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FORTUNE WEEKLY DIGEST

› INDIA-BRAZIL RELATIONS › INLAND WATERWAYS OF INDIA › INDIA'S NEW GDP SERIES

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FORTUNE WEEKLY DIGEST

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 guage 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.

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INDIA ISRAEL RELATIONS

Syllabus: GS II - Effect of policies and politics of developed and developing countries on India's interests

PYQ MAPPING

Q) *"India's relations with Israel have, of late, acquired a depth and diversity, which cannot be rolled back." Discuss* ***(2018)***

WHY IN NEWS

Prime Minister Narendra Modi undertook a **State Visit to Israel from 25–26 February 2026** at the invitation of Israeli Prime Minister Benjamin Netanyahu.

INTRODUCTION

India recognised Israel in 1950 and **established full diplomatic relations on 29 January 1992,** after which bilateral ties expanded across political, economic and strategic domains, making **India one of Israel's key trading partners in Asia**. The visit comes soon after India joined over 100 countries at the United Nations in criticising Israeli settlement expansion in the West Bank.

SHORT TAKES

- **Kibbutz**:
  - An Israeli collective community or settlement, traditionally agricultural, where members live and work together and share property, income, and responsibilities.
- **Holocaust**:
  - The systematic, state-sponsored persecution and murder of about six million European Jews by Nazi Germany and its collaborators during World War II (1933–1945).
  - It also targeted Roma (commonly called Gypsies, an ethnic group of nomadic origin in Europe), disabled people, political prisoners, and other groups in a racially driven genocide.
- **IMEC (India–Middle East–Europe Economic Corridor):**
  - A proposed trans-continental connectivity and trade initiative launched at the **G20 summit in New Delhi in September 2023** that aims to link **India, the Middle East, and Europe through integrated transport networks** of rail, road, and maritime routes to enhance trade, investment, and economic integration across the regions.

ABOUT ISRAEL

- **Official Name and Location**: Israel is a country in the Middle East located at the eastern end of the Mediterranean Sea, bounded by Lebanon, Syria, Jordan, and Egypt.
- **Capital and Government**: Jerusalem is the proclaimed capital, though its status has not received wide international recognition; Israel is a **multiparty republic** with a **unicameral parliament (Knesset)** and a prime minister as head of government.
- **Population and Society**: Israel's population is over **9 million**, about four-fifths Jewish and about one-fifth Arab; Hebrew and Arabic are official languages, and Judaism is the predominant religion alongside Islam and Christianity.
- **Geographic Regions**: The country's landscape includes the **Mediterranean coastal plain**, **hill regions**, the **Great Rift Valley** with the Jordan River, and the **Negev Desert** in the south.
- **Historical Roots**: Efforts to create a modern Jewish state grew from the late 19th-century **Zionist movement**; large Jewish immigration in the early 20th century, especially during and after European persecution, intensified calls for nationhood in historic Palestine.

- **1948 and Statehood**: Israel declared independence on **May 14, 1948** following the UN partition plan, sparking the first Arab-Israeli war as neighbouring Arab states attacked immediately after British withdrawal from the mandate of Palestine.
- **Territorial Changes Post-1967**: In the **Six-Day War (1967)**, Israel captured the West Bank, Gaza Strip, Golan Heights, and East Jerusalem, altering its borders and the status of Palestinian territories.
- **Conflict with Hamas and Gaza War**: Since the late 2010s, tensions between Israel and Palestinian militants, especially **Hamas**, have led to repeated escalations, including the large-scale conflict triggered by Hamas attacks on October 7, 2023, and subsequent Israeli military operations.

HISTORICAL EVOLUTION OF TIES

- **Cultural Links:**
  - Cultural and trade connections date back over 2,000 years, with Jewish merchants traveling to India and settling in regions like Maharashtra, Kerala, Kolkata, and the Northeast.
- **Humanitarian Contributions**
  - During the Holocaust, the **Maharaja of Nawanagar** provided refuge to Jewish children fleeing Europe, reflecting India's longstanding tradition of humanitarian support.
- **Post-Independence Admiration**
  - Indian leaders admired Israel's **agricultural innovations**, especially in desert cultivation, with the Kibbutz movement inspiring figures like **Acharya Vinoba Bhave** and **Jayaprakash Narayan**
- **Early Recognition and Late Diplomatic Relations:**
  - Although India recognised the State of Israel in **1950**, full diplomatic relations were established only in **1992** due to India's pro-Palestinian position and West Asian sensitivities.
- **Pragmatic Cooperation in the 1990s–2000s:**
  - Initial ties were largely defensive and technical; agriculture, water management and limited defence sales laid the groundwork for deeper ties in later years.
  - During the Kargil War (1999), Israel supplied precision-guided munitions to the Indian Air Force at short notice
- **De-hyphenation Policy (Post 2014):**
  - New Delhi began **treating its relations with Israel and Palestine independently,** maintaining support for Palestinian statehood while strengthening ties with Israel.
  - Prime Minister Narendra Modi's July 2017 visit to Israel marked the **first-ever visit by an Indian Prime Minister and this** visit elevated India–Israel ties into a ***Strategic Partnership*.**
  - Netanyahu's India visit in 2018 further strengthened political and economic ties.
- **Strategic Deepening (Since 2020s)**
  - India joined the I2U2 (India–Israel–UAE–USA) grouping in 2021 which is a minilateral initiative focused on food, energy and tech cooperation.
  - In November 2025, defence pacts were signed and Free Trade Agreement negotiations were launched

ABOUT THE LATEST VISIT

- **Address to the Israeli Parliament Knesset:**
  - Narendra Modi became the **first Indian Prime Minister to address the Knesset,** where he received a standing ovation.
  - He declared that "India stands with Israel firmly, with full conviction," particularly referencing the October 7, 2023 Hamas attacks.
  - Modi visited Yad Vashem, the Holocaust memorial in Jerusalem reinforcing India's solidarity against extremism and anti-Semitism
  - Modi was conferred the Knesset's highest honour.
  - He emphasised "civilisational ties," describing India and Israel as ancient civilisations with philosophical parallels, referencing the concept of *tikkun olam* (healing the world).
- **Symbolic and Cultural Diplomacy**

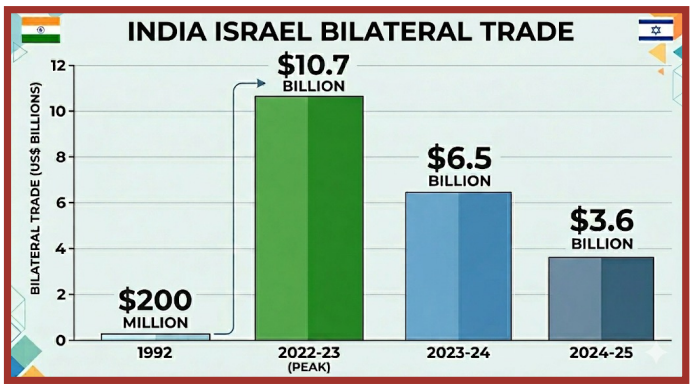
OUTCOMES OF LATEST VISIT

- **Elevation of Partnership:** India and Israel upgraded their bilateral relationship to a new level titled **"A Special Strategic Partnership for Peace, Innovation & Prosperity."**
- **16+ Agreements Across Sectors:** The visit resulted in 16 agreements covering AI, cyber security, agriculture, geophysical exploration, maritime heritage (Lothal NMHC), fisheries, arbitration, fintech linkages, education, mining, financial cooperation and worker mobility.

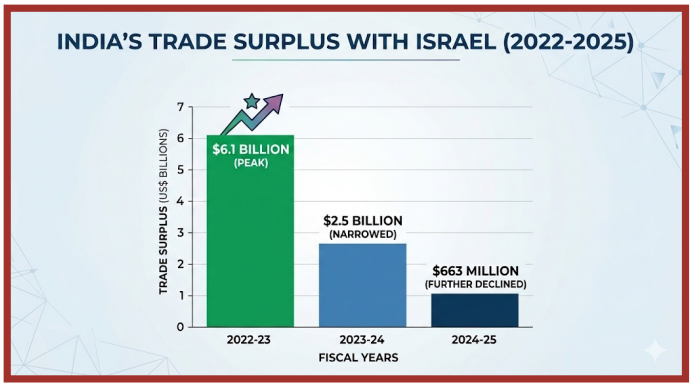
- **Launch of India–Israel Academic Cooperation Forum (I2I Forum):** A new annual rotating academic forum was established to ensure sustained university-led dialogue, embedding long-term intellectual collaboration.
- **Symbolic Convergence of Democracies Against Terrorism:** Both leaders condemned:
  - October 7, 2023 terror attack on Israel
  - April 22, 2025 Pahalgam attack in J&K
  - November 10, 2025 Red Fort attack
- **Support for US Peace Initiative:** The leaders welcomed US President Donald Trump's "Comprehensive Plan to End the Gaza Conflict," reflecting India's calibrated diplomatic positioning.
- **Cybersecurity Centre of Excellence:** A joint **India-Israel Cyber Centre of Excellence** is to be established in India, supported by a multi-year cybersecurity roadmap and collaborative exercises.
- **Initiative on Critical and Emerging Technologies (CET):** A new initiative led by National Security Advisors aims to synergise cooperation in AI, cybersecurity, semiconductors, quantum computing, biotechnology, defence platforms and space exploration.
- **India-Israel Joint Research Calls (IIJRC) Expansion:** Funding increased from **USD 1 million to USD 1.5 million each**, promoting joint research, facility sharing and scientist exchange visits.
- **UPI–MASAV Payment Linkage:** MoU between NPCI International and MASAV to examine linking UPI with Israel's payment system for cross-border transactions.
- **Agreement for Additional Indian Workers:** Both leaders agreed that up to 50,000 additional Indian workers may arrive in Israel over five years.
- **MoU between Nalanda University & Hebrew University:** Enhances university-level collaboration and student exchange.
- **Other Institutional and Innovation Mechanisms:**
  - Elevation of the Joint Commission on Science & Technology to ministerial level
  - Tech-Gateway Initiative
  - 20 joint agricultural research fellowships
  - Parliamentary Friendship Group

