Today's Prelims Topics

Ad hoc Judges in High Court

Context

The Supreme Court of India suggested appointing retired judges on an **ad hoc basis** to tackle the backlog of pending criminal cases in several High Courts.

Ad Hoc Judge Appointment Process - Article - 224 A

- The **Chief Justice of a High Court** (CJ) may request a retired judge to act as a High Court judge with the **President's consent**.
- Appointees enjoy the same jurisdiction, powers and privileges as active judges **but are not officially considered permanent judges.**
- Both the **retired judge** and the **President** must consent to the appointment.

Procedure for Appointment - Defined in the 1998 Memorandum of Procedure (MOP):

- The process starts after the retired judge consents to the appointment.
- The CJ forwards the name and proposed tenure to the **state's Chief Minister (CM)**.
- The CM sends the recommendation to the **Union Law Minister**.
- The Union Law Minister consults the **Chief Justice of India (CJI)** and forwards the recommendation to the **Prime Minister**.
- The Prime Minister advises the **President** on whether to approve the appointment.

Facts

- **Article - 224 A** was inserted by the Constitution **(15th Amendment) Act, 1963**.
- **Other Important Amendments made by 15th CAA:**
  - **Retirement age:** The retirement age for High Court judges was increased from **60 to 62 years.**
  - **Writs:** High Courts could issue writs to people or authorities outside their territorial jurisdiction if the cause of action was within their jurisdiction. **(Article - 226 (2).**

2021 SC Decision: Key Modifications:

- In the **Lok Prahari v. Union of India (2021)** case, the SC ruled:
  - Recommendations for ad hoc judges must go through the **Supreme Court Collegium (CJI + 2 seniormost judges).**
  - The court also provided guidelines for when this appointment process can be initiated.
- **When Can Ad Hoc Judges Be Appointed ?**
  - **Vacancy Criteria**: Appointments under Article 224A should only occur if vacancies exceed **20%** of the High Court's sanctioned strength (excluding pending proposals for regular judge appointments).
  - **Trigger Point**: If more than **10%** of pending cases are over **5 years old**.
  - The process should be initiated only after regular appointment efforts have been made.
  - **Tenure and Numbers**: Ad hoc judges should generally be appointed for **2-3 years**. **Two to five ad hoc judges** can be appointed per High Court.
  - **Panel of Judges**: Each Chief Justice must maintain a **panel** of retired or soon-to-retire judges for potential ad hoc appointments.

Source:

- **Indian Express - appointing retired High Court judges on 'ad hoc' basis**

French Troop Withdrawal from West Africa and Its Implications

Context
Recently the Ivory Coast President announced that French troops would withdraw from the country by the end of the month.

Reasons for French Troop Withdrawal
● **Incompatibility with National Sovereignty:** France has maintained colonial pacts, referred to as **"Françafrique,"** with former colonies since their independence.
  ○ These pacts allowed France to maintain economic, political and military influence.
  ○ Leaders of these countries argue that the presence of French troops undermines their national sovereignty:
● **Public Dissatisfaction**
  ○ French troops have been fighting insurgent groups linked to **ISIS** and **al-Qaeda** in the Sahel region since 2014.
  ○ Despite their presence, insurgencies have intensified and spread, leading to widespread anti-French sentiments and public demands for troop withdrawals.
● **Shift Toward New Partners:** Many West African nations are diversifying their foreign relations:
  ○ **Mali, Niger, and Burkina Faso:** Strengthened ties with Russian mercenaries to combat insurgencies.
  ○ Russian mercenaries are seen as advantageous because they do not impose democratic conditions, unlike France.
  ○ Russia has cultivated an **image as a more effective security provider in Africa.**

Implications for African Countries
● **Decline of French Influence:** French troop withdrawal marks the end of France's decades-long dominance in the region.
  ○ However, in **Mali, Niger, and Burkina Faso**, where Russian mercenaries replaced French troops, insurgencies have worsened. These countries rank among the highest on the **Global Terrorism Index 2024**.

The Sahel region of Africa

● **Formation of New Alliances**
  ○ **Mali, Niger, and Burkina Faso** have formed the **Alliance of Sahel States**, strengthening their collective military power.
  ○ Anti-French sentiments may encourage **Chad, Senegal, and Ivory Coast** to join the alliance, enabling regional collaboration in counter-terrorism efforts.

