

April - 20

TNPSC BITS

- ❖ Computational scientist and mathematician Avi Wigderson of the Institute for Advanced Study in Princeton has won the 2023 A.M. Turing Award.
- ❖ Mykolas Alekna of Lithuania broke the longest standing world record in men's athletics by a staggering 74.35-meter discus throw.
- ❖ India Post opened its third post office at Bharati Station, Antarctica.
 - The department had earlier installed a post office at Dakshin Gangotri Station in 1984 and another at Maitri Station in 1990.

NATIONAL

Defense Diplomacy by India



- ❖ India will now post its defence officials in countries including Ethiopia, Mozambique, Ivory Coast, Philippines, Armenia and Poland in line with its broader policy initiative to expand strategic ties with key regions.
- ❖ Several African countries have already expressed keen interest in procuring the Indian military platforms, equipment and hardware.
- ❖ Hence, the attache will act as a mediator.
- ❖ A military attache or defence attache is a military expert or official from a military who is attached to a diplomatic mission, often an embassy.
- ❖ Usually, high-ranking military officers hold this post and retain a commission while serving on a diplomatic mission.



- ❖ The officer, sometimes, also acts as a communication channel between the two countries-- host and where an officer is posted.
- ❖ Last year, the European Union (EU) posted a military attache to its mission in India for the first time.
- ❖ A total of 16 defence attaches from the Indian Army, the Indian Navy and the Indian Air Force will shortly assume their new positions.

Supreme Court on Easementary Right

- ❖ The Supreme Court reiterated that the Power of Attorney holder can only depose about the facts within his personal knowledge and not about those facts which are not within his knowledge.
- ❖ The concept of easement has been defined under The Indian Easements Act, 1882.
- ❖ According to it, an easementary right is a right possessed by the owner or occupier of the land on some other land, not his own, the purpose of which is to provide the beneficial enjoyment of the land.
- ❖ This right is granted because, without the existence of this right an occupier or owner cannot fully enjoy his own property.
- ❖ It includes the right to door continue to do something or to prevent or to continue to prevent something in connection with or in respect of some other land, which is not his own, for the enjoyment of his own land.

EXCERPTS FROM THE EXPERTS

"The easementary right by necessity could be acquired only in accordance with Section 13 of the Indian Easement Act which provides that such easementary right would arise if it is necessary for enjoying the Dominant Heritage. In the instant case, findings have been returned not only by the appellate courts but even by the trial court that there is an alternative way to access the Dominant Heritage, which may be a little far away or longer which demolishes the easement of necessity...Thus, the Gala's (claimant) are not entitled to any easementary right by necessity upon the disputed rasta."



INTERNATIONAL

Men5CV Meningitis Vaccine - Nigeria

- ❖ Nigeria has become the first country in the world to roll out the "revolutionary" new Men5CV vaccine against meningitis.

- ❖ Last year, a 50% rise in annual cases was reported across 26 African countries regarded as meningitis hyperendemic countries.
- ❖ Meningitis is a life-threatening disease caused by inflammation of the membranes (meninges) that surround the brain and spinal cord.
- ❖ There are multiple causes of meningitis, including viral, bacterial, fungal and parasitic pathogens.
- ❖ There are four main causes of acute bacterial meningitis:
 - *Neisseria meningitidis* (meningococcus)
 - *Streptococcus pneumoniae* (pneumococcus)
 - *Haemophilus influenzae*
 - *Streptococcus agalactiae* (group B streptococcus).

