

NEWS TODAY

Case registered against alleged Deepfake Video of the Union Home Minister in Maharashtra

- **Deepfakes** refer to **synthetic media**, usually images and videos created using AI and **deep learning techniques**.
 - ⊖ It is a combination of "**deep learning**" (a subset of machine learning that involves neural networks with multiple layers) and "fake."
- **How Deepfakes work?**
 - ⊖ It uses **Generative Adversarial Networks (GANs)** to analyze and synthesize audio and visual content.
 - ⊖ GANs consist of **two parts** –
 - ◆ **Generator**, which creates fake content, like a video or audio clip.
 - ◆ **Discriminator**, which attempts to distinguish the fake content from the real one.
- **Applications of Deepfakes:** Natural and accurate dubbing in movies and TV shows, training simulations in fields, such as medicine, aviation, etc., to help professionals improve their skills and decision-making abilities, etc.
- **Issues associated with Deepfakes**
 - ⊖ **Political Manipulation:** Significant threat to the integrity of democratic processes by spreading misinformation, defaming public figures, etc.
 - ⊖ **Weaponization against women:** Revenge pornography, impersonation and defamation, online harassment, etc.
 - ⊖ **Security Risks:** Can be used to deceive security systems, such as facial recognition or voice authentication.
 - ⊖ **Legal Issues:** Fabrication of evidences, violation of intellectual property, consent, etc.
 - ⊖ **Ethical Issues:** Manipulation, disinformation, erosion of trust, etc.

Measures to counter Deepfakes

In India

- **Section 66D of the Information Technology (IT) Act, 2000** provides for punishment for cheating by impersonation using any communication device.
- **Rules 3(1)(b) and Rule 3(2)(b) of Information Technology (Intermediary Guidelines and Digital Media Ethics Code) Rules, 2021** mandates social media intermediaries to observe due diligence to not host content that is obscene, deceives or misleads the addressee, etc.

At Global level

- **Bletchley Declaration:** To comprehensively and collaboratively address the risks and responsibilities involved in AI by concentrating more on fostering scientific cooperation.

Doctors educated at the expense of the poor cannot shy away from serving them: Madras High Court

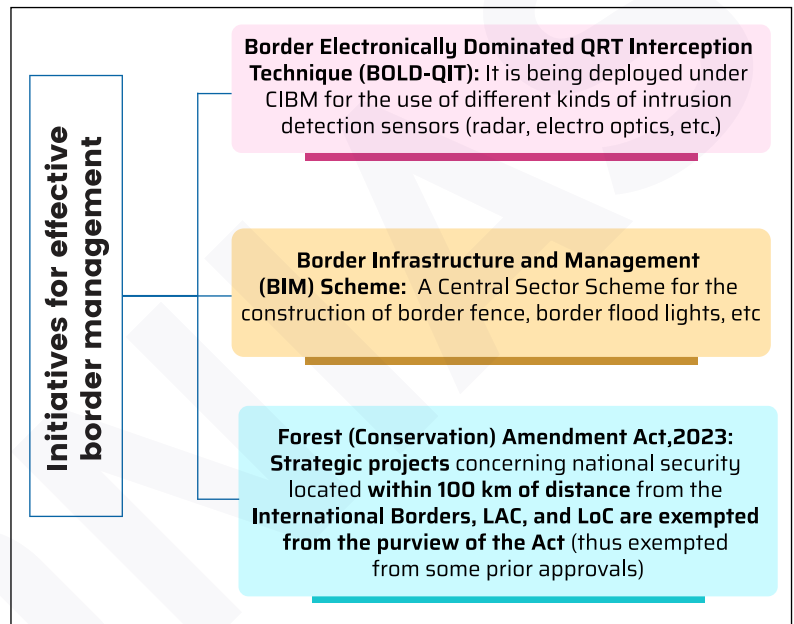
- High Court was hearing a writ petitions filed by doctors to waive service bond period.
 - ⊖ **Service bond** is an agreement between medical students and government which **requires doctors to work in a specific area or public healthcare facilities for a specified period**.
- **Need of Service bonds**
 - ⊖ **Uneven distribution of healthcare workforce:** It can **ensure social justice and health equity** in underserved areas.
 - ⊖ **Reciprocity:** These are a way to ensure that taxpayers' money is utilized effectively by requiring the healthcare professionals to serve in the public healthcare system.
- **Ethical issues with compulsory service bond**
 - ⊖ **Infringement of fundamental rights under Article 19(1)(g)** [Right to practice any profession or to carry on any occupation, trade or business].
 - ⊖ **Quality of care:** Forced obligations could impact motivation, job satisfaction, and overall performance, potentially compromising the quality of care.
 - ⊖ **Brain drain:** Stringent bonds may discourage talented individuals from pursuing careers in healthcare, exacerbating the existing shortage of healthcare professionals.
 - ⊖ **Discrimination and inequality:** It may disproportionately affect healthcare professionals from underprivileged backgrounds or those who cannot afford to pay the penalty for non-compliance.