Implications for France
● **End of "Françafrique":** French President Emmanuel Macron has officially ended "Françafrique," focusing on economic and diplomatic engagement instead of military dominance.
● **Reduced Political Influence:** France's waning political influence challenges its ability to protect economic interests in the region. For instance:
● **Decline in International Reputation:** French military presence has been instrumental in projecting France as a global defender of terrorism and human rights.
Source: The Hindu - Is France's influence in West Africa over?

Rhodamine – B

Context
Despite being classified as unsafe by FSSAI, Rhodamine-B is illegally used in the local food industry.

About Rhodamine - B
● Rhodamine-B is a bright pink synthetic dye commonly used in industries such as textiles, paper and leather.
  ○ **Scientific Use**: Its fluorescent properties make it valuable for scientific research.
  ○ **Illegal Use in Food**: It is often misused in food products to enhance visual appeal, despite its health risks.
● It is considered **substandard and unsafe under the Food Safety and Standards Act 2006.**
  ○ FSSAI is a statutory body established under the **Food Safety and Standards Act, 2006 (FSS Act).**
  ○ **Nodal Ministry:** Ministry of Health and Family Welfare.

Health Risks of Rhodamine B
● **Carcinogenic Potential:** Studies have shown that Rhodamine B can damage DNA, leading to mutations and cancerous growths.
● **Allergic Reactions and Chronic Effects:** Long-term exposure can cause allergic reactions, skin pigmentation changes and chronic skin issues.

UPSC PYQ

Q. With reference to polyethylene terephthalate, the use of which is so widespread in our daily lives, consider the following statements: **(2022)**
1. Its fibres can be blended with wool and cotton fibres to reinforce their properties.
2. Containers made of it can be used to store any alcoholic beverage.
3. Bottles made of it can be recycled into other products.
4. Articles made of it can be easily disposed of by incineration without causing greenhouse gas emissions.

Which of the statements given above are correct?
(a) 1 and 3
(b) 2 and 4
(c) 1 and 4
(d) 2 and 3
Answer: A

Source:
● **The Hindu - Rhodamine B**

Sukanya Samriddhi Yojana

Context

January 2025 marks 10 years of the Sukanya Samriddhi Yojana. Over **4.1 crore Sukanya Samriddhi accounts have been opened as of November 2024.**

About Sukanya Samriddhi Yojna (SSY)
- SSY is a small deposit scheme for girl children, it was launched in **2015** as a part of the 'Beti Bachao Beti Padhao' campaign.
- **Eligibility:**
  - Parents or legal guardians can open deposit accounts on behalf of a girl child (including adopted girl child) for up to 2 daughters aged below 10.
  - **NRIs are not eligible** to open these accounts. (Only Indian Citizens)
- **Minimum & Maximum Deposit:**
  - Investment of minimum **Rs. 250 and maximum Rs. 1.5 lakh in a financial year.**
  - No limit on the number of deposits either in a month or in a Financial Year.
- **Maturity:** The maturity period of SSY is 21 years from the account opening.
  - Contributions to be made for the **first 15 years only.** Thereafter, the SSY account will continue to earn interest until maturity.
- **Interest:** Announced by Union Govt. every quarter. It is compounded annually.
- **Partial withdrawal:**
  - Allowed after the account holder attains the age of 18 years or has passed the 10th standard, whichever is earlier.
  - For higher education 50% of the balance at the end of the previous financial year can be withdrawn.
  - For marriage of adult account holders, **100% withdrawals** are permitted.
- **Tax Benefits:** The amount invested, interest earned and maturity amount is tax free. **(Under Section-80C of Income Tax Act)**

Source:
- **PIB - A Decade of Transforming Lives**

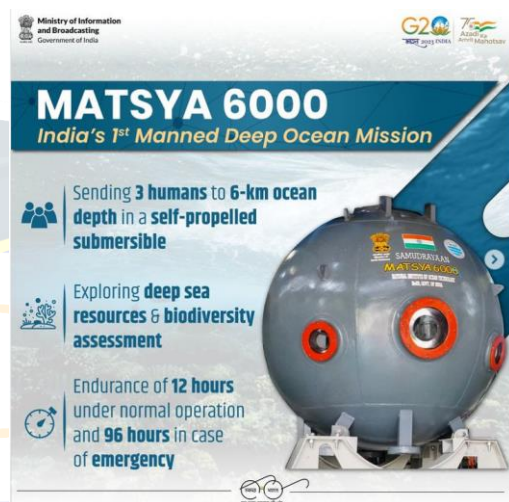# India's Deep Ocean Mission Gains Momentum

Context
India is set to launch its first human underwater submersible, a deep-sea manned vehicle, in 2025.