Nigeria becomes first country to roll out new meningitis vaccine

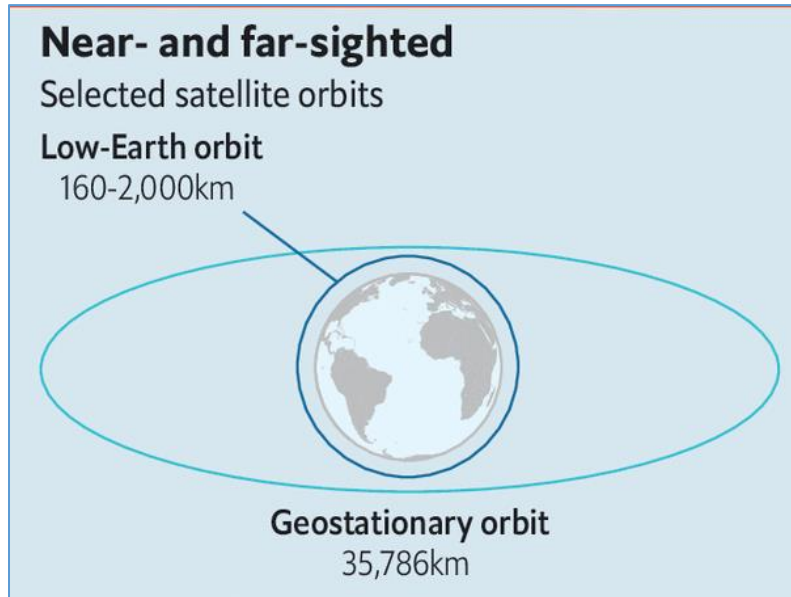
Nigeria has become the first country in the world to roll out the "revolutionary" new Men5CV vaccine against meningitis, announces the World Health Organization (WHO).



Satellite Calls – China

- ❖ Chinese scientists have developed the world's first satellite capable of enabling smartphone calls directly, without the need for ground-based infrastructure.
- ❖ It is named "Tiantong," which translates to "connecting with heaven,"
- ❖ The initiative draws inspiration from the biblical story of the Tower of Babel, aiming to bridge communication gaps rather than create them.
- ❖ The Tiantong-1 satellite series, now includes three satellites in a geosynchronous orbit at 36,000km, covering the entire Asia-Pacific region.

- ❖ This breakthrough came to the fruition when Huawei Technologies released the world's first smartphone supporting satellite calls in last September.

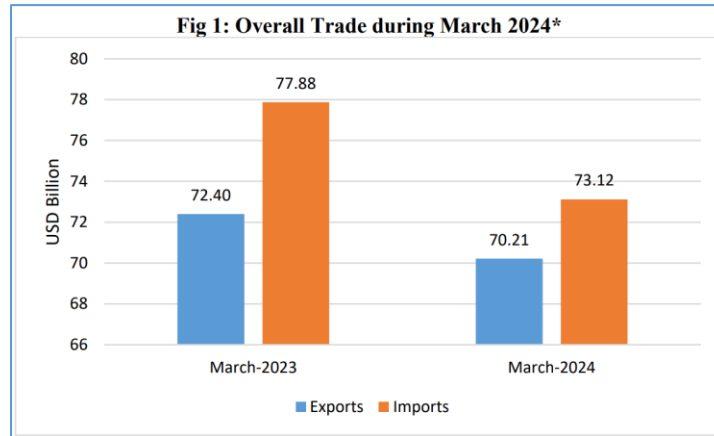


ECONOMY

Trade Performance FY 2024

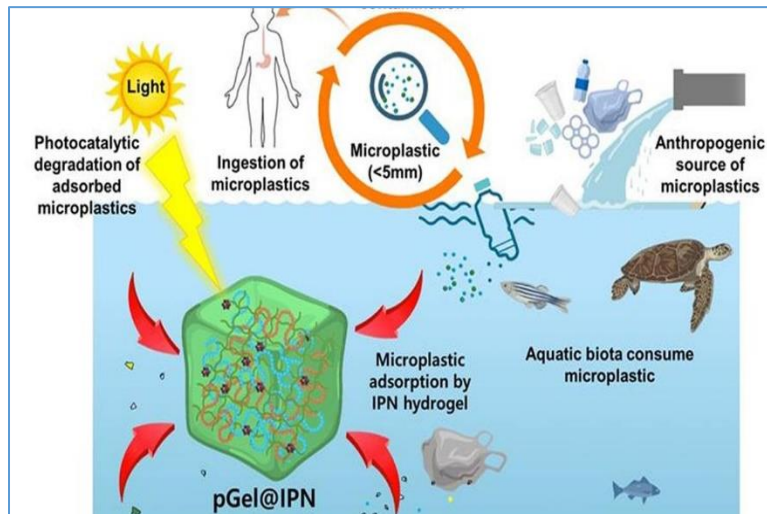
- ❖ India's trade deficit narrowed to \$15.6 billion in March, a 11-month low, owing to a sharp fall in merchandise imports.
- ❖ The deficit figure stood at \$18.96 billion in March 2023 and \$18.71 billion in February 2024.
- ❖ India's overall exports reached a record \$776.68 billion in the financial year ended March 31.
- ❖ Merchandise exports fell to \$437.06 billion in FY24, while services exports grew by 4.4% to a record \$339.62 billion.
- ❖ The country's overall trade deficit improved by 35.77% from \$121.62 billion in FY23 to \$78.12 billion in FY24.
- ❖ India's merchandise exports in 2023-24 fell by 3.11% to \$437.06 billion as against \$451.07 billion in 2022-23.
- ❖ Merchandise imports in 2023-24 too fell, by 5.41% to \$677.24 billion as against \$715.97 billion in 2022-23.
- ❖ Services export in 2023-24 were estimated at \$339.62 billion, 4.39% up from \$325.33 billion achieved in 2022-23.

