate risks associated with excessive exposure to Indian securities and conflicts of interest.
- **Compliance Burden:** The need to adhere to strict regulations and rebalance portfolios within specified periods may increase the compliance burden on domestic MFs.
- **Potential for Growth:** By facilitating global investments, the framework can potentially attract more investors to Indian mutual funds, contributing to the growth of the mutual fund industry in India.

#### What are the concerns associated with this framework?

- **RBI's Upper Limit:** The Reserve Bank of India's (RBI) upper limit for overseas investment by mutual funds poses a concern. RBI Governor Shaktikanta Das indicated there are no plans to increase this limit, which means the overall industry limit for overseas investments is already exhausted.
- **Practical Impact:** As the industry limit for overseas investments is effectively exhausted, the changes to regulations may not have an immediate practical impact, limiting the diversification opportunities for Indian investors.
- **Implementation and Compliance:** Ensuring compliance with the 20% exposure cap and other regulations may pose challenges for domestic MFs, requiring careful monitoring and management of their overseas investments.

**Conclusion:** Need to establish collaborations with global investment firms to gain insights and best practices in managing overseas investments. Learning from established global players can help Indian mutual funds navigate the complexities of international markets more effectively.

### 17. India's GDP growth is impressive

The release of India's GDP data was eagerly anticipated, especially following the recent upgrade in the "sovereign rating outlook" by S&P. It comes just days before the announcement of the union election results.

## Rating Agency

- A rating agency is a company that assesses the financial strength of companies and government entities, especially their ability to meet principal and interest payments on their debts.
- **Fitch Ratings, Moody's Investors Service and Standard & Poor's (S&P)** are the big three international credit rating agencies controlling approximately **95% of the global rating business.**
- In India, six credit rating agencies are registered under the Securities and Exchange Board of India (SEBI): **CRISIL, ICRA, CARE, SMERA, Fitch India and Brickwork Ratings.**

## What does the data say?

- India's GDP growth for **2023-24 is 8.2%**, exceeding market expectations and surpassing the previous year's growth of 7%.
- Fourth-quarter growth is particularly robust at 7.8%, with upward revisions in previous quarters contributing to overall growth.
- Notable divergence of 1 percentage point between GDP and GVA growth in 2023-24, mainly due to increased net taxes.
- Sectoral analysis reveals mixed performance, with manufacturing and construction showing strong growth, while agriculture remains subdued.
- Expenditure-side breakdown highlights a slower growth rate in private consumption but healthy growth in investment, led mainly by government spending.

## Pillars need to be sustained:

- **Private Consumption:** Ensuring sustained consumer spending, particularly by addressing high inflation and low wage growth, to maintain economic momentum.
- **Investment:** Continuously stimulating both government and private sector investment to drive economic expansion and foster innovation and productivity.
- **Exports:** Maintaining competitiveness in global markets and promoting export-oriented growth to leverage external demand and diversify revenue sources.

## How to ensure the benefits of high growth trickle down to the lower-income categories?

- **Improving Private Consumption:** Focus on reviving private consumption, especially among lower-income groups. Address concerns of high inflation and low wage growth affecting consumer confidence.



- **Enhancing Employment Opportunities:** Prioritize improving the employment scenario, particularly in sectors generating significant employment like IT and the unorganized sector. Recognize the importance of employment in sustaining consumption growth and overall economic stability.
- **Investment in Rural Development:** Ensure spatial and temporal distribution of rainfall for rural demand recovery. Moderating food inflation and improving employment conditions crucial for rural consumption revival.
- **Boosting Private Capex Cycle:** Create an environment conducive to private investment, focusing on policy certainty and confidence in economic stability. Encourage private sector investment through favourable policies and supportive regulatory frameworks.
- **Policy Focus on Inclusive Growth:** Direct policy attention towards ensuring that the benefits of high growth extend to lower-income categories. Implement targeted social welfare programs and initiatives to support vulnerable groups and reduce income inequality.
- **Monitoring Global Developments:** Stay vigilant of global economic trends and developments that could impact the Indian economy, such as geopolitical tensions and supply shocks. Adapt policies accordingly to mitigate risks and capitalize on opportunities for sustained economic growth.