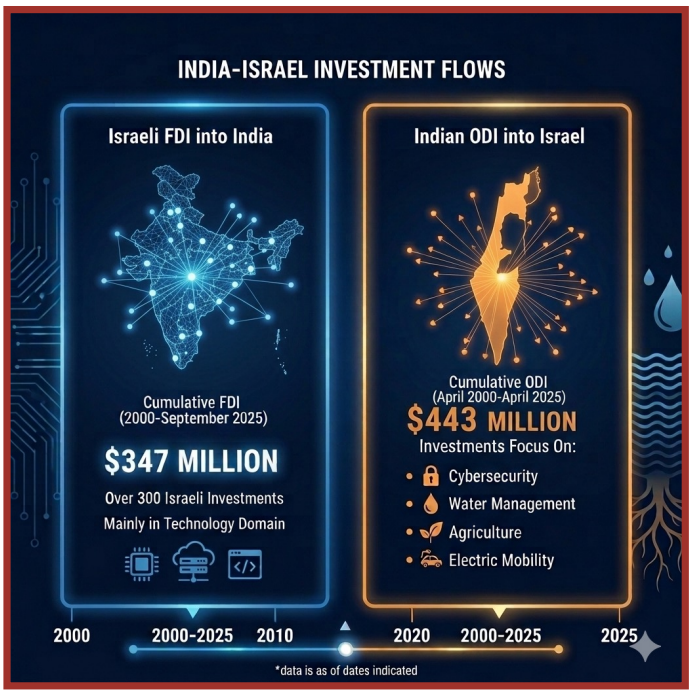
AREAS OF COOPERATION

- **Defence and Security Partnership:**
  - According to the Stockholm International Peace Research Institute (SIPRI), India accounted for **over 38% of Israel's arms exports between 2014 and 2024**.
  - Cooperation includes UAVs, missiles, radar systems, special forces equipment, and surveillance technologies.
  - India has been Israel's largest defence customer in several years.
  - **The Barak-8 missile defence system** is a major co-development success.
  - Advance co-development of laser and anti-drone systems under **Mission 'Sudarshan Chakra'.**
  - Focus on AI-enabled defence systems, anti-drone shields, laser interception systems, and joint production under "Make in India".
- **Science, Technology and Innovation**
  - India and Israel were jointly running over 35 **Centres of Excellence in Agriculture** for high-density production of fruits, vegetables, flowers and beekeeping with plans to expand the number to 100.
  - MASHAV (Israel's Agency for International Development Cooperation) signed agreements with **Haryana in June 2022 and Rajasthan in December 2024** to collaborate on integrated **water resource management** and capacity building.
- **Trade & Economic Engagement**



  - India is Israel's second-largest Asian trading partner.
  - Since **2014-15**, India has maintained a trade surplus with Israel.
  - Between **2019-2025**, refined petroleum products such as petrol and diesel constituted nearly **44%** of India's exports to Israel, followed by **diamonds (22%)**.
  - **Bilateral Investment Agreement** signed in September 2025.





- Free Trade Agreement (FTA) negotiations underway to enhance goods, services, digital trade and mobility.
- Israel's cumulative FDI into India crossed **$347 million (2000–September 2025)** with over **300 Israeli investments**, mainly in the technology domain.
- Adani-led acquisition of Haifa Port (2022) for USD 1.18 billion reflects long-term strategic commercial interest.

Multilateral & Regional Economic Linkages

- Both countries are active in the **I2U2 grouping and support the India-Middle East-Europe Economic Corridor (IMEC)**, expanding strategic economic architecture in the region.

Migration & Labour Mobility

- Around **32,715 Indians travelled to Israel in 2024**, up from **27,196 in 2023**, indicating rising mobility.
- As of October 2024, around **32,000 Indian workers** were employed in Israel, largely recruited after the Gaza conflict to replace Palestinian labour in the construction sector.
- Approximately **900 Indian students** are currently studying in Israel.

AREAS OF CONFLICT

Palestinian Issue:

- India continues to vote in favor of UN resolutions supporting a **Two-State Solution** and Palestinian statehood .
- But in recent years it has sometimes **abstained from UN resolutions** that it viewed as unbalanced which has drawn nuanced criticism and debates over its stance on Gaza and Palestine.

Iran Factor :

- Since the **U.S.–Israel military action against Iran in late February 2026**, Indian has **not explicitly condemned** that attack and instead urged **dialogue and diplomacy** to de-escalate the crisis.
- As the conflict escalates, India faces complex diplomatic pressures due to its ties with Iran (energy and Chabahar port).

Hexagon Alliance Proposal

- Benjamin Netanyahu proposed a "hexagon" alliance of India, Arab, African, Mediterranean and Asian nations against "radical axes."
- India may not align with such bloc-based framing given its strategic autonomy doctrine.

Trade Vulnerability:

- The Gaza conflict and instability in trade routes contributed to a sharp decline in bilateral trade from $10.7 billion (2022-23) to $3.6 billion (2024-25).

Domestic Debates and Perceptions:

Domestic political discourse in India periodically reflects divergent views on its Israel policy, especially when conflicts intensify; this impacts diplomatic messaging.

INDIA'S BALANCING ACT IN WEST ASIA

- **Strategic Autonomy Approach:** India avoids bloc politics and prefers issue-based alignment.
- **Simultaneous Engagement with Arab World**
  - Hosting of the 2nd India-Arab Foreign Ministers' Meeting (January 2026).
  - Visits to Jordan and Oman (December 2025).
  - UAE President's visit (January 2026).

  Observer Role in Gaza Stabilisation: India participated as observer in the February 2026 stabilisation summit presided over by Donald Trump which reflects cautious involvement.

WAY FORWARD

- **Conclude & Expand FTA Framework:** Completing the India–Israel Free Trade Agreement can enhance market access, diversify trade, and stimulate economic integration across sectors.
- **Deepen Defence R&D & Technology Transfer:** Institutionalising joint defence innovation, co-developing missile defence, AI/robotics and anti-drone technologies will strengthen strategic deterrence.
- **Accelerate Tech & Innovation Collaboration:** Scale up joint programs in AI, semiconductors, quantum computing, biotech, space and cybersecurity, fostering joint innovation ecosystems.
- **Expand Agricultural & Water Tech Outreach:** Aim to create new agri-innovation hubs, and integrate Israeli climate-resilient solutions with local Indian contexts.
- **Promote Cultural Diplomacy & Soft Power:** Strengthen cultural exchange programmes, diaspora linkages, faith tourism, and educational partnerships to reinforce societal bonds.
- **Responsible Contributor to Regional Stability:** India should translate its endorsement of peace initiatives into constructive roles in reconstruction, humanitarian assistance, and multilateral stabilisation mechanisms.

CONCLUSION

Today, the India–Israel relationship is characterised by sustained political engagement, expanding economic links, and efforts to conclude a Free Trade Agreement, underpinned by instruments such as the **Bilateral Investment Treaty** to bolster investor confidence. With strategic convergences in policymaking and ongoing negotiations across defence, technology and trade, the partnership is poised for further growth while India continues to manage a balanced West Asia policy.

SAMPLE QUESTION

Q) India's engagement with Israel reflects a shift from cautious diplomacy to overt strategic alignment. Discuss the key dimensions and implications of this transition for India's foreign policy.
(10 marks) (150 words)

INLAND WATERWAYS OF INDIA

Syllabus: GS III - Infrastructure: Energy, Ports, Roads, Airports, Railways etc

PYQ MAPPING

Q) *Enumerate the problems and prospects of inland water transport in India.* ***(2016)***

WHY IN NEWS

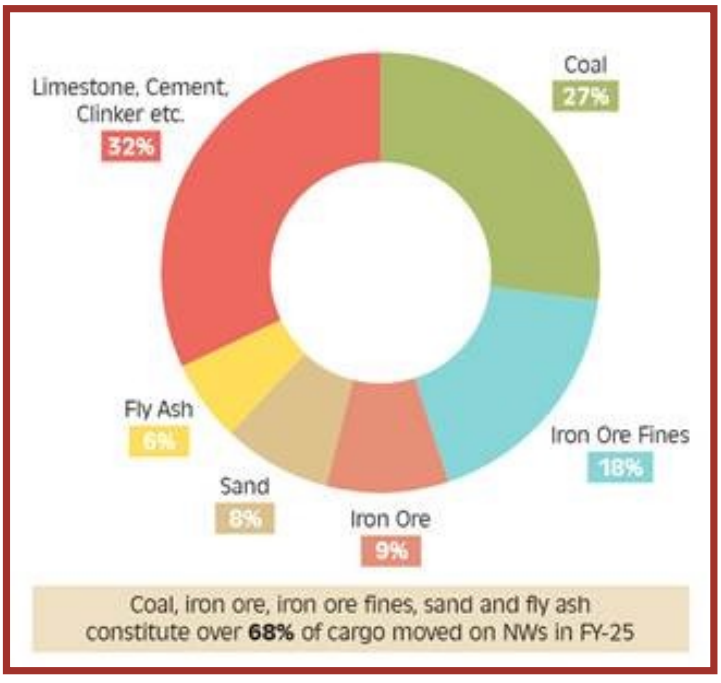
The 3rd meeting of the **Inland Waterways Development Council (IWDC 3.0)** was held in **Kochi**, where a roadmap was discussed to expand India's inland water transport network and boost river-based economic activity.

INTRODUCTION

India possesses an extensive network of rivers, canals, backwaters and creeks that offer significant potential for **inland water transport (IWT)** as a cost-effective and environmentally sustainable mode of transportation. Despite having about **14,500 km of navigable waterways**, their share in India's freight movement remains relatively low, prompting renewed policy focus on developing the sector.

ABOUT INLAND WATERWAYS

- **Definition of Inland Water Transport (IWT):** Inland waterways include **rivers, canals, backwaters, creeks, and lakes used for transportation of goods and passengers within a country**.
- **Extent of Navigable Waterways in India:** India has about **14,500 km of navigable waterways**.
- **Passenger Movement:** Inland waterways are also supporting passenger transport, with **1.61 crore passengers recorded in 2023–24**.



LEGAL FRAMEWORK

- **Inland Waterways Authority of India Act, 1985**: Established the **Inland Waterways Authority of India (IWAI)** to develop, maintain, and regulate inland waterways for shipping and navigation in India.
- **National Waterways Act, 2016**: Declared **111 inland waterways as National Waterways** to promote shipping and navigation and enable their systematic development.
- **Inland Vessels Act, 2021**: Provides a **uniform national framework for vessel registration, safety standards, navigation, and pollution control**, replacing the earlier Inland Vessels Act of 1917
- **National Waterways Regulations 2025**: The

National Waterways (Construction of Jetties/ Terminals) Regulations, 2025 provide a clear legal framework to encourage private investment in inland waterways infrastructure.

INSTITUTIONAL FRAMEWORK

Inland Waterways Authority of India (IWAI)

- The **Inland Waterways Authority of India (IWAI)** is a statutory authority responsible for the development and regulation of inland waterways for shipping and navigation in India.
- It was established on **27 October 1986** under the **IWAI Act, 1985** and functions under the **Ministry of Ports, Shipping and Waterways**.
- IWAI is the **nodal agency for developing and maintaining National Waterways**, including infrastructure such as navigation channels, terminals, and jetties.
- The authority also promotes **cargo movement, passenger transport, and river tourism** through inland water transport (IWT).

