



September - 16

TNPSC BITS

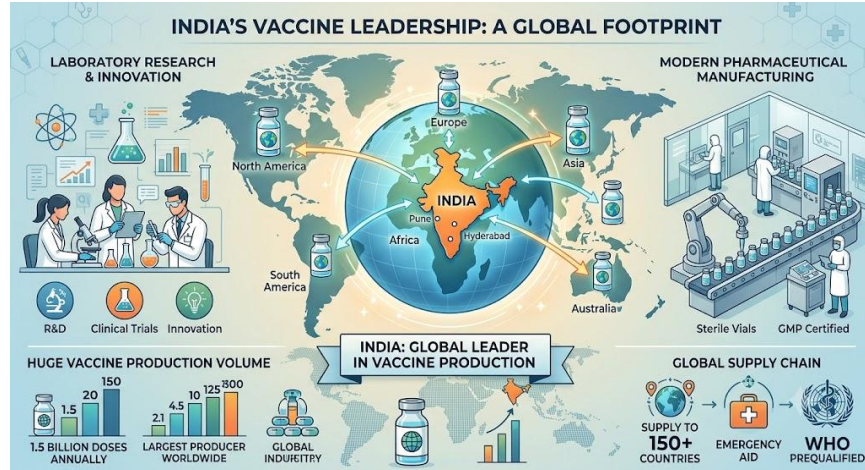
- ❖ Google DeepMind introduced AlphaGenome Atlas, a database predicting the effects of single genetic changes across the human genome.
 - It uses the AlphaGenome Artificial Intelligence (AI) model to predict the regulatory effects of all 9 billion possible single-nucleotide variants, creating a 1-petabyte dataset.
- ❖ The Indian Air Force (IAF) launched its first Dronathon-2026 at the Pokhran Field Firing Range, Jaisalmer, Rajasthan, to test surveillance, reconnaissance, autonomous operations, swarm technologies, electronic warfare and Counter-Unmanned Aircraft Systems (CUAS).
- ❖ Talabira II & III coal mine in Odisha recorded its highest-ever annual coal production of 19.14 million tonnes (MT) in FY 2025–26.
 - The open-cast mine is located in Sambalpur and Jharsuguda districts, Odisha, and is operated by NLC India Ltd.
- ❖ FSSAI (Food Safety and Standards Authority of India) ordered the recall of Shalimar's Chef-Coriander Powder, manufactured by M/s Nilgiri Oil & Allied Industries, due to unsafe pesticide residues, and Carrageenan, manufactured by M/s Aquagri Processing Pvt Ltd, due to unsafe cadmium levels.
 - The recall was ordered under the Food Safety and Standards Act, 2006, in accordance with the Food Safety and Standards (Food Recall Procedure) Regulations, 2017.

NATIONAL NEWS

Global Vaccine Production

- ❖ Union Minister Dr. Jitendra Singh highlighted India's position as the world's largest vaccine producer and global supplier by volume.
- ❖ India accounts for nearly 60% of global vaccine production and supplies over 65% of the World Health Organization (WHO) routine immunisation requirements.
- ❖ India's bioeconomy reached USD 195.3 billion in 2025, recording 18% year-on-year growth.
- ❖ The Ind-CEPI Mission developed India's first messenger ribonucleic acid (mRNA) COVID-19 vaccine, GEMCOVAC-19.

- ❖ The Department of Biotechnology (DBT)-Biotechnology Industry Research Assistance Council (BIRAC)-CEPI partnership supports vaccine research and epidemic preparedness.
- ❖ BRIC-THSTI Bioassay Laboratory is one of the 17 Coalition for Epidemic Preparedness Innovations (CEPI) centralised network laboratories supporting global vaccine development.