**Conclusion:** The Indian government aims to bolster equitable growth through measures such as stimulating private consumption, enhancing employment prospects, and fostering a conducive investment environment, supported by targeted policies and proactive global monitoring.

## 18. Asia Pacific Employment and Social Outlook 2024

The **International Labour Organization (ILO)** has released the **Asia-Pacific Employment and Social Outlook 2024**, highlighting the region's recovery from the global pandemic and the challenges posed by a rapidly ageing population.

### Key Highlights:

#### Unemployment Rate:

- Projected to remain at **4.2%** in **2024** and **2025**.
- This equates to **87.8 million** people out of work in **2024**.
- **Unemployment rates** vary significantly across subregions and countries.
- The region's jobs gap in **2023** was **164 million**, including individuals unable to work due to care obligations.

### Working Poverty and Informality:

- Persistent issues with **low-quality, informal employment**.
- **Two in three** workers were in **informal employment** in 2023, a slight improvement over the past decade.

### Demographic Challenges

- The ratio of people aged **65** and above is expected to double by **2050**.
- This will increase the economic dependency ratio and pose challenges to sustaining economic growth.
- **East Asia** will experience a demographic drag on growth of **0.3 percentage points** per year.
- **South Asia** will see a significant decline in its demographic dividend.

### Opportunities and Policy Needs

#### Income Growth and Productivity:

- Potential for continued income **growth per capita** if productivity growth is maintained.
- **Labour productivity** in emerging economies is less than a **third** of that in high-income countries, indicating significant potential for improvement.
- Structural barriers and lack of **training opportunities** need to be addressed.

#### Policy Reforms:

- Necessary to reduce **inequalities** and improve labour market prospects for **older workers**.
- Equitable pension systems are needed to manage **demographic changes**.
- 

### 19. Reverse transcriptase Application in developing health technology

- Columbia University researchers discovered that *Klebsiella pneumoniae* bacteria use reverse transcriptase to create a protein called Neo when infected by bacteriophages.
- This Neo protein can put the bacterial cell in suspended animation, stopping the infection by preventing the replication of the bacteriophage.

#### The Role of Reverse Transcriptase During the COVID-19 Pandemic:

- Reverse transcriptase became crucial during the COVID-19 pandemic for developing reliable diagnostic tests.

- It enabled rapid and accurate testing, facilitated genome sequencing, and helped track the virus's spread, contributing to surveillance, public health measures, and vaccine development.

### **The Discovery and Impact of Reverse Transcriptase:**

- Discovered by Howard Temin and David Baltimore in 1970, reverse transcriptase challenged the Central Dogma by showing that RNA can be reverse-translated to DNA.
- This discovery revolutionized molecular biology research, enabling reverse transcription of mRNA to DNA, gene cloning, and the study of RNA viruses like hepatitis B and HIV.
- Reverse transcriptase inhibitors played a significant role in managing HIV/AIDS in the 1980s.

### **Retroelements and Evolution:**

- The human genome contains sequences called retroelements, believed to have originated from retroviruses and transferred horizontally over millions of years.
- Initially considered "junk" DNA, recent studies suggest retroelements impact human biology and evolution, playing roles in various physiological processes.
- Expression of human endogenous retroviruses, a major class of retroelements, is linked to neuropsychiatric diseases.

### **Evolutionary Continuity of Reverse Transcriptase:**

- Bacterial reverse transcriptases are believed to be the precursors of eukaryotic counterparts, with the first bacterial reverse transcriptase discovered in 1989.
- Retroelements in bacteria are classified into Group II introns, retrons, and diversity-generating retroelements.
- The discovery of reverse transcriptase activity across life domains highlights its fundamental role and evolutionary continuity.

### **Innovative Applications in Biotechnology and Medicine:**

- The discovery of reverse transcriptase's role in bacterial defense against bacteriophages points to potential biotechnological and medical applications.
- Understanding reverse transcriptases could reveal new mechanisms of genetic evolution and viral resistance, leading to novel therapeutic strategies and biotechnological tools, particularly in combating antimicrobial resistance.

## 20. Role of Nuclear Technologies in Food System

At the International Symposium on Food Safety and Control: FAO Director-General underscores the importance of nuclear technologies for measuring, managing and controlling food safety. It was organized by FAO and IAEA.