Inland Waterways Development Council (IWDC)

- The **Inland Waterways Development Council (IWDC)** is an apex policy platform created to promote and develop India's inland waterways sector.
- It was **established in 2023** to maximise the economic potential of inland water bodies and strengthen water-based transport.
- The council brings together the **Central government, state governments, and key stakeholders** to coordinate inland waterways development.
- The council aims to **accelerate green mobility, strengthen multimodal logistics, and promote river-led economic development**.

NATIONAL WATERWAYS

- **Expansion under the National Waterways Act, 2016:** The Act expanded national waterways from **5 waterways to 111 waterways** across 23 States and 4 Union Territories out of which **32 have been made operational.**
- **Operational Growth:** The operational length of national waterways increased from **2,716 km to 4,894 km in recent years** due to infrastructure development.
- **Major National Waterways**
  - **NW-1:** Ganga–Bhagirathi–Hooghly (Prayagraj–Haldia, ~1620 km)
  - **NW-2:** Brahmaputra (Dhubri–Sadiya, Assam)
  - **NW-3:** West Coast Canal (Kerala)
  - **NW-4:** Krishna–Godavari river system
  - **NW-5:** East Coast Canal and Mahanadi delta

IMPORTANCE

- **Cost-Effective Mode of Transport:** Inland water transport is cheaper for **bulk and long-distance cargo movement**, helping reduce overall logistics costs.
- **Energy Efficiency:** Water transport consumes **much less fuel compared with road and rail transport**, making it highly energy efficient.
- **Environmentally Sustainable:** Inland waterways produce **lower greenhouse gas emissions and pollution**, contributing to green transport.
- **Reduction in Road Congestion:** Shifting cargo to waterways reduces **traffic congestion on highways and pressure on rail networks**
- **Regional Connectivity:** Inland waterways improve connectivity in geographically challenging areas such as the North-East.
- **Boost to Regional Economic Development:** Inland waterways facilitate development of **river ports, logistics hubs, and industrial corridors** along river basins.
- **Employment Generation:** Development of river ports, shipbuilding, tourism, and logistics generates **direct and indirect employment**.
- **Promotion of Tourism:** River cruise tourism in rivers like the **Ganga and Brahmaputra** and houseboat tourism in Kerala contribute to regional economies.
- **Strengthening Multimodal Logistics:** Inland waterways support **integrated logistics systems linking waterways with railways, highways, and ports**.

CHALLENGES

- **Low Share in Freight Transport:** Inland waterways account for **only around 2% of India's freight movement**, far lower than global benchmarks.
- **Seasonal River Flow:** Many Indian rivers are **monsoon dependent**, leading to fluctuating water levels and limited navigation during dry seasons.
- **Sedimentation and Siltation:** Rivers frequently experience **silt accumulation**, requiring continuous dredging to maintain navigable depth.
- **Infrastructure Gaps**: Inland waterways require significant investments in infrastructure such as terminals, jetties, ports and navigation systems to support large-scale transport.
- **Need for Centre–State Coordination**: Effective development of inland waterways depends on close coordination between the Union government and State governments.
- **Connectivity Constraints**: Many river ports lack adequate road and logistics connectivity, which limits the efficient movement of cargo.
- **High Initial Investment:** Development of waterways requires **large capital investment in dredging, navigation systems, and terminals**.
- **Environmental Concerns:** Dredging and infrastructure projects may affect **aquatic biodiversity, river ecosystems, and wetlands**.

MAJOR GOVERNMENT INITIATIVES

- **Large Investments in Inland Waterways**: Since 2014, the government has invested approximately **₹6,434 crore in inland waterways infrastructure development**.
- **Jal Marg Vikas Project (JMVP):** A flagship project aimed at developing **National Waterway-1 on the Ganga** with fairway development, multimodal terminals and navigation systems.
- **Arth Ganga Initiative:** Focuses on **economic development along the Ganga waterway**, integrating local industries, tourism and cargo movement.
- **Jalvahak Scheme:**
  - Launched on **15 December 2024 with a budget of ₹95.42 crore**, the scheme aims to shift cargo movement from road and rail to inland waterways.
  - Allows cargo owners to hire vessels operated by entities other than government agencies, encouraging participation from shipping companies and logistics operators.
  - The scheme offers **35% reimbursement on operating costs** to cargo owners who transport goods through inland waterways.
- **Maritime Amrit Kaal Vision**: India aims to increase IWT modal share from **2% to 5%**, and raise traffic to **200+ MMT by 2030** and **500+ MMT by 2047**
- **Digitisation Initiatives:** IWAI has launched digital tools to improve navigation and logistics efficiency like:
  - Least Available Depth Information System (LADIS)
  - River Information System (RIS)
  - Car-D, Portal for Navigational Information (PANI)
  - Management Information and Reporting Solution (MIRS)
- **Centralised Vessel Registration Portal**: A digital portal similar to **'Vahan' and 'Sarathi'** is being developed for registration of inland vessels and crew to enhance transparency and planning.
- **Cargo Aggregation Infrastructure**: Logistics hubs such as the **Freight Village at Varanasi** and **Integrated Cluster-cum-Logistics Park at Sahibganj** are being developed to consolidate cargo movement.
- **Jetty Development:** The construction of **110 jetties**, including **25 in Odisha and 85 in the North-East**, aims to strengthen regional connectivity and logistics networks.
- **Urban Water Transport Feasibility Studies**: The **Inland Waterways Authority of India (IWAI)** is conducting feasibility studies for urban water transport in **18 cities including Guwahati, Varanasi, Patna, Tezpur and Dibrugarh**.

COMPARATIVE GLOBAL PERSPECTIVES

- **China:** China has one of the world's most extensive inland water transport systems, especially through the **Yangtze River**, which carries massive cargo volumes.
- **United States:** The **Mississippi River system** supports large-scale bulk transport through an integrated network of rivers and canals.
- **European Union:** The **Rhine–Danube river system** enables efficient inland water transport connecting several European economies.

WAY FORWARD

- **Enhancing Centre–State Coordination**: Close cooperation between the Union government and States is essential for faster implementation of inland waterway projects.
- **Improving Navigability:** Regular dredging and river training works to maintain **adequate water depth for vessels**.
- **Infrastructure Expansion:** Develop more **river ports, multimodal terminals, cargo hubs, and jetties**.
- **Encouraging Private Sector Participation**: Incentive schemes and policy support can attract private investment into vessel operations, logistics and tourism services.
- **Expansion of River Tourism**: Development of cruise circuits and tourism infrastructure can increase economic activity along river systems.
- **Modern Vessel Development:** Encourage construction of **fuel-efficient and low-draft vessels suited to Indian rivers**.
- **Multimodal Integration:** Connect inland waterways with **railways, highways, and seaports** to create efficient logistics chains.
- **Technological Modernization:** Expand use of **digital navigation systems, satellite tracking, and automated traffic management**.
- **Environmental Safeguards:** Adopt **eco-friendly practices and pollution control measures**.
  - **Example**:**Hybrid Electric Catamarans and Hydrogen Vessels** will promote cleaner transport and reduce pollution.
- **Regional and International Connectivity:** Expand cross-border navigation through **regional water transport agreements with neighbouring countries**.

CONCLUSION

With rising logistics costs and environmental concerns, inland waterways can play a crucial role in building a **sustainable and multimodal transport system in India**. Effective infrastructure development, ecological safeguards, and integration with national logistics networks will be key to unlocking the full potential of the country's river transport system.

SAMPLE QUESTION

Q) Discuss the importance of inland waterways in promoting green mobility and multimodal logistics in India.
(10 marks) (150 words)

INDIA BRAZIL RELATIONS

Syllabus: GS II - Effect of policies and politics of developed and developing countries on India's interests

PYQ MAPPING

Q) *'The long-sustained image of India as a leader of the oppressed and marginalised nations has disappeared on account of its new found role in the emerging global order.' Elaborate.* ***(2019)***

WHY IN NEWS

Luiz Inácio Lula da Silva, President of Brazil, visited India from **18–22 February 2026** with 11 ministers and the largest-ever Brazilian business delegation; the visit included participation in the AI Impact Summit in New Delhi.

INTRODUCTION

Relations between India and Brazil have gained renewed momentum following the visit of Luiz Inácio Lula da Silva, highlighting cooperation in trade, technology, and critical minerals. As leading voices of the Global South, both countries are seeking stronger and more resilient supply chains amid global trade tensions, particularly after the **50% tariffs imposed earlier by the United States on their exports**.

SHORT TAKES

- **Tropical Forests Forever Facility (TFFF):**
  - A Brazil-led global fund to reward tropical countries for protecting and expanding forests.
  - It aims to mobilise around USD 125 billion through public and private investment, using returns to pay nations that conserve forests.
- **IBSA Dialogue Forum**:
  - A trilateral grouping of **India, Brazil, and South Africa**, established in **2003 through the Brasília Declaration**, to promote South–South cooperation and coordination on global issues among three major developing democracies.
  - It provides a platform for cooperation in areas such as **trade, technology, development, and global governance reforms**, while also supporting development projects in other developing countries through the **IBSA Fund**.

ABOUT BRAZIL

- **Largest country in South America:** Brazil occupies **about half of South America's landmass** and is the **fifth-largest country in the world by area**.
- **Capital and political system:** Brazil is officially the **Federative Republic of Brazil**, a **federal republic** with the capital at Brasília.
- **Population:** Brazil has a population of **over 220 million people**, making it the **most populous country in Latin America**.
- **Geographic location and borders:** Brazil borders **every South American country except Ecuador and Chile** and faces the **Atlantic Ocean** to the east.
- **Amazon Basin and rainforest:** A large part of Brazil lies within the **Amazon Basin**, containing the **world's largest tropical rainforest**, the Amazon Rainforest.
- **Major economic sectors:** Brazil is a global powerhouse in **agriculture, mining, and manufacturing**, and it has a **large service sector**.
- **Major agricultural products:** Brazil is the **world's leading producer of coffee and oranges** and a major producer of **soybeans, sugar, and beef**.
- **Colonial history:** Brazil was **colonised by Portugal in 1500** and later **gained independence in 1822** before becoming a republic in **1889**.
- **Climate and environment:** Much of Brazil has a **humid tropical or subtropical climate**, though the **northeastern region experiences periodic droughts**.