About Deep Sea Mining
- It is the process of retrieving mineral deposits from the deep seabed – the ocean **below 200m.**
- The deep sea is full of **biodiversity,** rich in living resources used in **medicines** and critical in **regulating the climate** and providing spawning and feeding grounds for fish.
- Seabed mining is done through a huge vacuum that simply travels over the ocean floor to suck up the nodules which are then brought to the surface with a hose.
- **Polymetallic nodules** are lumps of iron, manganese hydroxides, and rock partially submerged in many parts of the ocean floor.

About Deep Ocean Mission (DOM)
- It is an initiative of the **Ministry of Earth Sciences (MoES)** which aims to develop technologies and capabilities for deep sea exploration.
- DOM is one of 9 missions under the **Prime Minister's Science, technology and Innovation Advisory Council (PMSTIAC).**
- **Key Components**
  - **Development of Manned Submersibles:** Human-operated submersibles to explore ocean depths up to 6,000 meters.
  - **Exploration of Marine Resources:** Focus on polymetallic nodules, hydrothermal sulfides and cobalt crusts in the Indian Ocean.
  - **Technology Innovations:** Development of advanced underwater robotics, sensors, and energy systems.
  - **Underwater Energy and Climate Research:** Identify potential for renewable energy sources like ocean thermal energy conversion **(OTEC).**

Mission Samudrayaan
- It is a component of the Deep Ocean Mission.
- It targets human exploration at depths of **6,000 meters** with focus on mineral extraction and marine ecosystem studies.
- **Implementing Authority:** National Institute of Ocean Technology (NIOT)

Facts
- The United Nations has declared **(2021-2030) as the UN Decade of Ocean Science for Sustainable Development.**

Source:
- **PIB - Deep Ocean Mission**

Memecoins - $TRUMP

Context
US President Donald Trump has launched two memecoins **$Trump & $Melania**.

What Are Memecoins?
- A meme coin is a cryptocurrency named after characters, individuals, animals, artwork etc.
- It is a mix of internet humor and cryptocurrency, often inspired by memes with **no intrinsic value.**
- **Creation**: Anyone can create a memecoin for free using platforms like **Pump.fun** on blockchain networks such as **Solana** or **Ethereum** (e.g., $Trump is hosted on Solana).
- **Value**: Purely based on hype, public perception and branding efforts.
- In 2024, **13 million new memecoins** were created with a combined market value of **$100 billion**.

Famous Examples of Memecoins
- **Dogecoin:** Started as a joke but gained prominence after **Elon Musk** frequently promoted it on X.
- **Shiba Inu:** Named after a dog breed, it gained viral attention.
- **Gen Z Quant:** Created by a **13-year-old**, earning him **$30,000** after going viral.

Risks and Concerns
- **High Volatility:** Memecoins are the riskiest segment of an already speculative crypto market.
- **Frauds and Scams**
  - **Pump-and-Dump Schemes**: Over **40%** of memecoins are scams, where creators artificially inflate prices and then sell, causing investors to lose money.
  - **Rug Pulls**: Creators withdraw funds, making memecoins worthless (e.g., the 13-year-old behind Gen Z Quant).
- No uses other than being a token.
- Regulatory and Ethical Concerns.

Source:
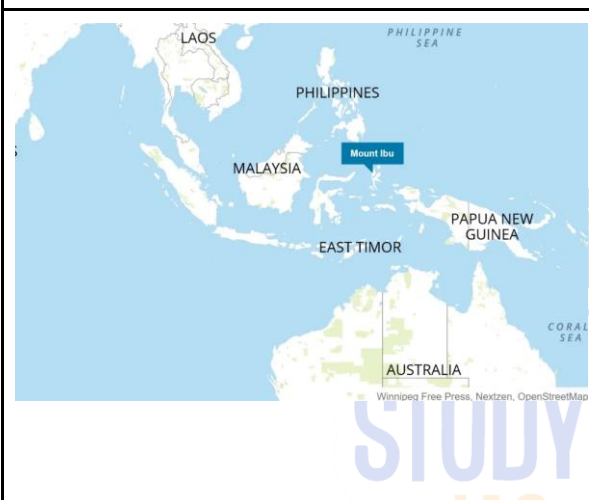- **Indian Express - Donald launches $TRUMP**