- ❖ Services imports were estimated at \$177.56 billion in FY24 as compared to \$182.05 billion in FY23, a contraction of 2.46%.



SCIENCE AND TECHNOLOGY

Hydrogel by IISc

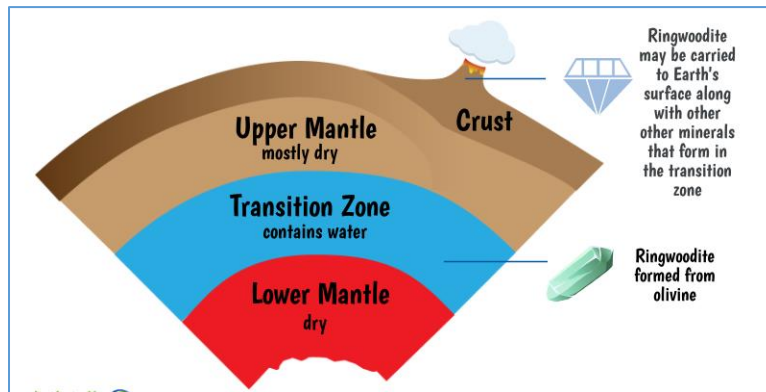


- ❖ Researchers at the Indian Institute of Science (IISc) have designed a sustainable hydrogel to remove microplastics from water.
- ❖ The sustainable hydrogel designed by the researchers has a unique intertwined polymer network that can bind the contaminants and degrade them using UV light irradiation.
- ❖ The hydrogel was found to be highly efficient – it could remove about 95% and 93% of two different types of microplastics in water at near-neutral pH (~6.5).
- ❖ Scientists have previously tried using filtering the membranes to remove the microplastics.

- ❖ However, the membranes can become clogged with these tiny particles, rendering them unsustainable.
- ❖ Microplastics pose a great threat to human health as these tiny plastic debris can enter our bodies through the water we drink and increase the risk of illnesses.

ENVIRONMENT

Ringwoodite



- ❖ Scientists discovered a super massive ocean hidden under the Earth's crust.
- ❖ The water is stored 700 kilometres below the surface of the Earth in a rock known as ringwoodite.
- ❖ This subterranean reservoir is three times the volume of all the planet's surface oceans combined.
- ❖ The ringwoodite is like a sponge, soaking up water.
- ❖ There is something very special about the crystal structure of ringwoodite that allows it to attract hydrogen and trap water.
- ❖ The high-water storage capacity of minerals in Earth's mantle transition zone (410- to 660-kilometer depth) implies the possibility of a deep H₂O reservoir.

SPORTS

Wisden's Leading Cricketers in the World

- ❖ Pat Cummins (Men) and Nat Sciver-Brunt (Women) have been named as the Leading Cricketers in the World in the 2024 edition of Wisden Cricketers' Almanack.
- ❖ Sciver Brunt has been recognised as the top women's cricketer because of her role in the women's Ashes.

- ❖ Three Australian players have been named among the five Wisden Cricketers of the Year, including Mitchell Starc, Usman Khawaja and Ashleigh Gardner.
- ❖ West Indies all-rounder Hayley Matthews was given the Leading T20 Cricketer award.



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