

FWD

FORTUNE WEEKLY DIGEST



> FCRA ISSUE

> ARTEMIS II

> WTO AND ITS RELEVANCE

30th MARCH, 2025 - 05th APRIL, 2026

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EDITOR'S NOTE

As UPSC aspirants, it is essential to stay updated on current affairs to excel in the examination. This **Fortune Weekly Digest (ForWard)** brings you the latest news and developments from around the world, carefully curated and analyzed to help you prepare for the Civil Services (Main) Examination.

We understand that time is precious, and we have made sure to present the information in a concise and easy-to-understand manner.

The magazine is divided into different sections. Mains relevant topics have been covered in detail with a UPSC previous year question perspective. The jot downs are examples and interesting facts to enrich your answer writing. Cherrypicks has some key words from the week, helpful again in answer writing and essay. We have also included essay topics and sample questions to help you gauge your preparation.

We have designed this magazine to best supplement the daily current affairs notes we have launched by the name of **FIND (Fortune IAS News Daily)** and **FINDER (Fortune IAS News Daily Explainer)** and the **Fortune Prelims Precise** monthly compilation. This magazine will be explained in detail and your queries addressed in a live class we conduct.

At a time when there is no dearth of current affairs materials, our hope is help you get a one-stop solution for all your current affairs needs.

This magazine is a work in progress and your feedback will be appreciated.

We hope that this magazine will serve as a valuable resource for your exam preparation and contribute to your success in the UPSC examination.

I N D E X

ARTEMIS II	1
WTO AND ITS RELEVANCE	4
FCRA ISSUE	7
INS ARIDHAMAN AND INDIA'S NUCLEAR DETERRENCE ARCHITECTURE	10
WEEKLY DOSSIERS	13
BEYOND VERDICTS: KEY JUDICIAL INTERVENTIONS	16
ETHICS - CASE STUDY	17
ETHICS - EXAMPLES	17
MODEL ESSAY	18
MAINS JOT DOWN	19
CHERRYPICKS OF THE WEEK	20

FIRST ATTEMPT TOPPERS FROM
OUR PRELIMS CUM MAINS BATCH

KASTURI SHA
AIR 68

MANJIMA P
AIR 235

FABI RASHEED
AIR 71

SWATHI S BABU
AIR 522

OORMILA J S
AIR 561

W O M E N I N P O W E R

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ARTEMIS II

Syllabus: GS III - Awareness in the fields of IT, Space, Computers, robotics, nano-technology

PYQ MAPPING

Q) What is the main task of India's third moon mission which could not be achieved in its earlier mission? List the countries that have achieved this task. Introduce the subsystems in the spacecraft launched and explain the role of the Virtual Launch Control Centre' at the Vikram Sarabhai Space Centre which contributed to the successful launch from Sriharikota. **(2023)**

Q) India has achieved remarkable successes in unmanned space missions including the Chandrayaan and Mars Orbiter Mission, but has not ventured into manned space mission. What are the main obstacles to launching a manned space mission, both in terms of technology and logistics? Examine critically. **(2017)**

Q) Discuss India's achievements in the field of Space Science and Technology. How has the application of this technology helped India in its socio-economic development? **(2017)**

WHY IN NEWS

The Artemis II is in the news as its **four-person crew successfully completed a historic lunar flyby on April 6, 2026**, marking the first human mission to the Moon in over 50 years since Apollo 17.

INTRODUCTION

The Artemis II mission, launched in April 2026, marks the **first crewed journey to the Moon's vicinity in over five decades**, signalling a renewed era of human deep-space exploration. It serves as a critical step in NASA's Artemis programme aimed at establishing a sustained human presence on the Moon and enabling future missions to Mars.

SHORT TAKES

➤ Artemis Accords:

- The Artemis Accords were launched on October 13, 2020, **by NASA and the U.S.** as a framework for civil space cooperation
- **Founding Members** are Australia, Canada, Italy, Japan, Luxembourg, UAE, UK, and the USA.
- The Accords aim to promote **peaceful, transparent, and responsible exploration of the Moon, Mars, and beyond.**
- As of **early 2026, Oman became the 61st country** to have signed the Accords.
- India **signed it in 2023**, marking a major step in its space diplomacy and collaboration with NASA.
- They are **non-binding** and are based on international space law, especially the **1967 Outer Space Treaty**, reinforcing norms rather than creating new legal obligations.

The Apollo Programme: Humanity's Giant Leap

Initiated in 1961 by John F. Kennedy, the Apollo Programme was a landmark series of NASA missions aimed at landing humans on the Moon. Between 1968 and 1972, the programme pushed the boundaries of technology and science, successfully landing 12 astronauts on the lunar surface.

The 1968-1972 Mission Window
NASA conducted 11 crewed missions, with six achieving the ultimate goal of landing.

The Apollo 11 Milestone
Neil Armstrong and Buzz Aldrin took the first human steps on the Moon.

The Saturn V Powerhouse
The programme utilized the Saturn V, still one of the world's most powerful rockets.

Engineering & Scientific Legacy
382kg of Lunar Samples
Astronauts collected rocks and soil that transformed our understanding of lunar geology.

Apollo Programme Metrics

Crewed Missions (Apollo 7-17)	11
Successful Lunar Landings	6
Total Lunar Walkers	12

A \$25.4 Billion Investment
The programme remains one of the most expensive and ambitious scientific projects ever.

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ABOUT THE ARTEMIS PROGRAMME

- ➔ **Programme Objective:** The Artemis programme is a **long-term initiative by NASA to return humans to the Moon and enable sustained exploration beyond Earth orbit.**
- ➔ **Phased Mission Architecture:** It consists of sequential missions
 - » Artemis I (uncrewed)
 - » Artemis II (crewed flyby)
 - » Artemis III (planned landing)
- ➔ **Beyond Apollo Era:** It marks the first human deep-

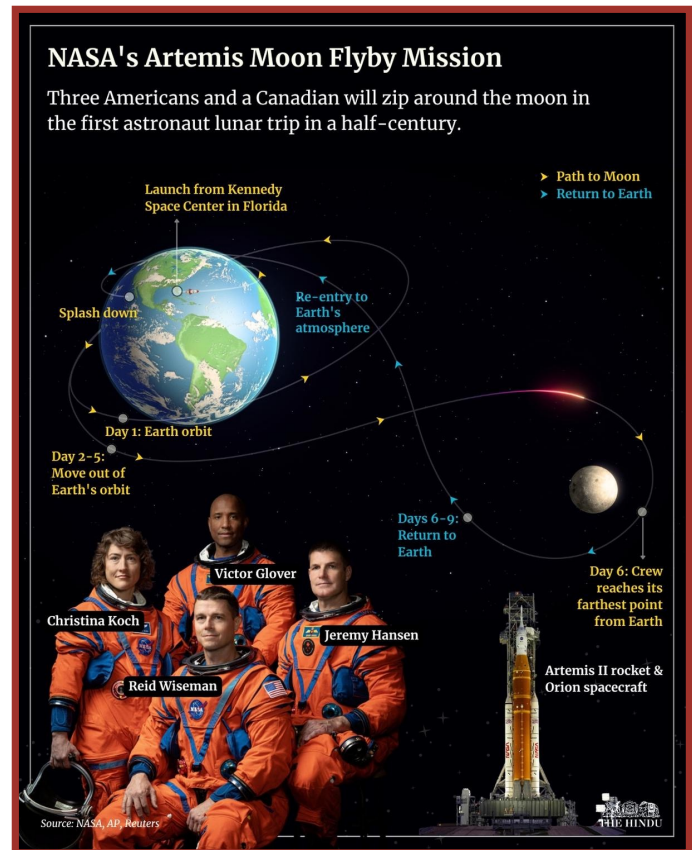
space programme after the **Apollo Program ended in 1972.**

- ➔ **Sustainability Focus:** Unlike Apollo, Artemis aims for a **long-term human presence**, including lunar bases and the Lunar Gateway station.
- ➔ **Economic & Strategic Dimension:** It promotes a **commercial space ecosystem** and strengthens US leadership in the new space race.
- ➔ **International Framework:** Supported by **Artemis Accords**, enabling cooperation among multiple countries.

