



July - 14

TNPSC BITS

- ❖ Scientists from BITS Pilani (Birla Institute of Technology and Science), in collaboration with IBM Quantum, developed a quantum algorithm that demonstrated an advantage over classical computers.
- ❖ Researchers from the Jawaharlal Nehru Centre for Advanced Scientific Research (JNCASR), Bengaluru, demonstrated for the first time that the optical properties of metals can be modified using mechanical strain.
 - The study showed that the plasmon resonance of metals, which controls their interaction with light, can be tuned by changing the metal's structure through mechanical deformation.
- ❖ The National Medical Commission (NMC) approved 100 additional MBBS seats for Tamil Nadu from 2026–27, with Government Medical Colleges in Namakkal and Tiruppur getting 50 extra seats each.
- ❖ The DRDO successfully flight-tested the Pinaka Long Range Guided Rocket (LRGR) at Integrated Test Range (ITR), Chandipur, Odisha.
- ❖ The U.S. Food and Drug Administration (FDA) approved vepdegestrant, the world's first therapy based on PROTAC (Proteolysis-Targeting Chimera) technology.
 - Vepdegestrant is an oral drug developed by Arvinas and Pfizer to treat ESR1-mutated, ER-positive (Estrogen Receptor-positive), HER2-negative advanced breast cancer.

TAMIL NADU NEWS

Tamil Nadu Fertility Rate 2026

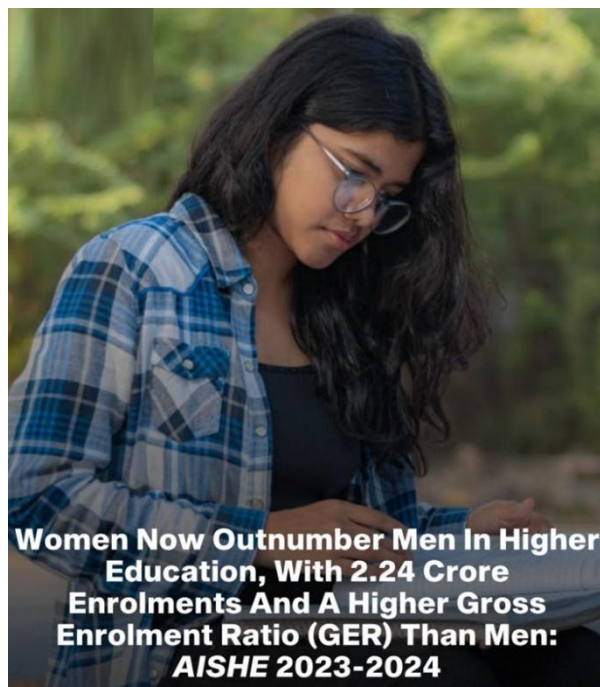
- ❖ Tamil Nadu's Total Fertility Rate (TFR) declined to 1.3 in 2026, below the replacement level of 2.1 required for population stability.
- ❖ TFR indicates the average number of children a woman is expected to have during her reproductive period.
- ❖ Tamil Nadu's TFR was 1.4 in 2025, while India's overall TFR stands at 1.9.
- ❖ The State is witnessing an ageing population, with 16% of people above 60 years; this may increase to 20% in the next 10 years.
- ❖ Economic factors, women's workforce participation, delayed marriages and changing family preferences are among the factors influencing fertility decline.

- ❖ Tamil Nadu has a high women workforce participation, with 41 out of every 100 working women in India coming from the State.
- ❖ The government emphasised institutional deliveries, pregnancy spacing of 2–3 years, maternal health support and strengthening healthcare services.

	Lowest TFR States/UTs (2024)	TFR (2024)
01	 Delhi	1.2
02	 Kerala	1.3
03	 Tamil Nadu	1.3
04	 West Bengal	1.3
05	 Andhra Pradesh	1.4
06	 Maharashtra	1.4
07	 Punjab	1.4
08	 Jammu & Kashmir	1.4

NATIONAL NEWS

All India Survey on Higher Education 2023-24



- ❖ The latest All India Survey on Higher Education (AISHE) 2023-24 data shows a significant rise in women's enrolment in higher education.