HISTORICAL EVOLUTION OF TIES

Early Colonial Contacts:

- Historical links date back to the Portuguese colonial period when Pedro Álvares Cabral reached Brazil in **1500**, shortly after Vasco da Gama arrived in India in **1498**, connecting both regions within the Portuguese imperial network.
- As Portuguese outposts, **Goa and Brazil** exchanged goods and crops; **coconut and mango** were introduced to Brazil from India, while **cashew** was brought to India from Brazil.

Establishment of Diplomatic Relations:

- Modern diplomatic ties between India and Brazil were formally established in **1948**, soon after India's independence.

Cold War Period: Limited Engagement

- During the early decades after independence, bilateral ties developed slowly due to **geographical distance and limited economic interactions**.
- Bilateral relations remained limited for decades; Brazil even opposed India's **Operation Vijay (1961)** that led to the liberation of Goa from Portuguese rule.

Revival after Economic Liberalisation

- Economic reforms in India and Brazil in the **1990s revived bilateral engagement**, leading to increased trade and diplomatic exchanges.

Institutionalisation of Strategic Partnership

- In **2006**, the relationship was elevated to a **Strategic Partnership** supported by mechanisms such as **Joint Commission Meetings, Strategic Dialogue, and the 2+2 Political-Military Dialogue** (first held in 2024).

Growth through South–South Cooperation

- Both countries emerged as prominent leaders of the **Global South**, cooperating through multilateral platforms such as BRICS, IBSA (India–Brazil–South Africa) and the G-20

OUTCOMES OF THE LATEST VISIT

Signing of Multiple Bilateral Agreements:

- Around **10 agreements and MoUs** were signed covering sectors such as digital cooperation, health, MSME development, science, and entrepreneurship.

MoU on Critical Minerals and Rare Earths:

- Both countries agreed to collaborate on **exploration, mining, processing, recycling and refining of rare earth minerals and critical minerals**, crucial for electronics and green technologies.
- aims to **strengthen supply chains and reduce dependence on dominant suppliers**, particularly China.

Trade Expansion Targets:

- Both sides agreed to **increase bilateral trade to over $20 billion within five years**, with longer-term ambitions reaching around $30 billion.
- Leaders discussed expanding the **India–Mercosur Preferential Trade Agreement** to deepen economic ties between India and the South American bloc.

Digital Partnership Declaration:

- The two countries issued a **Joint Declaration on Digital Partnership** focusing on technology cooperation and digital innovation.
- Plans were announced to create a **Centre of Excellence for Digital Public Infrastructure in Brazil**, based on India's digital governance models.

Climate and Disaster Resilience:

- Brazil has proposed **co-chairing the Coalition for Disaster Resilient Infrastructure (CDRI)** with India.

Agriculture:

- A Centre of Excellence for Oilseeds, Pulses, and Integrated Farming in Brazil will promote agricultural research and food security.

Healthcare:

- Supply of affordable and quality medicines from India to Brazil to be enhances
- Efforts to be made to further promote Ayurveda and traditional systems of medicine in Brazil, with a view to advancing holistic healthcare.

Expansion of Defence Cooperation:

- Cooperation was discussed for **maintenance of Scorpene submarines** under a tripartite arrangement involving **Mazagon Dock Shipbuilders Limited** and the Indian and Brazilian navies.
- Brazilian aerospace firm **Embraer** plans to set up an **assembly line for its E175 regional jet in India**, with a proposed **maintenance, repair and overhaul (MRO) facility**.

Joint Commitment to Global Governance Reform:

- Both countries reaffirmed their support for **reform of the United Nations Security Council** and strengthening the voice of developing nations

AREAS OF COOPERATION

Trade and Economic Cooperation

- Indian investments in Brazil exceed **$6 billion**, including companies such as TCS, Infosys, and Sun Pharma.
- Brazilian investments in India are about **$1 billion**, including firms such as Vale and WEG.

Energy Cooperation

- Brazil is an important partner for India in **oil and gas exploration**.
- Indian public sector companies have invested over **$3.5 billion in Brazilian oil blocks**.
- Both countries are global leaders in **ethanol blending technologies and biofuels**.
- They collaborate in initiatives such as the **Global Biofuels Alliance**.

Defence and Security Cooperation

- Defence cooperation is institutionalised through a **Joint Defence Committee established under a 2003 defence agreement**.

Science, Technology and Innovation

- Joint research initiatives exist in **space, biotechnology, information technology, and scientific research**.
- Cooperation is expanding into **AI, digital governance, and advanced technologies**.

Climate and Environmental Cooperation:

- At the Leaders' Summit of **COP30 in Belém, Brazil** in 2025 India joined Brazil's **Tropical Forests Forever Facility (TFFF)** as an **observer**, supporting global efforts to protect tropical forests and calling for stronger climate action and finance under the **Paris Agreement**.

Agriculture and Food Security

- Brazil's expertise in **tropical agriculture and large-scale agribusiness** complements India's agricultural sector.
- Indian cattle breeds were exported to Brazil, which has now formed over 80% of the country's livestock, known as 'Nelore' locally (after Nellore in Andhra Pradesh).

Multilateral and Global Governance Cooperation

- India and Brazil collaborate closely in international platforms including:
  - **BRICS**
  - **IBSA Dialogue Forum**
  - **G-20**
  - **G-4 grouping for UN Security Council reform**
  - **International Solar Alliance**
  - **Biofuture Platform**
- Both countries advocate **a multipolar world order and stronger representation for developing countries**.

Cultural and People-to-People Relations

- A small but influential **Indian diaspora of about 4,000 people** lives in Brazil.
- Several Indian **IT and pharmaceutical companies operate mainly in São Paulo**, along with major business groups such as Aditya Birla Group and Sterlite Technologies.

AREAS OF CHALLENGES

Geographical Distance and Connectivity Constraints: Long distance between South Asia and South America increases **transportation costs and logistical barriers**, limiting trade expansion.

Limited Trade Diversification: Trade remains concentrated in **commodities such as petroleum, agricultural products, and minerals**, rather than high-technology goods.

Tariff and Market Access Barriers: High tariffs hinder agricultural trade; for example, **India imposes tariffs up to 100% on Brazilian chicken products**, restricting imports.

Preferential Trade Agreement Limitations: The **India–Mercosur PTA covers limited tariff lines**, reducing the potential for deeper economic integration.

Low Investment Levels Relative to Potential: Despite

growing trade, **mutual investment flows remain relatively modest**.

- **Competition in Global Agricultural Markets:** Both countries are major exporters of **sugar, agricultural commodities, and food products**, sometimes competing in global markets.

WAY FORWARD

- **Expanding the India–Mercosur Trade Agreement:** Expanding tariff coverage under the **India–Mercosur PTA** could significantly boost bilateral trade and market access.
- **Diversifying Trade into High-Technology Sectors:** Cooperation in **AI, semiconductors, digital infrastructure, biotechnology, and advanced manufacturing** can deepen economic ties.
- **Strengthening Critical Minerals Partnerships:** Brazil's large reserves of **rare earth elements, lithium, bauxite, and manganese** can help India secure supply chains for emerging technologies.
- **Enhancing Energy and Biofuel Cooperation:** Joint work on **ethanol blending, green hydrogen, and renewable energy** can accelerate energy transition.
- **Improving Connectivity and Logistics:** Direct shipping routes, logistics corridors, and digital trade platforms could reduce transportation barriers.
- **Strengthening South–South Cooperation:**India and Brazil can jointly advocate **reform of global governance institutions and greater representation for developing countries**.
- **Promoting Private Sector and Investment Partnerships:** Encouraging joint ventures and investment flows in infrastructure, manufacturing, and technology sectors.

CONCLUSION

The growing partnership between India and Brazil reflects a broader push by developing nations to strengthen economic cooperation and strategic autonomy in a changing global order. As the **"world's pharmacy" and an emerging digital superpower, India complements Brazil's role as the "world's barn" and a renewable energy superpower**, enabling deeper collaboration in trade, technology, and platforms such as BRICS to help shape a more balanced multipolar world.

SAMPLE QUESTION

Q) "India–Brazil relations represent a model of South–South cooperation." Evaluate this statement with reference to technology sharing, healthcare cooperation, and development partnerships.(**(10 marks) (150 words)**

UNDERSTANDING INDIA'S NEW GDP SERIES

Syllabus: GS III - Indian Economy

PYQ MAPPING

Q) *Define potential GDP and explain its determinants. What are the factors that have been inhibiting India from realizing its potential GDP?* ***(2020)***

Q) *Explain the difference between computing methodology of India's Gross Domestic Product (GDP) before the year 2015 and after the year 2015.* ***(2021)***

WHY IN NEWS

The Ministry of Statistics and Programme Implementation (MoSPI) has announced the release of a **new series of Annual and Quarterly National Accounts Estimates** with **FY 2022–23 as the base year**, replacing the earlier 2011–12 base year series. The revision aligns India's national income accounting with international best practices and reflects structural and methodological updates.

INTRODUCTION

- The new GDP series updates the base year to 2022–23 to better reflect the current structure of the Indian economy in the post-COVID period. Unlike routine annual revisions, which only incorporate updated data while maintaining the same framework, a base year revision involves broader changes.
- These include capturing
  - **structural shifts in the economy,**
  - **incorporating improved data sources,**
  - **refining estimation methods,**
  - **enhancing overall coverage and accuracy.**
- FY 2022–23 has been chosen as it represents a recent normal year (after COVID) with robust and comprehensive sectoral data, making it a suitable benchmark for measuring India's economic performance going forward.

SHORT TAKES

➢ **Nominal GDP**:
- Nominal GDP is the total value of goods and services produced in an economy **measured at current market prices**. It includes the effect of **inflation**, so the value can increase even if actual production has not changed.

➢ **Real GDP**:
- Real GDP measures the value of goods and services **after removing the effect of inflation** by using constant prices from a base year. It reflects the **actual growth in production and economic activity**.

➢ The **GDP deflator** is the price index used to convert nominal GDP into real GDP.
- The formula is:
- **GDP Deflator = (Nominal GDP / Real GDP) × 100**
- Think of it like adjusting money values to constant prices. If the prices of goods and services rise but the quantity produced stays the same, nominal GDP increases even though real production hasn't changed. The GDP deflator corrects this by stripping out the inflation effect.

➢ **Single Deflator Method (Old approach)**:
- In the single-deflator method, **one price index** is used to convert nominal output into real terms. The deflator is applied mainly to the **final output value**, while the **cost of inputs used in production is not separately adjusted**.
- This works reasonably well when input prices and output prices move similarly. But if input costs rise faster than output prices (or vice versa), the estimate of real value added can become **distorted**.