KEY MISSION FEATURES OF ARTEMIS II

- 🔍 **Launch & Duration:** Successfully launched on **April 1, 2026**, with a mission duration of ~10 days.
- 🔍 **Mission Profile:** Crewed **lunar flyby mission**, not a landing.
- 🔍 **Distance & Trajectory:** Travels over **600,000+ miles** and uses a **free-return trajectory** for safety; returns to Earth for **Pacific splashdown.**
- 🔍 **Record-Breaking Distance:** Reached ~252,000+ miles from Earth, surpassing Apollo-era records.
- 🔍 **Spacecraft System:**
 - o Orion spacecraft — crew module
 - o Space Launch System (SLS) — launch vehicle
- 🔍 **Crew Composition:**
 - o **Reid Wiseman** (Commander, NASA): Previously served as the **Chief of the NASA Astronaut Office.**
 - o **Victor Glover** (Pilot, NASA): First **person of color** to fly on a lunar mission.
 - o **Christina Koch** (Mission Specialist, NASA): First **woman** to fly on a lunar mission.
 - o **Jeremy Hansen** (Mission Specialist, Canadian Space Agency): First **non-American** to ever fly to the Moon.

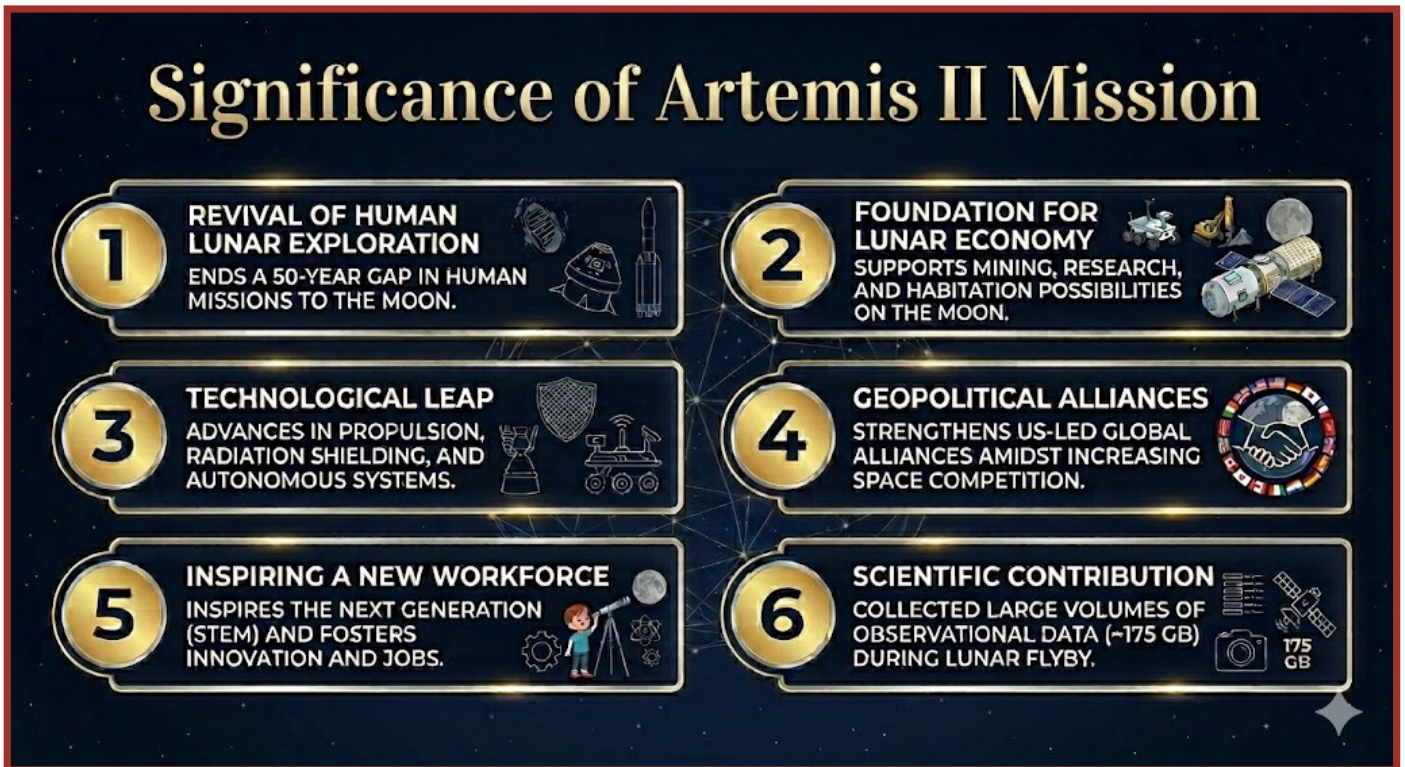
- 🔍 **Operations:** Life-support system checks, manual piloting, communications/navigation testing, physiological monitoring of crew.



OBJECTIVES

- 🌀 **System validation:** Confirm SLS rocket, Orion capsule, and ground teams function together safely.
- 🌀 **Human Deep-Space Capability:** Demonstrate **safe human travel** beyond Low Earth Orbit after decades.
- 🌀 **Scientific Observation:** Enable astronauts to visually study lunar surface features, complementing robotic data.
- 🌀 **Crew Performance Testing:** Study human health, sleep patterns, and adaptability in deep space conditions.
- 🌀 **Mission Rehearsal:** Serve as a **dress rehearsal for Artemis III lunar landing mission.**
- 🌀 **Communication & Navigation Testing:** Validate Deep Space Network and long-distance communication systems.

Significance of Artemis II Mission



CHALLENGES

- ✦ **Technical Risks:** Radiation exposure, life-support reliability, and long-duration human survival.
- ✦ **Space Competition:** Strategic rivalry with China's lunar programme.
- ✦ **Cost Overruns:** Artemis programme faces massive funding requirement; spent ~\$93 billion and each launch costs ~\$2 billion.
- ✦ **Sustainability Issues:** Challenges in maintaining long-term lunar presence and resource utilization.
- ✦ **Delays & Engineering Issues:** Launch delays due to technical issues like fuel leaks and system checks
- ✦ **Policy Uncertainty:** Budget cuts and political changes may affect programme continuity.

WAY FORWARD

- ✦ **Strengthen Global Cooperation:** Expand partnerships under Artemis Accords for shared benefits.
- ✦ **Boost National Capabilities:** Countries like India should invest in human spaceflight and deep-space tech.
- ✦ **Focus on Sustainable Exploration:** Promote in-situ resource utilization (ISRU) and lunar sustainability.
- ✦ **Ensure Peaceful Space Governance:** Develop international norms to prevent militarisation of outer space.
- ✦ **Enhance Private Sector Participation:** Reduce costs through commercial innovation.

CONCLUSION

Artemis II represents a **transformative milestone in validating human capability for deep-space travel while strengthening international cooperation in space exploration**. Its success will lay the foundation for future lunar landings and the sustainable expansion of human activities beyond Earth.

SAMPLE QUESTION

Q) Discuss the significance of the Artemis II mission in the context of human space exploration. How does it pave the way for sustainable lunar presence and future interplanetary missions? **(10 marks) (150 words)**

WTO AND ITS RELEVANCE

Syllabus: GS II - Important International institutions

PYQ MAPPING

Q) What are the key areas of reform if the WTO has to survive in the present context of 'Trade War', especially keeping in mind the interest of India? (2018)

Q) "The broader aims and objectives of WTO are to manage and promote international trade in the era of globalization. But the Doha round of negotiations seem doomed due to differences between the developed and the developing countries." Discuss in the Indian perspective. (2016)

Q) WTO is an important international institution where decisions taken affect countries in a profound manner. What is the mandate of WTO and how binding are their decisions? Critically analyse India's stand on the latest round of talks on Food security. (2014)

WHY IN NEWS

Ngozi Okonjo-Iweala, Director-General of the World Trade Organization, flagged at the **14th WTO Ministerial Conference held in Cameroon** that the global trading system is facing its **worst disruptions in 80 years**, raising concerns over the future of multilateral trade.

