

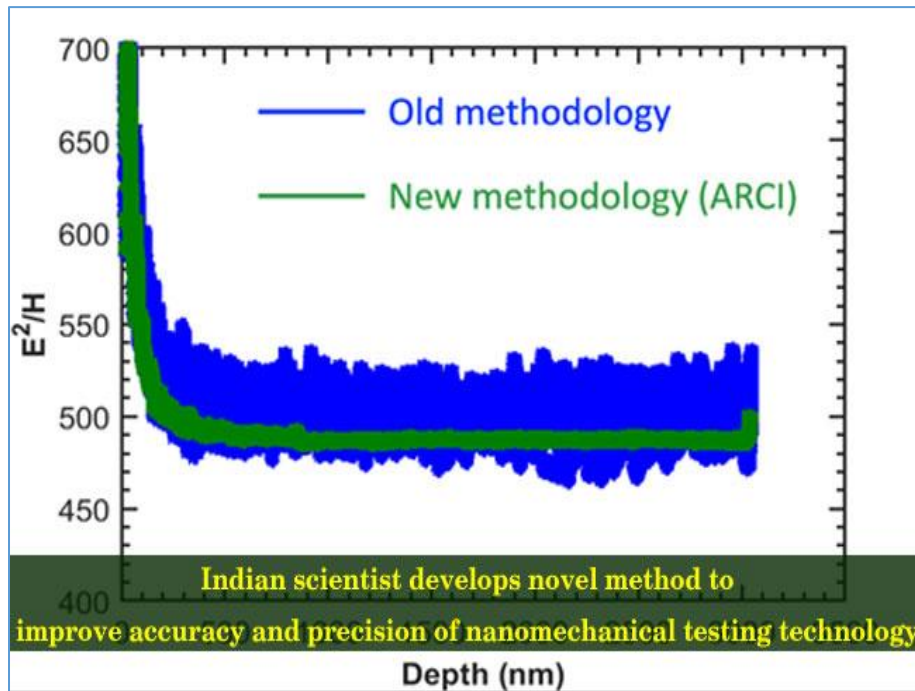
August - 27

TNPSC BITS

- ❖ Raja Anirudh Sriram, from Tirupati has bagged a silver medal at the Singapore International Math Olympiad Challenge (SIMOC) recently.
- ❖ Guwahati's Lokpriya Gopinath Bordoloi International Airport in Assam became the first airport in the northeast to get 'Digi Yatra' facility.
- ❖ The BRICS countries have come to an agreement to establish an autonomous university rating system.
 - The decision follows concerns raised about the current rankings, which have faced criticism for their failure to encompass impartial data.
- ❖ International Dog Day is celebrated on August 26 every year.