### Role of Nuclear Technologies in Food System:

1. **Animal Health:** PCR tests for rapid disease detection.
2. **Soil and Water Management:** Use of radioactive nuclides to assess soil health and erosion rates.
3. **Insect Pest Management:** Sterile Insect Technique (SIT) for pest control. Mass-rearing and sterilizing insects through ionizing radiation before release.
4. **Food Safety and Control:** Food irradiation to improve safety and extend shelf life by reducing/eliminating microorganisms and insects.
5. **Plant Breeding and Genetics:** Inducing desired genetic changes via irradiation.

### Key Initiatives:

1. **Global:** Atoms4Food Initiative by FAO and IAEA; Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture.
2. **India:** Technology demonstration plants for irradiation: KRUSHAK at Lasalgaon, Nashik (low dose radiation); Radiation Processing Plant (RPP) in Navi Mumbai (high dose radiation); **FSSAI's Food Safety and Standards** (Food Products Standards and Food Additives) Sixth Amendment Regulations, 2016, to align food irradiation rules with international standards.

## 21. Steps taken by India to promote green energy

India's energy landscape needs to address the challenges posed by China's dominance in green energy materials is essential.

### What is green energy?

- **About-** It is the energy that can be produced using a method, and from a source, that causes no harm to the natural environment.
- **Solar energy-** It is typically produced using photovoltaic cells, which capture sunlight and turn it into electricity.

- **Wind power-** The air flow on the earth's surface can be used to push turbines, with stronger winds producing more energy.
- **Hydropower-** It is generated by the Earth's water cycle, including evaporation, rainfall, tides and the force of water running through a dam.
- **Geothermal energy-** It uses thermal energy that has been stored just under the earth's crust.
- **Biofuel-** They are liquid fuels produced from renewable biological sources, including plants and algae.
- **Bioenergy-** It is produced from organic material, known as biomass, which contains carbon absorbed by plants through photosynthesis.
  
- **National Green Hydrogen Mission-** It focuses on direct and indirect employment, import substitution, and R&D for higher efficiency in renewable energy technologies.
- **PM KUSUM scheme-**It is aimed at ensuring energy security for farmers in India, along with honouring India's commitment to increase the share of installed capacity of electric power from non-fossil-fuel sources to 40% by 2030 as part of Intended Nationally Determined Contributions (INDCs).
- **Investment-** India allows up to 100% Foreign Direct Investment under the automatic route for renewable energy generation and distribution project.
- **Production Linked Incentive (PLI) -** Scheme for high efficiency solar aims to enhance India's manufacturing capabilities and exports in the solar sector.
- **Green Energy Corridors-** It is established to create intra-state transmission system for renewable energy projects.
- **International Solar Alliance-** It is a joint effort by India and France to mobilize efforts against climate change through deployment of solar energy solutions with an aim of One Sun, One World, One Grid.
- **Green carbon credits-**It is proposed by India to create carbon sinks through people's participation.
- **Pradhan Mantri Suryodaya Yojana-** It was launched in 2024 to equip 1 crore poor to middle-class households with rooftop solar panels in a bid to provide electricity from solar energy.

### How can India ensure energy security?

- **Integrate hydrocarbon PSEs-** Hydrocarbon Public Sector Enterprises like ONGC and Indian Oil are venturing into renewable energy sectors, this would prevent redundancy, optimize resource utilization and streamline efforts
- **Secure critical minerals-** Heavy reliance on China for critical technologies poses threat to national security hence India should ensure a stable and secure supply of essential minerals.



- **Balance clean energy competitiveness-** While prioritizing national security is essential, India must also consider the competitiveness of clean energy vis-a-vis fossil fuels.
- **Competitiveness of clean energy-** India should enhance domestic manufacturing capabilities and reduce dependency on imports.
- **Extend PLI scheme-** The Production Linked Incentive scheme needs to be extended to cover more segments of the renewable energy sector.
- **Protect domestic industries-** Implement tariffs and anti-dumping duties to protect domestic industries from unfair competition.
- **Promote local manufacturers-** Encourage public-private partnerships to build a robust local manufacturing ecosystem.
- **Foster private investment-** Mobilize private capital for sustainable energy projects and increase government funding for flagship renewable energy projects demonstrate feasibility and profitability.
- **Balance green transition-** Green transition needs to be balanced with economic growth and stability to ensure a smooth and balanced transition without adversely impacting the economy.
- **Form Inter-Ministerial Task Force-** This should be formed to oversee the implementation of the energy strategy, ensuring coordinated efforts across various government departments and agencies.
- **Periodic review-** Establish periodic review processes involving stakeholders from industry, academia, and civil society to assess progress and make necessary adjustments.
- **Holistic approach-** Engage the public and private sectors through awareness programs highlighting the benefits and opportunities of the green transition.