Places in News

Mount Ibu

- According to an official report, **Mount Ibu (Strato volcano)** has erupted at least a **thousand times this month.**
- **Strato volcano:** It is a large, steep-sided volcano that's formed by layers of hardened lava, ash, and other volcanic debris. They are known for their steep sides, **explosive eruptions and high viscosity magma.**

Facts

- Indonesia has the most volcanoes in the world, including 120 active volcanoes and 126 total volcanoes, including six submarine volcanoes.
- Most of Indonesia's volcanoes are located on the **Sunda Arc, a 3,000 km long chain.**
- The volcanoes were created by the **subduction of the Indian Ocean crust under the Asian Plate.**

- **Location:** Northwest coast of **Halmahera island, Indonesia.**
- In 2023, Mount Ibu recorded a total of **21,100 eruptions,** making it the **2nd most** active volcano in Indonesia.
  - **Mount Merapi** is the most active volcano in Indonesia.
- It stands 1,377 meters above sea level and spans 16 km east-west and 13 km north-south.

Source:

- [The Hindu - Mount Ibu erupted 1,000 times this month](#)

News in Shorts

An Aadhaar card for a tree

- The Jammu and Kashmir Forest Department, in collaboration with the J&K Forest Research Institute, has initiated a **GIS-based, QR-enabled conservation project for the iconic Chinar trees of Kashmir.**
- The initiative **aims to protect Chinar trees** from threats such as urbanisation, deforestation and habitat degradation.
- QR codes attached to each tree offer detailed information about its **health, age and growth patterns**, enabling researchers and conservationists to track changes over time.
- Chinar is the **state tree** of J&K.
- Chinar is a **large deciduous tree,** growing up to 30 meters tall, and takes about 150 years to reach full height.
- Its leaves change colors, **i.e., deep green (summer), blood-red, amber and yellow (autumn).**
- **Properties of Chinar tree:** Its **leaves and bark** are used as

medicine, the **twigs & roots** are used for making dyes & the wood, known as **lacewood,** is used for delicate interior furniture.

Source:
- **The Hindu - Aadhaar card for a tree**

INS SARVEKSHAK completes hydrographic survey at Mauritius

- INS Sarvekshak has completed the final phase of the **hydrographic survey of Mauritius covering an extensive area of over 25,000 sq. nautical miles.**
- Creation of new nautical chart will enable Mauritius to develop its maritime infrastructure, resource management and coastal development planning.

About Hydrography
- Hydrography is the scientific practice of measuring and describing the physical characteristics of bodies of water like oceans, seas, coastal areas, lakes and rivers.
- It includes predicting how these features may change over time, with the primary goal of ensuring safe navigation and supporting other marine activities.

Source:
- **PIB - INS Sarvekshak**

PFAS - Forever Chemicals

- The **European Commission** is planning to ban PFAS in consumer products, with exemptions for essential industrial uses.
- **PFAS (Perfluoroalkyl and Polyfluoroalkyl Substances)** are synthetic chemicals used in various industries due to their resistance to extreme temperatures, water, oil and corrosion.
- They are known as "forever chemicals" because they do not break down in the environment, leading to their accumulation in ecosystems, drinking water and the human body.
- **Applications**: Found in consumer products such as non-stick cookware, cosmetics, waterproof clothing, food packaging, aircraft, wind turbines and semiconductors.
- **Health Risks**: High Exposure can lead to Liver damage, lower birth weights and testicular cancer.

Source:
- **The Hindu - EU plans ban on 'forever chemicals' in consumer products**

