

## DAILY CURRENT AFFAIRS (DCA)

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## INDIA EXPANDS MEDICAL EDUCATION

### Context

- The Union Cabinet has approved the addition of **10,023 medical seats** with an investment of **Rs. 15,034 crore**, as part of the goal to create **75,000** medical seats within the next five years.

### About

- The Cabinet approved **5,000 post-graduate** and **5,023 undergraduate (MBBS) seats** in government colleges and hospitals by **2028-29**.
- The Union government will fund **68.5%** of the project (**Rs. 10,303.20 crore**), with the remaining **Rs. 4,731.30 crore** contributed by states.

### India's Flourishing Medical Infrastructure

- Medical colleges in India doubled to **808 in 2025-26** from 387 in 2013-14, with undergraduate seats up 141% and postgraduate seats up 144%.
  - There are **1,23,700 MBBS** (Bachelor of Medicine, Bachelor of Surgery) seats today.
- 22 new All India Institute of Medical Sciences (AIIMS)** were approved under the **Pradhan Mantri Swasthya Suraksha Yojana**, which aims to make affordable and reliable tertiary healthcare accessible to all people.
- To facilitate the addition of new faculty, the **National Medical Commission** notified the **Medical Institution (Qualifications of Faculty) Regulations, 2025** recently.

### Growth of Medical Education (2013-14 to 2025-26)

Medical colleges expanded from 387 to 808 (109% increase)  
Undergraduate seats grew by 141% to 1,23,700  
Postgraduate seats showed the highest growth at 144%



### Impacts of Expanding Medical Education in India

- Aspiring medical students will get **more opportunities** to pursue a medical education in India.
- The quality of medical education** will be enhanced and will meet global standards.

- With more doctors and specialists, India can become a prime destination for providing **affordable healthcare and boost foreign exchange**.
- Underserved rural and remote areas** will get **accessible healthcare**.
- New direct and indirect jobs** will get added (doctors, faculty, paramedical staff, researchers, administrators and support services).

### What are the Challenges?

- Rural Doctor Shortages:** Despite efforts, rural India continues to face severe shortages of doctors and healthcare professionals, leading to disparities in healthcare access.
- Limited Medical Research Funding:** Medical research in India is constrained by inadequate funding and resource limitations, leading to a gap in research and innovation in medical education.
- Brain Drain:** Many highly skilled doctors and specialists prefer working abroad due to better pay, research opportunities, and work environment.
  - Expansion of seats may not automatically retain talent if incentives and career growth opportunities are not improved.

### Way Ahead

- Expand the pool of qualified teachers** by leveraging experienced specialists, retired faculty, and visiting professors.
  - Introduce continuous professional development programs and incentives for rural postings.
- Leveraging Technology:** Integrate digital learning, telemedicine, and AI-based training tools into medical education.
- Resource Upgradation:** Modernize teaching hospitals with advanced labs, simulation facilities, and research centers.
- Research and Innovation Opportunities:** Establish state-of-the-art research centers and collaborations with global institutions to encourage doctors to pursue advanced studies domestically.

### Concluding remarks

- Expanding medical seats marks a significant leap forward in India's journey toward universal healthcare.
- It will strengthen the medical workforce, raise education standards, and expand quality

healthcare nationwide, making India a global leader in affordable care.

Source: PIB

## FOOD LOSS AND WASTE

### Context

- On September 29, the world observes the **International Day of Awareness of Food Loss and Waste (IDAFLW)**.

### About

- In 2019, the UN General Assembly adopted a resolution proclaiming an **International Day of Awareness of Food Loss and Waste (IDAFLW)**.
- SDG 12** seeks to ensure sustainable consumption and production patterns.
  - Target 12.3** aims to “halve per capita global food waste at the retail and consumer levels and reduce food losses along production and supply chains” by 2030.

### What is Food Loss and Waste?

- Food wastage** includes edible and inedible parts discarded from the food supply chain, from manufacturing and retail to restaurants and households.
- Food loss** occurs **earlier in the supply chain** due to issues such as poor storage, transport and handling.

### Scale of Food Loss and Waste

- Global:** An estimated 13% of food – the equivalent of 1.25 billion tonnes – was lost globally after harvest and prior to reaching retail shelves in 2021 (FAO, 2023).
  - An estimated 19% of food – the equivalent of 1.05 billion tonnes – was wasted in households, food service and retail in 2022 (UNEP, 2024)
  - Households account for 60% of global food waste (UNEP, 2024).
- India:** India's position as **one of the highest food-wasting nations**, second only to China.
  - While the per capita household food waste in India (55 kilograms annually) is lower than other countries, India's large population represents an immense volume of wasted food.
  - Post-harvest losses cost ~₹1.5 trillion annually (~3.7% of agricultural GDP).

