

July - 12

TNPSC BITS

- ❖ The Tamil Nadu Government has announced that the statue of Nel Jayaraman will be unveiled at Thiruthuraipoondi.
- ❖ The Ministry of Information & Broadcasting has launched the "Kalaa Setu - Real-Time Language Tech for Bharat" Challenge to develop indigenous, scalable solutions for automated generation of audio, video, and graphic content from textual inputs, with support for multiple Indian languages.
- ❖ The Indian Navy has received its first indigenously designed and built Diving Support Vessel (DSV), INS Nistar, from Hindustan Shipyard Limited.
- ❖ Nvidia becomes first US company to reach \$4 trillion market cap by bypassing Apple and Microsoft.
- ❖ The 40-year-old Gambhira Bridge over the Mahisagar River has collapsed in the Vadodara district, Gujarat.
 - The Gambhira Bridge was built in 1985 and has a lifespan of 100 years.

TAMIL NADU NEWS

GI tag for Sivakasi-Kovilpatti matchboxes

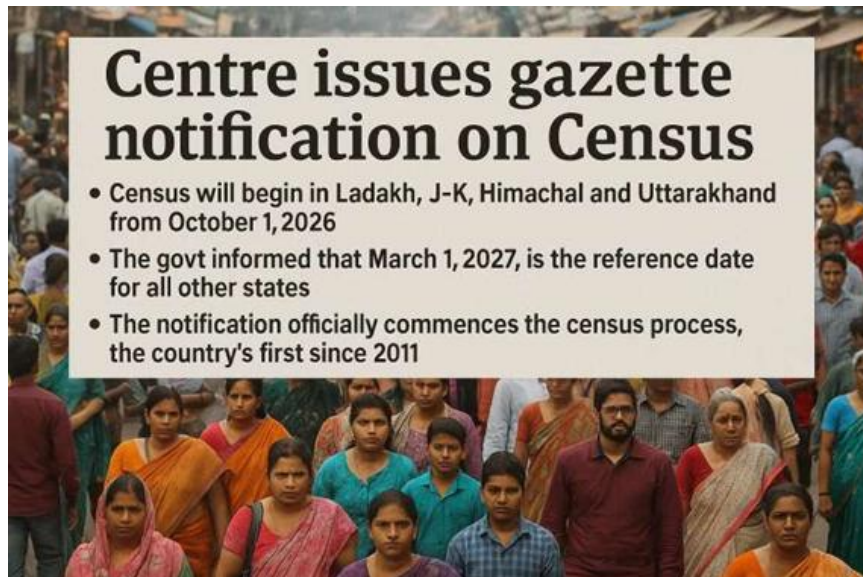


- ❖ The Kovilpatti National Small Match Manufacturers Association has now filed an application seeking a Geographical Indication (GI) tag for the Sivakasi-Kovilpatti match boxes.
- ❖ Sivakasi/Kovilpatti matchboxes are referred to as Sivakasi Matchboxes.
- ❖ The term Sivakasi Matchbox has been used for more than 100 years.

- ❖ It spreads to Sattur and Virudhunagar taluks (Virudhunagar district), Kovilpatti and Ettayapuram taluks (Thoothukudi district), and Sankarankovil taluk (Tenkasi district).
- ❖ Sivakasi matchstick splints are precisely cut from the locally-sourced softwoods, including Indian Malabarica Poplar and Aspen.
- ❖ The match heads are formulated with a very scientifically calibrated blend of the potassium chlorate (as an oxidiser), antimony trisulfide (for friction sensitivity), sulfur (for flame stability), and high-quality binders like casein gum powder or gum arabic, which ensure controlled ignition and minimal sparking.

NATIONAL NEWS

Boundaries Lock for Census



- ❖ The Registrar General of India (RGI) has informed the States that the first phase of the Population Census 2027 - House Listing and Housing Schedule (HLO) - will tentatively begin on April 1, 2026.
- ❖ The RGI informed the States that the administrative boundaries will be frozen by December 31, 2025.
- ❖ If any changes are to be made to the limits of police stations, tehsils, and districts, it should be done before the said date.
- ❖ Around 24 lakh enumeration blocks (EB) finalised for the 2021 Census are likely to be used for the 2027 Census.
- ❖ Each EB usually comprises 150-180 houses or 650-800 people.