NATIONAL

New nanomechanical testing technology

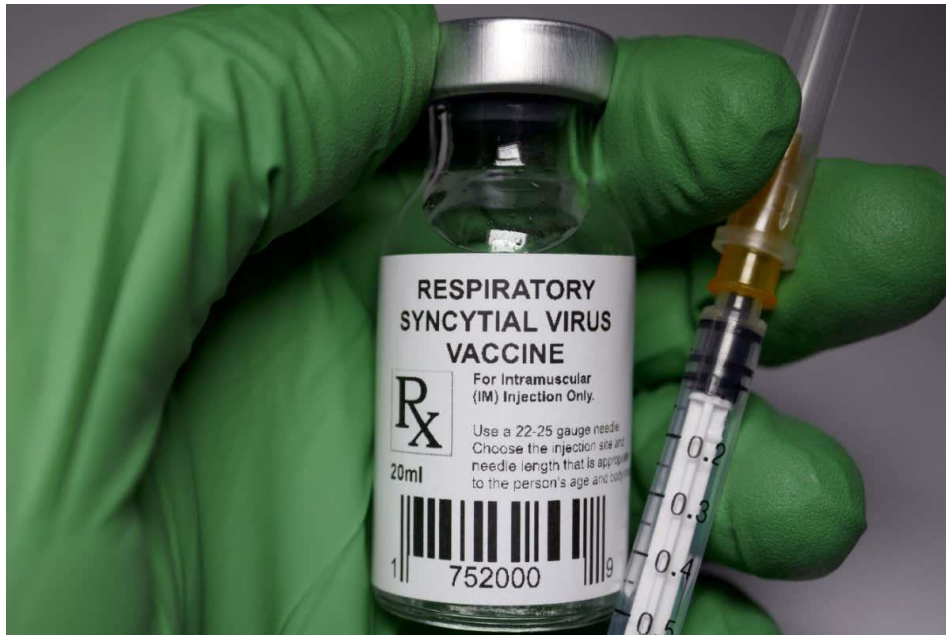


- ❖ The Indian scientist developed a novel method to improve accuracy and precision of nanomechanical testing technology.
- ❖ The new method enables faster testing of mechanical strength of extremely small volumes of materials for a wide range of fields from medicine to space

- ❖ The technique has been widely used to measure the strength of semiconductor devices and structural materials.

INTERNATIONAL

RSV Vaccine



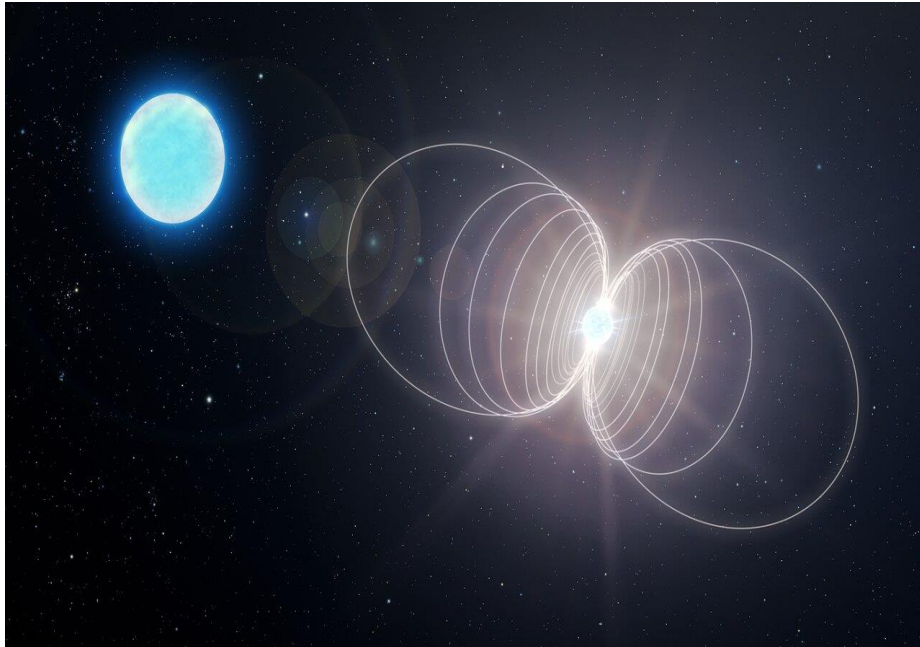
- ❖ The US Food and Drug Administration approved the first vaccine that protects newborns from respiratory syncytial virus, known as RSV.
- ❖ The vaccine was made by Pfizer.
- ❖ It is given to mothers late in their pregnancies and provides protection to infants through their first six months of life.
- ❖ RSV is a common illness and major cause of hospitalization in infants and the elders.