➢ **Double Deflator Method (New approach):**
- The double-deflation method corrects this problem by using **two separate deflators**:
  - one for **output prices** (final goods produced)
  - another for **input prices** (raw materials, intermediate goods)

➢ **Example:**
- Imagine a furniture maker. If the price of chairs rises 10% but wood prices rise 15%, the business is not actually earning more value.
- Single deflation might see the higher chair price and think production value rose strongly.
- Double deflation subtracts the higher wood

cost first and shows the true value added by the furniture maker.

➢ Both are adjusted for inflation separately before calculating **real Gross Value Added (GVA)**. This gives a **truer estimate of the value actually created by producers**.

Aspect	Single Deflation	Double Deflation
Deflators used	One	Two (input + output)
Input price adjustment	Not separate	Adjusted separately
Accuracy	Lower when prices move differently	More accurate
Global practice	Older method	Modern international standard

REVISIONS IN ECONOMIC GROWTH ESTIMATES

- Real GDP growth for **FY 2023–24** has been revised downward to **7.2%**, compared to **9.2%** under the previous series.
- Conversely, the estimate for **FY 2024–25** has been revised upward to **7.1%** from **6.5%** earlier. For **FY 2025–26**, growth is projected at **7.6%**.
- Quarterly estimates for FY26 indicate growth of **6.7% in Q1**, **8.4% in Q2**, and **7.8% in Q3**. These adjustments reflect the adoption of improved data sources and refined estimation techniques.
  - The Ministry of Statistics and Programme Implementation has also announced that a **complete back series of revised historical GDP data** will be released by **December 2026**.

IMPROVEMENTS IN ESTIMATION METHODOLOGY

- The new GDP series improves the method used to calculate **real Gross Value Added (GVA)**. Earlier, India used the **single-deflator method**, where one price index was applied only to final output to convert nominal values into real terms. This did not separately adjust the cost of inputs, which could distort growth estimates when input and output prices moved differently.
- The new series adopts the **double-deflation method**, where **separate deflators are used for output prices and input prices**. By adjusting both sides independently, it provides a **more accurate estimate of the actual value added in production** and aligns India's national accounting with international standards.
- The revised methodology also incorporates **new and richer data sources**, including **GST data, e-Vahan vehicle registration records, the Annual Survey of Unincorporated Sector Enterprises, and the Periodic Labour Force Survey**.
- In addition, national accounts have been integrated with **Supply and Use Tables**, helping reduce discrepancies between production-based and expenditure-based GDP estimates.

REVISION IN THE NOMINAL SIZE OF THE ECONOMY

- Despite improved estimates of real growth, the **nominal GDP level has been revised downward** under the new series.
- India's nominal GDP for **FY26 is now estimated at ₹345.47 lakh crore**, about **3.3% lower** than previous estimates based on the earlier series.
- Similarly, the nominal size of the economy for **FY24 and FY25** has been reduced by roughly **3.8% each**. Nominal GDP, which measures output at current prices, is crucial because many fiscal indicators are expressed relative to it.

SECTORAL PERFORMANCE OUTLOOK FOR FY26

Growth trends across sectors show mixed patterns in FY26.

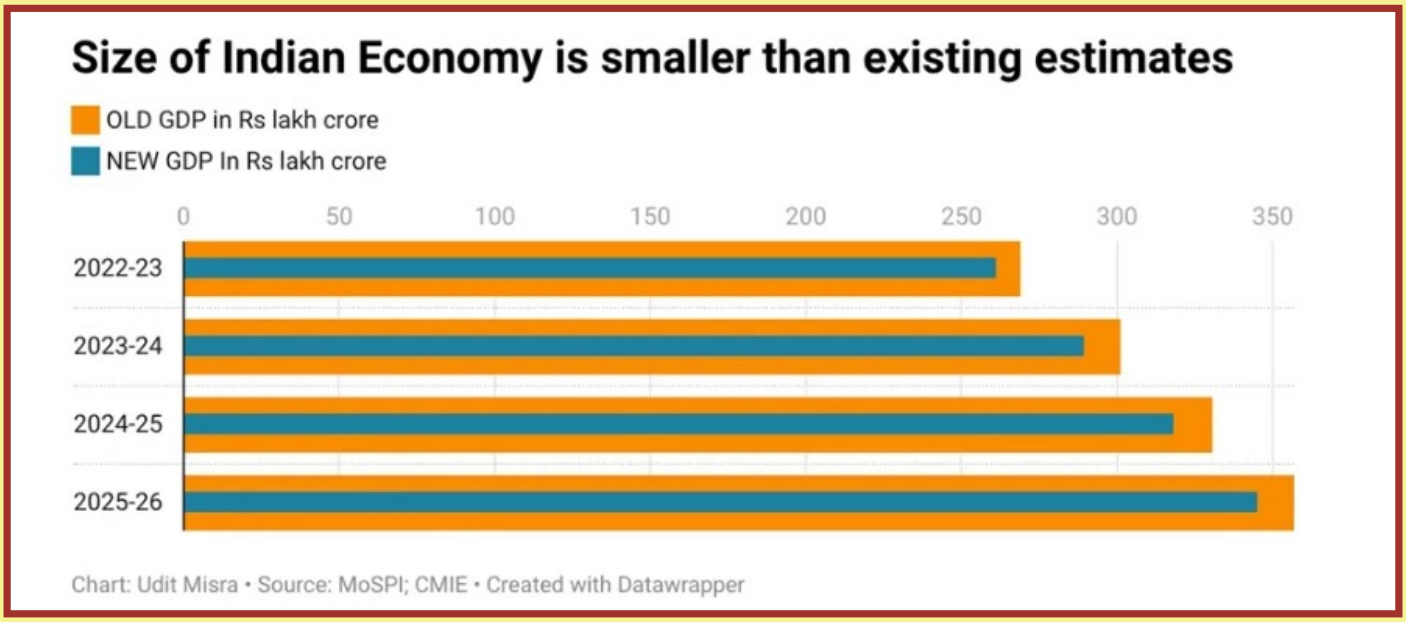
- **Industry (Secondary Sector):** Expected to expand by **9.5%**, up from **7.3%** in FY25. Manufacturing is projected to grow strongly at **12.5%**, while construction is estimated to grow **6.9%**, slightly below the previous year's **7.1%**.
- **Agriculture and Allied Activities (Primary Sector):** Growth is projected to moderate to **2.8%**, compared with **5%** in FY25. Agricultural output is estimated to grow **2.5%**, while mining and quarrying growth is expected at **5%**, lower than the earlier **11.2%**.
- **Services (Tertiary Sector):** The services sector is forecast to expand by **8.9%**, compared to **8.3%** previously. Key segments such as **trade, hotels, transport and communication** may grow **10.3%**, while **financial services, real estate, IT and professional services** are expected to grow around **10%**.

Overall, the projections indicate **strong momentum in manufacturing and services**, partly offset by **slower growth in agriculture**.

COMPARISON WITH OLD ESTIMATES

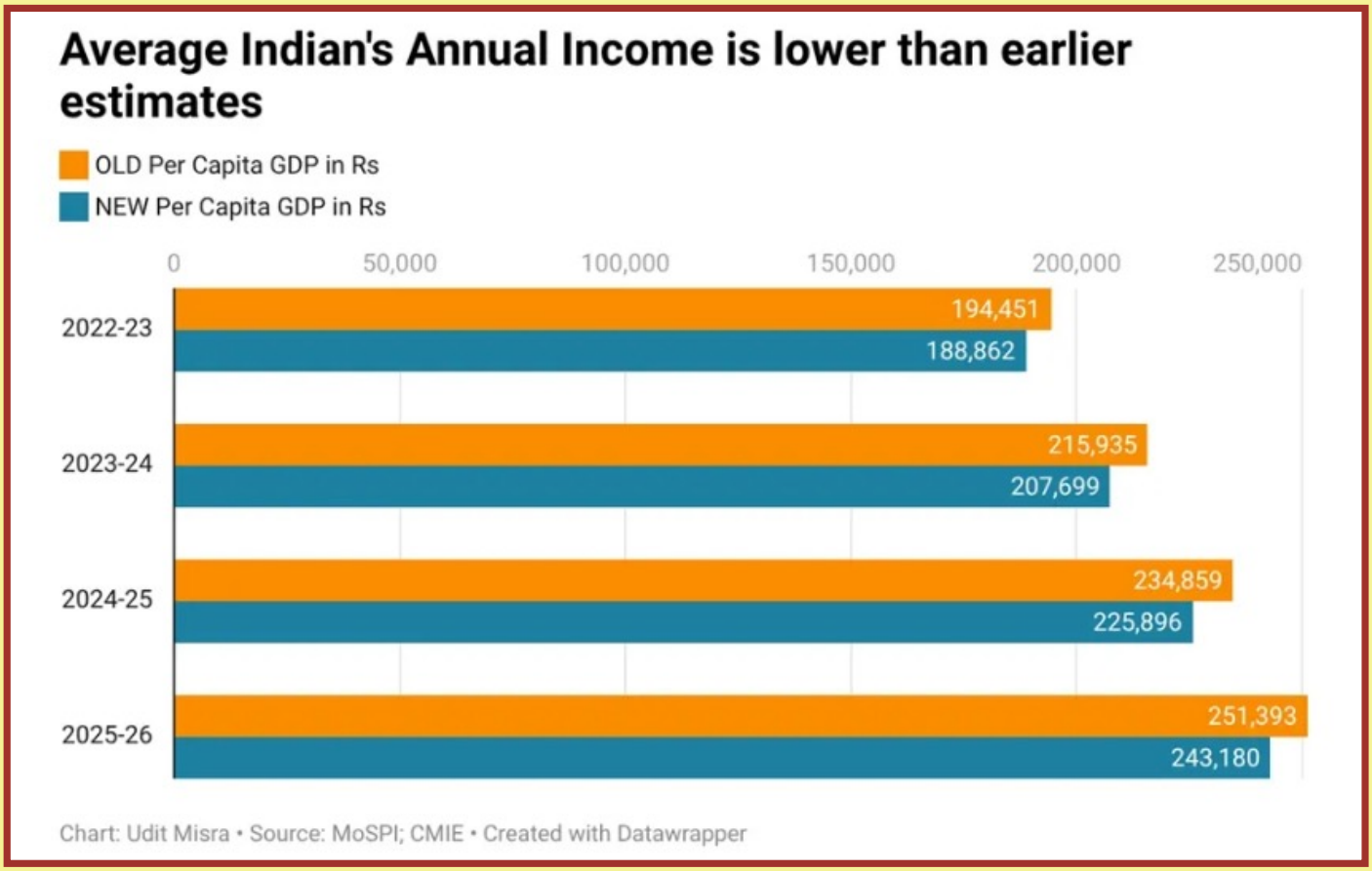
Economy smaller than earlier estimates

- Under the revised GDP series released by the Ministry of Statistics and Programme Implementation, the size of India's economy is slightly lower than previously calculated.
- For example, GDP for **2022–23 is now estimated at ₹261 lakh crore instead of ₹269 lakh crore**, while the estimate for the **current financial year has been reduced from ₹357 lakh crore to ₹345 lakh crore**.