- ❖ For the 2021 Census the Centre had notified some 31 questions for the first phase related to household details.
- ❖ On April 30, 2025, the Union Cabinet decided to include caste enumeration as part of the next Census exercise.
- ❖ The Population Census-2027 will, for the first time, enumerate caste.
- ❖ On June 4, 2025, the Ministry of Home Affairs announced the commencement of the Census, adding that it will have a reference date of midnight on March 1, 2027.
- ❖ On June 16, 2025, the RGI and the Census Commissioner of India, which functions under the Ministry, notified the process in the Gazette of India.

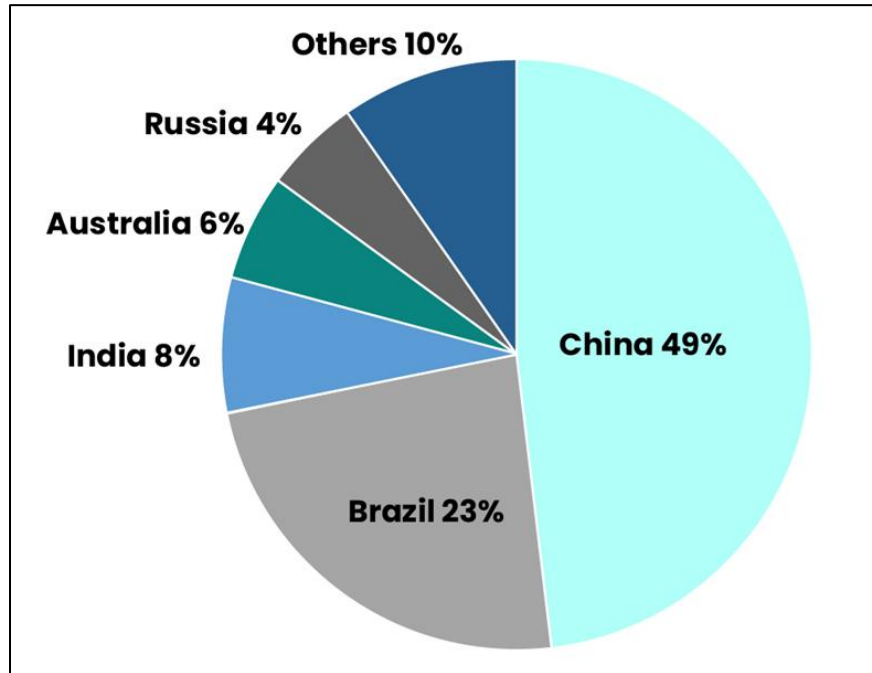
India-Namibia relations 2025



- ❖ PM of India holds talks with Namibian President Nandi-Ndaitwah at the capital of Namibia, Windhoek.
- ❖ It was part of his five-nation tour to Ghana, Trinidad & Tobago, Argentina, Brazil and Namibia.
- ❖ This is his first visit to Namibia and the third-ever by an Indian Prime Minister to the country.
- ❖ Namibia conferred him with the Order of the Most Ancient Welwitschia Mirabilis, Namibia's highest civilian award.
- ❖ Namibia now also became the first African country to officially adopt India's UPI payment system.

- ❖ It has also completed the formalities to join the India-led Coalition of Disaster Resilient Infrastructure and the Global Biofuel Alliance.