SCIENCE AND TECHNOLOGY

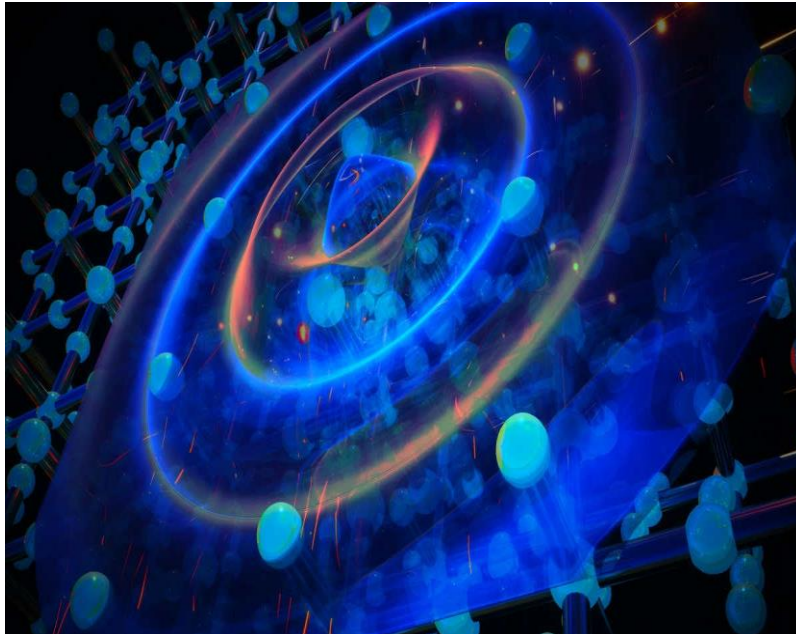
HD 45166

- ❖ A star that could become the strongest magnet in the universe has been discovered by astronomers.
- ❖ The star, named HD 45166, is a giant helium-rich star that is several times larger than the sun.
- ❖ It is located 3,000 light years away from Earth.

- ❖ It has the most powerful magnetic field ever detected in a massive star – 43,000 gauss.



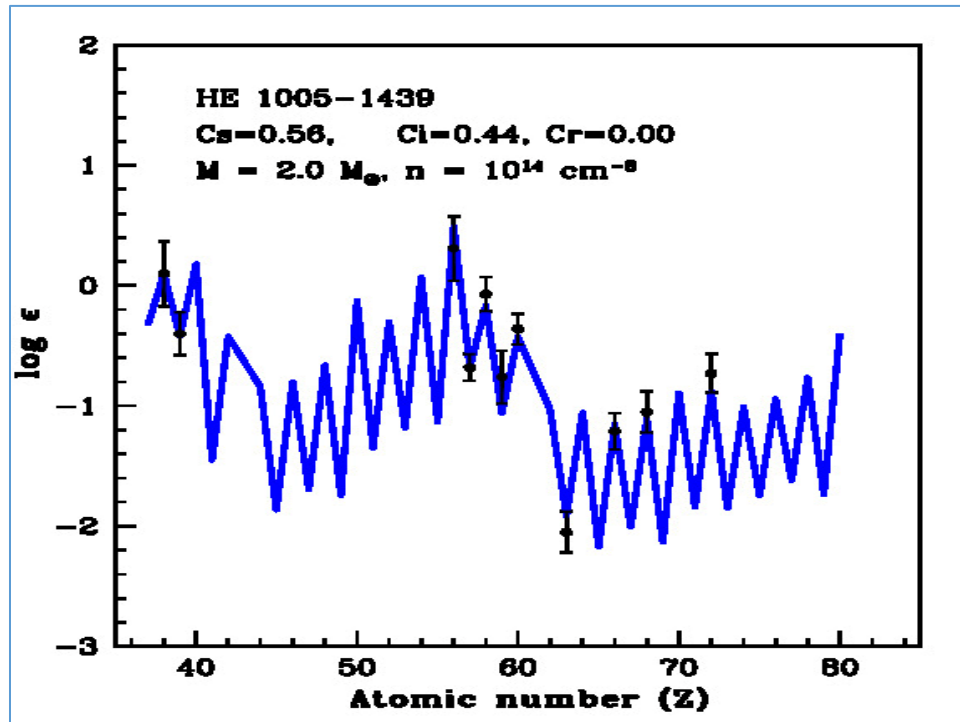
Demon particle



- ❖ A “demon” particle that has been found in an experiment by American researchers.
- ❖ It is not a particle in the traditional sense like a proton or electron.
- ❖ It is a “composite” particle made up of a combination of electrons, in a solid.

- ❖ It holds the potential to usher in a new era of superconductors.
- ❖ Current superconductors require the temperature to fall below 100 degrees Fahrenheit-mark to maintain their properties.