INTRODUCTION

The World Trade Organization (WTO), established in 1995, represents the **institutionalisation of a rules-based global trading order** aimed at balancing trade liberalisation with sovereign economic interests. However, its evolving **relevance lies not merely in promoting free trade but in navigating tensions between developed and developing countries** in an increasingly fragmented global economy.

SHORT TAKES

➤ Most-Favoured Nation (MFN):

- It is a WTO principle under which a country must **treat all its trading partners equally**, giving any trade advantage granted to one country to all others.

➤ Special and Differential Treatment (S&DT):

- It is a WTO principle under which **developing countries are given special rights and flexibilities** such as longer implementation

periods and favourable treatment to recognise their development needs.

➤ Peace Clause:

- Agreed at the **WTO Bali Ministerial Conference of 2013**, it is an interim provision under which members agree **not to challenge developing countries' public stockholding/food subsidy programmes in dispute settlement**, even if they exceed subsidy limits, subject to conditions.

HISTORICAL EVOLUTION OF WORLD TRADE ORGANISATION (WTO)

➔ From Bretton Woods Vision to GATT:

- After World War II, countries sought a stable global economic order; while the IMF and World Bank were created, trade was governed by the **General Agreement on Tariffs and Trade (GATT) 1947** as a temporary arrangement.

➔ Limitations of GATT Framework:

- GATT mainly focused on **trade in goods**, lacked institutional structure, and had weak dispute settlement mechanisms, making enforcement difficult.

➔ Uruguay Round (1986–1994):

- The Uruguay Round expanded trade rules to include **services** under **General Agreement on Trade in Services (GATS)** and **intellectual property**

under **Trade-Related Aspects of Intellectual Property Rights (TRIPS)**.

➔ Establishment of WTO (1995):

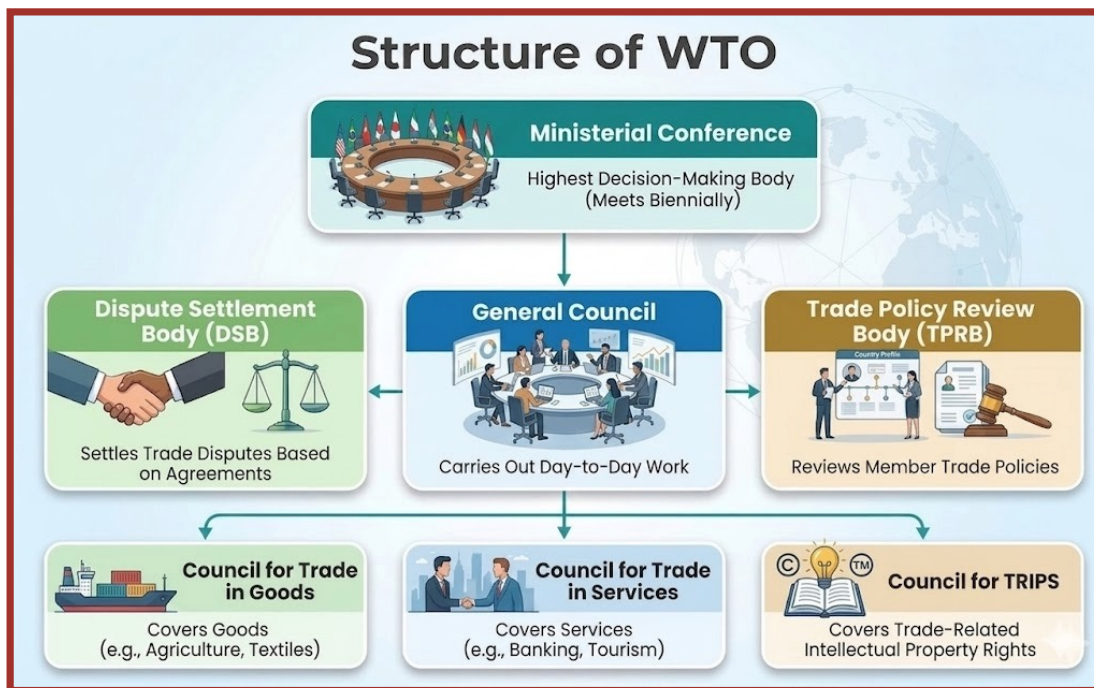
- The World Trade Organization was established on **1 January 1995** under the **Marrakesh Agreement** as a **permanent institution replacing GATT**.

➔ Expansion:

- WTO broadened scope to include **goods, services, and intellectual property**, along with a stronger dispute settlement system, marking a major reform in global trade governance

➔ Membership:

- As of August 2024, the World Trade Organization (WTO) has **166 member states**.



RELEVANCE

- 🌀 **Foundation of Rules-Based Global Trade:** WTO provides a **predictable and rules-based system**, covering about **98% of global trade**, ensuring stability in international commerce.
 - o **Example** The Trade Facilitation Agreement(2017) **standardized customs rules globally**, reducing delays and improving predictability in trade.
- 🌀 **Prevention of Trade Wars:** Through dispute resolution and rules, WTO helps **avoid unilateral trade actions and protectionist conflicts**.
 - o **Example** In the Airbus–Boeing case (2019), the WTO found **illegal subsidies like EU launch aid to Airbus and U.S. tax breaks to Boeing**, and authorized limited retaliatory tariffs, preventing an uncontrolled trade war.
- 🌀 **Facilitating Global Value Chains:** By reducing barriers,
 - o **Example** The Trade Facilitation Agreement(2017) **standardized customs rules globally**, reducing delays and improving predictability in trade.
- 🌀 **Promoting Free and Fair Trade:** It works to **reduce tariffs and trade barriers** while ensuring non-discrimination through principles like Most Favoured Nation (MFN) and National Treatment.
- 🌀 **Support for Developing Countries:** Special provisions like **Special and Differential Treatment (S&DT)** help developing countries integrate into global trade.
- 🌀 **Continued Importance Despite Crisis:** Even today, a large share of global trade still operates under WTO rules, showing its continued systemic relevance.
- 🌀 **Promoting Development and Welfare:** The organisation aims to **raise living standards, create jobs, and support sustainable development**, especially for developing nations.

INDIA AND WTO

🇮🇳 Role:

- o India has been a member of GATT since **1948** and WTO since **1995**, reflecting long-standing engagement with multilateral trade.
- o India plays a key role in coalitions like **G-33**, advocating for **equity and policy space for developing nations**.

🇮🇳 Benefits:

- o WTO membership has helped India **increase exports, attract investment, and integrate into the global economy**.

🇮🇳 Concerns:

- o India has strongly defended public stockholding and **Minimum Support Price (MSP)** policies, even invoking the WTO **“peace clause”** to protect its food subsidies.
- o India opposes making the **moratorium on customs duties on electronic transmissions permanent**, arguing for preservation of policy space.
- o Agreements like **TRIPS** and tariff disputes have posed challenges, including pressure on domestic industries and policy autonomy.

CHALLENGES

- **Dispute Settlement Crisis:** The **Appellate Body paralysis since 2019** has weakened WTO's dispute resolution system, reducing its enforcement capability.
- **Rise of Protectionism:** Major economies increasingly adopt **unilateral tariffs and trade restrictions**, undermining WTO principles.
- **Deadlock in Negotiations:**
 - Developed, developing, and Least Developed Countries (LDCs) hold **conflicting positions on core issues**, leading to limited outcomes in ministerial meetings.
 - Consensus-based system often lead to **slow progress or stalemate**, as countries approach issues from national interest perspectives.
- **Conflict over Special and Differential Treatment (S&DT):** Developed countries seek **stricter criteria or reduction of S&DT benefits**, while developing countries defend it as essential.
- **Transparency and Compliance Issues:** Many members fail to **notify subsidies and trade measures**, creating mistrust in the system.
- **Emerging Issues Not Fully Addressed:** WTO struggles to address **digital trade, e-commerce, climate change, and supply chain disruptions** effectively.