- ❖ Female enrolment increased by 42% in a decade, rising from 1.57 crore (2014-15) to 2.24 crore (2023-24).
- ❖ Women now constitute 49.7% of total higher education students, with a Gender Parity Index (GPI) of 1.08.
- ❖ Female enrolment among Scheduled Castes (SCs) and Scheduled Tribes (STs) increased by 51.4% and 75.7%, respectively.
- ❖ Women account for 44% of STEM students, but participation remains low in engineering and technology (31.1%) compared to general sciences.

INTERNATIONAL NEWS

Hamas Gaza Government Dissolution



- ❖ Hamas announced the dissolution of its Gaza government after nearly two decades of administration, transferring authority to the National Committee for the Administration of Gaza (NCAG).
- ❖ The NCAG is a transitional Palestinian technocratic body formed in January 2026 under United Nations Security Council Resolution 2803 as part of a US-backed peace plan.

- ❖ NCAG will manage civilian affairs, including health, education, water services and law and order through a unified security structure.
- ❖ Hamas said technical and professional government employees would continue functioning under NCAG, but the move does not explicitly mention the disarmament of Hamas.
- ❖ The transition aims to support Gaza's reconstruction and implement the ceasefire framework, though disagreements remain over security control and governance.

ECONOMY NEWS

Index of Services Production

WHAT IS THE INDEX OF SERVICES PRODUCTION (ISP)?

- A short-term indicator designed to **measure changes over time in the volume of output** produced by the **services sector** relative to a specified base period
- Measures **changes in the real output** of **service-producing industries** over time

- ❖ India's upcoming Index of Services Production (ISP) will measure formal services sector output using Goods and Services Tax (GST) data, administrative data, and surveys.
- ❖ The index will be the first attempt to periodically quantify India's formal services sector production.
- ❖ GST data will be the primary source, while the Annual Survey of Incorporated Services Sector Enterprises (ASISSE) and administrative data will support sectors without GST coverage.
- ❖ Administrative data sources include the Reserve Bank of India (RBI), Railway Board, Directorate General of Civil Aviation (DGCA), and Insurance Regulatory and Development Authority of India (IRDAI).
- ❖ The first release of the ISP is scheduled for July 29, 2026, and it will cover only the formal services sector.

SCIENCE AND TECHNOLOGY NEWS

Drishti Satellite Communication Failure

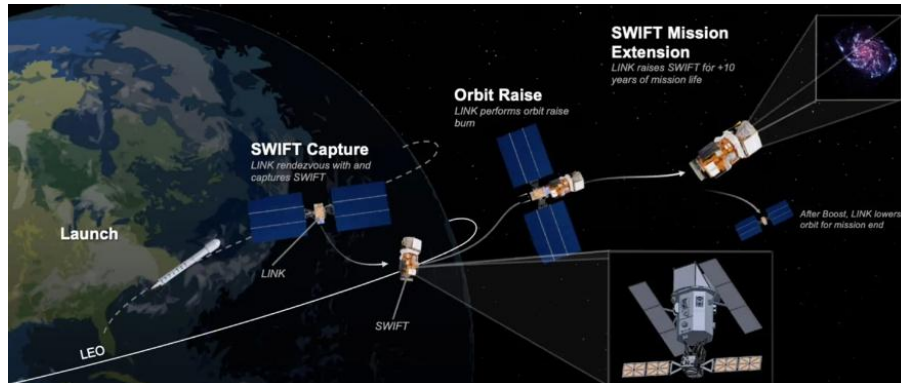
- ❖ Mission Drishti, the world's first OptoSAR (Optical + Synthetic Aperture Radar) satellite, lost communication due to an anomaly caused by a geomagnetic solar storm.
- ❖ Radiation from the solar storm affected a critical onboard system during the Launch and Early Orbit Phase.
- ❖ The satellite was designed to capture optical multi-spectral and Synthetic Aperture Radar (SAR) images of the same location simultaneously.
- ❖ It aimed to overcome the tropical cloud-cover problem by using SAR sensors that can operate through clouds and at night.
- ❖ Drishti used Artificial Intelligence (AI) to generate optical-like images from SAR data for easier interpretation.
- ❖ The satellite was planned for applications including border surveillance, defence, disaster management, agriculture, infrastructure planning and insurance assessment.



Swift Boost Mission

- ❖ NASA launched the Swift Boost Mission, the first satellite servicing mission to extend the life of the Neil Gehrels Swift Observatory.
- ❖ The mission sent the privately built LINK servicing spacecraft developed by Katalyst Space Technologies to capture and raise Swift's orbit.

