



January - 17

TNPSC BITS

- ❖ Power Grid Corporation of India Ltd signed a joint development agreement with Africa50, to continue to develop “Kenya Transmission Project” in public-private partnership mode.
- ❖ Tasnim Mir from Gujarat has become the first Indian to grab the No.1 spot in under-19 girls’ singles badminton.
 - She has won 4 junior international tournaments, with 3 of them - Bulgarian Junior Championship, Alpes International, and Belgian Junior coming in 2021.

TAMIL NADU

11 new medical colleges in Tamil Nadu

AT A GLANCE					
Subjects	INDIA	TN	UP	MAHA	WB
Number of colleges	593	69	67	59	27
Number of seats	45,698	10,375	6,928	9,200	4,150
Number of govt college/ govt society	312	37	35	28	20
Number of govt seats	22,933	5,125	3,478	4,630	3,150
Number of Private/ self-financing colleges / deemed universities	281	32	32	31	7

- ❖ Prime Minister Narendra Modi virtually inaugurated 11 new government medical colleges in Tamil Nadu.
- ❖ The new colleges are in Ariyalur, Dindigul, Kallakurichi, Krishnagiri, Nagapattinam, Namakkal, Ramanathapuram, the Nilgiris, Tiruppur, Tiruvallur and Virudhunagar,
- ❖ It would have an intake of 1,450 M.B.B.S. students annually.
- ❖ As on March 31, 2021, the intake capacity of students in M.B.B.S. courses in government medical institutions of Tamilnadu was 3,550.



- ❖ Prime Minister Modi also virtually inaugurated the new campus of the Central Institute of Classical Tamil (CICT) at Perumbakkam near Chennai.

SCIENCE AND TECHNOLOGY

White Swan Strategic Missile Bomber

- ❖ The Russian defense forces recently unveiled a new Tupolev Tu-160M.
- ❖ It is a missile bomber and is also known as “White Swan”.
- ❖ It has been designed to carry nuclear warheads.
- ❖ It is the largest and heaviest Mach 2+ military bomber built in the world.

Grime-eating Bacteria

- ❖ Scientists have started using grime-eating bacteria extensively to restore classical art.
- ❖ The process of using bacteria to restore classical art is called Bio-cleaning.

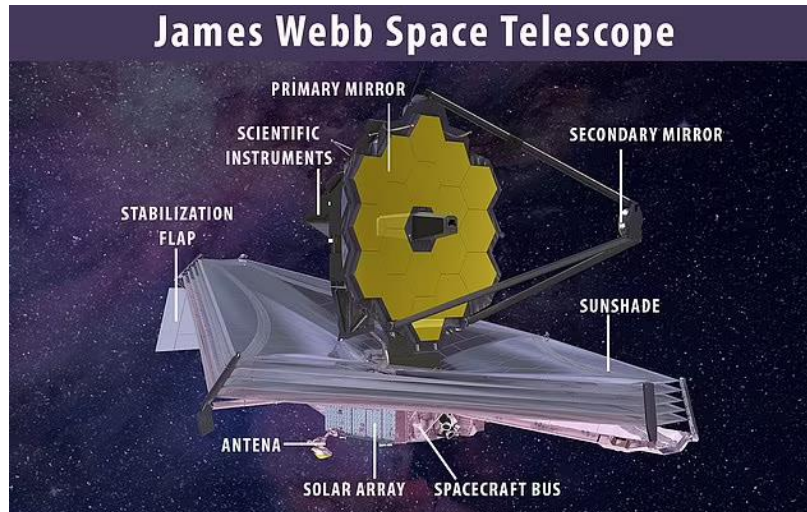
Conversion Therapy in Canada



- ❖ Conversion therapy is banned in Canada.
- ❖ Conversion therapy is a discredited practice that is used in an attempt to change the sexual orientation, gender identity, and gender expression of LGBTQ individuals.
- ❖ It was given royal assent by Queen Elizabeth II.
- ❖ Based in the British tradition, royal assent is a Canadian ceremony.

- ❖ Under this, a bill is sanctioned by all three components of Parliament - the Sovereign (Queen Elizabeth II), the Senate, and the House of Commons - and formally becomes law.

