

Current Affairs search results for tag: science-and-technology

1. NASA launches world's most powerful James Webb telescope (Dec. 26, 2021)

- World most powerful space telescope, the James Webb telescope was successfully launched on 25 December 2021. It is more powerful than the Hubble space telescope launched by NASA in 1990.
- The James Webb telescope mission was launched by National Aeronautics and Space Administration (NASA) of the U.S. in association with the European Space Agency and Canadian Space Agency.

Aim of the Mission

- The aim of the mission is to seek the light from the first galaxies in the early universe and to explore our own solar system to understand the origin of our universe, as well as planets orbiting other stars, called exoplanets.
- Its mirror measures 6.5 metres (21 feet) in diameter — three times the size of Hubble's mirror — and is made of 18 hexagonal sections.

From where it was launched

- The telescope was launched on board Ariane -5 rocket of the European Space Agency from its European Spaceport located near Kourou, French Guiana in South America.

Where it will be deployed

- The location of Webb's orbit is called the Lagrange 2 point which is around 15 lakh kilometers from Earth and it was chosen in part because it will keep the Earth, the Sun and the Moon all on the same side of its sun shield.
- Webb is expected to officially enter service in June.

Why was it named Webb telescope

The telescope has been named after the NASA director James Webb who was an integral part of the Apollo mission from 1961-1966. The Apollo mission of NASA was to put man on the surface of the Moon.

2. Covishield Effect wanes after 3 months: Lancet Study (Dec. 22, 2021)

- According to the study published in **The Lancet Journal**, the protection offered by the **Oxford-AstraZeneca (known as Covishield in India) COVID-19** vaccine declines after three months of receiving two doses of the preventive.
- The findings **drawn from datasets in Brazil (for 42 million people) and Scotland (for 2 million people)** suggest that booster programmes are needed to help maintain protection from severe disease in those vaccinated with AstraZeneca.

The Lancet is a weekly peer-reviewed general medical journal. It was founded in 1823 by Thomas Wakley, an English surgeon who named it after the surgical instrument called a lancet.

3. NASA's Parker Solar Probe, first ever mission to "Touch the Sun" (Dec. 21, 2021)

NASA's Parker Solar Probe, first ever mission to "Touch the Sun"

The Parker Solar Probe of the **National Aeronautics and Space Administration (NASA's)** of the **United States**, became the first manmade object to touch the **Sun's upper atmosphere, the Corona**, for the first time in human history.

- It was **launched by NASA on 12th August 2018**, from the **Cape Canaveral Air Force Station, Florida on board the Delta IV-Heavy launch vehicle**.
- **Parker Solar Probe** actually flew through the corona (**Alfven point**) on **28th April 2021 during the spacecraft's eighth close approach to the sun**.
- It was designed and built by the **Johns Hopkins University Applied Physics Laboratory**.
- It has been **named so to honour** nonagenarian American astrophysicist **Eugene Newman Parker**, who developed **the theory of the supersonic solar wind and predicted the Parker spiral shape of the solar magnetic field in the outer Solar System**.

The probe passed by at a ridiculous **speed of 363,660 mph, making it the fastest artificial object ever created**.

The primary science goals for the mission are to trace how energy and heat move through the solar corona and to explore what accelerates the solar wind as well as solar energetic particles.

India's first Mission to study the Sun:

Aditya or Aditya-L1 is a planned **coronagraphy spacecraft** to study solar atmosphere, currently being designed and developed by **Indian Space Research Organisation (ISRO)** and various other Indian research institutes.

- It is **planned to be launched in the third quarter of 2022 aboard a PSLV-XL launch vehicle**.
- The spacecraft will study **coronal heating, solar wind acceleration, coronal magnetometry, origin and monitoring of near-UV solar radiation** and continuously **observe photosphere, chromosphere and corona, solar energetic particles and magnetic field** of the Sun.

4. 21st December Earth's Northern Hemisphere witnesses the year's shortest day (Dec. 21, 2021)

Earth's Northern Hemisphere observes the **Winter Solstice, the shortest day and longest night of the year on 21st December**.

- A solstice is an astronomical event , when the tilt of Earth's axis with respect to the Sun is maximum.

- This day also marks the longest day of the year in the Southern Hemisphere, called the summer solstice of the region.
- Winter Solstice takes place on **either December 21 or 22.**

5. Installed Nuclear Power capacity in India (Dec. 17, 2021)

- Government of India has informed the Parliament about the status of the Nuclear Power Plant in India
- The present nuclear power capacity of 6780 MW is planned to be increased to 22480 MW by 2031.
- At present the share of nuclear power in the total electricity generation in the country is about 3.1% in the year 2020-21.
- Government has given approval to the setting up of six nuclear power reactors of 1650 MW each in technical cooperation with France which would make it the largest nuclear power generating site with a total capacity of 9900 MW at Jaitapur in Maharashtra.

- At present the Kudankulam Nuclear Power plant in Tamil Nadu being built with the help of Russia is the largest Nuclear Power plant in India with a capacity of 2000MW and further 2000 MW under construction.
- The first Nuclear Power plant in India was set up in 1969 at Tarapur in Maharashtra .

6. Two wild plant species are now extinct! (Dec. 9, 2021)

According to the Journal of Threatened Taxa two species of plants first collected by botanists more than 125 years ago from Meghalaya and the Andaman Islands are now extinct in the wild.

Highlights:

- Study blames climate change, human interference and over-exploitation, or natural calamities for disappearance.
- Classified under the genus *Boesenbergia*, the species belongs to the family Zingiberaceae, the ginger family of flowering plants.
- *Boesenbergia rubrolutea* was first collected from the Khasi Hills, Thera, in Meghalaya on October 10, 1886. Specimens of *Boesenbergia albolutea* were collected from the Andamans and sent to the Royal Botanic Gardens, Kew, England, in 1889.
- The authors have recommended listing them as 'Extinct in the Wild (EW) (IUCN 2019)' under the IUCN Red List category.

IUCN

International Union for Conservation of Nature (IUCN)

- IUCN is a membership union uniquely composed of both government and civil society organisations
- Created in **1948**, it is the global authority on the status of the natural world and the measures needed to safeguard it.
- It is headquartered in **Gland, Switzerland**.

The **IUCN Red List** of Threatened Species, is the world's most comprehensive inventory of the global conservation status of plant and animal species.