India's Data Centre Capacity

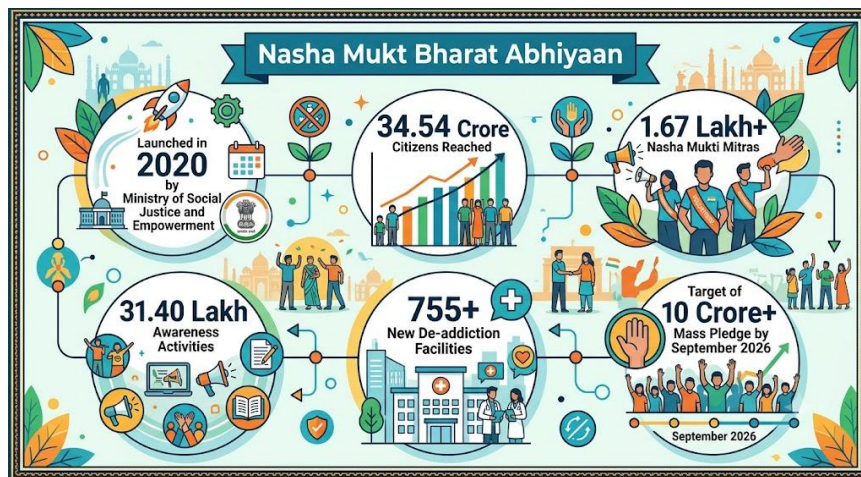


- ❖ India's installed data-centre capacity has increased to 1.57 GW as of August 2026 and is projected to reach nearly 8 GW by 2030.
- ❖ India's data-centre capacity increased from around 375 MW in 2020 to 1.57 GW in 2026, driven by cloud computing, Artificial Intelligence (AI) and digital services.

- ❖ Nearly USD 70 billion is already under investment in the sector, with another USD 90 billion in announced projects.
- ❖ The National Informatics Centre (NIC) operates National Data Centres in Delhi, Pune, Hyderabad and Bhubaneswar, along with 37 smaller centres.
- ❖ Data-centre electricity demand could reach 17 GW by 2031–32, increasing the focus on renewable energy, efficient cooling and resource conservation.

NMBA Nationwide Campaign

- ❖ The Nasha Mukti Bharat Abhiyaan (NMBA) has reached 34.54 crore citizens during its nationwide campaign against drug abuse.
- ❖ NMBA was launched in 2020 by the Ministry of Social Justice and Empowerment to create awareness about drug abuse and provide prevention, treatment and rehabilitation support.
- ❖ More than 1.67 lakh Nasha Mukti Mitras (NMMs) have joined the campaign, with over 31.40 lakh awareness and outreach activities conducted across India.
- ❖ More than 755 new de-addiction facilities have been established in the last two years, while over 1.67 lakh volunteers and personnel have been trained.
- ❖ The government aims to mobilise 10 crore+ citizens for a National Mass Pledge Against Drug Abuse by the end of September 2026, marking NMBA's 6th anniversary.



GOBARdhan Central Sector Scheme Update

- ❖ The GOBARdhan Central Sector Scheme came into effect on 1 September 2026 with a total outlay of ₹23,731 crore.
- ❖ The scheme will be implemented up to 2035–36 to increase the production and use of Compressed Biogas (CBG) in India.

- ❖ It aims to increase domestic CBG production nearly tenfold and promote large-scale private investment.
- ❖ The scheme will support a circular bioeconomy by converting organic waste into useful energy and other products.
- ❖ The Union Cabinet approved the scheme on 6 August 2026.



GOBARdhan
National Circular Bioenergy Scheme
India's National Unified Scheme for Compressed Biogas

Total Outlay
₹23,731 CRORE

CLEAN FUEL

6 GROWTH ENGINES
POWERING A NEW BIOENERGY REVOLUTION

- 1. ASSURED CBG OFFTAKE**
Assured market through CBG Obligation for CGD entities
- 2. STABLE CBG PRICING**
Administered price of ₹2.110 per MMBTU with 10-year visibility
- 3. CAPITAL ASSISTANCE**
Up to ₹2 crore per TPD for greenfield projects & expansion
- 4. PIPELINE INFRASTRUCTURE**
Support for pipeline connectivity to gas grid & CGD networks
- 5. CREDIT GUARANTEE SUPPORT**
Easier access to finance for MSMEs, entrepreneurs & first-time developers
- 6. CBG ECOSYSTEM CHALLENGE FUND**
Strengthening ecosystem, technology, value chains & local development

INTERNATIONAL NEWS

Houthi Control of Mayyun Island



- ❖ Iran-backed Houthi rebels captured Mayyun Island and expanded their control over Yemen's Red Sea coast and the Bab al-Mandab Strait.