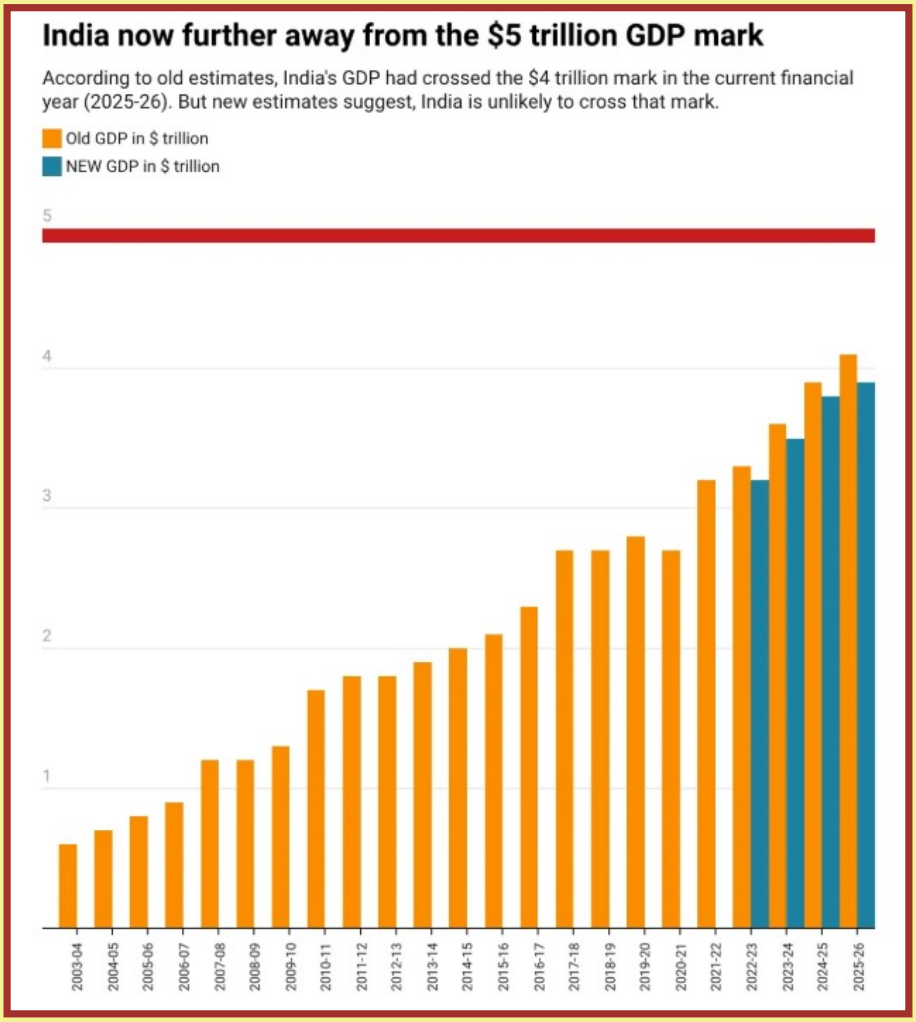
Lower per capita income

- Since per capita income is calculated by dividing GDP by population, the revised GDP figures reduce the estimated income of an average Indian.
- Earlier estimates placed **annual per capita income at about ₹2.51 lakh**, but under the new calculations it is **around ₹2.43 lakh in 2025–26**, or roughly **₹20,000 per month**.



Delay in reaching major economic milestones

- The lower nominal GDP also affects India's global economic size when converted into US dollars. With the revised estimates and depreciation of the rupee, India's economy in **2025–26 is estimated at around $3.9 trillion**, slightly below earlier estimates that suggested it had already crossed **$4 trillion**, thereby pushing the timeline for larger milestones further ahead.



HOW IS THE NEW GDP SERIES BETTER THAN THE PREVIOUS ONE?

- **Updated Base Year:** Base year changed to **2022–23**, reflecting current economic structure.
- **Improved Methodology:** Wider use of **double deflation method**, improving real value-added estimation.
- **Better Data Sources:** Incorporates updated surveys, administrative datasets and price indices.
- **More Accurate Sectoral Representation:** Better capture of agriculture and modern services like finance, IT, and real estate.
- **Improved Investment Measurement:** Gap between real and nominal **Gross Fixed Capital Formation (GFCF)** reduced.
- **Reduced Volatility:** Nominal GDP growth estimates show more stable trends.

DOES IT ADDRESS IMF CONCERNS?

- India's revised GDP methodology now broadly aligns with the **System of National Accounts (SNA) 2008**, the global framework recommended by the **International Monetary Fund** and other international institutions.
- The revision incorporates:
  - Improved sectoral classification
  - Updated price indices
  - Adoption of modern deflation techniques
- However, global accounting standards continue to evolve. The **SNA framework was updated again in 2025**, and many multilateral agencies are beginning to adopt those revisions. India is expected to incorporate those changes in the **next base year revision around 2027-28**.
- So the new series addresses earlier concerns but **future updates will still be required**.

The **System of National Accounts 2008 (SNA 2008)** is an **international statistical framework used to measure a country's economic activity**, including GDP, national income, consumption, and investment. It provides **standard rules and methods for compiling national accounts**, ensuring that economic data of different countries are **consistent and comparable**. The framework was developed by global institutions such as the **International Monetary Fund**, **United Nations**, **World Bank**, and **Organisation for Economic Co-operation and Development**.

SCOPE FOR FURTHER IMPROVEMENT

- **Better measurement of the informal sector**, which remains large in India.
- **Capturing the digital economy** and platform-based services.
- Improving **real-time data collection** for quicker GDP estimates.
- Integration of **big data and administrative datasets**.
- Adoption of **latest international national accounting standards** in future revisions.

RELEVANCE FOR GST AND TAX ANALYSIS

- GDP data is essential for analysing the relationship between economic growth and tax collections, including **Goods and Services Tax**.
- Better GDP measurement improves:
  - estimation of **tax buoyancy** (how tax revenue grows with GDP)
  - understanding of **sector-wise tax contributions**
  - forecasting of **government revenues**
- Since consumption accounts for a large share of GDP, improved estimates of consumption patterns help policymakers better evaluate **GST performance and tax policy effectiveness**.

CONCLUSION

Economic measurement must evolve as the economy changes. The new National Accounts series with **FY 2022–23 as the base year** improves the accuracy of GDP estimates through updated data and methodologies aligned with global standards. It provides a more realistic picture of India's economic structure, strengthening the basis for policymaking and fiscal analysis.

SAMPLE QUESTION

Q) "India has introduced a new GDP series with 2022–23 as the base year replacing the 2011–12 series." Discuss the need for revising the GDP base year. Examine the key methodological changes and their implications for economic analysis and fiscal policy. **(15 marks) (250 words)**

WEEKLY DOSSIERS

INSIGHTS FROM STATE OF INDIA'S ENVIRONMENT 2026

The report **State of India's Environment 2026** released by the **Centre for Science and Environment** highlights the growing environmental challenges facing India. It presents a comprehensive overview of climate change impacts, biodiversity stress, and pollution issues, indicating that environmental risks are becoming more frequent and severe.

Issues

- **Rising Extreme Weather Events:** India experienced extreme weather on **99% of days in 2025**, including heatwaves, floods, and heavy rainfall. These events caused **4,419 deaths** and damaged **17.41 million hectares of crops**, indicating increasing climate vulnerability.
- **Increasing Flood Risks:** Climate change and unplanned urbanisation are intensifying floods. Encroachment of floodplains, wetland loss, and poor drainage systems worsen flood impacts.
- **Human–Wildlife Conflict:** Growing tiger populations and expanding human settlements near forests have increased encounters. Around **43 deaths due to tiger attacks** were reported in early 2025, reflecting habitat pressure and prey scarcity.
- **Air Pollution Monitoring Gaps:** Only **15% of Indians live near air quality monitoring stations**, leaving about **85% of the population without reliable pollution data**, especially in smaller towns and industrial regions.

Way Forward

- Integrating **climate science into urban planning**
- Expanding **air quality monitoring networks**
- Promoting **nature-based solutions**
- Strengthening **disaster preparedness systems**
- Ensuring **sustainable wildlife management outside protected areas**

Conclusion

- The report underscores that environmental challenges in India are intensifying due to climate change and developmental pressures. A balanced approach combining ecological conservation with sustainable development is essential to ensure long-term environmental security and resilience.

CLIMATE CHANGE AND THE NEED FOR REFORMS IN INTERNATIONAL LAW

Climate change is no longer only an environmental challenge; it is beginning to reshape the **foundations of international law**. Rising temperatures, sea-level rise, and climate-induced migration are questioning long-standing legal principles related to sovereignty, statehood, and maritime rights. These challenges require reforms within global frameworks such as the **United Nations Framework Convention on Climate Change**.

Key Issues

- **Permanent Sovereignty over Natural Resources (PSNR):**
  - The principle of PSNR allows states to exploit natural resources, including fossil fuels, for economic development. However, global climate goals to limit warming to **1.5°C** have triggered calls for a **Fossil-Fuel Non-Proliferation Treaty** to restrict extraction.
  - Developing countries argue that any restrictions must be accompanied by climate finance and technology transfer from developed nations.
- **Threat to Statehood due to Sea-Level Rise:**
  - International law traditionally requires territory for statehood, as recognised in the **Montevideo Convention**.
  - Rising sea levels threaten small island nations with territorial loss, raising questions about whether states can continue to exist if their land disappears.
- **Climate-Induced Migration:**
  - The **1951 Refugee Convention** does not recognise climate refugees. People displaced by sea-level rise or extreme climate events lack legal protection under existing refugee law.
- **Maritime Boundary Disputes;**

- Sea-level rise may alter coastlines and baselines that determine maritime zones under the **United Nations Convention on the Law of the Sea**, potentially affecting territorial seas, EEZs, and continental shelf rights.