## 22. UN Global Supply Chain Forum (UN-GSCF)

The **inaugural edition** of the **UN Global Supply Chain Forum (UN-GSCF)** was recently organized by **UN Trade and Development (UNCTAD)** and the Government of Barbados to address increasing disruptions in global supply chains.

**Key outcomes of the UN-GSCF include:**

- Launch of the **Manifesto for Intermodal, Low-Carbon, Efficient and Resilient Freight Transport and Logistics** to transform freight transport to meet global climate targets and enhance socio-economic resilience.
- Introduction of **guidelines for technological solutions** to develop an electronic single window for trade.
- Development of the **UNCTAD Trade-and-Transport Dataset** in collaboration with the World Bank to optimize global trade flows.



- Signing of a Memorandum of Understanding with the **China Council for the Promotion of International Trade** (CCPIT) to boost trade and investment promotion, trade facilitation, and other joint activities.

### 23. Impact of inequality on democratic processes

Recently, researchers from the Paris School of Economics have shown inequality in modern India to be greater than colonial times.

**Disparity-** High levels of inequality reduce growth in relatively poor countries but encourage growth in richer countries.

- **Economic effect-** It can have negative effects on consumption, welfare, and growth. If done properly, wealth taxes and distribution can have positive effects.
- **Monopoly power-** Billionaires draw their wealth from monopoly. Thus, for any given level of money wages, real wages which determine purchasing power are lower in economies with strong monopolies.
- **Lower outputs-** The presence of monopolies can lead to lower real wages and lower levels of output and investment.
- **Greedflation-** A stark example is the cost-of-living crisis in developed economies, where "greedflation" – companies raising prices to boost profit margins amid supply and demand shocks – has exacerbated inflation.
- **High mark-up-** When companies apply higher mark-ups, they increase the final price that consumers pay.
- This can indeed lead to reduced purchasing power for workers, as their real wages (adjusted for inflation) may not keep pace with rising prices.

Mark up refers to the difference between the cost of producing a product or service and its selling price

- **Weak expansion-** An unequal economy will put lesser incomes in the hands of those with a greater propensity to consume, leading to weaker expansion in the economy.
- **Lower job creation-** Redistribution might hurt job creation by lowering incentives for entrepreneurs to invest and create jobs in high-tax environments.

Kuznets curve describes a U-shaped relationship between inequality and growth, inequality first increases and later decreases in the process of economic development

## How can redistribution be harmonized with economic growth?

- **Welfare opportunities-** Inequality is sometimes beneficial, since it acts as an incentive to entrepreneurs to start businesses, thereby increasing employment and welfare for others.
- **Multiplier effect-** When a company builds a new factory, it pays workers, who then spend their wages on goods, boosting sellers incomes. This cycle of spending and earning, known as the 'multiplier' effect, leads to a greater overall increase in income than the initial investment.
- **Unlocking Growth Potential-** Redistribution can boost growth despite reduced billionaire investment. It strengthens the multiplier effect by increasing purchasing power. Lower prices and higher wages from curbing monopolies further drive demand, encouraging business investment.
- **Piketty's Proposal-** Taxing billionaire wealth for basic income might lead to some leaving the economy, but it could foster new entrepreneurs.

## What should be done?

- For poor countries, the escape from poverty is made more difficult because rising per capita income induces more inequality, which retards growth in this range.
- For rich countries, rising per capita income tends to reduce inequality, which lowers growth in this range.
- While inequality can incentivize entrepreneurship, excessive inequality, particularly through monopolistic practices, hampers economic welfare and growth.
- Thoughtful redistribution policies, such as wealth taxes and curbing monopolistic powers, can mitigate these negative effects and promote a more equitable and robust economy.