Editorial Summary
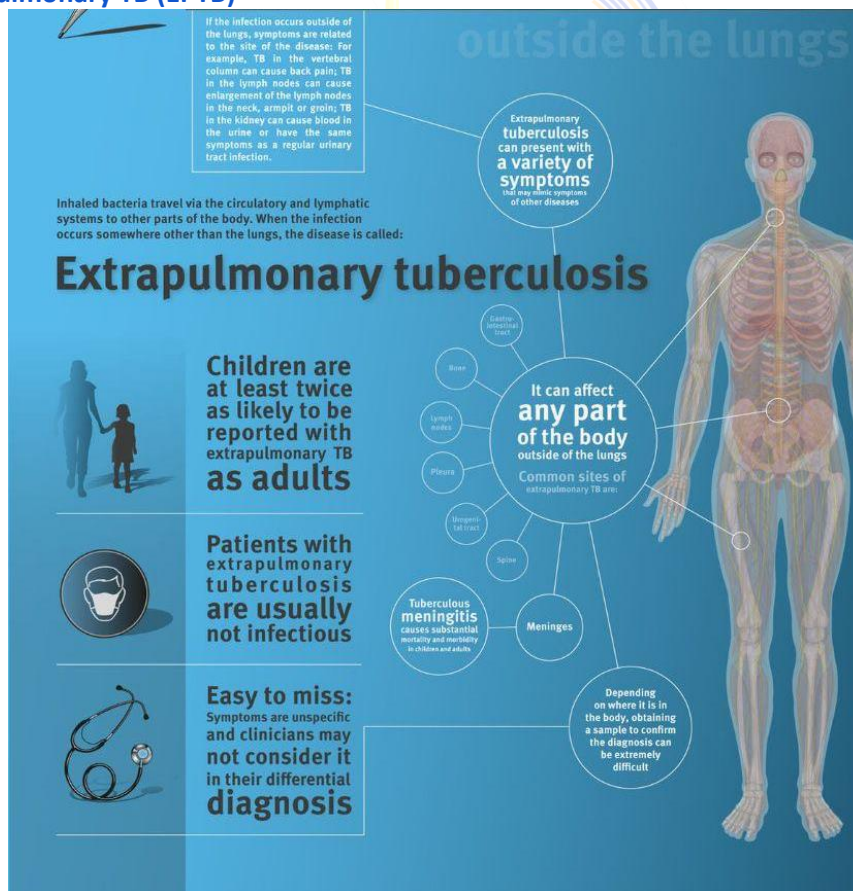
India's winding road to '#EndTB'

Context

In the year 2024, tuberculosis (TB) emerged as the leading infectious disease killer globally.

About Tuberculosis (TB)

- It is a **bacterial infection** spread through **inhaling tiny droplets from the coughs or sneezes of an infected person.**
  - TB is caused by a bacterium called **Mycobacterium tuberculosis**, belonging to the Mycobacteriaceae family.
- **Transmission:** TB spreads from person to person through the air.
- **Tests:** Truenat MTB Test, CBNAAT Test etc.
- **Types:**
  - **Pulmonary TB**: Affects the lungs
  - **Extra-Pulmonary TB:** Affects other organs.
- TB is a treatable and curable disease.
- **Treatment:**
  - **Vaccine:** Currently, Bacille Calmette-Guérin (BCG) is the only licensed vaccine available for the prevention of TB.
  - **Major drugs (4):** Isoniazid (INH), Rifampicin, Pyrazinamide & Ethambutol.

About ExtraPulmonary TB (EPTB)

Types of Drug Resistant TB
● **Drug-Resistant TB (DR-TB):** Caused by TB bacteria that are **resistant to at least one of the TB medicines** (isoniazid or rifampin) used in treatment regimens
● **Multidrug Resistant TB:** Caused by bacteria that are resistant to at least two of the first-line TB drugs: (isoniazid and rifampicin)
● **Extensively drug-resistant tuberculosis (XDR-TB):** People who are resistant to **isoniazid** and **rifampicin,** plus any fluoroquinolone and at least one of three injectable second-line drugs (amikacin, kanamycin, capreomycin) are said to have XDR-TB.

Facts
● According to the **World Health Organization's Global Tuberculosis Report 2024**, **India** continues to **lead in the global TB burden (26% of cases)** and is also the **hub for drug-resistant TB (DR-TB)** and TB deaths.
● The **End TB** targets set by the World Health Organization (WHO) were:
  ○ 90% reduction in TB deaths,
  ○ 80% reduction in new cases, and
  ○ Zero TB-affected families facing catastrophic costs by 2030.
● The burden of EPTB is high, ranging from 15– 20% of all TB cases in HIV-negative patients, while in HIV-positive people it accounts for 40–50% of new TB cases.

Situations Leading to TB
● **Undernutrition and Poverty**: Malnutrition weakens immunity, increasing vulnerability to TB, especially among low-income groups.
● **Occupational Hazards**: Workers exposed to fine dust, like miners and stone carvers, face higher TB risks due to lung damage (e.g., silicosis).
● **Overcrowding and Poor Living Conditions**: Urban slums and prisons, with poor ventilation, facilitate TB transmission.
● **Comorbidities**: Diabetes, HIV/AIDS, and smoking increase susceptibility.
● **Migrant Workers**: Limited access to continuous healthcare disrupts treatment.
● **Delayed Diagnosis**: Vague symptoms of extrapulmonary TB lead to late or missed diagnoses.