- ❖ Mayyun Island lies on Yemen's side of the Bab al-Mandab Strait, the southern gateway to the Red Sea and Suez Canal.
- ❖ The Houthis also captured Greater Hanish and Lesser Hanish islands, the neighbouring Red Sea coastline, and the Yemeni port city of Mocha.
- ❖ These areas strengthen their position around the Bab al-Mandab Strait, an important international maritime route.
- ❖ Saudi Arabia, the world's largest oil exporter, has relied on the Red Sea route after Iran's Strait of Hormuz blockade disrupted shipments through the Gulf.
- ❖ India condemned the attack on commercial vessel MT El Gaia off the coast of Oman, in the Arabian Sea, near the Strait of Hormuz.

India-MERCOSUR Trade Pact



- ❖ India and MERCOSUR signed the First Additional Protocol to the India-MERCOSUR Preferential Trade Agreement (PTA) to facilitate electronic Certificates of Origin.
- ❖ The Protocol promotes digital and paperless trade and reduces the time and cost of issuing and verifying Certificates of Origin.
- ❖ The India-MERCOSUR PTA was signed on 25 January 2004 and came into force on 1 June 2009.
- ❖ The PTA provides preferential tariff concessions on 450 tariff lines by India and 452 by MERCOSUR.
- ❖ MERCOSUR is a South American economic and political trade bloc founded in 1991.
- ❖ Its full members are Argentina, Bolivia, Brazil, Paraguay, and Uruguay.
- ❖ Venezuela is a full member but has been suspended since 1 December 2016.

- ❖ Chile, Colombia, Ecuador, Guyana, Panama, Peru, and Suriname are associate countries.

Antelope Reef Base - China

- ❖ China has completed the first phase of land reclamation and infrastructure development at Antelope Reef in the disputed Paracel Islands, South China Sea.
- ❖ The reclaimed area spans nearly 6 km and includes a helicopter pad, 680-metre wharf, deep-water harbour and a possible 3-km runway.
- ❖ China says the facilities are for weather forecasting and scientific research, while Vietnam claims the entire Paracel Islands; China has maintained de facto control since 1974.
- ❖ The South China Sea is disputed by China, Vietnam, the Philippines, Malaysia, Brunei and Taiwan; the 2016 Arbitral Tribunal rejected China's historic-rights claims beyond the maritime entitlements permitted under the United Nations Convention on the Law of the Sea (UNCLOS).
- ❖ More than 55% of India's maritime trade passes through the South China Sea and Malacca Strait, making the development important for India's maritime security.



SCIENCE AND TECHNOLOGY NEWS

New Tokamaks in India

- ❖ India added two small-scale spherical tokamaks to its fusion research base in 2026.

- ❖ Pragma, developed by Bengaluru-based Pranos Fusion, was completed on 21 August 2026 and launched on 3 September 2026.
- ❖ The Institute for Plasma Research (IPR), Gandhinagar, achieved the first plasma in its compact spherical tokamak and conducted 114 plasma discharges.
- ❖ A spherical tokamak is a compact magnetic-confinement device used to study plasma behaviour for nuclear fusion research.
- ❖ India's fusion facilities include ADITYA-U and SST-1 at IPR, while India holds a 9% stake in the International Thermonuclear Experimental Reactor (ITER) in France.
- ❖ Pragma is an experimental testbed for plasma control and high-temperature superconducting (HTS) magnets, not a commercial electricity-generation machine.