### Reasons for the Food Loss and Waste

- Harvesting Inefficiencies:** Premature or delayed harvesting leads to the quality & quantity loss.
- Mechanisation Gaps:** Limited access to harvest machinery causes damage & spillage.
- Pest & Disease Attacks:** Inadequate pest control leads to crop spoilage.
- Inadequate Infrastructure:** Shortage of cold chains, warehouses, moisture-proof silos leads to the rotting/decay of the food items.
- Transport Bottlenecks:** The road infrastructure is not robust and there is a lack of refrigerated transport support.
- Cultural Practices:** There is a preference among people for fresh produce and avoidance of produce with blemishes.
- Household food waste** arises from over-purchasing, poor meal planning, limited storage, and cultural habits of cooking in excess.
  - In urban areas, retail losses stem from **poor refrigeration and short shelf life**.

### Concerns of Food Loss and Waste

- Complex Challenge in India:** An estimated 78 million tonnes of food are discarded each year, even as over 20 crore Indians go to bed hungry.
  - As one of the world's largest food producers, India faces a complex challenge: abundant production alongside persistent food insecurity.
- Direct GDP Loss:** In India, food wastage and loss is estimated at ₹1.5 trillion annually of GDP loss which can be avoided through more efficient and resilient food systems.
- Farmer Incomes:** It leads to reduced profitability due to spoilage and wastage of produce.
- Green House Gas Emissions:** Even modest percentage losses in cereals, particularly paddy, translate into more than 10 million tonnes of carbon dioxide (CO<sub>2</sub>)-equivalent emissions annually, owing to the **high methane intensity** of rice.
  - Losses of livestock products are equally damaging because of their **heavy resource footprint**.
- Burden on government schemes:** The food wastage also has a cascading impact on the government food security schemes such as Public Distribution System, nutrition missions.

- **Loss of Resources:** The production of these food crops is a cumulative result of proper water supply, energy, fertilizer, land and labour.
  - ♦ The food lost is equivalent to the wasted water, energy, fertilizer, and land etc.

#### Government Initiatives

- **Pradhan Mantri Kisan Sampada Yojana (PMKSY):** Its objective is to enhance food processing infrastructure to reduce post-harvest losses and improve farmers' incomes.
  - ♦ **Components:**
    - Establishment of mega food parks and cold chain facilities.
    - Support for agro-processing clusters and food testing labs.
    - Credit-linked capital subsidies for micro food processing units.
- **Indian Food Sharing Alliance (IFSA):**
  - ♦ **Implementing Agency:** Food Safety and Standards Authority of India (FSSAI).
  - ♦ **Purpose:** Promote food donation and reduce food waste across the supply chain.
  - ♦ Connects food businesses, NGOs, and citizens to facilitate safe redistribution of surplus food.
- **Zero Waste, Zero Hunger Initiatives:** Tinsukia Municipal Board's program in Assam.
  - ♦ **Approach:** Collects surplus, hygienic food from hotels and restaurants.
  - ♦ Repackages and distributes it to homeless individuals.
- **Promotion of Food Recovery Campaigns:** "Save Food, Share Food, Share Joy" campaign by FSSAI.
  - ♦ It encourages citizens and businesses to donate surplus food.
  - ♦ Provides a platform for food recovery agencies to coordinate efforts.
- **MoFPI co-ordinates with FSSAI** on various issues related to quality and standards for the processed food products.

#### Way Ahead

- Food loss and waste is not only an issue of efficiency but also of **climate justice, sustainability, and equity.**
- For India, tackling it offers a **triple dividend** — enhancing food security, strengthening farmer livelihoods, and advancing climate commitments.

- The International Day of Awareness on Food Loss and Waste (IDAFWLW) underscores that saving food means saving resources, protecting the climate, and ensuring dignity for farmers and consumers alike.

Source: TH

## U.S. IMPOSES 100% TARIFF ON PHARMACEUTICALS IMPORT

#### Context

- The U.S. President Donald Trump announced a **100% import tariff** on branded and patented pharmaceutical products, including a **25% tariff** on imports of all heavy-duty trucks and **50% tariff** on kitchen cabinets.