## 24. Open Network for Digital Commerce (ONDC)

The government-backed Open Network for Digital Commerce (ONDC) recorded an all-time high of 8.9 million transactions across retail and ride-hailing segments in May. This represented a robust 23 per cent month-on-month increase in total transaction volume, the ONDC said.

- The Open Network for Digital Commerce (ONDC) is a government-backed initiative in India that aims to create an open and interoperable e-commerce ecosystem.

## Open Network for Digital Commerce (ONDC)

- The 'Open Network for Digital Commerce' (ONDC), is a Government of India (GoI) backed technology infrastructure. It is a network-centric model, wherein buyers and sellers can transact irrespective of the platforms/applications they use as long as "platforms/applications are connected to this open network".
- In simple terms, ONDC is like a digital road network over which different digital storefronts (in the form of buyer and seller apps) can be built. The digital road network aims to enable e-commerce traffic to travel across these different digital storefronts seamlessly, thereby allowing buyers and sellers to transact regardless of the application / platform they use.
- This is a significant departure from existing platform centric models of e-commerce where buyers and sellers can only interact within walled platforms.
- To illustrate, today, a seller on Amazon cannot reach a buyer on Flipkart, and vice versa.
- These walled platforms have increasingly dominated transaction volumes in India's ecommerce market over the years, and today are able to wield immense power and control over e-commerce supply chains.
- This concentration of power and control has led to harmful behaviour such as self-preferencing by platforms or leveraging data to distort competition, which squarely impacts MSME businesses and the consumer interest. ONDC is GoI's answer to this market distortion.
- ONDC is expected to make e-Commerce more inclusive and accessible for consumers. Consumers can potentially discover any seller, product or service by using any compatible application or platform, thus increasing freedom of choice for consumers.
- It will enable the consumers to match demand with the nearest available supply. This would also give consumers the liberty to choose their preferred local businesses. Thus, ONDC would standardize operations, promote inclusion of local suppliers, drive efficiencies in logistics and lead to enhancement of value for consumers.
- ONDC was incorporated as a Section 8 (NON-PROFIT) company in December 2021, with the Quality Council of India and Protean eGov Technologies Limited as Founding Members.
- Various public and private sector entities have invested in ONDC, including Punjab National Bank, State Bank of India, Axis Bank, Kotak Mahindra Bank, BSE Investments, Central Depository Services, ICICI Bank, and the Small Industries Development Bank of India.
- It is important to note that the relationship between the GoI and ONDC is not legally defined and it does not flow from an act of parliament.

## 25. FDI inflows in 2023-24

As per the data by Department for Promotion of Industry and Internal Trade (DPIIT) FDI inflows in 2023-24 contracted by 3.49% to \$44.42 billion compared to 2022-23.

### Key Highlights:

#### FDI Inflows:

- **FDI inflows in 2023-24:** \$44.42 billion, a decline of 3.49% from \$46.03 billion in 2022-23.
- **Total FDI (including equity inflows, reinvested earnings, and other capital):** Declined by 1% to \$70.95 billion from \$71.35 billion in 2022-23.
- **Highest ever FDI inflows:** \$84.83 billion in 2021-22.

#### Quarterly Performance:

- **January-March FY24:** FDI inflows rose by 33.4% to \$12.38 billion from \$9.28 billion in the same period the previous year.

#### Top Sectors for FDI:

- **2023-24 Top Sectors:** Computer Software & Hardware, Service Sector, and Construction Activities.
- **2000-2024 Top Sectors:** Services Sector, Computer Software & Hardware, Trading, Telecommunications, and Automobile Industry.

#### Top Recipient States in 2023-24:

- **Maharashtra:** Highest with \$15.1 billion, up from \$14.8 billion in 2022-23.
- **Gujarat:** \$7.3 billion, up from \$4.7 billion in 2022-23.
- **Karnataka:** Declined to \$6.57 billion from \$10.42 billion in 2022-23.
- Growth also recorded in **Tamil Nadu, Telangana, and Jharkhand.**
- Decline observed in **Delhi, Rajasthan, Uttar Pradesh, and Haryana.**

#### Top Source Countries:

- **2023-24 Top Sources:** Singapore, Mauritius, and USA.
- **2000-2024 Top Sources:** Mauritius, Singapore, USA, Netherlands, and Japan.