HE 1005-1439

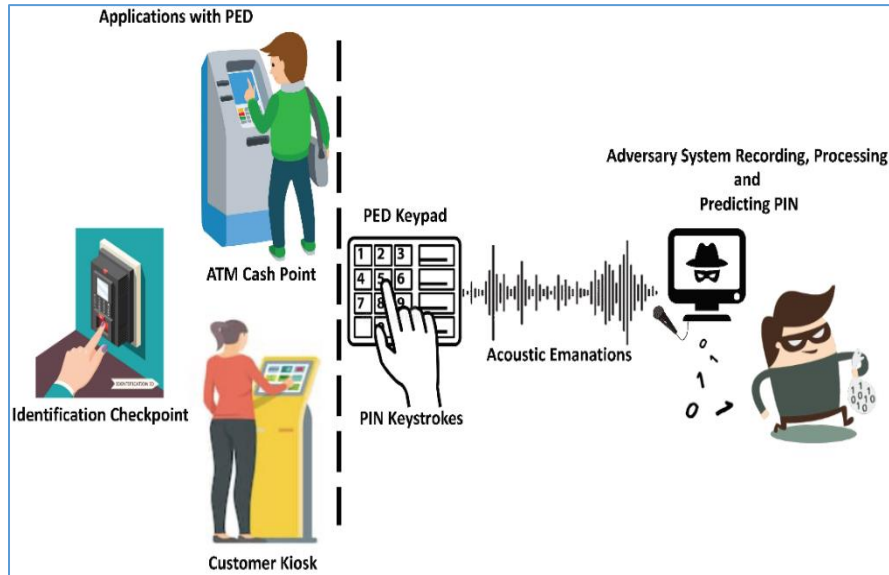


- ❖ The Scientists at the Indian Institute of Astrophysics (IIA), Bengaluru, have discovered a unique star named “HE 1005-1439.
- ❖ It classified as a carbon-enhanced metal-poor (CEMP) star.
- ❖ It defies previous classifications and challenges previous understanding of star formation processes.
- ❖ It also shows signs of having been formed through the combination of two different neutron-capture processes — the slow (s-) and intermediate (i-).

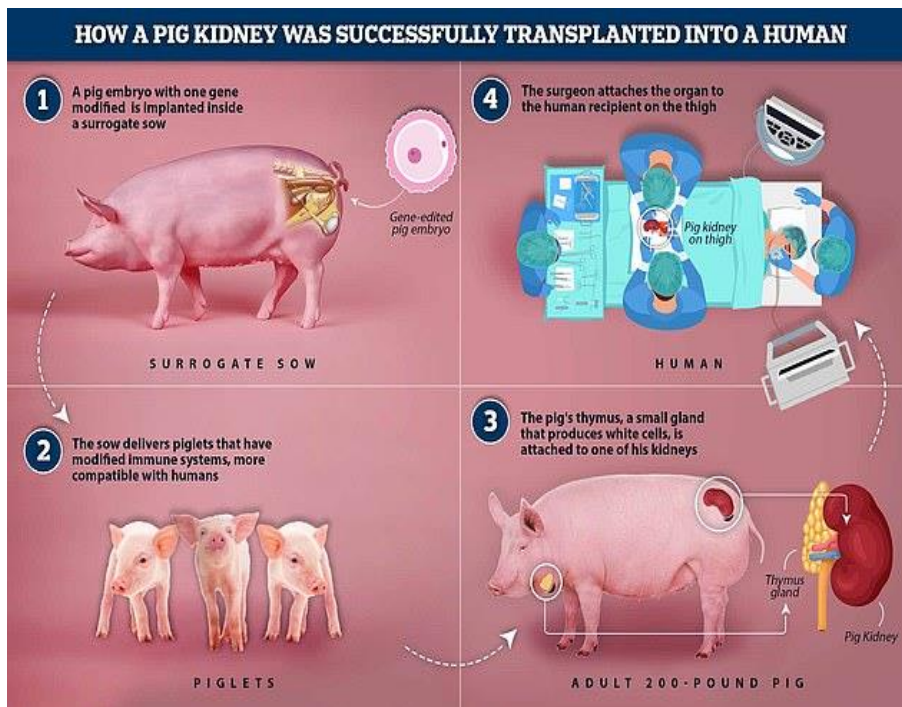
Acoustic Side Channel Attack

- ❖ A recent report revealed that Artificial Intelligence (AI) can be used to decode passwords by analysing the sound produced by keystrokes.
- ❖ This technique uses the sounds produced by typing on a keyboard to determine what keys are being pressed.
- ❖ By analysing these unique sounds, hackers equipped with the right tools can decode the precise letters and numbers being typed.

