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China's First Docking

- Docking refers to connecting of two flying objects in space, either to transfer men or material from one to the other, or to join two structures to make a bigger one.
- China has done its first docking in lunar orbit.
- A Chinese probe carrying samples from the lunar surface successfully docked with a spacecraft orbiting the moon.
- The manoeuvre was part of the Chang'e-5 mission to bring back the first lunar samples in four decades.
- Chang'e is the name of a mythical Chinese Moon goddess.
- The cargo capsule's departure from the lunar surface was also a first: the first lift-off of a Chinese craft from an extra-terrestrial body.
- The samples from Chang'e-5 will help in learning more about the Moon's origins and volcanic activity on its surface.
- If the return journey is successful, China will become the third country to have retrieved samples from the Moon, following the US and the Soviet Union in the 1960s and 1970s.

Quantum Supremacy

- In 2019, Google built a computer that could perform a computation in 200 seconds that would take the fastest supercomputers about 10,000 years, reaching quantum supremacy.
- Now, Chinese researchers claim their new prototype is able to process 10 billion times faster than Google's prototype.
- They have built a quantum computer prototype that is able to detect up to 76 photons through Gaussian boson sampling, a simulation algorithm.
- That's exponentially faster than existing supercomputers.
- Quantum computing has become yet another front in the U.S.-China tech race.

Giant African Snail Invasion

- Giant African Snail (Achatina fulica) is one of the worst invasive species declared by the International Union for Conservation of Nature (IUCN).
- It is suspected to spread eosinophilic meningitis, septicaemia and peritonitis

in humans.
- The Giant African Snail in Asia and Africa has had multiple episodes of invasion.
- New snail populations continue to arrive in India from snail-infested countries across the world.
- Its population found in India had a higher genetic variety than those in the native African continent.
- This genetic variety indicates that the snail continues to have multiple invasions in India, mainly Kerala, from different countries.

Testing of Honey

- Honey is a complex of the fructose, glucose and sucrose sugars. Honey is classified as,
    1. 'Blossom' or 'Nectar Honey', which comes from nectar of plants, or
    2. 'Honeydew', which comes from excretions of plant-sucking insects (Hemiptera) on the living parts of plants.
- Honey has a relatively high fructose content, which is why it is sweeter than commercial sugar, which is heavier on sucrose.
- There are purity tests which determine the acceptable ratios of these sugars and tolerance limits of certain chemical contents i.e., impurities.
- There is also a tolerance for 'ash' content and HMF (hydroxyl methyl furfural), which forms when honey is heated. HMF is toxic for bees.
- Then, there are minimal levels of pollen count and foreign oligosaccharides that a quantity of honey must have.
- In all, there are 18 parameters for a product to be certified as honey.
- The most common tests that determine if sugar from corn, sugarcane or rice was used to adulterate honey are C4 and C3 tests.
- To know more, click here.

Red Sea Turtles

- Red Sea Turtles are turning overwhelmingly female because of a rise in sea temperatures caused due to anthropogenic climate change.
- In order to maintain a 50:50 ratio of males and females in the population, a temperature of 29.2 degrees Celsius is pivotal.
- Sand temperatures exceeded this limit, leading to the conclusion that 'feminisation' of the population could be already happening.
- The Red Sea is home to five out of seven species of sea turtles. They are:
    1. Green turtle – Endangered
    2. Hawksbill turtle – Critically Endangered
    3. Loggerhead turtle – Critically Endangered

4. Olive Ridley turtle – Vulnerable
5. Leatherback turtle – Vulnerable

RRB to Access Liquidity Windows

- RBI allowed regional rural banks (RRBs) to access the liquidity windows of the RBI and call or notice money market, aimed at facilitating better liquidity management for these lenders.
- The liquidity windows of the RBI include liquidity adjustment facility (LAF) and marginal standing facility (MSF).
- At present, RRBs are not permitted to access the liquidity windows of the RBI as well as the call or notice market.
- The RBI left the policy repo rate unchanged at 4 per cent.
- It also maintained an accommodative stance.

Source: The Hindu, Down To Earth, Business Standard, Economic Times

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