WAY FORWARD

- * **Reforming Dispute Settlement Mechanism:** Restoring a **fully functional Appellate Body** is essential for credibility and enforcement.
- * **Flexible and Inclusive Negotiation Framework:** Move beyond strict consensus to **plurilateral agreements** while ensuring inclusivity of developing nations.
- * **Addressing New-Age Trade Issues:** Develop rules on **digital trade, climate-linked trade measures, and supply chains** to remain relevant.
- * **Strengthening Transparency:** Ensure **timely notification of subsidies and trade measures** to build trust among members.
- * **Balancing Development and Trade Liberalisation:** Protect policy space for developing countries while promoting fair global trade.

CONCLUSION

While the WTO continues to provide the foundational architecture for global trade, its **effectiveness is constrained by institutional paralysis and shifting geopolitical priorities**. Therefore, its future relevance will depend on **meaningful reforms that reconcile equity with efficiency** and restore confidence in multilateral trade governance.

SAMPLE QUESTION

Q) "The relevance of the World Trade Organization is being increasingly questioned in the changing global trade order." Critically examine **(10 marks) (150 words)**

FCRA ISSUE

Syllabus: GS II - Development processes and the development industry, the role of NGOs, SHGs, and various groups

PYQ MAPPING

Q) Examine critically the recent changes in the rules governing foreign funding of NGOs under the Foreign Contribution (Regulation) Act (FCRA), 1976. (2015)

WHY IN NEWS

The Union government deferred discussion on the **Foreign Contribution (Regulation) Amendment Bill, 2026**, introduced in the Lok Sabha on **March 25, 2026**, which seeks to amend the **Foreign Contribution (Regulation) Act, 2010**.

INTRODUCTION

The **Foreign Contribution (Regulation) Act (FCRA)** represents the Indian state's attempt to regulate the intersection of foreign funding, national sovereignty, and civil society functioning. However, the evolving amendments reflect a deeper tension between **security-driven regulation and the autonomy of democratic institutions**.

SHORT TAKES

- **PM CARES Fund:** The **Prime Minister's Citizen Assistance and Relief in Emergency Situations (PM CARES) Fund** is a **public charitable trust set up in 2020** to receive voluntary donations and provide relief during emergencies like the COVID-19 pandemic.

EVOLUTION OF FOREIGN CONTRIBUTION REGULATION ACT (FCRA)

➔ Origin:

- The **Foreign Contribution (Regulation) Act, 1976** was enacted during the Emergency to prevent **foreign influence in India's political system**, especially in elections, media, and public life.
- The law was **repealed and replaced in 2010**, coming into force on **May 1, 2011**.
- It has subsequently been amended in **2016, 2018, and 2020**, reflecting tightening regulatory control over foreign funding.
- The **Ministry of Home Affairs (MHA)** regulates foreign donations to ensure that such inflows do not adversely affect **internal security, national**

interest, and public order.

➔ Transition to stricter regulatory regime:

- The **FCRA Amendment Bill, 2026** represents a further shift towards **state control over foreign-funded assets and activities**, especially in cases of licence cancellation.

➔ Growth and regulation of NGOs:

- Around **16,000 associations** are registered under FCRA, receiving approximately **₹22,000 crore annually**.
- As per recent data, **14,965 NGOs remain active**, while **over 18,000 registrations have been cancelled since 2015**.

KEY PROVISIONS OF FCRA

🌀 Mandatory registration or prior permission:

- Any organisation or individual intending to receive foreign contribution must either **register under FCRA or obtain prior permission from the central government**.
- The certificate is valid for **five years**, and renewal must be applied for **six months before expiry**.

preventing diversion of funds.

🌀 Renewal and cancellation provisions:

- Registered entities must **renew their registration periodically**, and the Central government retains the power to cancel registration on specified grounds.
- In cases of cancellation or surrender of registration, **assets revert to an authority set up under the Act**, ensuring continued oversight.

🌀 Purpose-specific utilisation of funds:

- Foreign contributions must be used **strictly for the purpose for which they were received**, such as social, educational, cultural, or religious activities,

🌀 Prohibition on certain categories:

- The Act prohibits foreign contributions to **election**

candidates, political parties, judges, legislators, and news publishers, among others.

Mandatory designated bank account:

- o All foreign contributions must be received in a **single designated FCRA account in the State Bank of India, New Delhi**, enabling centralised monitoring of inflows.

Prohibition on transfer of foreign funds:

- o The Act prohibits **sub-granting or transfer of foreign contributions to other organisations**, aiming to prevent layered fund flows and misuse.

Mandatory reporting and audit compliance:

- o Organisations must submit **annual returns, audited statements, and utilisation details**, ensuring transparency and accountability.

KEY PROVISIONS OF FCRA AMENDMENT BILL, 2026

Creation of statutory mechanism for asset management:

- o The Bill sets up a **designated authority to take over and manage assets** of NGOs with cancelled/expired licences; assets created from foreign funds can be **taken over, managed, or disposed of**.
- o Such assets may be used for public purposes, transferred to government bodies, or sold, with **proceeds credited to the Consolidated Fund of India**.
- o The authority **can sell immovable property and grant ownership rights**, even if the transferee did not hold the original title.

Enforcement powers of authority:

- o The authority can demand **unrestricted access to accounts, records, premises, and assets**, and require surrender of documents, bank accounts, and valuables.
- o The authority is empowered to function with **powers equivalent to a civil court**.

Expansion of prohibited categories:

- o The Bill extends prohibition to **individuals engaged in news or current affairs activities**, beyond organisations.

Expansion of accountability:

- o The Bill expands the term “key functionary” to include **trustees, partners, karta of Hindu**

Undivided Family, and governing body members, making them liable for FCRA violations.

Time-bound framework:

- o It introduces **fixed timelines for receipt and utilisation of foreign contributions under the ‘prior permission’ category**, replacing earlier open-ended provisions.

Deemed cessation of registration:

- o Registration will automatically lapse in cases of **expiry, non-renewal, or refusal**, removing legal ambiguities regarding NGO status.

Prior government approval for investigation:

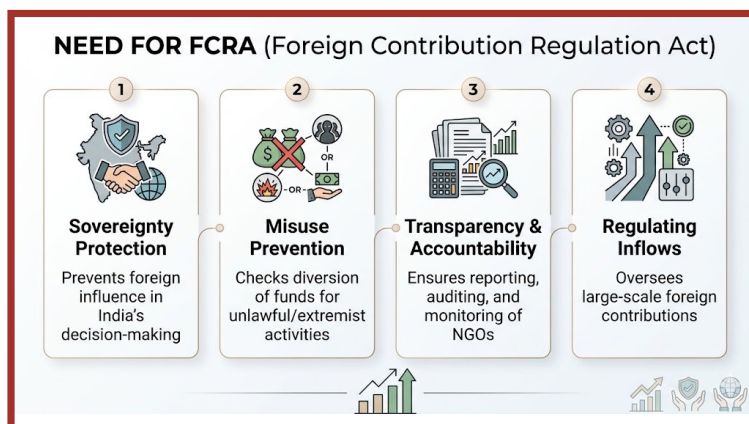
- o Any criminal investigation under FCRA will require **prior approval of the central government**, increasing executive oversight.

Executive powers and exemptions:

- o The central government can **exempt any person or category from provisions of the Act**.
- o It can also **amend provisions through notification in the official Gazette** to address implementation difficulties.

Penal provisions and appeal:

- o The maximum imprisonment is reduced from **five years to one year**.
- o Aggrieved persons can appeal to a **District Judge within 90 days**.



CHALLENGES

- ▼ **Lack of consultation:** The absence of **prior stakeholder consultation** has raised concerns about democratic process and legitimacy.
- ▼ **Excessive centralisation of power:** The increasing role of the central government in **approvals, monitoring, and asset control** raises concerns about over-centralisation.
- ▼ **Impact on minority institutions:**
 - Concerns have been raised about **interference in minority institutions**, especially in States like **Tamil Nadu and Kerala**.
 - Fear of misuse to **seize assets of institutions such as churches**.
- ▼ **Unequal regulatory framework:** Critics highlight that entities like **PM Cares Fund are exempt from FCRA scrutiny**, while NGOs face stringent regulation.
- ▼ **Violation of constitutional principles:**
 - Provisions may conflict with **Article 300A (right to property)** due to expropriation without due process.
 - It also affects **Article 19(1)(c)** (freedom of association).
- ▼ **Impact on development and welfare activities:** Restrictions may affect **delivery of services in sectors like health, education, and rural development**, especially in underserved areas.

