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Meta's AI Supercomputer

- According to Facebook's parent company Meta, its new "artificial intelligence supercomputer" will be the fastest worldwide by the middle of 2022.

Key point

- Meta introduced the AI Research Super Cluster (RSC) on January 24, 2022. It is believed to be one of the fastest AI supercomputers currently.
- Currently, AI can perform tasks such as translating text between languages and helping identify potentially harmful content.
- However, the development of the next generation of AI will require powerful supercomputers, capable of performing quintillion operations per second.

Importance of RSC

- RSC will help in creating new and better AI models. It will also allow work in hundreds of different languages.
- RSC will also help build technologies for the next major computing platform called "Metaverse", where AI-powered applications and products will play a key role.

What is Metaverse?



- The Metaverse is a network of 3D virtual worlds. It focuses on social engagement. The term metaverse originated in the 1992 science fiction novel Snow Crash.
- The meta platform was formerly known as Facebook. It is an American multinational technology conglomerate.
- It is headquartered in Menlo Park, California. Meta is the parent company of Facebook, WhatsApp and Instagram.
- Meta is one of the most valuable companies in the world and is one of the Big Tech companies along with Amazon, Google, Apple and Microsoft.

Super computer

- Supercomputers have a higher level of performance than general purpose computers. Its performance is usually measured in floating-point operations per second (FLOPS) rather than “million instructions per second (MIPS)”.

Environmental management plan

- Recently the National Green Tribunal (NGT) has directed Delhi and Haryana to implement the Environment Management Plan (EMP) prepared by both the governments for the rejuvenation and conservation of Najafgarh Lake, a transboundary wetland (wetland).
- The implementation of these Action Plans is to be monitored by the National Wetland Authority through the State Wetland Authorities.
- Earlier, the Union Environment Ministry had constituted a three-member committee to prepare the EMP in an integrated manner.

Environmental Management Plan:

- Notifying the Najafgarh Lake and its area of influence will be the topmost priority under the Wetlands (Protection and Management) Rules, 2017.
- These rules restrict and regulate certain activities within wetlands and their 'zone of influence'.
- It lists immediate measures including demarcating the extent of wetlands using geo-marked columns and introducing hydrological assessment and species listing.
- Medium-term measures to be implemented over two to three years include in-situ treatment of major drains from Lake Najafgarh, regular monitoring of waterfowl populations and relocation of flow barriers such as power sub-stations.
- This lake is known as the habitat of migratory and resident waterfowl.
- It also proposes a detailed estimate of sewage generation in the area, taking into account 15 years of estimated population, and the identification of all drains that contribute to pollution in the lake.

Najafgarh Lake:

- It is situated in a natural depression/concave land in South-West Delhi near Gurugram-Rajokri border on National Highway-48.
- This lake is largely filled with sewage (sewage) coming out of villages around Gurugram and Delhi. A part of the lake comes under Haryana.
- The presence of 281 bird species has been reported in the lake, including the Egyptian Vulture, Stork Crane, Steppe Eagle, Greater Spotted Eagle, Imperial Eagle, among many endangered and migratory birds along the Central Asian Flyway.

Related concerns:

- Due to large scale encroachment, the water body spread in Delhi and Gurugram is only seven sq.km. Which was once reduced to 226 sq km.
- According to the Indian National Trust for Art and Cultural Heritage (INTACH), the revival of the lake will produce about 20 million gallons of water a day to support a population of 3.5 lakh.
- INTACH is a non-profit organization registered under the Societies Registration Act, 1860.
- Despite being a source of many benefits and permanent habitats of diverse species, the Najafgarh Lake has become highly fragmented and transformed, has undergone various types of construction work, has been used for waste disposal as well as various invasive species.
- Najafgarh Lake was a natural floodplain of the Sahibi River, it has now been converted into a drain. The settlements of Haryana and Delhi are at high risk of floods due to loss of wetlands and their ground water level has also decreased.

- Recent constructions within wetlands have caused high seismicity and liquefaction within the area, disrupting natural wetland functions.