Way Forward

- **Recognise Climate Refugees:** Create a legal framework under the **United Nations Framework Convention on Climate Change** to recognise and protect people displaced by climate change.
- **Fix Maritime Baselines:** Stabilise maritime boundaries under the **United Nations Convention on the Law of the Sea** so sea-level rise does not alter EEZ and territorial claims.
- **Ensure Continuity of Statehood:** Allow small island nations to retain legal statehood even if territory is partially lost due to sea-level rise.
- **Regulate Fossil Fuel Extraction:** Promote a **Fossil-Fuel Non-Proliferation Treaty** while ensuring climate finance and technology transfer for developing countries.
- **Strengthen Global Climate Governance:** Expand international cooperation under the **Paris Agreement** to address emerging legal challenges of climate change.

Conclusion

Climate change is challenging core principles of international law. Addressing these emerging legal gaps through cooperative reforms will be essential to maintain global stability and justice in the climate era.

INDIA'S 'LEAKY PIPELINE' IN STEM RESEARCH

The concept of the **"leaky pipeline"** refers to the gradual loss of women at different stages of STEM education and careers. Globally, women represent only about **30% of the STEM workforce**. Interestingly, India appears different at the education level, as it produces one of the **highest proportions of female STEM graduates**. However, despite strong participation in science education, women remain under-represented in research careers.

Issues

- **High Entry but Low Retention:**
  - Women constitute nearly **43% of STEM graduates** and close to **50% at the master's and PhD levels**, yet they form only **18% of India's research and development workforce**.
- **Low Representation in Research Institutions:**
  - Women scientists account for less than **30% in national research organisations**. Their representation is particularly low in institutions such as **Defence Research and Development Organisation** and **Indian Institute of Science**.
- **Socio-cultural Barriers:**
  - Marriage, relocation, childcare responsibilities, and societal expectations often coincide with the critical career-building phase after a PhD, limiting women's access to research jobs.
- **Structural Constraints:**
  - Strict age limits in recruitment, limited permanent positions, and rigid geographic requirements make it difficult for women to secure long-term scientific careers.
- **Position Gap:**
  - Many women scientists end up in **temporary, contractual, or fellowship-based roles** with limited career progression.

Way Forward

- Introduce **flexible recruitment policies and age relaxations** for women scientists.
- Expand **childcare support and family-friendly workplace policies** in research institutions.
- Increase **permanent research positions and targeted recruitment drives for women**.
- Promote **institutional accountability for gender parity in STEM careers**.
- Strengthen mentorship, funding schemes, and return-to-work programs for women researchers.

Conclusion

India's STEM pipeline is not failing at the education stage but during the transition to research careers. Addressing social and structural barriers is essential to ensure that trained women scientists can contribute fully to India's scientific and innovation ecosystem.

BEYOND VERDICTS: KEY JUDICIAL INTERVENTIONS

Kerala HC Case Management System

- The **Supreme Court of India** praised the **Kerala High Court** for developing an **indigenous Case Management System (CMS)** aimed at achieving **complete automation and paperless court functioning**.
- The system manages the entire **case-flow process from filing to uploading of orders**, enabling transparency, accessibility, and interoperability. Unlike many courts that rely on outsourced software, the Kerala High Court created the system internally with a **specialised five-member IT team formed in 2019**.
- The CMS also provides **digital dashboards for judges, advocates, litigants, and government counsels**, and can automatically integrate data from **e-filed cases**, improving efficiency and access to justice.

Role of Artificial Intelligence in the Judiciary

- Artificial Intelligence is increasingly being used to improve the efficiency and accessibility of the judicial system.
- AI-based tools help enhance **courtroom efficiency** by enabling voice-to-text transcription, smart scheduling, and case prioritisation, thereby reducing delays and backlog; for instance, **ASR-SHRUTI** assists judges by converting speech into text for drafting orders and judgments.
- AI also supports **legal research and documentation** by analysing large databases of case laws, identifying relevant precedents, and summarising complex judgments, as seen in tools like **SUPACE** and **SARANSH**.
- Further, AI promotes **language accessibility** by translating legal documents into regional languages, helping litigants overcome the English-language barrier and contributing to the democratisation of justice; an example is **SUVAS**.
- Additionally, **predictive analytics** using AI can analyse past judgments to indicate possible case outcomes, encouraging out-of-court settlements and reducing the burden on courts.

Supreme Court on Fraternity and Freedom of Expression

- In **Atul Mishra v. Union of India (2026)**, the **Supreme Court of India** examined a petition challenging the title of a proposed film for allegedly stereotyping a community.
- The Court reaffirmed that insulting or vilifying communities on the basis of caste, religion, language, or region is constitutionally impermissible, highlighting that **fraternity is essential for sustaining liberty and equality in a democracy**.
- Referring to **B. R. Ambedkar**, the Court reiterated that liberty, equality, and fraternity form an inseparable constitutional trinity.
- At the same time, the Court upheld the freedom of artistic expression under **Article 19(1)(a) of the Indian Constitution**, noting that restrictions under **Article 19(2) of the Indian Constitution** must be based on necessity and not merely on public sentiment.

Contempt of Court

- The **Supreme Court of India** observed that references to "corruption in the judiciary" in textbooks of the **National Council of Educational Research and Training** could fall within the scope of criminal contempt if they undermine the authority of courts.
- Contempt of court refers to acts that disrespect judicial authority or obstruct the administration of justice. Under the **Contempt of Courts Act, 1971**, it is classified into **civil contempt**, which involves wilful disobedience of court orders, and **criminal contempt**, which includes acts or publications that scandalise the court, prejudice judicial proceedings, or interfere with justice.
- Constitutionally, **Article 129 of the Constitution of India** and **Article 215 of the Constitution of India** empower the Supreme Court and High Courts respectively to punish for contempt.

Menstrual Health as a Fundamental Right

- The **Supreme Court of India**, in **Dr. Jaya Thakur v. Government of India**, held that **menstrual health forms part of the right to life and dignity under Article 21 of the Constitution of India**.
- The Court directed all States and Union Territories to ensure the **implementation of the Menstrual Hygiene Policy for school-going girls** and provide **free biodegradable sanitary pads to girls in Classes VI–XII** in all government and private schools.
- It also mandated **functional gender-segregated toilets with water, soap, and proper sanitary waste disposal systems**, along with menstrual hygiene management facilities in schools.
- The Court emphasised that the lack of menstrual hygiene measures undermines **dignity, equality, and the right to education** under **Article 14 of the Constitution of India** and **Article 21A of the Constitution of India**, as it forces many girls to miss school or adopt unsafe practices, thereby reinforcing gender inequality.

ETHICS - CASE STUDY

Q) You are the **Municipal Commissioner** of a rapidly growing city. Despite the legal prohibition of manual scavenging under the **Prohibition of Employment as Manual Scavengers and their Rehabilitation Act, 2013**, several sanitation workers are still being informally employed by private contractors to clean septic tanks and sewers without protective equipment. Recently, two workers died due to toxic gas inhalation while cleaning a sewer line. The incident has triggered public outrage and protests by civil society groups demanding strict action against contractors and immediate rehabilitation of sanitation workers. At the same time, municipal officials argue that the city lacks sufficient mechanized equipment for sewer cleaning and that an immediate ban on manual work may disrupt sanitation services in the city. Contractors are also influential and have political connections. As the Municipal Commissioner, you must address the crisis while ensuring justice for the affected workers and maintaining essential public services.

In this context:

a. Identify the **ethical issues and stakeholders** involved in the case.

b. What **values and ethical principles** should guide your decision as a public servant?

c. What **options** are available to you? Examine their merits and demerits.

d. What **course of action** would you adopt to uphold **human dignity, rule of law, and social justice**? Explain.

ETHICS - EXAMPLES

1. **Empathy:** In Ernakulam, a cat trapped for about 15 days on a metro pillar near the Jawaharlal Nehru International Stadium was rescued after a six-hour overnight operation by Fire and Rescue officials and Kochi Metro Rail Limited, with metro services briefly suspended to facilitate the effort.
2. **Governance Ethics:** Hilly Aqua, the State-run drinking water brand of Kerala, has introduced biodegradable 300 ml bottles made from Polylactic Acid (PLA), a plant-based bioplastic derived from corn and sugarcane.The brand offers 1-litre bottles at ₹15, priced at ₹10 at Kerala State Road Transport Corporation and railway stations.
3. **Social Responsibility**: Hitarth Pandya, a former journalist, founded the Kids for the Environment Development Initiative (KEDI) in Vadodara, teaching nearly 20,000 children hands-on farming, ecosystem awareness, and the economics of agriculture through activities like KEDI Haat and the Harvest Festival.
4. **Animal Ethics:** Gauri Maulekhi works to rescue and rehabilitate equines (horses, mules, and donkeys) in Uttarakhand, running the State's only equine sanctuary and training over 5,000 officials to ensure proper care. Through the AHIMSA Fellowship, 59 fellows and 50,000 volunteers have been trained, impacting the lives of around 50 lakh animals.
5. **Environmental Ethics:** Shubham Kumar started the Ganga Ghat Safai Abhiyaan in Patna, cleaning the ghats every Sunday and engaging shopkeepers and volunteers, leading to a 98% drop in thermacol plates, 65% fewer plastic glasses, and recycling over 2 lakh plastic bottles.
6. **Humility/Dedication**: Born in Kolkata in 1956, Professor Ashoke Sen made groundbreaking contributions to string theory, including the Sen Conjecture and work on strong-weak coupling duality. Despite receiving the inaugural Fundamental Physics Prize in 2012, he donated much of the award to support students and scientific research, continuing to cycle to work and pursue his studies in a modest office.
7. **Communal Harmony:** In Tamil Nadu, the Masi Magam festival in Killai sees the Sri Bhu Varaha Swamy temple deity's procession pause at the Dargah of Saint Hazrath Syed Sha Rahmathulla Shuttari, where Muslims offer prayers and donations. The tradition honors a 1720 land grant from the saint to the temple, with offerings of rice, cash, silk, fruits, and coconuts, followed by prayers for world peace.
8. **Human Rights:** Two Indore Municipal Corporation workers, Karan Yadav and Ajay Dodi, died of asphyxiation after inhaling toxic gas inside a sewer chamber near Choithram Hospital gate while retrieving a suction pipe. Their bodies were recovered and the Madhya Pradesh government announced ₹30 lakh compensation for each family.

MODEL ESSAY

"Everyone thinks of changing the world, but no one thinks of changing himself"

Introduction

- Quote by Leo Tolstoy
- Lasting change in the world begins from personal transformation.
- Relevant in an age of social media activism and rapid critiques of global issues

Importance

- **Builds Moral Credibility:** Personal integrity strengthens the legitimacy of one's demand for social reform.
- **Creates Ripple Effect:** Individual behavioural change influences family, community and society gradually.
- **Strengthens Democratic Responsibility:** Self-aware citizens are more accountable and less likely to engage in corruption or unethical practices.
- **Ensures Sustainable Social Reform:** Reforms last longer when rooted in individual transformation rather than temporary external pressure.