Challenges in Implementing National Tuberculosis Elimination Programme (NTEP)
● **Drug Shortages**: Frequent breaks in the supply chain disrupt treatment and risk antibiotic resistance.
● **Inadequate Infrastructure**: CBNAAT and Truenat machines are unavailable in many areas, particularly rural regions.
● **Shortage of Trained Human Resources**: Staff shortages, heavy workloads, and inadequate training impede timely diagnoses and care.
● **Focus on Pulmonary TB**: Extrapulmonary TB is underdiagnosed due to lack of awareness and screening.
● **Private Sector Non-Participation**: Reluctance of private practitioners to notify cases hampers data accuracy and disease control.
● **Limited Multisectoral Coordination**: Addressing underlying issues like undernutrition and housing requires cross-sector collaboration.

Way Forward
● **Strengthen Supply Chains**: Ensure consistent availability of TB drugs and testing cartridges.
● **Decentralize Diagnostics**: Expand CBNAAT/Truenat access to primary healthcare levels and ensure trained staff availability.

- **Capacity Building**: Train general practitioners and frontline workers to recognize and treat both pulmonary and extrapulmonary TB.
- **Community Participation**: Replicate successful models like Idukki's Kudumbashree initiative to enhance awareness and participation.
- **Active Case Finding**: Target high-risk groups, learning from Vietnam's proactive TB detection strategies.
- **Political Advocacy and Funding**: Ensure high-level political commitment for resource allocation and cross-learning from global best practices.

Source: The Hindu: India's winding road to '#EndTB'

H-1B Visa: Arguments

Context

During a White House news conference, US President Donald Trump voiced his support for the H-1B visa program.

What are the Arguments Against The Program?

● **Displacement of American Workers**: H-1B visas are often used to replace American workers with cheaper labor, contradicting claims of a "STEM crisis."
    ○ Instances of mass layoffs of American workers while H-1B workers are retained or hired have been widely reported.
● **Systemic Loopholes**: Corporations exploit the program's flaws, such as lax prevailing wage rules and a lack of strict skill verification, allowing misuse of visas for low-skill or entry-level positions.
    ○ The law favors large corporations, enabling them to legally underpay workers and avoid accountability.
● **Myth of the "Best and Brightest"**: The widespread practice of falsifying resumes and conducting proxy interviews undermines the claim that H-1B workers are the most skilled or talented.
    ○ Many H-1B workers lack the expertise required for their roles, calling into question the program's merit-based premise.

What are the Arguments in Favor of the Program?

● **Addressing Skill Shortages in Advanced Economies**: The H-1B program allows countries like the US to attract high-skilled foreign workers in specialized fields such as technology, engineering, and finance, addressing skill gaps that cannot be met domestically.
● **Boosting Innovation and Economic Growth**: High-skilled immigrants contribute significantly to innovation, including patents, research, and development.
    ○ Many H-1B workers have been instrumental in driving technological advancements and fostering entrepreneurship in host countries.
● **Mutual Benefits for Sending and Host Countries**:For the sending countries (e.g., India), the program leads to "brain gain" when workers return with enhanced skills and expertise.
    ○ For host countries, H-1B workers bring valuable skills and knowledge, enhancing productivity and global competitiveness.
● **Support for the IT and STEM Sectors**: The US IT boom, supported by H-1B workers, led to an increase in STEM education and skill development globally.
    ○ Many Indian students, for example, were inspired to acquire computer science and engineering skills due to the demand for H-1B professionals.
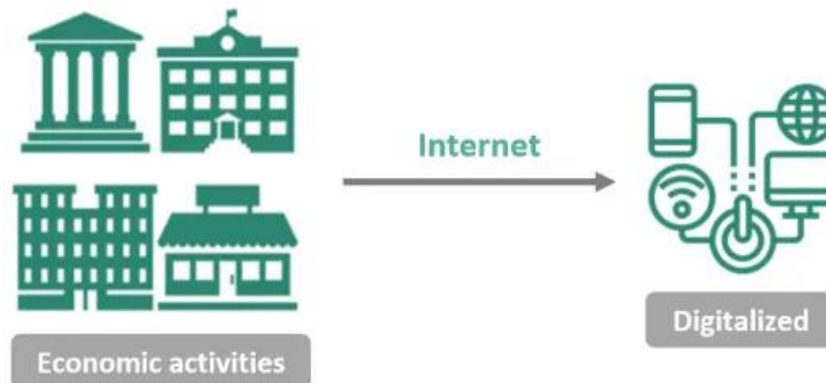
Source: Indian Express: Agree/Disagree