Way Forward

- **Voluntary participation:** Voluntary opt-in system could be implemented where healthcare professionals willingly choose to serve in underserved areas in exchange for incentives such as education subsidies.
- **Adequate compensation and incentives:** Service bonds can be accompanied by attractive compensation packages, including competitive salaries, housing allowances.
- **Targeted recruitment and training:** Initiatives could be taken to recruit and train healthcare professionals from underserved areas.
- **Flexible models:** Such as shorter service periods, rotational assignments, combination of urban and rural postings, etc.

Assam Rifles (AR) seizes heavy-calibre, military-grade weapons near Indo-Myanmar border

- This recovery is a **significant success** for AR's in its **efforts to seal the porous Indo-Myanmar border** to prevent destabilising activities
- **Porous border issues in India**
 - ⊕ **Porous border** refers to border areas **not protected enough to stop people going through**. It could be both open (unfenced) and closed (fenced)
 - ◆ India has **open borders with Nepal, Bhutan and Myanmar** which facilitates cross-border movement of people (India aims to completely fence its border with Myanmar).
 - ◆ **India also shares porous border issues with Pakistan, Bangladesh and China.**
 - ⊕ Such border poses a **threat to national security** by **facilitating cross-border terrorism, illegal migration, smuggling and trafficking**.
 - ◆ For example, borders along **Myanmar and Pakistan** are pivotal routes for drug trafficking due to its proximity with **Golden Triangle** (Myanmar, Thailand and Laos), and **Golden Crescent** (Iran, Afghanistan and Pakistan).
- **Challenges in sealing porous borders**
 - ⊕ **Natural causes: Rugged terrain** including marshy land, riverine borders, and **extreme climatic** conditions for example, in Siachen Glacier.
 - ⊕ **Lack of demarcation:** Some of India's borders with its neighbours are disputed and therefore are not demarcated.
 - ⊕ **People-to-people connect:** For example, between India and Myanmar **Free Movement Regime (FMR)** allows people living on either side of the border to **travel up to 16 km inside each other's country without a visa** (suspended by India recently).



Parties to the UNFCCC have made new submissions for the NCQG under Paris Agreement

- New Collective Quantified Goal on Climate Finance (NCQG) was proposed in COP21 for setting **post-2025 climate finance goal (new goal)**.
 - ⊕ In 2009 parties to UNFCCC had decided to mobilise **\$100 billion annually** by 2020 which was **subsequently extended to 2025**.
 - ⊕ However, this target is **yet to be achieved reflecting significant shortfalls in it**.
- NCQG proposes to **raise the floor on climate finance** above the **current \$100 billion annual target** while also **addressing key shortcomings in the current climate financing mechanism by:**
 - ⊕ **Setting both qualified and quantified targets** in line with needs;
 - ⊕ **Agreeing suitable modalities** for financing mitigation, adaptation and loss and damage; and
 - ⊕ **Building deeper levels of accountability and transparency** into the goal.
- **Issues associated with the target of mobilising \$100 billion annually**
 - ⊕ **Distributional imbalance:** Between 2011 and 2020, 80% of global climate finance was focused in OECD countries and the East Asia Pacific region, revealing a significant geographical concentration of funds.
 - ⊕ **Overemphasis on financing of mitigation:** Adaptation made up only about 8% of the total climate financing in 2019-2020)
 - ⊕ **Nature of Climate Finance:** Nearly 94% of existing climate investment is either through either debt or equity (return seeking).