WAY FORWARD

- * **Protecting federal principles:** Mechanisms must respect the **role of State governments in enforcement and investigation**, avoiding central overreach.
- * **Ensuring transparency:** Clear, objective criteria for **registration, renewal, and cancellation** should be publicly available.
- * **Encouraging responsible foreign funding:** Rather than restricting inflows, policies should focus on **ensuring ethical and transparent utilisation of funds**.
- * **Ensuring equitable application of law:** All entities receiving foreign contributions should be subject to **uniform standards of transparency and accountability**, avoiding selective exemptions.
- * **Strengthening domestic funding alternatives:** Promoting **CSR funding and domestic philanthropy** can reduce over-dependence on foreign contributions.

CONCLUSION

The trajectory of FCRA reflects a shift from a **regulatory framework to a more control-oriented regime**, raising concerns for participatory democracy and civil society autonomy. **Receiving nearly ₹22,000 crore annually**, the challenge is to ensure accountability of foreign funds without undermining the independence and vibrancy of civil society.

SAMPLE QUESTION

Q) Why was the Foreign Contribution (Regulation) Act introduced? Explain its relevance in the present context. **(10 marks) (150 words)**

INS ARIDHAMAN AND INDIA'S NUCLEAR DETERRENCE ARCHITECTURE

Syllabus: GS III - Defence

PYQ MAPPING

Q) How is the S-400 air defence system technically superior to any other system presently available in the world? (2021)

WHY IN NEWS

India has inducted **INS Aridhaman**, the third Arihant-class **Submersible Ship Ballistic Missile Nuclear (SSBN)**, marking a significant advancement in its maritime nuclear capabilities and reinforcing its strategic deterrence posture.

INTRODUCTION

INS Aridhaman is a **7,000-tonne nuclear-powered ballistic missile submarine (SSBN)**, designed to deliver nuclear weapons from underwater platforms. It is more advanced than its predecessors, INS Arihant and INS Arighaat, in terms of size, endurance, and strike capability. Unlike conventional submarines, SSBNs are powered by nuclear reactors, enabling them to remain submerged for extended durations, thereby enhancing stealth and survivability.

KEY FEATURES AND CAPABILITIES

- ➔ INS Aridhaman has **eight vertical launch tubes**, doubling the missile-carrying capacity compared to INS Arihant
- ➔ It can carry:
 - **K-15 SLBMs (~750 km range)**
 - **K-4 SLBMs (~3,500 km range)**
 - *(K-15 and K-4 are submarine-launched ballistic missiles (SLBMs) carried by India's nuclear submarines, K-15 has a range of about 750 km while K-4 can strike targets up to around 3,500 km, enabling underwater nuclear deterrence.)*
- ➔ It consists of an **83 MW pressurized water reactor** supplied by the Bhabha Atomic Research Centre.
- ➔ Nuclear propulsion ensures:
 - Long endurance
 - Reduced need for surfacing
 - Greater stealth in hostile environments.

STRATEGIC SIGNIFICANCE

- ☀ **Strengthening the Nuclear Triad:**
 - The induction of INS Aridhaman consolidates India's **nuclear triad**, which includes
 - Land-based missiles (e.g., Agni series)
 - Air-delivered nuclear weapons
 - Sea-based deterrent (SSBNs)
 - With three SSBNs, India moves closer to maintaining **continuous at-sea deterrence**, a critical requirement for strategic stability.
- ☀ **Assured Second-Strike Capability:**
 - India adheres to a **No First Use (NFU)** doctrine, which emphasises retaliation rather than pre-emption. SSBNs like INS Aridhaman provide **second-strike capability** because
 - They remain hidden underwater and are difficult to detect
- ➔ **Enhanced Range and Payload:**
 - INS Aridhaman's ability to carry **longer-range K-4 missiles** allows India to target adversaries from safer distances, reducing exposure to anti-submarine warfare systems. Its higher payload capacity also increases operational flexibility.
- ➔ **Strategic Autonomy and Indigenous Capability:**
 - The development of Arihant-class submarines reflects India's progress in indigenous defence manufacturing, involving institutions like the Defence Research and Development Organisation.
 - It reduces dependence on foreign technology and strengthens India's position as a **self-reliant strategic power**.

INDIA'S NUCLEAR TRIAD

India is among a select group of countries possessing a **nuclear triad**, which ensures the ability to deliver nuclear weapons from **land, air, and sea platforms**. This capability was operationalised after the deployment of **INS Arihant**.

What is a Nuclear Triad?

- ☞ A nuclear triad refers to a three-pronged nuclear delivery system comprising
 - **Land-based ballistic missiles**
 - **Air-delivered nuclear weapons**
 - **Sea-based nuclear missiles (submarines)**
- ☞ This structure ensures **survivability, flexibility, and credible deterrence**.

Components of India's Nuclear Triad

- ☞ **Land-Based Component**
 - The land leg is the most developed and forms the backbone of India's deterrence.
 - Includes missiles like the **Agni series**
 - Capable of short to intercontinental ranges
 - Stored in silos or mobile launchers, enhancing survivability
 - This component provides **quick response capability**.
- ☞ **Air-Based Component**
 - The air leg involves aircraft capable of delivering

nuclear payloads.

- Platforms include
 - Rafale
 - Su-30MKI
 - Mirage 2000
- Aircraft offer **flexibility and recallability**, meaning missions can be aborted if needed.
- ☞ **Sea-Based Component**
 - This is the most survivable and strategic leg of the triad.
 - Includes submarines like
 - INS Arihant
 - INS Arighaat
 - INS Aridhaman
 - Equipped with submarine-launched ballistic missiles (SLBMs) such as
 - K-15 and K-4
 - Since submarines remain hidden underwater, they ensure **assured second-strike capability**

Global Strategic Status

- ☞ Possession of a nuclear triad places India alongside major powers like United States, Russia, China, France.
- ☞ However, compared to these countries, India's SSBN fleet is relatively small, and its continuous patrol capability is still evolving.

CHALLENGES AND CONCERNS

▼ Technological Complexity:

- Designing and maintaining nuclear submarines involves advanced engineering, reactor safety, stealth technology, and integration of missile systems.

▼ High Costs and Long Timelines:

- SSBN projects require massive investments and often face delays. Ensuring cost efficiency while maintaining quality remains a challenge.

▼ Command and Control Issues:

- Effective deployment of nuclear submarines

requires

- Secure communication systems
- Strong civilian oversight
- Robust nuclear command authority
- Any gaps may raise risks of miscalculation or accidental escalation.
- ▼ **Limited Fleet Size:**
 - For a credible deterrent, at least one SSBN must always be on patrol. With a small fleet, maintenance cycles can affect operational readiness.

FUTURE PROSPECTS

India is working on:

- o The **S4*** submarine, which will further enhance missile capacity
- o A **nuclear-powered attack submarine (SSN) programme** for conventional naval dominance
- o Improved SLBM systems with longer ranges

WAY FORWARD

* Align with 'Credible Minimum Deterrence' Doctrine:

- o India should expand its SSBN fleet in a calibrated manner, ensuring sufficient capability for deterrence without entering an arms race, in line with its doctrine of minimum but credible nuclear strength.

* Operationalise Continuous At-Sea Deterrence (CASD):

- o Like the practices followed by countries such as the United States and United Kingdom, India should ensure at least one SSBN is always on patrol to guarantee assured second-strike capability.

* Strengthen Nuclear Command Authority (NCA):

- o Improve coordination between civilian leadership and military through robust command-and-

control structures, ensuring strict adherence to the **No First Use (NFU)** doctrine while preventing accidental or unauthorised use.

* Adopt Global Safety and Regulatory Best Practices:

- o Incorporate stringent safety protocols and independent oversight mechanisms, drawing lessons from past global incidents (e.g., submarine accidents), to build a strong nuclear safety culture.