Detailed Coverage

India's Digital Economy

Context

India's digital economy is projected to grow at twice the pace of the overall economy and constitute 13.42% of national income by 2024-25, compared to 11.74% in 2022-23, as per an Indian Council for Research on International Economic Relations (ICRIER) report.

What is meant by the Digital Economy?

- The digital economy refers to the economic activities that are driven by digital technologies (internet and mobile technologies.)
- **Key components**:
  - **E-business Infrastructure**: This includes hardware, software, telecommunications, and networks that facilitate online business operations.
  - **E-commerce:** The buying and selling of goods and services over the internet.
  - **Data Utilization**: Leveraging big data to gain insights into consumer behavior and improve decision-making processes.

Characteristics of the Digital Economy

- **24/7 Availability:** The digital economy operates continuously without time constraints, enabling businesses to serve customers anytime, anywhere.
- **Data-Centric:** Data is a core element of the digital economy, used by businesses to make informed decisions, target specific audiences, and develop innovative products and services.
- **Internet-Driven:** The foundation of the digital economy is the internet, which allows businesses to expand into new markets and connect with customers globally.
- **Rapid Pace:** The digital economy thrives on speed, with businesses adopting advanced technologies and innovations to enhance customer experiences and streamline operations.
- **Global Accessibility:** Geographical boundaries do not limit the digital economy. It enables businesses to connect and expand their reach to customers worldwide.
- **Intense Competition:** The digital economy fosters a highly competitive environment, offering customers a wide array of choices, compelling businesses to stand out with unique and appealing offerings.

What are the Challenges Associated?
- **Regulatory Environment:** Frequent changes in regulations and policies can create uncertainty, affecting both domestic and foreign companies operating in the digital space.
  - **E.g.**, Digital Personal Data Protection (DPDP) Act, enacted in August 2023, aims to safeguard personal data but also introduces new compliance requirements for businesses.
- **Infrastructure Development:** Slow and delayed infrastructure development, particularly in rural areas, such as **unreliable electricity supply and the high cost of setting up broadband networks** in sparsely populated regions pose substantial obstacles to expanding digital services nationwide.
- **Competition and Market Fragmentation:** India's digital market is highly competitive and fragmented, with numerous innovative startups vying for market share.
  - Additionally, the **dominance of large players** in certain sectors may stifle competition and limit opportunities for smaller enterprises.
    - **E.g**., Phonepe and Google control over 85% of the UPI market.
- **Digital Divide**: Urban regions benefit from advanced digital infrastructure, while rural areas often lack reliable internet access and digital literacy.
  - **E.g.,** According to the latest National Sample Survey Office (NSSO) data, only 24% of rural Indian households have access to the internet, compared to a 66% penetration in cities.
- **Cybersecurity Threats:** The surge in digital transactions and online services has heightened vulnerability to cyber threats, including hacking, data breaches, and identity theft.
  - **E.g.,** India ranks 5th globally in terms of cyberattacks, with over 500 million data breaches reported in 2023 alone.

Strategies to Strengthen the Digital Economy in India
- **Bridging the Digital Divide:** Expand initiatives like BharatNet to enhance rural connectivity and improve digital literacy, fostering inclusive growth.

○ Integrate digital skills into education, as emphasized by the Kasturirangan Committee, to prepare a workforce ready for the digital future.
○ **Example**: *Khetri Digital Gaon Panchayat*, which provides free WiFi access, e-commerce training, and digital literacy programs to rural citizens.
● **Strengthening Cybersecurity:** Implement recommendations from the *National Cyber Security Policy 2020* to improve cyber infrastructure and counteract rising threats.
● **Boosting Digital Infrastructure:** Promote public-private partnerships (PPPs) to upgrade critical infrastructure, including 5G networks and modern data centers.
○ Ensure sustainable growth of digital infrastructure to support the expanding economy.

Source: **The Hindu: Digital Economy to Constitute fifth of India's Economy by 2030: ICRIER Report**