#### Miscellaneous Information

- **Decreased Inflows:** From countries like **Mauritius, Singapore, US, UK, UAE, Cayman Islands, Germany, and Cyprus.**
- **Increased Inflows:** From **Netherlands and Japan.**

### 5. Gene therapy trial gives deaf children hearing in both ears

- Five children who were born deaf now have **hearing in both ears after taking part in an “astounding” gene therapy trial that raises hopes for further treatments.**

#### More about the therapy:

- The **children were unable to hear** because of inherited genetic mutations that disrupt the body’s ability to make a protein needed to ensure auditory signals pass seamlessly from the ear to the brain.
- Within weeks of receiving the therapy, the children had gained hearing, could locate the sources of sounds, and recognised speech in noisy environments.
- The **US-Chinese team reported improvements after treating the deaf children in one ear, but the intention was always to give hearing in both ears.**
- If they can hear in both ears, the children can work out where sounds are coming from, a capability important for everyday situations such as talking in groups and being aware of traffic when crossing the road.

#### Procedure of the gene therapy:

- The **gene therapy is injected** during a minimally invasive surgical procedure, so treating both ears doubles the time that patients spend in surgery.
- **Treating both ears also raises the risk of a stronger immune reaction, triggered when the body’s defenses react to the virus that delivers the therapy.**

#### Gene Therapy

- **Gene therapy aims to fix a faulty gene** or replace it with a healthy gene to try to cure disease or make the body better able to fight disease.
- It holds promise as a treatment for a wide range of diseases, such as cancer, cystic fibrosis, heart disease, diabetes, hemophilia and AIDS.
- **Gene therapies are of two types, germ-line gene therapy (GGT) and somatic cell gene therapy (SCGT).** In GGT, germ cells are modified by introduction of correct/functional genes into their genome. It is heritable and is passed onto the next generation.

## 26. First Human Case of Avian H5N2 Infection

- The World Health Organization (WHO) has confirmed the **death of a Mexican resident due to bird flu**, marking the first confirmed case of human infection with the H5N2 variant.
  - This H5N2 strain is **different from another bird flu variety-H5N1** which infected people in America recently.

### Avian Influenza A (H5N2)

- Avian Influenza A (H5N2) is a **subtype of the influenza A virus** that primarily circulates among birds but can infect humans under certain circumstances.
- Human infections typically result from **direct contact with infected birds** or contaminated environments, showcasing the zoonotic nature of the virus.

### Symptoms of H5N2

- Infection of H5N2 may cause mild to severe upper respiratory tract infections and can be fatal.
- Conjunctivitis, gastrointestinal symptoms, encephalitis and encephalopathy have also been reported.

### Diagnostic and Treatment Protocols

- **Laboratory Diagnosis:** The identification of avian influenza in humans necessitates laboratory testing to confirm the presence of the virus.
- **WHO Guidance:** The World Health Organization periodically updates technical protocols, such as RT-PCR methods, to enhance the detection of zoonotic influenza.
- **Treatment Strategies:** Antiviral medications, notably neuraminidase inhibitors like oseltamivir and zanamivir, demonstrate efficacy in reducing viral replication duration and improving survival prospects for afflicted individuals.

### Influenza A Viruses

- The alphanumeric codes of H and N are used to subdivide the viruses according to what kinds of **proteins are on the surface** of the virus based on 2 types:
  1. **Hemagglutinin (HA)**
  2. **Neuraminidase (NA)**



- There are **18 known HA** subtypes and **11 known NA** subtypes.
- In birds, 16 HA and 9 NA subtypes have been identified. (Two additional subtypes, H17N10 and H18N11, have been identified in bats.)
- Many different combinations of HA and NA proteins are possible.
- For example, an “A(H7N2) virus” designates an influenza A virus subtype that has an HA 7 protein and an NA 2 protein. Similarly, an “A(H5N1)” virus has an HA 5 protein and an NA 1 protein.

## 27. Regulator SEBI expands promoter definition for IPO-bound companies

SEBI expands promoter definition for IPO-bound companies, including founders holding 10% or more, and their immediate relatives.

- According to current SEBI regulations, a promoter is someone who controls the affairs of the company or can appoint the majority of directors or is named as such in an offer document.