- ❖ Side Channel Attacks are a method of hacking a cryptographic algorithm based on the analysis of auxiliary systems used in the encryption method.



Pig kidney into a human



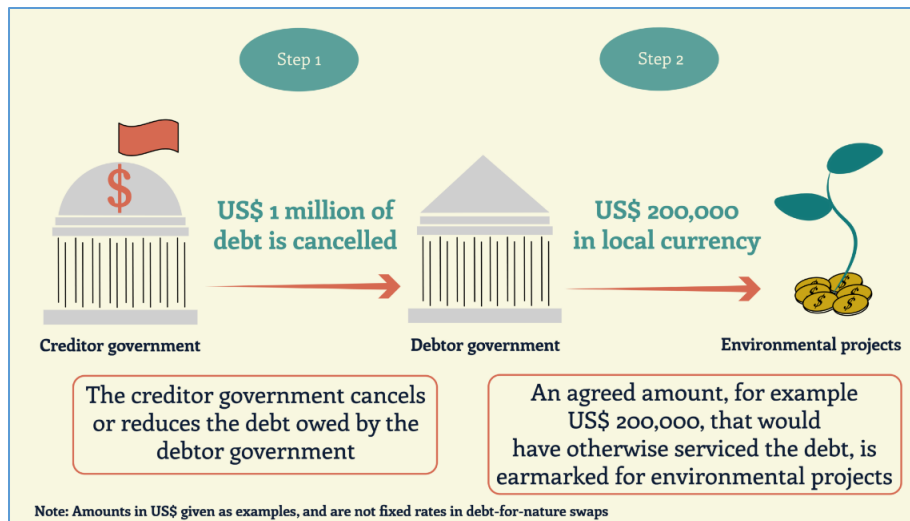
- ❖ The Doctors from New York City have successfully transplanted a genetically engineered pig kidney into a human who was declared brain dead.
- ❖ The transplantation of animal organs into humans are known as Xeno transplantation.

- ❖ Historically, these surgeries have mostly failed, because the human immune system attacks the foreign tissue, even with immunosuppressive drugs.

ENVIRONMENT

Debt-for-nature swap deal

- ❖ Gabon announced a \$500 million debt-for-nature swap.
- ❖ This is the world's second-largest deal signed under blue bond to refinance.
- ❖ In Africa, it is the largest such deal signed by any country to refinance its debt and conserve marine resources.
- ❖ Debt-for-nature swaps allow heavily indebted developing countries to seek help from financial institutions in the developed world with paying off their debt if they agree to spend on conservation of natural resources.
- ❖ Usually banks in developed countries buy the debts of such counties and replace them with new loans which mature later.
- ❖ These have lower interest rates.
- ❖ Gabon's debt has been restructured under a Blue Bond is the world's second-largest debt-for-nature swap.
- ❖ In May 2023, the world's first and largest debt swap to conserve oceans was signed by Ecuador.