Paris Agreement (2015) on Climate Financing

- Article 9 of the Paris Agreement stipulates that **developed country Parties** shall provide **financial resources to assist developing country Parties** with respect to both mitigation and adaptation in continuation of their existing obligations under the Convention.

A decade of Street Vendors (Protection of Livelihood and Regulation of Street Vending) Act, 2014

- The act aims to safeguard the rights of Street Vendors and regulate their activities in urban areas.
 - ⊕ There are more than 50 Lakhs Street Vendors in India, with the most from Uttar Pradesh (~8.5 Lakhs)
- Key Provisions of the Act
 - ⊕ Town Vending Committees (TVC) are to be established in each Local Authority.
 - ⊕ Survey of the Street Vendors, at least once in every five years.
 - ◆ Enables the issuance of Certificate of Vending to the identified vendors.
 - ⊕ A Ceiling limit of 2.5% of the population in a respective area is set for accommodating the vendors.
- Challenges in functioning of the act
 - ⊕ Administrative: Increase in harassment and evictions of Street Vendors despite the emphasis on regulating the Street vendors.
 - ⊕ Governance: Exclusion of Street vendors as Stakeholders in City planning and they are not consulted in formulation of the street vending plan.
 - ⊕ Societal: Social stigma around the street vendors as obstacles to urban development.
- Way Forward
 - ⊕ Sensitize police and local body officials to avoid excessive actions.
 - ⊕ Ensuring adequate representation and integration of Street vending activities in Urban planning.
 - ⊕ Revision of the ceiling on number of vendors in consonance with the population of the city.

Public investment a key driver for India, making it the world's fastest growing major economy: IMF

- Public investment usually refers to **gross fixed capital formation** (total value of acquisitions, less disposals, of fixed assets) **by the state**, whether through central or local governments or publicly owned industries or corporations.
- It encompasses **physical or tangible investment** in infrastructure (such as transport, telecommunications, and buildings), but in a broader sense, it can include **human or intangible investment** in education, skills, and knowledge.
- Impact of public investment on economic growth
 - ⊕ Enhances demand: Stimulates economic activity through short-term effects on aggregate demand,
 - ⊕ Raises productivity: Better infrastructures and human capital can enhance the productivity of the economy.
 - ⊕ Attracts private investment: Encourages new private investment to take advantage of the higher productivity it creates. These further increases economic growth.
- However, the positive relationship between public investment and growth could turn negative once public capital starts crowding out private investment.
 - ⊕ The term "crowding out" refers to a phenomenon where increased government spending funded by higher taxes and enhanced borrowing reduces private sector income and loan demand (due to a rise in interest rates).

Some Key initiatives by India for enhancing Public investment

- Most of the sectors are open for 100% cent FDI under the automatic route
- PM Gati Shakti National Master Plan (NMP) for providing multimodal connectivity infrastructure to various economic zones.
- National Monetisation Pipeline for tapping private sector investment for new infrastructure creation.
- Reducing compliance burden on citizen and business activities.

Also in News



TacticAI

- Google's Deepmind has developed TacticAI that can provide experts with tactical insights in Football.
- About TacticAI
 - ⊕ The AI predicts the outcome of Corner kicks, using "Geometric deep learning approach" to create more generalisable models on the field.
 - ⊕ It helps in Identifying key patterns of tactics implemented by teams, and developing effective responses with tactical insights.
- About Geometric Deep Learning
 - ⊕ A specialised area of machine learning.
 - ⊕ Focuses on developing algorithms and models to process and analyse data with a geometric structure like graphs, point clouds, and meshes etc.



Front Running

- SEBI has amended mutual fund norms, requiring Asset Management Companies to establish mechanisms to prevent front running.
- About Front Running:
 - ⊕ Front Running in the stock market occurs when a broker or trader acts on advance information about client orders to execute their own trades first.
 - ⊕ This anticipatory trading, based on non-public knowledge of upcoming transactions, aims to profit from the resulting price movement.
 - ⊕ It is an unethical activity which disrupts market fairness and can be illegal.
 - ⊕ It undermines confidence in the financial markets and creates an uneven playing field for other investors.