- ❖ Swift Observatory, launched in 2004, studies gamma-ray bursts and high-energy cosmic events.
- ❖ LINK will use robotic arms and ion thrusters to move Swift to a higher orbit of about 600 km, extending its operational life.
- ❖ The mission also marked the 45th and final flight of Northrop Grumman's Pegasus XL rocket, which began operations in 1990.



REPORTS AND INDICES

FAO-WMO Report on Extreme Heat and Food Systems (2026)



- ❖ A joint report by the Food and Agriculture Organization (FAO) and World Meteorological Organization (WMO) identified extreme heat as a major threat to global food security.
- ❖ Major crops face yield losses above 30°C; every 1°C warming may reduce maize by 7.5%, soybean by 6.8%, and wheat by 6%.
- ❖ Global agricultural Total Factor Productivity (TFP) has declined by 21% since 1961 due to rising heat stress.

- ❖ India is among the high-risk regions, with heatwaves affecting rice production and agricultural labour; workers lost 648 working hours (54 days) in 2024 due to heat stress.
- ❖ The report highlights risk to livestock, fisheries, forests, and orchards due to increasing temperatures and marine heatwaves.

World Investment Report 2026

- ❖ The United Nations Conference on Trade and Development (UNCTAD) released the World Investment Report 2026, highlighting the rising concentration of global investment.
- ❖ Global Foreign Direct Investment (FDI) increased by 6% to \$1.6 trillion in 2025, with developed economies receiving higher growth than developing countries.
- ❖ The top 20 host economies accounted for over 80% of global FDI inflows, showing increasing investment concentration.
- ❖ Growth was mainly driven by Artificial Intelligence (AI) infrastructure, data centres, semiconductors, and energy sectors.
- ❖ India improved its ranking, moving to 11th position in inward FDI and 18th position in outward FDI globally in 2025.



STATE NEWS

Delhi Afforestation Plan

- ❖ Delhi launched the Mission 70 Lakh Tree Plantation Campaign and Delhi Ridge Rejuvenation Campaign under the Green Action Plan 2026–27.

- ❖ The campaign aims to plant over 70 lakh saplings across Delhi, while the Ridge restoration plan targets 1 crore native saplings across 6,303.55 hectares by 2030.
- ❖ The Delhi Ridge, part of the Aravalli hill system, will undergo ecological restoration through the removal of invasive Vilayati Keekar (*Prosopis juliflora*) and planting native species like neem, peepal, banyan and jamun.
- ❖ The plan includes restoration of 70+ water bodies, protection of reserved forest areas, groundwater recharge and restoration of archaeological structures.
- ❖ The Green Drive Portal enables citizen participation through plantation slot booking, sapling delivery and nursery information.



Mission: Million Oak Trees by 2047 initiative



- ❖ Sikkim Chief Minister Prem Singh Tamang launched the “Mission: Million Oak Trees by 2047” initiative to restore Himalayan oak forests.

- ❖ The mission aims to improve water security, biodiversity conservation, and ecological sustainability through large-scale native oak plantations.
- ❖ It was launched at Lagyap Reserve Forest, Sikkim, during the Sikkim Paryavaran Parva 2026 programme.
- ❖ The Chief Minister also released the Oak Forest Restoration Manual and flagged off forest patrol vehicles for conservation activities.
- ❖ Nearly 47.33% of Sikkim's geographical area is under forest cover, highlighting the importance of forest protection in the Himalayan state.

PERSONALITIES, AWARDS, AND EVENTS

Janaki Demise



- ❖ Legendary playback singer S. Janaki, popularly known as the "Nightingale of South India", passed away at the age of 88 in Mysuru.
- ❖ She sang over 20,000 songs in more than 20 languages, including Tamil, Telugu, Kannada, Malayalam and Hindi, during a career spanning over six decades.



- ❖ She received four National Film Awards for Best Female Playback Singer and 33 State Film Awards across different languages, making her one of the most awarded Indian playback singers.
- ❖ She was honoured with the Padma Bhushan (2023), Karnataka Rajyotsava Award, and an honorary doctorate from the University of Mysore for her contribution to Indian music.

★ ★ ★ ★ ★ ★ ★ ★ ★ ★