#### About

- **Exemptions:** The **EU and Japan** benefit from a **15% tariff ceiling**, under special trade agreements that cap duties on most goods, including pharmaceuticals.
  - ♦ Companies establishing pharmaceutical plants in the U.S. are exempt, provided **construction has begun or is under way.**
- **High Exposure:** The **U.K., Switzerland, and Singapore**, being key hubs for branded drug manufacturing, face the **prospect of a 100% tariff**, which could severely increase the cost of their products in the U.S. market.

#### TOP 10 COUNTRIES OF ORIGIN FOR PHARMA EXPORTS TO US IN 2024

COUNTRY	VALUE	SHARE
IRELAND	\$73.3 BILLION	29.70%
SWITZERLAND	\$21.7 BILLION	8.80%
SINGAPORE	\$19.3 BILLION	7.80%
GERMANY	\$17.3 BILLION	7.00%
INDIA	\$13.1 BILLION	5.30%
BELGIUM	\$12.7 BILLION	5.20%
ITALY	\$12.2 BILLION	4.90%
CHINA	\$9.3 BILLION	3.80%
JAPAN	\$7.5 BILLION	3.10%
UK	\$7.4 BILLION	3.00%

Source: US Census Bureau/Bloomberg  
 Note: Ireland is part of the EU, which has a deal with the US for 15% tariff on pharma.

#### Countries Protected by Trade Deals

- **EU Agreement:** A framework deal finalized in July 2025 and reiterated in late September, sets a baseline **15% tariff** on most EU goods, including pharmaceuticals.

- ♦ The EU also committed to purchasing **\$750 billion** in U.S. energy and making **\$600 billion** in U.S. investments.
- **Japan Agreement:** A similar agreement also capped tariffs at **15%** on most goods.
- ♦ Japan has committed to investing **\$550 billion** in strategic U.S. sectors like energy, semiconductors, critical minerals, and pharmaceuticals.

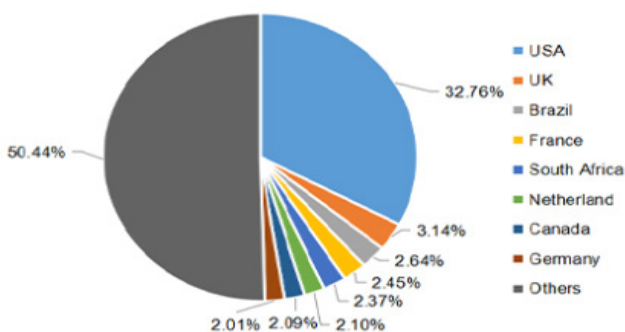
### Implications for the U.S. Pharma Industry

- **Domestic Manufacturing Incentives:** The tariff may encourage U.S.-based production of branded drugs, potentially strengthening domestic supply chains.
- **The industry could face higher costs** for imported inputs, possible **shortages of certain drugs**, and a slowdown in innovation if **resources are redirected** from research to compliance and production adjustments.
- **The Pharmaceutical Research and Manufacturers of America (PhRMA)** warned that tariffs could **increase patient costs** without resolving underlying supply chain issues.

### Implications for India's Pharma Sector

- **Benefits:** India exports over **\$10.5 billion** worth of formulations annually to the U.S., mainly generic drugs, which make up **90%** of U.S. prescriptions but just **13%** of spending.
  - ♦ Since the tariffs currently apply only to branded and patented drugs, India's generics are not directly targeted.
- **Risks Ahead:** If tariffs expand to include **generics, biosimilars, or Active Pharmaceutical Ingredients (APIs)**, India would face a major setback.

India's country-wise share of drugs, pharmaceutical and fine-chemicals exports (April to December) FY25



Source: DGCI&S, Pharmaceuticals Export Promotion Council, Ministry of Commerce and Industry

### Way Ahead

- For the world, the move is a reminder that global supply chains forged in the post **World War II** order are being reshaped by new political realities.
- Countries heavily dependent on U.S. demand are now **compelled to diversify export markets** and strengthen alternative trade alliances.

Source: TH

## NEW DRAFT CAFE RULES

### Context

- India has proposed to significantly revamp its **key vehicle emissions rules**, called the **Corporate average fuel efficiency (CAFE)** norms.