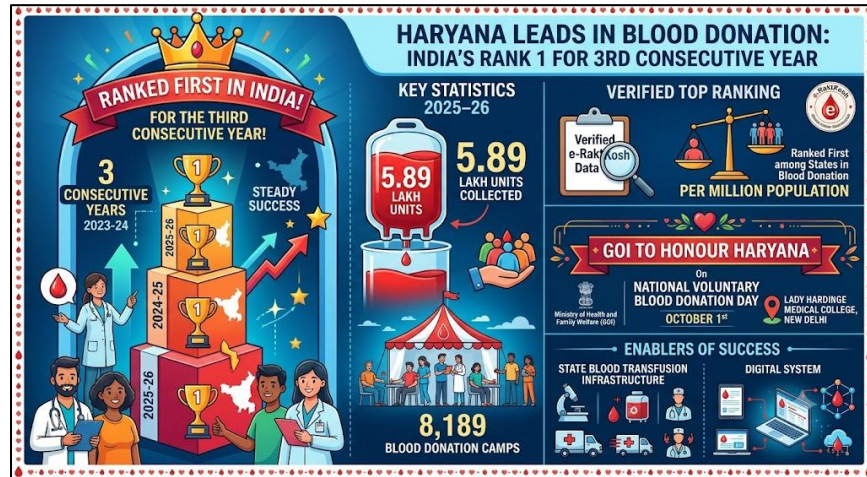


STATE NEWS

Blood Donation - Haryana

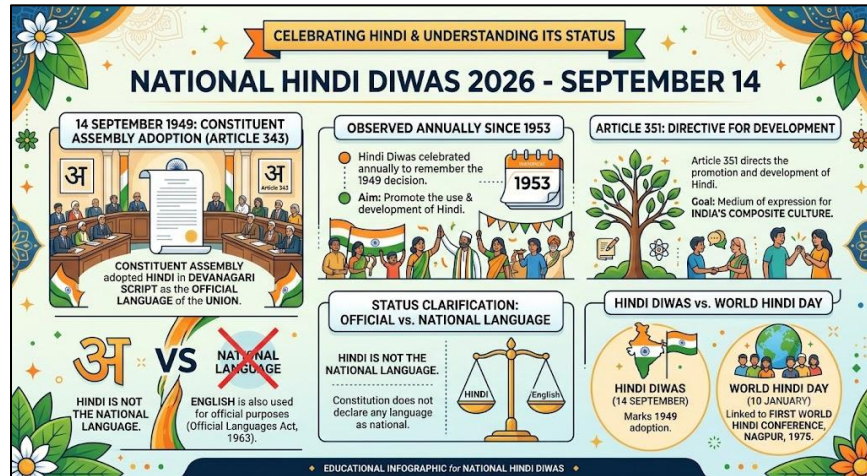
- ❖ Haryana has ranked first in India in blood donation for the third consecutive year.
- ❖ Haryana collected 5.89 lakh units of blood and organised 8,189 blood donation camps during 2025-26.

- ❖ Based on verified e-RaktKosh data, Haryana ranked first among States in blood donation per million population.
- ❖ The Government of India will honour Haryana on National Voluntary Blood Donation Day, October 1, at Lady Hardinge Medical College, New Delhi.
- ❖ The data reflects blood donation activities supported by the state's blood transfusion infrastructure and digital system.



IMPORTANT DAYS

National Hindi Diwas 2026 - September 14



- ❖ 14 September marks the day in 1949 when the Constituent Assembly adopted Hindi in Devanagari script as the official language of the Union under Article 343 of the Constitution.
- ❖ Hindi Diwas has been observed annually since 1953 to remember the 1949 decision and promote the use and development of Hindi.

- ❖ Article 351 of constitution directs the promotion and development of Hindi as a medium of expression for India's composite culture.
- ❖ Hindi is not the National Language of India; the Constitution does not declare any language as the national language, while English is also used for official purposes under the Official Languages Act, 1963.
- ❖ Hindi Diwas is observed on 14 September, while World Hindi Day is observed on 10 January, linked to the First World Hindi Conference held in Nagpur in 1975.

World Lymphoma Awareness Day 2026 - September 15

- ❖ The day aims to raise awareness about lymphoma and the lymphatic system.
- ❖ It was initiated by the Lymphoma Coalition in 2004.
- ❖ Lymphoma is a blood cancer affecting lymphocytes, a type of white blood cell.
- ❖ The two main types are Hodgkin lymphoma and Non-Hodgkin lymphoma.
- ❖ The lymphatic system includes lymph nodes, spleen, thymus gland and bone marrow.
- ❖ Common symptoms include painless swollen lymph nodes, fever, night sweats, fatigue and unexplained weight loss.
- ❖ The theme for the year 2026 is "Navigating Lymphoma and Chronic Lymphocytic Leukaemia (CLL) Together."