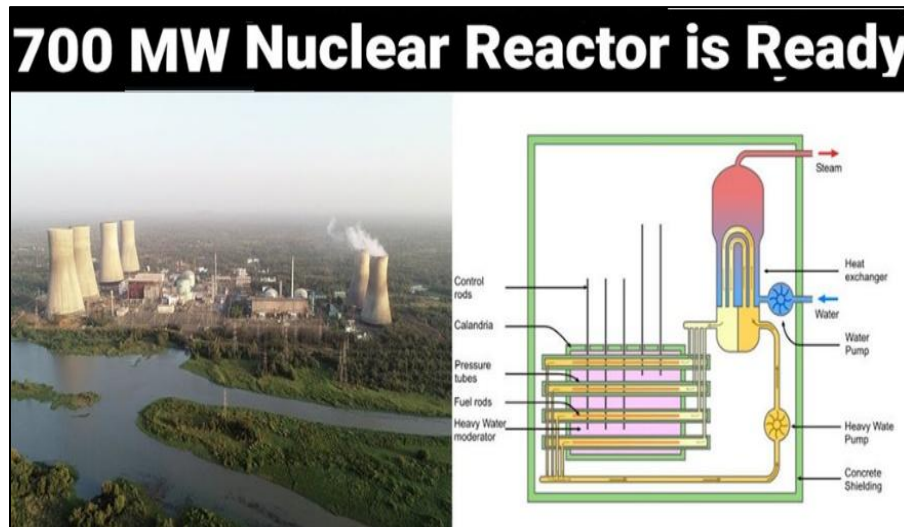
Rare Earth Element (REE) mining



- ❖ As per the CareEdge Report 2025, India holds 8 per cent of the world's Rare Earth Element (REE) Reserves.
- ❖ India has recognised 130 deposits as of the 2023 Indian Minerals Yearbook
- ❖ India has the third-largest REE reserves in the world, but it contributes less than 1 % of global REE mining.
- ❖ It has prompted the Government to launch the National Critical Mineral Mission (NCMM) in 2025 to build India's self-reliance in the mineral sector.
- ❖ As per the International Energy Agency, China holds 49% of the world's total reserves, mining 69% of REEs, and has a 90% share of REE refining.
- ❖ India's REE reserves are mostly found in the monazite sands (which contain thorium).
- ❖ Coastal states have the rarest earth deposits, namely Tamil Nadu, Kerala, Andhra Pradesh, and Odisha.
- ❖ Indian Rare Earth Limited (IREL), a Mini Ratna Company, is the only entity processing monazite to produce Rare-earth (RE) compounds.
- ❖ Mining is further restricted by Coastal Regulation Zone (CRZ) norms.

- ❖ The REE contains Light Rare Earth Elements (LREE) while the Heavy Rare Earth Elements (HREE) are not available in extractable quantities.
- ❖ The importance of REEs extends across a range of sectors such as clean energy technologies, the automotive sector, and defence systems.

700 MWe PHW Reactors



- ❖ The Atomic Energy Regulatory Board (AERB) recently granted a 5-year operation licence for two indigenously developed 700 MWe Pressurised Heavy Water Reactors at the Kakrapar Atomic Power Station (KAPS) in Gujarat.
- ❖ It marks a significant boost to NPCIL's plan of building 10 more PHWRs of 700 MWe.
- ❖ NPCIL owns and operates all nuclear power plants in India, except PFBR variants.
- ❖ PFBR variants are owned by the Indira Gandhi Centre for Atomic Research.
- ❖ India currently operates 15 PHWRs of 220 MWe, 2 PHWRs of 540 MWe.
- ❖ It already has a 700 MWe reactor at Rawatbhata, Rajasthan
- ❖ PHWRs are a type of nuclear reactor that uses heavy water (deuterium oxide, D_2O) as both a coolant and moderator.
- ❖ Natural or slightly enriched uranium serves as fuel for this.
- ❖ AERB is India's national regulatory authority responsible for ensuring the safe use of nuclear energy and radiation technologies in the country.
- ❖ AERB was established in 1983 under the Atomic Energy Act 1962.
- ❖ It functions as an independent body under the Department of Atomic Energy (DAE).
- ❖ India's nuclear power capacity is currently 8.18 GW.

- ❖ Its targets are set at 22.48 GW by 2031–32 and 100 GW by 2047.