### India's Current CAFE Norms

- **The Bureau of Energy Efficiency** introduced the **CAFE norms in 2017** to regulate **fuel consumption and carbon emissions from passenger vehicles**.
- **These norms apply to** vehicles running on petrol, diesel, liquefied petroleum gas (LPG), compressed natural gas (CNG), hybrids, and electric vehicles (EVs) weighing less than 3,500 kg.
- The norms were tightened in the beginning of financial year 2022-23, with **increased penalties for non-compliance**.
- These norms are designed to **reduce oil dependency and curb air pollution**.

### Key Proposed Provisions:

- **Objectives of CAFE 3 Norms:**
  - ♦ Reduce fuel consumption and CO<sub>2</sub> emissions.
  - ♦ Promote EVs, hybrids, and CNG vehicles.
  - ♦ Provide protection for small cars while aligning with global best practices.
- **Applicability:** Targets M1 category vehicles i.e. passenger cars with up to 9 seats (including driver) and max weight 3,500 kg.
  - ♦ All manufacturers must comply with fuel efficiency & CO<sub>2</sub> emission targets, else face penalties.
- **Efficiency Target:** Each car company has a fuel efficiency target based on the average weight of its cars.
  - ♦ Heavier cars have a slightly higher target, lighter cars have a stricter target.

- ♦ The targets will gradually get stricter every year from FY28 to FY32.
- ♦ **Goal:** Encourage manufacturers to make lighter, more fuel-efficient cars over time.
- **Small Cars:** These norms offer additional exemptions to smaller cars up to 9 g CO<sub>2</sub>/km lower.
  - ♦ Small cars have limited scope to improve fuel efficiency, and their sales have fallen sharply in recent years.
  - ♦ **Goal:** Revive the small car segment and make it easier for manufacturers to comply with emission rules.
- **Electric Vehicles:** CAFE 3 norms propose to offer companies “super credits” based on the type of vehicle they sell.
  - ♦ Each EV sold will be counted three times while calculating a company’s average.
- **Relaxation on Fuel Type:** The draft also carbon neutrality factor (CNF), which offers further relaxation on the targets based on the type of fuel used in a car.
- **Emission Pooling:** Up to 3 manufacturers can form a pool to meet targets jointly.
  - ♦ Pool is treated as one manufacturer; pool managers accountable for penalties.
  - ♦ **Benefit:** Strategic partnership reduces compliance cost and balances fleet emissions.
- It’s a composite measure that evaluates how States in India manage their revenues, expenditures, deficits, and debt, and ensures adequate investment in development sectors like health, education, and infrastructure.

### Key Dimensions of Macro-Fiscal Health

- **Revenue Mobilization:**
  - ♦ **Own Revenue:** Income from State taxes (e.g., VAT, excise) and non-tax sources (e.g., royalties, lotteries).
  - ♦ **Transfers from Centre:** Devolution of central taxes and grants-in-aid.
- **Expenditure Quality:**
  - ♦ **Revenue Expenditure:** Day-to-day costs like salaries, subsidies, and interest payments.
  - ♦ **Capital Expenditure:** Long-term investments in infrastructure and development.
- **Deficit and Debt Management:**
  - ♦ **Fiscal Deficit:** The gap between total expenditure and revenue (excluding borrowings).
  - ♦ **Revenue Deficit:** When revenue expenditure exceeds revenue receipts.
  - ♦ **Debt-to-GSDP Ratio:** Indicates a State’s ability to repay its debt.
- **Developmental Spending:** It includes allocations for health, education, rural development, and welfare.
  - ♦ States with strong fiscal health maintain high developmental outlays relative to their GSDP.

### Conclusion

- CAFE 3 norms aim to reduce fuel use and CO emissions, encourage lighter and more efficient cars, support small cars and EVs, and allow collaboration among manufacturers to meet targets more easily.

Source: IE

## ANALYSING INDIAN STATES’ MACRO-FISCAL HEALTH

### Context

- A recent **decadal analysis by the Comptroller and Auditor General (CAG)** reveals how Indian States are managing their finances — balancing growth, welfare, and sustainability.

### About the Macro Fiscal Health of Indian States

- It refers to the overall financial stability, efficiency, and sustainability of State-level public finances.