* Develop Integrated Nuclear Infrastructure

Invest in the entire ecosystem, including:

- o Fuel reprocessing
- o Missile development (longer-range SLBMs)
- o Naval bases and maintenance facilities
- o This will help India move towards a **closed fuel cycle and sustainable deterrence capability.**

CONCLUSION

INS Aridhaman represents a crucial step in strengthening India's nuclear deterrence, particularly its **second-strike capability and maritime security**. However, its effectiveness will depend on expanding the fleet, improving technological capabilities, and ensuring robust command-and-control mechanisms. In this sense, it is not just a military asset but a cornerstone of India's **strategic stability and global standing**.

SAMPLE QUESTION

Q) Discuss the significance of INS Aridhaman in India's nuclear triad. What challenges must India address to ensure effective maritime nuclear deterrence? **(15 marks) (250 words)**

WEEKLY DOSSIERS

PROTOTYPE FAST BREEDER REACTOR (PFBR): PROMISE VS PARADOX IN INDIA'S NUCLEAR PROGRAMME

India reached a significant milestone with the commissioning of the **500 MWe Prototype Fast Breeder Reactor (PFBR)** at Kalpakkam. It marks a crucial step in advancing India's long-term nuclear energy strategy, especially the second stage of its three-stage programme.

What is a Fast Breeder Reactor (FBR)?

A Fast Breeder Reactor is designed to produce more fissile material than it consumes. It uses fast neutrons (without moderation) and a mixed fuel of uranium and plutonium. Unlike conventional reactors, it relies on liquid sodium as a coolant, which improves efficiency but introduces safety challenges.

Significance for India

◆ Efficient Fuel Utilisation

- o Fast Breeder Reactors significantly improve fuel efficiency, with utilisation rates of around **10% or more**. They not only consume fuel but also **produce more fissile material (plutonium)** from depleted uranium, thus extending the energy extracted from available resources.

◆ Key Role in Three-Stage Nuclear Programme

- o India's nuclear strategy, designed by Homi J. Bhabha, is based on a three-stage approach
- o First stage uses uranium in PHWRs
- o Second stage uses FBRs to generate more plutonium
- o Third stage aims to utilise thorium
- o FBRs act as a **critical bridge** between uranium-based and thorium-based energy systems.

◆ Energy Security and Resource Optimization

- o India has **limited uranium but abundant thorium reserves**. FBRs allow the country to maximise the use of uranium and generate plutonium required for the eventual thorium cycle. This reduces reliance on imports and enhances long-term **energy independence**.

◆ Closed Fuel Cycle Vision

- o FBRs enable a **closed nuclear fuel cycle**, where spent fuel is reprocessed and reused. This reduces nuclear waste and ensures sustainable use of nuclear materials over long periods.

Global Experience: Lessons of Caution

International experience with FBRs has been mixed and often discouraging. France's Superphénix reactor suffered from low efficiency and frequent shutdowns, while Germany's SNR-300 never became operational due to political opposition. Similarly, Japan's Monju reactor was shut down after a sodium leak and subsequent cover-up. These examples highlight the **technological complexity, high costs, and political sensitivity** associated with FBRs.

Key Concerns

◆ Safety Risks

- o Liquid sodium coolant
 - Highly reactive with **air and water**
 - Leak and fire/explosion risk
- o Faster neutron reactions
 - **Less margin for error** in control systems

◆ Nuclear Proliferation Risk

- o Produces **reactor-grade plutonium**
- o Requires **plutonium reprocessing facilities**
- o Evidence shows
 - Even reactor-grade plutonium can be used in weapons
- o PFBR is **outside International Atomic Energy Agency safeguards**

◆ Governance and Accountability Deficit

- o Dominance of **Department of Atomic Energy (DAE)**
- o Limited
 - Parliamentary scrutiny
 - Judicial oversight
 - Transparency under RTI

- o Tendency to **securitise dissent and restrict information**
- ◆ **Economic & Operational Concerns**
- o History of **cost overruns and project delays**

The Nuclear Paradox

The PFBR represents a paradox. On one side, it promises clean energy, efficient fuel utilization, and long-term sustainability through the thorium cycle. On the other, it raises serious concerns related to safety, proliferation, and lack of accountability. Thus, technological progress coexists with governance challenges.

Way Forward

India must strengthen its nuclear regulatory framework by ensuring greater independence and transparency. Improving safety standards, allowing more public scrutiny, and balancing strategic needs with democratic accountability will be essential for the long-term success of the nuclear programme.

Conclusion

While the PFBR is a major technological achievement, its true success will depend on how effectively India addresses the concerns of safety, transparency, and accountability. Only then can nuclear energy become a reliable pillar of India's sustainable future.

EXCLUSIVE BREASTFEEDING IN INDIA'S URBAN AREAS: ISSUES AND WAY FORWARD

A recent study highlights that **exclusive breastfeeding (first six months)** is lower in India's urban slums (50.1%) compared to non-slum urban areas (55.8%), even though early initiation is higher in slums. This reflects a complex public health challenge.

Importance of Exclusive Breastfeeding

Exclusive breastfeeding for the first six months is critical for child survival and development. It

- ◆ Protects against diarrhoea and respiratory infections
- ◆ Enhances cognitive and motor development
- ◆ Reduces long-term risks of chronic diseases

Studies suggest that proper breastfeeding practices could **prevent a large proportion of child illnesses and save over 8 lakh lives annually**.

Key Findings of the Study

- ◆ While overall breastfeeding practices remain suboptimal
 - o Exclusive breastfeeding is **lower in urban slums**
 - o However, **early initiation (within 1 hour)** is higher in slums than in non-slum areas
- ◆ This indicates that the problem is not just awareness but **continuity and support over time**.

Reasons for Low Exclusive Breastfeeding

- ◆ **Adverse Living Conditions in Slums**

- o Slum environments are characterised by overcrowding, poor sanitation, and lack of clean water. These conditions increase disease burden and can disrupt consistent breastfeeding practices.

◆ Gaps in Health Systems

- o Despite better early initiation in slums, there is inadequate follow-up support from healthcare systems to ensure continued exclusive breastfeeding. In contrast, non-slum areas show weaknesses in **post-delivery support for early initiation**.

◆ Socio-economic and Cultural Factors

- o Breastfeeding practices are shaped by
 - Work conditions, especially lack of maternity support
 - Social norms and stigma
 - Caste and educational disparities
 - Accessibility to healthcare services
- o These factors differ across slum and non-slum populations, requiring tailored interventions.

The Core Issue

- ◆ The issue reflects a **dual gap**
 - o In slums, mothers start breastfeeding early but struggle to sustain it
 - o In non-slum areas, initiation itself is delayed

Thus, the challenge is **structural, not merely behavioural**.

Way Forward

- ◆ Strengthen **community-level health support**, especially in slums
- ◆ Improve **postnatal care and counselling services**
- ◆ Provide **workplace support and maternity benefits**
- ◆ Design **location-specific policies**, recognising diverse

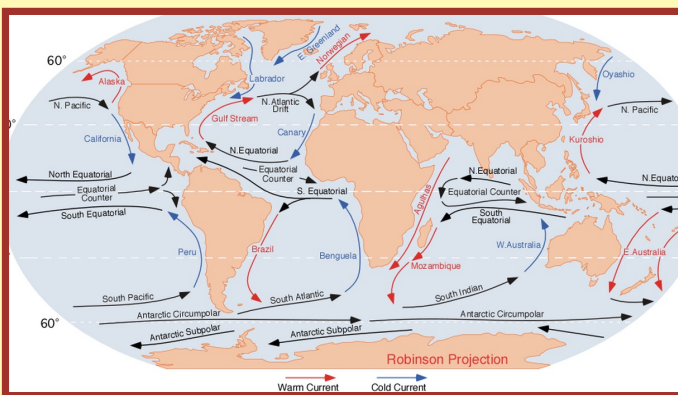
urban realities

- ◆ Integrate breastfeeding promotion with **nutrition and sanitation programmes**

Conclusion

Breastfeeding practices in India's urban areas remain suboptimal due to systemic and social constraints. Addressing this requires **targeted, context-sensitive policy interventions** rather than a one-size-fits-all approach.