Mirror Unfolded

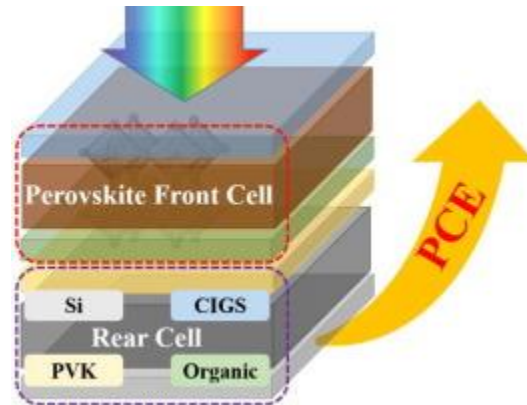


- ❖ NASA's James Webb Space Telescope team fully deployed its 21-foot, gold-coated primary mirror.
- ❖ It has successfully completed the final stage of all major spacecraft deployments to prepare for science operations.
- ❖ The Webb mission will explore every phase of cosmic history – from within our solar system to the most distant observable galaxies in the early universe.
- ❖ Its infrared technology will allow it to see the first stars and galaxies that formed 13.5 billion years ago.
- ❖ It is the world's largest and most complex space science telescope.
- ❖ This is a joint effort with the NASA, European Space Agency (ESA) and Canadian Space Agency.
- ❖ Webb is the successor to Hubble telescope.

Perovskite-based devices

- ❖ Scientists from the Indian Institute of Technology, Guwahati of Assam have found a way to make solar panels more efficient, cheaper and recyclable.
- ❖ It was done by stabilising hybrid perovskite-based solar or photovoltaic devices to produce electricity.

- ❖ These are considered heavily used semiconductor materials as they are affordable and easy to manufacture.
- ❖ The perovskite materials are extremely unstable towards ambient (humidity and oxygen) conditions that restrict their commercialisation.
- ❖ These devices can be manufactured at room temperature, making them cost-effective and more eco-friendly.



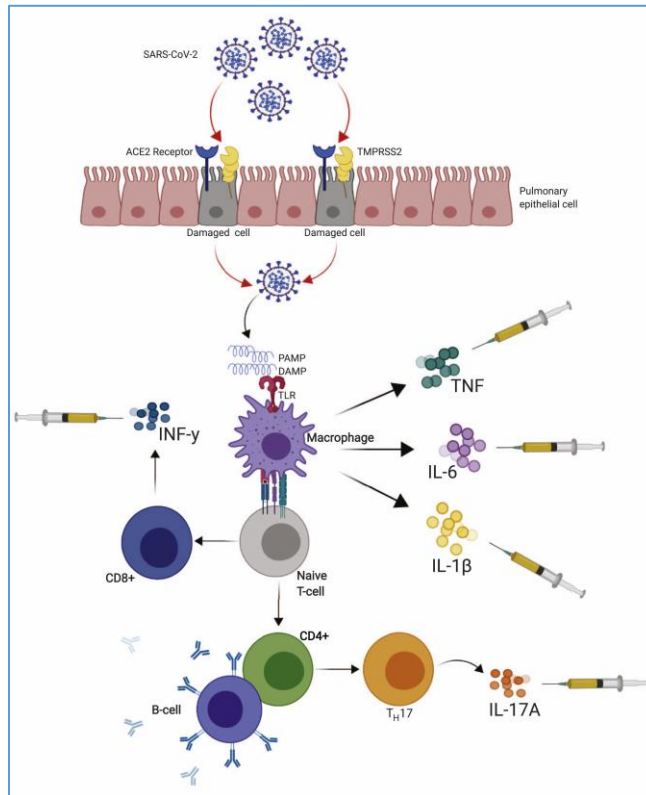
Atacama Large Milli meter



- ❖ The scientists have detected a new born star and the surrounding cocoon of a complex organic matter, for the first time in WB89-789 region.
- ❖ It is located in extreme outer Galaxy.
- ❖ It was done by using the Atacama Large Milli meter/submilli meter Array (ALMA) in Chile.
- ❖ The discovery revealed the hidden chemical complexity of Universe.

- ❖ Several types of complex organic molecules, like methanol (CH_3OH), methyl formate (HCOOCH_3), ethanol ($\text{C}_2\text{H}_5\text{OH}$), dimethyl ether (CH_3OCH_3), propanenitrile ($\text{C}_2\text{H}_5\text{CN}$), formamide (NH_2CHO) are present in primordial environment of the Galaxy.

New drugs for COVID-19

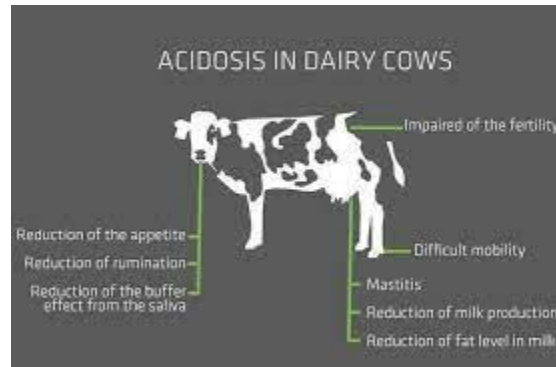


- ❖ The World Health Organisation has recommended the use of two new drugs called interleukin-6 (IL-6) and baricitinib in combination with corticosteroids to treat patients with severe or critical COVID-19 infection.
- ❖ The usage of both drugs at the same time is not recommended.