### Government Assessment Tools

- **Fiscal Health Index (FHI) 2025 by NITI Aayog:** Evaluates 18 major States in terms of their contribution to India’s GDP, demography, total public expenditure, revenues, and overall fiscal stability.
  - ♦ **Top Performers:** Odisha, Chhattisgarh, Goa, Jharkhand.
  - ♦ **Struggling States:** Punjab, Andhra Pradesh, West Bengal, Kerala.
- **CAG’s Decadal Analysis:** It tracks trends in borrowing, revenue sources, and expenditure patterns.
  - ♦ It highlights how States finance deficits — often through loans and bonds that must be repaid with interest.
  - ♦ For **Key Findings of CAG’s Decadal Analysis**, please follow the link: <https://www.nextias.com/ca/current-affairs/20-09-2025/cag-report-states-fiscal-health>

### Analysing CAG's Decadal Report of Macro Fiscal Health of Indian States

- **Revenue Surplus vs Fiscal Reality:** Uttar Pradesh recorded a surprising revenue surplus of ₹37,000 crore, more than **double that of Gujarat**.
  - ♦ However, this surplus was **largely driven by central transfers**, not internal revenue generation.
  - ♦ Only about 42% of UP's revenue came from its own sources, raising concerns about fiscal autonomy.
- **Vertical Fiscal Imbalance:** States like Maharashtra generated nearly **70% of their revenue internally**, while poorer States relied heavily on the Centre.
  - ♦ It affects States' ability to plan and invest independently, especially in welfare and infrastructure.
- **Borrowing Trends:** Many States were deep in deficit, spending far more than they earned, in the early 2000s.
  - ♦ Over the decade, borrowing patterns shifted, with States increasingly relying on market loans and bonds to finance deficits.
- **Expenditure Priorities:** Need for **higher capital spending (roads, hospitals, schools)** rather than excessive routine expenditure (salaries, subsidies).
  - ♦ It emphasized that fiscal choices directly impact public services — like whether a school gets enough teachers or a hospital receives new equipment.

Source: TH

## BUILDING RESILIENT INFRASTRUCTURE FOR STORAGE OF FOOD GRAINS

### In Context

- India produced a record 353.96 million tonnes of foodgrain in 2024-25, supported by modern storage infrastructure.

### Food Grain Storage Systems in India

- There are various methods of storing foodgrains, and some of the key ones include:
  - ♦ **Centralized storage**, handled mainly by agencies like the Food Corporation of India (FCI).

- ♦ **Cold storage**, which caters to perishable items such as fruits, vegetables, dairy products, and meat.
- ♦ **Decentralized storage**, carried out through rural godowns, Primary Agricultural Credit Societies (PACS), and on-farm storage by farmers.

### Role of FCI

- The Food Corporation of India (FCI) is the main agency managing centralized storage of food grains in India.
- It procures wheat, rice, and other grains at Minimum Support Price (MSP) to protect farmers' incomes and maintain buffer stocks.
- Procurement is done directly by FCI or through State Government Agencies, which hand over stocks to FCI for storage.
- FCI stores these grains in modern warehouses and steel silos, ensuring quality and safety.
- These reserves support the Public Distribution System (PDS) to stabilize prices and ensure food security nationwide.

### The Importance of Food Grain Storage

- **Reducing Post-Harvest Losses:** Proper storage, including cold storage and modern warehouses, significantly reduces the wastage of agricultural produce.
- **Ensuring Food Security:** Maintaining a buffer stock of food grains is essential for national food security and for distribution under programmes like the National Food Security Act (NFSA).
- **Preventing Distress Sales:** Access to storage facilities allows farmers to hold their produce and sell it at an optimal time, avoiding distress sales and helping them realise better prices.
- **Price Stabilisation:** Maintaining strategic buffer stocks helps protect consumers from extreme price volatility in essential commodities.
- **Maintaining Quality:** Scientific storage ensures that food grains remain fit for human consumption by controlling factors like moisture and pests.

### Challenges

- **Storage Shortage:** Some States face acute space crunches, with rice stocks piling up due to slow movement to consumer states.
- **Infrastructure Gaps:** Many warehouses are outdated or lack scientific storage conditions, leading to spoilage and pest infestation.

- **Logistical Bottlenecks:** Delays in procurement, milling, and distribution create backlogs and reduce available space.
- **Volatile Demand:** Consumer states often report low demand, slowing the outflow of stored grains and worsening congestion.
- **Climate Vulnerability:** Open plinth storage is exposed to rain and humidity, increasing risk of damage.