### What is an IPO?

- An IPO is an initial public offering, in which shares of a private company are made available to the public for the first time.
- An IPO allows a company to raise equity capital from public investors.
- The Dutch are credited with conducting the first modern IPO by offering shares of the Dutch East India Company to the general public.

### What Norms Say

- **Expanded Definition of Promoter:** The definition of a promoter has been expanded for companies preparing for an IPO. A promoter is someone who controls the company’s affairs, can appoint the majority of directors, or is named as such in an offer document.
- **Previous Criteria:** Founders holding 25% were previously deemed promoters due to their negative control and power to block special resolutions.
- **New Criteria:** Founders holding 10% or more must classify themselves as promoters if they are key managerial personnel (KMP) or directors in the company. Immediate relatives on the company board or KMP will also be classified as promoters, even if they hold just 1%.

### About Declassification and 31A of LODR (Listing Obligations and Disclosure Requirements) Regulations

- **Declassification Difficulty:** The current regulations do not provide an easy path for declassifying a promoter as a public shareholder.

- **Rule 31A of LODR Regulations:** To be declassified, a person must not hold more than 10% in the listed company along with their relatives.
- **Restrictive Nature:** This restrictive rule makes declassification almost impossible for immediate relatives who are classified as promoters by virtue of their relationship, especially problematic for married daughters with no active role in the company.

### Issue Over Subjective Definition

- **Subjective Nature of Promoter Definition:** The definition of a promoter has been historically subjective, leading to varying interpretations and legal disputes.
- **Court Rulings:** There have been several court rulings addressing the subjective nature of who qualifies as a promoter, highlighting inconsistencies and complexities.
- **Complex Criteria:** Accounting standards and regulatory criteria for determining control and influence in a company are often complicated and can be interpreted in multiple ways.
- **Need for Objectivity:** Experts argue for a more objective test to ascertain control and promoter status, which would provide clearer guidelines and reduce disputes.
- **Example:** Vinod Kothari, Director at Vinod Kothari Consultants, points out that moving towards an objective test is a positive step, given the current complexities in determining control.

### Way forward:

- **Standardised Guidelines:** Develop clear and standardised guidelines for identifying promoters, reducing subjectivity and ensuring consistency.
- **Detailed Disclosures:** Mandate detailed disclosures from companies about their promoters, including shareholding patterns, roles, and influence in decision-making.

## 28. Next-Generation Sequencing (NGS)

- The **World Health Organization (WHO)** reports that **approximately 33,000 new** incidences of brain cancer happen each year in India alone, while **Global Cancer Observatory 2020** estimates brain cancer as the **19th most common type of cancer**.

### Key Highlights:

- A **DNA mutation** can change how our cells grow and function, sometimes leading to cancer.
- Research suggests that there are close to **3,000 such cancer-causing genes**.
- With each gene containing thousands of DNA codes, and each code potentially holding vital information about cancer development, the sheer volume of data analysis for a human can become quite overwhelming.
- Next-Generation Sequencing (NGS) which is a cutting-edge technology that is potentially transforming our ability to decipher the genetic code with speed and precision.
- **The Human Genome Project officially began in 1990 and was completed in 2003, taking about 13 years to finish, at a cost of about \$3 billion.**

#### About Next-Generation Sequencing (NGS):

- **Next-Generation Sequencing (NGS)** is a modern DNA sequencing technology that has revolutionized genomic research by allowing the sequencing of DNA and RNA much more quickly and cheaply than the previously used Sanger sequencing.
- The concept of a liquid biopsy is a revolutionary technique that offers a less invasive alternative to surgery.

#### Advantages of NGS:

- **Speed:** Enables rapid sequencing of large amounts of DNA/RNA.
- **Cost-Effective:** Lower cost per base compared to traditional sequencing methods.
- **Comprehensive:** Can detect a wide range of genetic variations, including SNPs, insertions, deletions, and structural variations.
- **Scalability:** Can be scaled to fit a variety of experimental needs, from small targeted studies to large genome-wide analyses.

#### About Human Genome Project:

- **The Human Genome Project (HGP)** was an international scientific research project with the goal of determining the base pairs that make up human DNA, and of identifying, mapping and sequencing all of the genes of the human genome from both a physical and a functional standpoint.
- It started in **1990 and was completed in 2003.**
- It remains the **world's largest collaborative biological project.**

#### About DNA:

- **Deoxyribonucleic acid** is a polymer composed of two polynucleotide chains that coil around each other to form a double helix.