Blood Minerals

- ▶ Apple faces allegations of using 'blood minerals' from war-torn Democratic Republic of the Congo (DRC).
- ▶ Blood minerals, also known as conflict minerals, are minerals that are **mined in areas where violence, human rights violations, and conflict are intertwined with their extraction.**
- ▶ The extraction and trade of these minerals have been linked to **funding armed groups and fueling conflicts** in several countries in Central Africa.
- ▶ **Tantalum, tin, tungsten, and gold (3TG)** are major examples of blood minerals.



Eggshell skull Principle

- ▶ Supreme Court has rejected the application of 'eggshell skull' rule in a case.
- ▶ **About Eggshell skull principle:**
 - ⊕ It is a common law principle applied in **civil litigation.**
 - ⊕ Principle: The **defendant would be held responsible for injuries caused to a person when he hit him on the head**, even if the victim had a particularly delicate skull or an 'eggshell' for a skull.
 - ⊕ The rule is applied for **claiming an enhanced compensation**



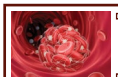
Paradox of thrift (PoT) Theory

- ▶ This Economic theory was popularised by British economist **John Maynard Keynes.**
- ▶ **About PoT**
 - ⊕ A rise in individuals' savings, by reducing the amount of money spent on goods and services, can cause a fall in overall savings and investments.
 - ⊕ It believes that **higher savings is bad for the wider economy** and an economy can grow only by boosting consumer spending.
- ▶ **Criticisms of PoT**
 - ⊕ It ignores the potential for saved income to be lent out by banks.
 - ⊕ It also **ignores the potential of inflation and deflation** in an economy.



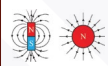
Re-polling

- ▶ Election Commission of India conducted re-polling for the ongoing Lok Sabha General Elections in various polling stations of Manipur and Arunachal Pradesh.
- ▶ **Provisions related to Re-polling under Representation of the People Act (RPA), 1951**
 - ⊕ **Circumstances under which re-polling is needed**
 - ◆ **Section 57:** On account of natural calamity, violence, etc.
 - ◆ **Section 58(2):** Due to damage or destruction of voting machines.
 - ◆ **Section 58A:** Countermanding of election on account of Booth capturing.
 - ◆ **Section 52:** On account of death of candidate of recognised political party (National party/State party).



Thrombosis with Thrombocytopenia Syndrome (TTS)

- ▶ AstraZeneca for the first time admitted that its COVID-19 vaccine (Covishield) had rare side effects including TTS.
- ▶ **About TTS**
 - ⊕ Also referred to as **Vaccine-induced Immune Thrombotic Thrombocytopenia (VITT).**
 - ⊕ It occurs when a person has **blood clots (thrombosis)** together with a low **platelet count (thrombocytopenia).**
 - ⊕ It is a **rare condition** in which blood clots form in unusual places in the body.
 - ⊕ It can affect a person's brain, abdomen, lungs, arteries, etc.
 - ⊕ **Symptoms** include difficulty in breathing, chest pain, abdominal pain, swelling in leg, etc.



Magnetic monopole

- ▶ Physicists **in the UK** have spotted **signatures of magnetic monopoles** in haematite (a naturally occurring antiferromagnetic iron oxide material).
- ▶ Monopoles refer to **elementary particles** that act as **isolated magnetic north and south poles** and are the **magnetic analogues of electric charges.**
 - ⊕ An **ordinary bar magnet** consists of both north and south pole.
- ▶ It was first predicted in 1931 **Paul Dirac.**

Personality in news



Raja Ravi Varma (29th April 1848- 2nd October 1906)

- ▶ First true copy of the **painting Indulekha** by Raja Ravi Varma was unveiled at Kilimanoor Palace (Kerala) on his birth anniversary.
- ▶ **Contribution:**
 - ⊕ Best known for **uniting Hindu mythological subject matter with European realist historicist painting style.**
 - ⊕ **First Indian artist to use oil paints** (brought to India by the Britishers).
 - ⊕ A pioneer in **using art as a means of social reform.**
- ▶ **Famous paintings:** 'Lady in the Moonlight', 'Stolen Interview', 'Shakuntala'
- ▶ **Awards:**
 - ⊕ His painting '**Hamsa Damayanti**', which depicts the story of King Nala and Damayanti from Mahabharata won the **first prize at Vienna Exhibition in 1873.**
 - ⊕ British government awarded him with **Kaiser-i-Hind Gold Medal in 1904.**
- ▶ **Values:** Nationalism, Compassion, tolerance, etc.