INTERNATIONAL NEWS

Catalonia wildfire



- ❖ A massive wildfire was occurred in Tarragona province, Catalonia (Spain).
- ❖ Tarragona is a coastal province in northeastern Spain.
- ❖ It includes protected areas like the Ports Natural Park.
- ❖ This region is prone to Mediterranean wildfires.
- ❖ Spain also experienced its hottest June on record which created dry, combustible landscapes.

SCIENCE AND TECHNOLOGY NEWS

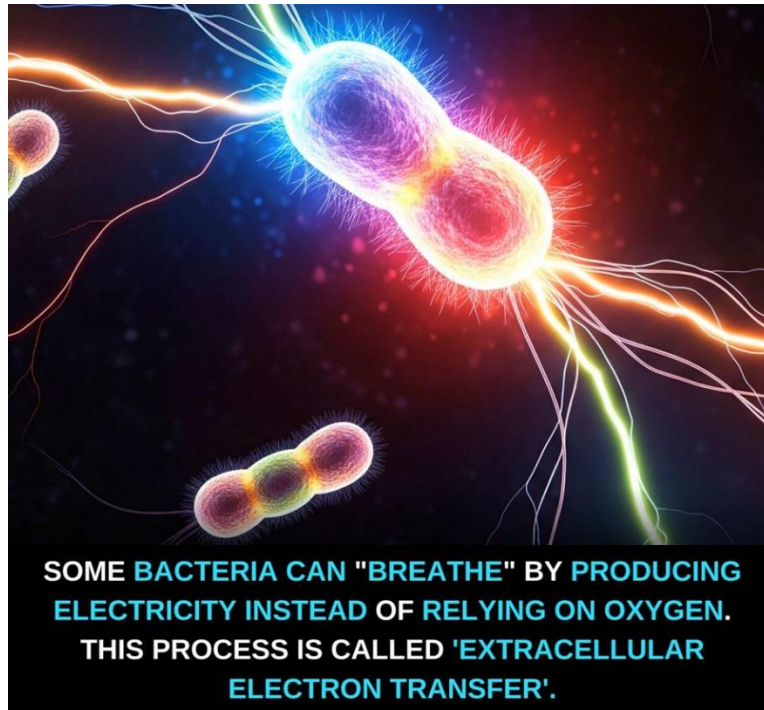
Ca. *Electrothrix yaqonensis* - USA

- ❖ Scientists have discovered a new cable bacterium in Oregon's mud flats.
- ❖ It is named as Ca. *Electrothrix yaqonensis* in honour of the Yaqona people.
- ❖ This species acts as biological wiring, conducting the electricity through unique nickel-based fibres.
- ❖ Its cells are connected end to end, forming filaments that can extend several centimetres.
- ❖ This structure is rare among bacteria.

- ❖ Cable bacteria can live in both freshwater and saltwater environments, and also thrive in diverse climatic conditions.



Extracellular respiration



- ❖ The Scientists discovered new bacteria that survive by releasing electricity, not oxygen.

- ❖ This process is called extracellular respiration.
- ❖ It allows the bacteria to send out electrons to nearby surfaces.
- ❖ This process enables them to generate energy in oxygen-free environments such as deep-sea vents or the human gut.
- ❖ By doing this, they keep growing and making energy.
- ❖ The bacteria use a natural molecule called naphthoquinone.
- ❖ This acts like a tiny shuttle for electrons inside the cell.
- ❖ It picks them up and carries them out to conductive surfaces nearby.
- ❖ Once there, the electrons are released like power from a battery.
- ❖ This method helps them break down food and stay alive.

MISCELLANEOUS NEWS

Earthquake Swarms in Mt Rainier - USA



- ❖ More than 300 earthquakes have erupted at Washington's Mount Rainier.
- ❖ This is the most significant seismicity at the volcano since 2009.
- ❖ Mount Rainier is considered an active volcano and has not had a significant eruption in the past 500 years.
- ❖ Mount Rainier is an active stratovolcano and national park in the state of Washington.
- ❖ It rises more than 14,000 feet above sea level and sprawls over five major rivers.



- ❖ An earthquake swarm is a cluster of small earthquakes occurring over a short period in a confined area.