- The polymer carries genetic instructions for the development, functioning, growth and reproduction of all known organisms and many viruses.
- DNA and ribonucleic acid (RNA) are nucleic acids.
- Alongside proteins, lipids and complex carbohydrates (polysaccharides), nucleic acids are one of the four major types of macromolecules that are essential for all known forms of life.
- The two DNA strands are known as polynucleotides as they are composed of simpler monomeric units called nucleotides.
- Each nucleotide is composed of one of four nitrogen-containing nucleobases (cytosine [C], guanine [G], adenine [A] or thymine [T]), a sugar called deoxyribose, and a phosphate group.

## 29. SEBI Expands Promoter Definition for IPO-Bound Companies

The Securities and Exchange Board of India (SEBI) has expanded the **definition of promoters for companies preparing for an initial public offering (IPO)**. This move aims to enhance transparency and accountability in the listing process.

### Current SEBI Regulations:

- **Definition of Promoter:** A promoter controls the affairs of the company, can appoint the majority of directors, or is named as such in the offer document.
- **Previous Threshold:** Founders holding 25% were considered promoters due to their negative control and power to block special resolutions.

### New Guidelines:

- **Lower Threshold:** Founders holding 10% or more must classify themselves as promoters.
- **Collective Holding:** Founders collectively holding 10% will be considered promoters if they are key managerial personnel (KMP) or directors.
- **Immediate Relatives:** Immediate relatives of promoters will also be deemed promoters if they are on the company board, are KMPs, or hold 10% or more in the company, directly or indirectly.

### Impact of New Guidelines:

- **Increased Coverage:** Immediate relatives holding significant shares, even if not directly involved in management, will now be classified as promoters.
- **Example Scenario:** A non-executive director who is a brother or father of a promoter, with no shares, will be considered a promoter. This extends to in-laws if connected through shareholding relatives.

### Declassification Challenges:

- **LODR Regulations:** Regulation 31A of the LODR Regulations makes it difficult for individuals classified as part of the promoter group to be declassified as public shareholders.
- **Practical Implications:** This is particularly challenging for married daughters or other relatives who may not have an active role in the company.

### Case Study: Flair Writing Industries:

- **Initial Promoters:** Khubilal Jugraj Rathod and Vimalchand Jugraj Rathod.
- **Subsequent Inclusions:** Relatives Rajesh Rathod, Mohit Rathod, and Sumit Rathod, each holding 10%, were included as promoters, along with several in-laws.

### Subjective Definition Issues:

- **Court Rulings:** The subjective definition of promoters has been debated in courts.
- **Need for Objectivity:** Moving towards a more objective test for determining control is considered beneficial.

### Definition of Immediate Relatives:

- **Inclusions:** Spouse, parents, brothers, sisters, or children of the person or their spouse.

**Conclusion:** SEBI's expanded promoter definition aims to cover a broader range of individuals with significant influence or shareholding in IPO-bound companies. While this promotes greater transparency, it also presents challenges in declassification and may affect individuals not actively involved in company management. The new guidelines necessitate careful consideration by companies and their advisors to ensure compliance and avoid unintended consequences.

## 30. Microbial methane oxidation systems

Recent studies propose the use of **biocovers** or “**Microbial methane oxidation systems**” derived from landfill mining to effectively control methane emissions, presenting a sustainable model for waste management.

### Global Perspective on Methane Emissions from Landfills:

- **Landfills** and **dumpsites** contribute significantly to **methane emissions**, a potent **greenhouse gas** with a global warming potential much higher than carbon dioxide.
- Without intervention, **methane emissions** from **waste disposal sites** are expected to increase substantially, exacerbating climate change.

### Challenges in Waste Management in India:

- India faces challenges in waste management, with urban areas generating substantial **municipal solid waste** (MSW) daily.
- **Methane emissions** from the **waste sector** in India account for a significant portion of the nation's total emissions, underscoring the need for effective mitigation strategies.

### Innovative Approach: Biocovers from Landfill Mining:

- Research suggests the use of **biocovers** derived from landfill mining to control **methane emissions**.
- **Fine fraction** from **landfill mining** is utilized to create biocovers, effectively oxidizing methane into carbon dioxide.