#### Schemes for Strengthening Storage of Foodgrains

- **Agriculture Infrastructure Fund (AIF):** The Agriculture Infrastructure Fund (AIF), launched in 2020, is a medium to long-term debt financing facility aimed at strengthening agricultural infrastructure in India.
  - ♦ It provides interest subvention and credit guarantee support for loans used in post-harvest management and farming assets.
- **Agricultural Marketing Infrastructure (AMI):** AMI scheme is a key component of the Integrated Scheme for Agricultural Marketing (ISAM).
  - ♦ The objective of this scheme is to strengthen agricultural marketing infrastructure across rural India by providing financial assistance for the construction and renovation of godowns and warehouses.
- **Pradhan Mantri Kisan SAMPADA Yojana (PMKSY):** It is a comprehensive scheme designed to build modern infrastructure for the food processing sector, creating a smooth and efficient supply chain from the farm gate to retail.
- **Capital Investment Subsidy Scheme for Cold Storages and Horticulture Products:** It aims to promote scientific storage infrastructure and reduce post-harvest losses of perishable produce.
  - ♦ Under the scheme, a credit-linked back-ended subsidy is provided at the rate of 35% of the project cost in general areas and 50% in North-Eastern, hilly, and scheduled areas for construction, expansion, or modernization of cold storages and Controlled Atmosphere (CA) storages with capacities between 5,000 MT and 20,000 MT.
- **World Largest Grain Storage Plan in Cooperative Sector Schemes for Augmentation of Storage Capacity:** The government, in May 2023, approved the World's Largest Grain Storage Plan in Cooperative Sector, aligned with the vision of "Atmanirbhar Bharat". The scheme

involves the creation of agri infrastructure at PACS level, including godowns, custom hiring center, processing units, and fair price shops

- **Steel Silos Construction:** Promotes scientific, automated grain storage to reduce losses and extend shelf life.
- **Asset Monetization:** Builds new godowns on vacant FCI land to increase storage; 177 locations identified for 17.47 LMT capacity.
- **Central Sector Scheme (Storage & Godowns):** Focuses on North East States and a few others, with Rs. 379.50 crore allocated for NE and Rs. 104.58 crore for other states, fully released as of now.
- **Private Entrepreneurs Guarantee (PEG) Scheme:** Since 2008, encourages private investment in warehousing via government guarantees, improving foodgrain storage through PPP mode.

#### Conclusion

- Agriculture is crucial to India's economy and food security, but efficient storage and distribution are key to reducing losses and ensuring stable prices.
- While storage capacity has expanded, challenges like space shortages and outdated facilities remain.
- Modern technology and better logistics are needed to protect India's agricultural growth and nutrition.

Source :PIB

## NEWS IN SHORT

### THIRD EDITION OF UNMESHA – INTERNATIONAL LITERATURE FESTIVAL

#### In News

- The Vice-President of India, C.P. Radhakrishnan, graced the valedictory session of the third edition of Unmesha – International Literature Festival in Patna, Bihar, as the Chief Guest.

#### Unmesha

- It is **Asia's largest** and most **inclusive international literature festival**.
- It is a celebration of literature in multiple languages, offering an excellent platform for

writers, scholars, publishers, and poets from **15 countries, representing more than 100 languages.**

- It was organized by the Sahitya Akademi in collaboration with the Ministry of Culture and Government of Bihar
- It featured over 550 writers, poets, scholars, translators, and other cultural figures from more than 100 languages and 15 countries, across 90 sessions.
  - ♦ It included poetry readings, panel discussions on diverse themes like Dharma literature, Dalit literature, literary feminism, machine translation, tribal and LGBTQ+ writing, cinema, and education.

Source : PIB

## RANI RASHMONI

### In News

- Prime Minister Narendra Modi paid tribute to Rani Rashmoni on her birth anniversary.

### Rani Rashmoni

- She was born on 28 September 1793 into a Mahishya zamindar family in Kona village (now North 24 Parganas) and emerged as a formidable figure in 19th-century Bengal's male-dominated society.
- Her deep spirituality and commitment to justice earned her the title "**Rani.**"

### Major Roles

- Rani Rashmoni took charge of her **family's zamindari and business**, showcasing exceptional administrative and supervisory skills.
  - ♦ She expanded her enterprises and became a **champion of public welfare.**
- She was Known for her **bold defiance against British authorities**—such as blocking Hooghly river traffic to protect fishermen.
- She also made lasting contributions through **philanthropy**, including building ghats, funding educational institutions, and most notably founding the **Dakshineswar Kali Temple**, where she appointed Shri Ramkrishna Paramhansa as priest.

### Legacy

- Her legacy continues to inspire generations, commemorated by a bicentennial postage stamp issued by India Post.