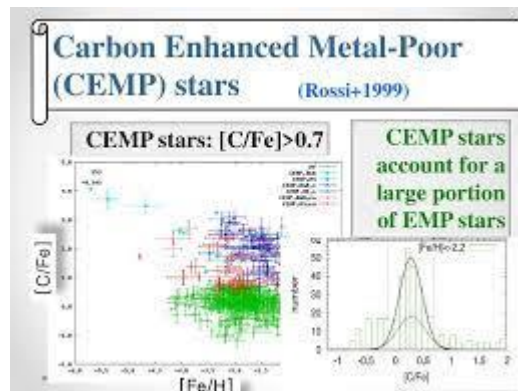
Ruminal Acidosis

- ❖ The Veterinarians say that feeding too much sweet Pongal is not good for cows, and causes Subacute Ruminal Acidosis (SARA).
- ❖ The sugary foods that reach the cow's stomach get fermented abnormally and cause a health issue in the cows and other ruminant animals.
- ❖ In severe cases, it is called Ruminal Acidosis.
- ❖ It is a bovine metabolic disease that affects feedlot as well as dairy cattle.

- ❖ Acidosis is usually associated with the ingestion of large amounts of highly fermentable, carbohydrate-rich feeds.



Carbon Enhanced Metal-Poor Stars (CEMP)



- ❖ Indian astronomers have traced the origin of a much higher fraction of elements heavier than iron.
- ❖ It is more than expected in carbon-rich stars to the low-mass companions of these stars, from which the materials have been stolen.
- ❖ The low-mass companion stars have further evolved to white dwarfs that are no longer detectable.
- ❖ The CEMP stars were formed from the ejected material of the first stars that formed after the Big Bang, carrying the chemical imprints of early Galactic chemical evolution.

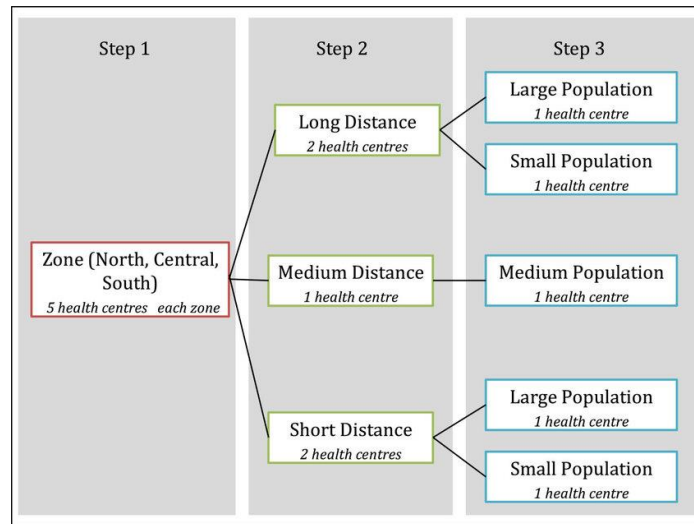
Qualification tests of Cryogenic engine

- ❖ The Indian Space Research Organisation has successfully conducted the qualification test of cryogenic engine for the Gaganyaan Programme.
- ❖ The duration of the test was for 720 seconds at ISRO Propulsion Complex in Mahendragiri in Tamil Nadu.

- ❖ It has ensured the reliability and the robustness of the cryogenic engine for induction into the human-rated launch vehicle for Gaganyaan.
- ❖ The Geosynchronous Satellite Launch Vehicle (GSLV) Mark III launch vehicle, which will be used for the Gaganyaan programme, will use two cryogenic engines.
- ❖ It is developed by ISRO and is named as Vikas.



Purposive Testing Strategy



- ❖ The Indian Council of Medical Research (ICMR) issued new guidelines on “Purposive Testing Strategy”.
- ❖ It will be on who needs to get tested for the infection, and who doesn’t.
- ❖ As per the guidelines, asymptomatic individuals, and contacts of Covid patients are not required to be tested unless identified as “high-risk individuals” based on co-morbidities or age.



AI-driven Start-Up for Water Purification

- ❖ The union minister Jitendra Singh launched Artificial Intelligence (AI) driven Start-Up for water purification through innovative technology.
- ❖ It has been developed by an IIT Alumni.