White-bellied Sea eagles

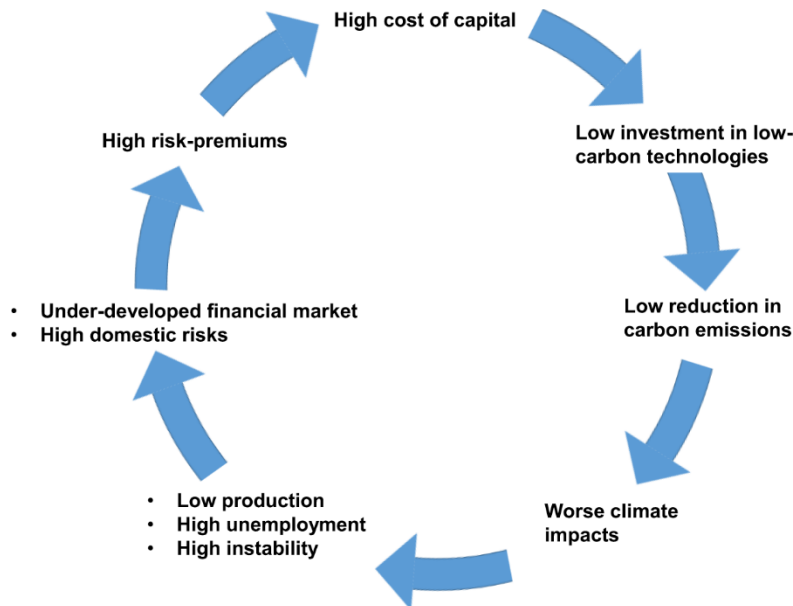
- ❖ White-bellied Sea eagles in India are beginning to emulate their counterparts in Australia and Thailand.

- ❖ They are making their homes on power towers holding high-tension wires.
- ❖ They have a wide distribution range on the sea coast of India from Mumbai to the eastern coast of Bangladesh, and Sri Lanka in southern Asia, through all coastal south-eastern Asia, southern China to Australia.
- ❖ It is categorised as being of 'least concern' on the Red List of the International Union for Conservation of Nature.
- ❖ It occupies the same localities for years and generally builds nests in tall trees near the seacoast, tidal creeks, and estuaries.

CONCERN ON HABITAT LOSS	
<ul style="list-style-type: none"> ➤ White Bellied Sea Eagle (<i>Haliaeetus leucogaster</i>) is a resident raptor from accipitridae family ➤ Widely distributed along the coastline from India to Australia and feeds on sea snakes and fish ➤ Occasionally they are seen in inland water bodies like tidal rivers and lakes ➤ The nesting season is observed from November to March though there is a record from June to August in Papua New Guinea 	 <ul style="list-style-type: none"> ➤ A monogamous bird species, the female lays two eggs and both birds play an active role in parenting

REPORTS AND INDICES

Debt-Fossil Fuel Trap Report



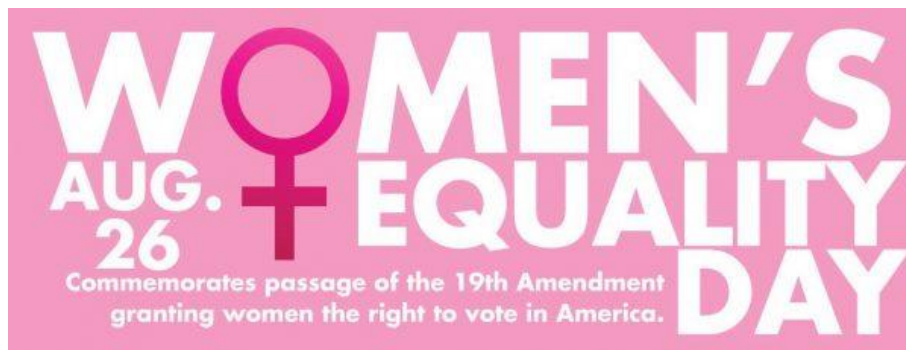
- ❖ The Debt-Fossil Fuel Trap report was published by the anti-debt campaigners Debt Justice and partners in affected countries.



- ❖ Poor countries with heavy debts have been forced to continue to rely on fossil fuels for generating revenue to return the loans taken from richer countries and private lenders.
- ❖ Their external debt payments have gone up by 150% between 2011 and 2023.
- ❖ It was reaching their highest levels in 25 years.
- ❖ Moreover, 54 countries are in a debt crisis.
- ❖ They had to cut their public spending budgets during the pandemic to repay the loans.

IMPORTANT DAYS

US Women's Equality Day 2023 - August 26



- ❖ This day marks the adoption of the Nineteenth Amendment.
- ❖ It is also known as Amendment XIX to the United States Constitution in 1920.
- ❖ This amendment forbids the states and the federal government from denying citizens of the United States the right to vote on the basis of gender.