Source : PIB

## PM E-DRIVE SCHEME

### In News

- The **Ministry of Heavy Industries (MHI)** has released comprehensive operational guidelines for the deployment of EV public charging stations under the **PME-DRIVE (Electric Drive Revolution in Innovative Vehicle Enhancement) scheme.**

### About

- The scheme was launched in 2024, and was initially active from October 1, 2024, to March 31, 2026, with an extension announced up to March 2028 for certain components.
- It builds on previous schemes like **FAME-I and FAME-II with a larger budget and broader focus.**
- **Objectives:** To promote faster adoption of EVs across segments such as electric two-wheelers (e-2Ws), three-wheelers (e-3Ws), ambulances, trucks, and buses.
  - ♦ To incentivize advanced battery-powered EVs through demand subsidies.
- **Major Components:**
  - ♦ Demand Incentives / Subsidies: Financial support for purchase of electric 2-wheelers & 3-wheelers, E-ambulances, E-trucks & e-buses
  - ♦ Other emerging EV categories: Demand incentives are capped at 15% of the ex-factory price or fixed limits, applicable only to vehicles priced below specific thresholds.

### Operational Guidelines

- Operational guidelines issued for setting up Public Charging Stations under the scheme include:
  - ♦ Standardization of charging protocols for interoperability.
  - ♦ Viability Gap Funding (VGF) to attract private sector participation.
  - ♦ Integration with renewable energy sources to make EV charging greener.
  - ♦ Emphasis on smart metering and digital payments for user convenience.

Source: TH

## UN IMPOSES SANCTIONS ON IRAN

### Context

- The United Nations has reimposed sanctions, including **arms embargo on Iran over its nuclear program.**

**About**

- Britain, France and Germany **accused Iran of violating the 2015 nuclear deal.**
- The sanctions on Iran have been reimposed via a mechanism known as “**snapback**” **which was included in the 2015 nuclear deal.**

**Joint Comprehensive Plan of Action (JCPOA) 2015**

- **Participants:**
  - ♦ **Iran**
  - ♦ **P5+1:** Five permanent members of the UN Security Council (China, France, Russia, UK, U.S.) plus Germany.
  - ♦ **EU:** Participated in negotiations.

**Iran's Commitments:**

- **Nuclear Restrictions:** Iran agreed **not to produce highly enriched uranium** or plutonium for nuclear weapons and to ensure its nuclear facilities (Fordow, Natanz, Arak) focus on **civilian purposes.**
- **Centrifuge Limits:** Iran limited the number, type, and level of its centrifuges, and reduced its stockpile of enriched uranium.
  - ♦ Uranium enriched to 5% is for nuclear power; 20% for research or medical use; 90% for weapons.
- **Monitoring and Verification:** Iran agreed to allow the **International Atomic Energy Agency (IAEA)** unfettered access to nuclear facilities, including undeclared sites.
  - ♦ A Joint Commission monitors the deal's implementation and resolves disputes, including granting IAEA access to suspicious sites.
- **Violation of the Deal:** If any signatory suspects Iran is violating the deal, the UN Security Council can vote on whether to continue sanctions relief.
  - ♦ This “snapback” mechanism remains in effect for ten years, after which the UN sanctions are set to be permanently removed.

**Goals of the JCPOA:**

- **Delay Iran's Nuclear Weapon Development:** The goal was to delay Iran's ability to make a nuclear weapon by at least one year, compared to a few months without the agreement.
- **Prevent Regional Crisis:** Fears that Iran's nuclear program could lead to preemptive military action by Israel or a nuclear arms race within the region.

**Source: IE****ASTROSAT: INDIA'S FIRST SPACE OBSERVATORY****In News**

- India's first dedicated multi-wavelength Space Astronomy Observatory, AstroSat completed a decade of operations.

**AstroSat**

- It was launched by PSLV-C30 from Sriharikota in 2015.
- It was designed to observe the universe in the Visible, Ultraviolet, low and high energy X-ray regions of the electromagnetic spectrum simultaneously with the help of its five payloads.
  - ♦ The payloads including Ultra Violet Imaging Telescope (UVIT), Large Area X-ray Proportional Counter (LAXPC), Cadmium-Zinc-Telluride Imager (CZTI), Soft X-ray Telescope (SXT) and Scanning Sky Monitor (SSM).
- Although initially designed for a five-year mission, AstroSat continues to deliver valuable scientific data a decade later.
- It has made significant discoveries across the electromagnetic spectrum, including studies on black holes, neutron stars, Proxima Centauri, and the first-time detection of far-ultraviolet photons from galaxies 9.3 billion light years away.