Examples

- **Nelson Mandela:** Entered prison in 1964 as a militant anti-apartheid leader but used his 27 years on Robben Island to cultivate forgiveness and reconciliation, enabling a peaceful democratic transition in South Africa.
- **Leo Tolstoy**: Born into wealth and excess, underwent a spiritual crisis in his 50s, renounced luxury, adopted simplicity and non-resistance, and influenced global leaders like Mahatma Gandhi
- **Steve Jobs**: Fired from Apple Inc. in 1985 for being abrasive but returned in 1997 to revolutionize industries with products like the iPod, iPhone and iPad.
- **James Clear**, after a severe baseball injury in high school, focused on small daily improvements that later became the global bestseller Atomic Habits.

Challenges

- **Performative Activism**: Many people share or like social causes online but don't take sustained action to change behaviours or systems- known as **slacktivism**
- **Ego and Blame Culture:** Individuals blame governments or society but hesitate to reform their own habits.
- **Systemic Pressure:** Honest individuals may struggle within corrupt systems. **Eg**: Whistleblower Satyendra Dubey exposed corruption in the Golden Quadrilateral project but faced fatal consequences.
- **Social Conditioning:** Deep-rooted traditions discourage questioning or self-change. **Eg**: Raja Ram Mohan Roy had to challenge entrenched customs like Sati.

Way Forward

- **Lead by Example:** Personal transformation inspires collective action. **Eg**: Mahatma Gandhi practised simplicity and non-violence before mobilising masses.
- **Grassroots Self-Reform**: Community-level discipline can transform society.
- **Moral Leadership**: Forgiveness and integrity rebuild divided societies.
- **Youth Responsibility:** Young individuals taking personal initiative can influence policy.

Conclusion

- History proves that leaders who mastered their own fears, habits, and biases were able to inspire millions and transform societies peacefully.
- The path to a better world begins with self-reflection, inner growth, and the courage to act ethically in daily life.

Sample Quotes

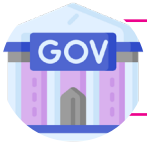
- *Silence is better than unmeaning words - Pythagoras*
- *The greatest minds are capable of the greatest vices as well as of the greatest virtues - Rene Descartes*
- *What sculpture is to a block of marble, education is to the soul - Joseph Addison*

MAINS JOT DOWN

GS III: *DEFENCE*

- The **Indian Navy** will commission **INS Anjadip** at Chennai. It is the **third vessel in the series of eight Anti-Submarine Warfare Shallow Water Craft (ASW-SWC)** being inducted to strengthen India's coastal defence capabilities. The ship is named after **Anjadip Island**, located off the coast of Karwar in Karnataka.
- Constructed by **Garden Reach Shipbuilders and Engineers (GRSE), Kolkata**, the vessel is specifically designed for operations in **littoral or shallow water combat environments**.
- It is equipped with indigenous anti-submarine warfare systems and sensors, including the **Abhay Hull Mounted Sonar**, enabling effective detection and tracking of enemy submarines. With its high-speed **water-jet propulsion system**, the ship acts as a "**Dolphin Hunter**," focused on locating and neutralising underwater threats near India's coastline.

- The **Defence Research and Development Organisation** has successfully conducted flight trials of the **Very Short-Range Air Defence System (VSHORADS)**.
- It is a **Man-Portable Air Defence System (MANPADS)** indigenously developed by **Research Centre Imarat**.
- The system is designed to **intercept and destroy high-speed aerial threats at varying ranges and altitudes**. Once inducted into the **Indian Army**, **Indian Navy**, and **Indian Air Force**, it will strengthen India's **layered air defence capabilities**.



GS II: *GOVERNMENT POLICIES AND INTERVENTIONS*

- The Government of India has launched a **Central Bank Digital Currency (CBDC)-based Digital Food Currency pilot** to facilitate **Direct Benefit Transfer (DBT)** under the **Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY)**.
- Launched in 2020, the scheme aims to ensure food security for poor, migrant, and vulnerable households during crisis periods. It covers beneficiaries under the **National Food Security Act, 2013**, including Antyodaya Anna Yojana (AAY) households and Priority Household (PHH) families.
- Under the scheme, AAY households receive **35 kg of food grains per month**, while PHH beneficiaries are entitled to **5 kg of food grains per person per month free of cost**. The CBDC pilot seeks to improve transparency and efficiency in the distribution of food subsidies.

- The **Atal Innovation Mission (AIM)** under **NITI Aayog** has launched the first **State Innovation Mission (SIM)** in **Tripura** as part of the **AIM 2.0 State Support Mission framework**.
- AIM, launched in 2016, aims to promote innovation and entrepreneurship across India through initiatives such as Atal Tinkering Labs, Atal Incubation Centres, and Atal Community Innovation Centres.
- The SIM initiative is designed as a long-term institutional mechanism to assist States and Union Territories in building robust, inclusive, and region-specific innovation ecosystems aligned with national priorities and local strengths.

GS I: *IMPORTANT PERSONALITIES IN NEWS*

- **National Science Day** is celebrated in India on **28 February** to commemorate the discovery of the **Raman Effect** in 1928 by eminent physicist **C. V. Raman**, who was born in **Tiruchirappalli**, Tamil Nadu.
- The Raman Effect explains the **change in wavelength of light when it is scattered by molecules**, providing crucial insights into molecular structure and vibrations and forming the basis of modern spectroscopy.
- Apart from this discovery, Raman made important contributions to **optics, crystallography, solid-state physics, and the acoustics of Indian musical instruments**. For his groundbreaking work, he was awarded the **Nobel Prize in Physics in 1930** and later honoured with the **Bharat Ratna in 1954**.

GS II: *INTERNATIONAL RELATIONS*

- **India** and the **European Union** have agreed to grant each other **Most Favoured Nation (MFN)** status in **trade in services for a period of five years**.
- MFN is a key principle of the **World Trade Organization**, which requires member countries to extend the same favourable trade terms, such as reduced tariffs or improved market access, offered to one trading partner to all other WTO members.
- However, the WTO framework allows certain exceptions, particularly for **regional trade agreements, free trade agreements, and special provisions benefiting developing countries**.

- The **11th edition of the Raisina Dialogue** was held in **New Delhi**, with the theme **"Saṁskāra – Assertion, Accommodation, Advancement."**
- During the event, the inaugural **Raisina Science Diplomacy Initiative** was also launched.
- Raisina Dialogue is **India's premier conference on geopolitics and geoeconomics**, organised annually since 2016 by the **Observer Research Foundation** in partnership with the **Ministry of External Affairs**. The event is administered by the **Raisina Platforms and Ideas Forum**.

GS I: *INDIAN SOCIETY*

- The **Casebook on AI and Gender Empowerment** has been launched as a joint initiative of the **Ministry of Electronics and Information Technology** and **UN Women**, with support from the **Ministry of Women and Child Development**.
- The casebook highlights **gender-responsive Artificial Intelligence solutions from the Global South**, aiming to showcase how AI can be used to promote **women's empowerment, digital inclusion, and gender equality**. It also serves as a knowledge resource to guide policymakers, researchers, and innovators in developing inclusive and responsible AI systems.

GS III: *ENVIRONMENT*

- The Union Minister for Environment, Forest and Climate Change inaugurated the **25th edition of the World Sustainable Development Summit (WSDS)** organised by **The Energy and Resources Institute**. The theme of the summit is **"Transformations: Vision, Voices, and Values for Sustainable Development."**
- Along with the summit, the Minister also launched **Him-CONNECT**, an initiative of the **Ministry of Environment, Forest and Climate Change** aimed at linking scientific research with real-world applications in the Himalayan region.
- It seeks to **connect researchers with start-ups, industry leaders, investors, and policymakers**, thereby bridging the gap between science and society. The platform will help translate research conducted under the **National Mission on Himalayan Studies** into scalable and practical solutions for sustainable development in the Himalayan ecosystem.

- **India** has submitted its **Seventh National Report** to the **Convention on Biological Diversity**, prepared by the **Ministry of Environment, Forest and Climate Change** as required under Article 26 of the CBD.
- The report presents the first comprehensive assessment of progress towards the **23 targets of the Kunming–Montreal Global Biodiversity Framework**.
- It states that India's **National Biodiversity Strategy and Action Plan** is aligned with these targets and that all **National Biodiversity Targets are on track**.
- The report also highlights that India ranks **9th globally in forest area**, with **25.17% forest and tree cover**, has restored **24.1 million hectares of degraded land**, ranks **5th among global carbon sinks**, and has achieved **51.93% non-fossil fuel power capacity**, exceeding its climate target.

CHERRYPICKS OF THE WEEK

RIVER RANCHING

- It is a **sustainable aquaculture practice** in which fish are bred and raised in captivity during their early life stages and later released into rivers to grow in their natural habitat before being harvested as adults. It is considered an **ex-situ method of aquatic biodiversity conservation.**

BIOSURFACTANTS

- They are **surface-active molecules produced by microorganisms** such as bacteria, yeasts, and fungi.
- They have the ability to **reduce surface and interfacial tension** between liquids, solids, and gases.
- Unlike synthetic surfactants derived from petroleum, biosurfactants are **biodegradable, environmentally friendly, and less toxic**. Due to these properties, they have several potential applications including **bioremediation of polluted environments.**

MOIST HEATWAVE

- It occurs due to the combined effect of **high temperature and high humidity** in the atmosphere.
- It is particularly dangerous because high humidity **prevents sweat from evaporating**, which traps heat in the human body and leads to rapid overheating.
- The combined impact of temperature and humidity is measured using the **Wet-bulb temperature**, which refers to the **lowest temperature that air can reach through the evaporation of water at constant pressure**.

RED TEAMING

- It refers to testing **AI models for vulnerabilities and harmful behaviour** by deliberately provoking them to generate unsafe, biased, or inaccurate outputs.
- The concept originated in the **United States military during the Cold War** and later expanded to cybersecurity and AI safety. By exposing weaknesses such as data leaks or toxic content, developers can retrain and refine the model to improve **security, reliability, and alignment**.

SIGMA (Σ) CYCLE

- It refers to a widely accepted mechanism regulating **gene activation in bacteria**. In this process, **sigma factors bind to RNA polymerase to initiate transcription**, the stage where genetic information from DNA is copied into RNA. After initiating transcription, the sigma factor detaches, allowing RNA polymerase to continue the transcription process.
- This model was primarily developed from studies on the bacterium **Escherichia coli** and its major sigma factor **σ70 sigma factor**.