OCEAN CURRENTS



Ocean currents are continuous movements of seawater that play a crucial role in regulating Earth's climate, marine ecosystems, and global heat distribution.

Origin of Oceans

The oceans formed about **3.8 billion years ago** when the Earth cooled, allowing water vapour to condense into rain and fill surface depressions. Once formed, ocean water did not remain static but began to move due to natural forces.

Major Causes of Ocean Currents

- ◆ **Uneven Heating by the Sun**
 - The Sun heats the Earth unevenly, with equatorial regions receiving more heat than polar regions. This creates temperature differences in ocean water. Warm water near the equator becomes less dense and rises, then moves towards the poles, initiating horizontal movement.
- ◆ **Wind Action**
 - Surface winds, generated due to atmospheric

pressure differences, drag the upper layers of ocean water. This results in the formation of **surface currents**, especially in tropical and temperate regions.

- ◆ **Density Differences (Thermohaline Circulation)**

- Differences in temperature (thermo) and salinity (haline) affect water density. Cold, dense water sinks near the poles, while warm, lighter water rises near the equator. This creates a deep-ocean circulation system often described as a **global conveyor belt**, ensuring vertical and horizontal movement of water.

- ◆ **Earth's Rotation (Coriolis Effect)**

- Due to Earth's rotation, moving water is deflected
- To the right in the Northern Hemisphere
- To the left in the Southern Hemisphere
- This deflection leads to the formation of large circular current systems called **gyres**.

- ◆ **Continental Configuration**

- The arrangement of continents blocks and redirects ocean currents. As tectonic plates shifted over time, landmasses shaped the pathways of currents, forcing them into defined routes.

Conclusion

Ocean currents are driven by a combination of solar energy, wind patterns, Earth's rotation, and density differences. Together, they form a complex global circulation system that redistributes heat, influences climate, and sustains marine life.

BEYOND VERDICTS: KEY JUDICIAL INTERVENTIONS

Supreme Court Upholds Transgender Employment Rights in Teaching Posts

- ◆ The Supreme Court, in *Jane Kaushik v. Lieutenant Governor, NCT of Delhi*, granted interim relief to a transwoman, allowing her to apply for Delhi government teaching posts under the transgender category, irrespective of whether vacancies were advertised as male or female.
- ◆ The bench of Justice J.B. Pardiwala and Justice K.V. Viswanathan held that the Delhi High Court erred in directing the petitioner to approach an advisory committee, which lacks adjudicatory powers.
- ◆ The case highlights gaps in implementing the Transgender Persons (Protection of Rights) Act, 2019, as earlier the Court had also noted “omissive discrimination” by institutions and states in protecting transgender employment rights. The ruling reinforces the need for inclusive recruitment policies and equal opportunity frameworks for transgender persons in public employment.

Cooperative Societies Not ‘State’ Under Article 12: Supreme Court Ruling

- ◆ In *Ram Chandra Choudhary v. Roop Nagar Dugdh Utpadak Sahakari Samiti Ltd.*, the Supreme Court held that independent cooperative societies, such as District Milk Unions in Rajasthan, do not qualify as ‘State’ under Article 12 and hence are not subject to writ jurisdiction under Article 226 for matters related to their internal governance. The bench of Justice B.V. Nagarathna and Justice R.
- ◆ Mahadevan observed that these bodies are autonomous, member-driven institutions and not controlled or dominated by the State. The Court clarified that mere statutory regulation or supervision does not convert such entities into public authorities.
- ◆ Since the dispute concerned internal electoral processes and bye-laws, it should be resolved through the statutory mechanism under the Rajasthan Co-operative Societies Act, 2001. The ruling reinforces the principle that writ jurisdiction applies only where there is a violation of public duty, not in purely private or internal matters.

Singing ‘Vande Mataram’ Not Mandatory: Karnataka High Court

- ◆ In *Somashekar Rajavamshi v. Union of India*, the Karnataka High Court dismissed a PIL challenging a Ministry of Home Affairs circular that advised schools to sing all stanzas of *Vande Mataram*.
- ◆ The bench of Chief Justice Vibhu Bakhru and Justice C.M. Poonacha held that the circular is **not mandatory**, as it uses the term “may” and carries no penal consequences. The petitioner had argued that certain stanzas invoking Hindu deities violate the secular fabric of the Constitution, but the Court found such concerns premature and vague. It reaffirmed that there is **no legal compulsion** to sing the national song, thereby upholding individual choice and constitutional values.

Supreme Court Warns States on Child Trafficking

- ◆ The Supreme Court, led by Justice J.B. Pardiwala and Justice K.V. Viswanathan, urged States to treat child trafficking as a serious law-and-order issue, noting the presence of organised gangs across India. It criticised poor compliance with its earlier directions on investigation, victim protection, and anti-trafficking measures, and gave a final deadline for States to file reports, warning that defaulters would be held accountable.

Supreme Court Flags Delay in Implementing Healthcare Professions Act

- ◆ The Supreme Court, led by Justice P.S. Narasimha and Justice Alok Aradhe, questioned the non-implementation of the National Commission for Allied and Healthcare Professions Act, 2021, noting that even after five years, necessary regulations have not been framed. The Court held that absence of regulations cannot delay enforcement of a Parliamentary law and warned that the delay has created a regulatory vacuum in paramedical education. It summoned the concerned official to explain the status of implementation.

ETHICS - CASE STUDY

Q) Arvind is a District Collector in a drought-prone region. The government has recently sanctioned a large fund under a rural employment scheme to construct water conservation structures such as check dams and ponds. During an inspection, Arvind discovers that a significant portion of the funds has been misappropriated by local contractors in collusion with some officials, and many of the works shown as “completed” exist only on paper. Although villagers are aware of the corruption, they are hesitant to come forward due to fear of losing future employment opportunities. At the same time, the region is facing an acute water crisis, and any immediate strict action such as cancelling contracts or initiating inquiries may delay ongoing projects and further aggravate the situation. Additionally, political representatives are exerting pressure on Arvind to overlook the issue in order to avoid public controversy.

- a. Identify the ethical issues involved in the case. (10 marks)
- b. What are the options available to Arvind? Evaluate each option. (10 marks)
- c. What course of action should Arvind adopt? Justify your answer. (10 marks)
- d. What measures can be taken to prevent such ethical lapses in future? (10 marks)

ETHICS - EXAMPLES

- 1. Empowerment:** The Manipur Women Gun Survivors Network, founded by Binalakshmi Nepram after a 2004 killing in Thoubal district, has supported over 1,000 conflict-affected women through livelihood training, micro-finance, and psychosocial counselling to rebuild income and stability.
- 2. Social Responsibility:** CureBay, founded in 2021 by Priyadarshi Mahapatra, delivers affordable rural healthcare through e-clinics that connect patients to doctors within 10 minutes and provide tests and medicines locally. It addresses the shortage of doctors in rural India and has already served over 15,000 patients in Odisha.
- 3. Governance Ethics:** Under the centrally sponsored ULLAS Nav Bharat Saaksharta Karyakram, 86-year-old Anusuya Bai Wadekar from Maharashtra learned to read and write through daily practice with her grandson and support from local volunteers and appeared for a literacy test.
- 4. Environmental Ethics:** In Gujarat, whale sharks (*Rhincodon typus*) were once hunted for ₹40,000–₹1.5 lakh per fish but were granted Schedule I protection under the Wildlife Protection Act 1972 in 2001. Since 2004, conservation efforts by the Wildlife Trust of India, along with ₹50,000 compensation for net damage, have led to fishers releasing entangled sharks, resulting in over 1,000 rescues.
- 5. Leadership:** Afsana Begum, a Panchayat leader elected in 2021, enabled nearly 80% of women in Kukraun village in Bihar to move from thumb impressions to signatures through basic literacy efforts. She also set up a weekly market with 120+ shops, helping around 70% of women gain income.
- 6. Social Responsibility:** Ashok Rathod started a football-based initiative that used sport to bring slum children back to school under a “no school, no football” rule, later formalised as the Oscar Foundation in 2010. The programme has impacted over 14,000 children, improving education outcomes and life skills.
- 7. Courage/Empowerment:** Embarq Motorworld has taken 100+ women on 10-day expeditions, including a 2025 Kashmir–Kanyakumari drive where 40 women covered the country in 25 cars with safety and self-development training.
- 8. Creativity/Inclusivity:** The Sound Space, founded by sisters Kamakshi and Vishala Khurana, provides music education to underprivileged children through school programs and a mobile “Soundspace on Wheels” bus reaching 500+ children weekly across slums.
- 9. Health Ethics:** In Kerala, 14 home births were reported in January 2026, including three newborn deaths and a maternal death due to complications, prompting concern and a petition in the Kerala High Court over lack of regulation and awareness.