**Source: TH****HIMACHAL COLD DESERT ENTERS UNESCO BIOSPHERE RESERVE LIST****Context**

- **The Cold Desert Biosphere Reserve (CDBR) in Himachal Pradesh** has been included in the World Network of Biosphere Reserves (WNBR) by UNESCO.

**About**

- UNESCO has designated **26 new biosphere reserves across 21 countries** — the highest number in 20 years.
- The WNBR now includes **785 sites in 142 countries**, with an additional one million sq km of natural areas brought under protection since 2018.
- **India has a total 18 biosphere reserves**, of which **13 are now in the Unesco's world network** with the latest addition.

- **The global designation** helps these sites adopt comprehensive measures to foster harmony between people and nature for sustainable development.

#### The Cold Desert Biosphere Reserve (CDBR)

- The 7,770-sq km area spread across the **state's Lahaul-Spiti district was established in 2009.**
- It spreads in the **Trans-Himalayan region**, integrates Pin Valley National Park, Kibber Wildlife Sanctuary, Chandratat Wetland, and the Sarchu plains.
- Its wildlife includes **17 mammal and 119 bird species** including snow leopard, Tibetan antelope and Himalayan wolf.

#### World Network of Biosphere Reserves (WNBR)

- The UNESCO World Network of Biosphere Reserves (WNBR) was formed in **1971.**
- It covers internationally designated protected areas, known as biosphere reserves, which are meant to demonstrate a balanced relationship between people and nature.
- They are created under the **Man and the Biosphere Programme (MAB).**

#### Man and the Biosphere Programme (MAB)

- MAB is an **intergovernmental scientific program**, launched in **1971** by UNESCO.
- The programme enhances the human-environment relationship through combining natural and social sciences to improve livelihoods, safeguard ecosystems, and promote sustainable economic development.

Source: IE

## MULTI-MESSENGER ASTRONOMY

### Context

- Multi-messenger astronomy has emerged as a bridge extending traditional light-based observations to uncover hidden cosmic processes.

### About

- **Multi-messenger astronomy** is the study of cosmic events by observing them with multiple types of signals or "messengers," including photons (light), gravitational waves, neutrinos, and cosmic rays, to gain a more complete

understanding than any single signal could provide.

### What are the "Messengers"?

- ♦ **Light (Electromagnetic radiation):** Reveals the structure and surface details of celestial bodies.
- ♦ **Gravitational waves:** Ripples in spacetime generated by cataclysmic events such as neutron star collisions or black hole mergers, as detected by instruments such as the **LIGO** and **Virgo observatories.**
- ♦ **Neutrinos:** Subatomic particles that pass almost unhindered through matter, carrying information from deep inside stellar interiors and supernovae.
- ♦ **Cosmic rays:** High-energy charged particles, such as protons and atomic nuclei, that trace extreme astrophysical environments.

### Landmark Discoveries

- **2017 Neutron Star Collision:** Gravitational wave detectors and telescopes simultaneously observed two neutron stars merging.
  - ♦ This confirmed theories about the **origin of heavy elements like gold and platinum** and marked the first major success of multi-messenger astronomy.
- **India's Astrosat (2015):** The country's first dedicated **multi-wavelength observatory** integrated ultraviolet, optical, and multiple X-ray bands.
  - ♦ It enabled simultaneous tracking of **stellar flares, black hole outbursts, and neutron star activity**, advancing India's role in multi-messenger astronomy.

Source: TH

## AN ENGELS' PAUSE IN AN AI-SHAPED WORLD

### Context

- Artificial Intelligence (AI) pioneer **Geoffrey Hinton** recently warned that AI could enrich a few while leaving most behind, signaling the possibility of an Engels' pause in the modern AI economy.

### What is an Engels' Pause?

- The term, coined by economist **Robert Allen** after **Friedrich Engels**, refers to early **19th-century** Britain where industrial output surged but wages

stagnated, food consumed most of household budgets, and inequality widened.

- ♦ Decades later, living standards improved as institutions, reforms, and complementary innovations evolved.
- In the current scenario the concern is whether AI could trigger a **modern Engels' pause** where productivity rises but welfare gains are delayed.

- ♦ **AI as a General-Purpose Technology (GPT):** AI has transformative potential but requires complementary innovations, skills, and institutional adaptation to yield broad benefits.
- ♦ **Falling Cost of Prediction:** AI reduces prediction costs but the gains may be captured by a few firms and entrepreneurs.

Source: TH

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