MODEL ESSAY

"Education is the manifestation of the perfection already in man"

Introduction

- Quote by Swami Vivekananda
- **Education is a process of self-discovery, character-building, and empowerment.**

Example

- **Neeraj Chopra:** Rural athlete → Olympic gold (Tokyo 2020) – Training helped **manifest inherent physical excellence.**
- **Helen Keller:** Her mentor, Anne Sullivan provided the tools (braille, sign language) to nurture Helen's innate brilliance.
- **Self-Help Groups (SHGs) in India:** Rural women gain financial literacy → become entrepreneurs. Example: Kudumbashree in Kerala

Contemporary Relevance

- **National Education Policy 2020:** Focus on **critical thinking, multidisciplinary learning, skill development;** Moves away from rote learning
- **Global evidence:** Countries with strong education systems (Finland, South Korea) show High innovation & Better Human Development Index (HDI)
- **Democratization of Knowledge:** Platforms like YouTube, Coursera, and SWAYAM (India) allows self-driven individuals to manifest their potential.

Challenges

- **Exam-centric system:** Marks-based evaluation suppresses creativity and curiosity.
- **One-size-fits-all curriculum:** Ignores **multiple intelligences (arts, sports, technical skills).**
- **Commercialization of Education:** The rise of

the "coaching factory" model as in Kota affects the mental health of students.

- **Inequality in access:** Digital divide, poverty restrict potential.
- **Unemployment paradox:** Educated youth lack employable skills

Way Forward

- **Holistic education:** Combine academics with **ethics, creativity, emotional intelligence.**
- **From STEM to STEAM:** Integrating **Arts** into Science, Technology, Engineering, and Math.
- **Experiential learning:** Internships, project-based learning, vocational training.
- **Personalised learning:** Use AI tools to **adapt education to individual strengths.**
- **Teacher as mentor:** Shift from instructor → **facilitator of self-discovery.**
- **Promote innovation culture:** Atal Tinkering Labs encourage **school-level creativity and problem-solving.**

Conclusion

- Education is not about creating knowledge but **revealing the infinite potential already present within individuals.**
- As **Mahatma Gandhi** said *"By education I mean an all-round drawing out of the best in child and man-body, mind and spirit."*

Sample Quotes

- *A government is the only vessel that leaks from the top.- James Reston*
- *The state is made for man, not man for the state.- Albert Einstein*
- *A crisis is a terrible thing to waste - Paul Romer*

MAINS JOT DOWN



GS I: MINERALS

- The Ministry of Mines has notified the **Minerals (Other than Atomic and Hydro Carbons Energy Minerals) Concession (Second Amendment) Rules, 2026**, which lay down a clear mechanism for including **contiguous areas** within existing **Mining Leases (ML)** and **Composite Licences (CL)** for **deep-seated minerals**.
- The rules also allow the inclusion of **associated minerals** within existing mining leases of both **major and minor minerals**, thereby improving resource utilisation and operational efficiency.



GS III: POLLUTION

- The Centre has notified draft **Tar Balls Management Rules, 2026** to tackle **marine pollution** caused by toxic oil residues. The rules cover the entire **lifecycle** of tar balls, from **generation to disposal**, and apply the **'polluter pays' principle**, fixing responsibility on oil operators along with environmental compensation. They also define roles of key stakeholders like **CPCB** and the **Coast Guard**, and mandate **monitoring, reporting**, and even declaration of a **'State disaster'** in severe cases.



GS III: CLIMATE CHANGE

- A recent study highlights that the Sundarbans is undergoing **"critical slowing down"**, driven by **cyclones, climate change, and human pressures**. This means the ecosystem is taking longer to recover from disturbances, becoming increasingly **unstable and vulnerable to collapse**, signalling a serious ecological warning.



GS III: SCIENCE & TECHNOLOGY

- **Mission MITRA** (Mapping of Interoperable Traits and Response Assessment) is a behavioural study conducted by the Indian Space Research Organisation in collaboration with the Indian Air Force Institute of Aerospace Medicine to prepare astronauts for the Gaganyaan mission.
- It aims to evaluate the crew's physiological, psychological, and operational performance under stress.
- The study was carried out in Leh, where extreme conditions such as low oxygen (**hypoxia**), cold temperatures, and isolation were simulated to test human endurance and adaptability for space missions.



GS III: ENVIRONMENT AND ECOLOGY

- The Comptroller and Auditor General of India has reported a severe ecological decline in lakes of Jammu and Kashmir over the past decade, noting that out of 697 lakes, **315 have disappeared**, **203 have shrunk**, and a total of **518 lakes are degraded**, indicating a serious environmental crisis.



GS III: DEFENCE

- An Indian Army contingent is set to participate in the 4th edition of **Exercise Cyclone-IV** at Anshas, Egypt. It is a **bilateral Special Forces exercise between India and Egypt**, conducted to improve **interoperability and coordination in joint military operations**.



GS III: ENERGY

- ➔ According to the International Renewable Energy Agency Renewable Energy Statistics 2026, India ranks behind China and the United States in total renewable capacity. As of March 2026, India's total renewable energy capacity stands at **274.68 GW**, with **solar energy leading (150.26 GW)**, showing a massive expansion since 2014.
- ➔ This is followed by **wind energy (~56 GW)**, while other sources include **large hydro (51.41 GW)**, **bioenergy (11.75 GW)**, **nuclear (8.78 GW)**, and **small hydro (5.17 GW)**, indicating a diversified but solar-dominant energy mix.



GS III: INFRASTRUCTURE

- ➔ India and Bhutan have signed the **Tariff Protocol** for the **Punatsangchhu-II Hydroelectric Project**, a **1020 MW run-of-the-river project** on the Punatsangchhu River. The river is formed by the confluence of the **Phochhu and Mochhu rivers** in Bhutan and flows south into West Bengal, where it becomes a tributary of the Brahmaputra River.



GS III: RENEWABLE ENERGY

- ➔ Kandla Port (also known as Deendayal Port), India's first major port developed after Independence, has advanced **methanol bunkering**, marking a significant step towards a **green maritime transition**. Methanol bunkering refers to the process of **supplying methanol fuel to ships from specialised facilities**, promoting cleaner and more sustainable shipping practices.



GS III: EMPLOYMENT

- ➔ The Ministry of Skill Development and Entrepreneurship has launched a campaign to build the **Skills Outcomes Fund**, a first-of-its-kind initiative aimed at improving **livelihood outcomes for youth from low-income backgrounds**.
- ➔ It builds on the success of the **Skill Impact Bond (2021)** implemented by the National Skill Development Corporation, which used private sector funding and expertise to focus on **actual employment outcomes like job placement and retention**, rather than just training and certification.

CHERRYPICKS OF THE WEEK

STAGFLATION

- A rare economic condition where **high inflation coexists with slow growth and rising unemployment**, making policy control difficult as measures to curb inflation can worsen job losses.

SKEWFLATION

- A situation where **inflation is uneven across sectors**, with certain goods (like food or fuel) seeing sharp price rises while others remain stable, distorting consumption patterns.

HYPERINFLATION

- An extreme form of inflation where **prices rise uncontrollably (often above 50% per month)**, leading to collapse of currency value and loss of public confidence in the economy.

CREEPING INFLATION

- A mild and gradual increase in prices, typically **low and steady**, which is often considered manageable and even supportive of economic growth.

GALLOPING INFLATION

- A high and rapidly increasing inflation (around **20% or more annually**) that erodes purchasing power quickly and can destabilize the economy if not controlled.