Importance:

- Najafgarh Lake is an important natural infrastructure for the region, which buffers floods, treats wastewater, recharges groundwater (with high potential to supply water to significant populations) and supports many plant, animal and bird species provides accommodation.
- Being a heat and carbon sink, it can control the microclimate. In fact, if EMPs are properly and fully implemented, this lake could become the focus of the National Capital Region's ability to mitigate the local impacts of climate change.

National Green Tribunal:



- It is a special body established under the 'National Green Tribunal Act' (2010) for effective and speedy disposal of matters related to environmental protection and conservation of forests and other natural resources.
- With the establishment of the 'National Green Tribunal', India became the third country in the world after Australia and New Zealand to set up a Special Environment Tribunal and also the first developing country to do so.
- The 'National Green Tribunal Act' (2010) has given a special role to the Tribunal to deal with issues where disputes arose under seven specified laws (mentioned in Schedule I of the Act)- Water Act, Water Cess Act, Forest Conservation Act, Air Act, Environment Protection Act, Public Liability Insurance Act and Biological Diversity Act.

- NGT is headquartered in Delhi, while the other four regional offices are located at Bhopal, Pune, Kolkata and Chennai.

Wetlands:

- Wetlands are seasonal or permanent ecosystems located in water. These include mangroves, swamps, rivers, lakes, deltas, floodplains and floodplains, rice fields, coral reefs, marine areas (places with high tides less than 6 m) as well as man-made wetlands such as waste-water treatment ponds and Reservoir etc.
- Wetlands cover about 6% of the total land surface. 40% of all species of plants and animals live in wetlands.
- It is the transition zone between water and land.
- February 2 is World Wetlands Day. The Ramsar Convention on Wetlands in Ramsar, Iran was adopted on this date in the year 1971.

National Voters' Day

- **National Voters' Day is celebrated every year on 25 January to encourage the voters of the country to participate in the electoral process. This year the 12th edition of this day is being celebrated.**
- **The theme of this year's National Voters' Day is 'Making Elections Inclusive, Accessible and Participatory'.**
- **Focuses on the commitment of the Election Commission of India to facilitate active voter participation during elections and to make the entire process a simple and memorable experience for all categories of voters.**
- **The Election Commission of India was formed on January 25, 1950. In order to increase the participation of youth in the political process, the Government of India started celebrating '25 January' as 'National Voters' Day' from the year 2011 on the establishment day of the Election Commission.**
- **The objective of the Election Commission behind celebrating 'National Voters' Day' is to create more voters, especially new voters.**
- **On this day, awareness is spread to ensure the participation of voters in the voting process. A high voter turnout is considered a sign of a vibrant democracy. Whereas a low percentage of voting indicates a politically indifferent society.**
- **In fact, the disruptive elements present in the country often try to take advantage of such a situation, which not only threatens the existence of**

democracy but also creates the possibility of upheaval of the entire political system of the country.

- It is clear that organizing National Voters' Day will prove to be an important step among the various efforts taken by the Election Commission of India to encourage new voters to participate in the democratic process.

Basal stem rot

- Recently, researchers from Kerala have identified two new species of fungi belonging to the genus *Ganoderma*, which are related to coconut stem rot.

About basal stem rot:

- There are two fungal species *Ganoderma keralense* and *Ganoderma pseudoapplanatum*.
- Butt Rot or Basal Stem Rot of Coconut is known by different names in different parts of India: *Ganoderma* Wilt (Andhra Pradesh), *Anabaroga* (Karnataka) and Thanjavur Wilt (Tamil Nadu).
- Infection begins at the roots but symptoms include discoloration and rotting of stems and leaves. In the later stages the flower and coconut fruit begins to die and eventually the entire coconut (*Cocos nucifera*) is destroyed.
- It appears as a reddish brown runny/leaky substance. The presence of this leaky substance has been reported only in India.
- Once infected, the plants are unlikely to recover. It is no wonder that it causes huge losses, according to some estimates done in the year 2017 in India it is said that around 12 million people are dependent on coconut cultivation.
- Another sign of infection is the presence of shelf-like "basidiomata", which are fungal fruiting or reproductive structures on the trunk of the tree.

Fungi:

- Fungi can be single celled or very complex multicellular organisms.
- They are found in almost any habitat but live mostly on land, mainly on soil or plants rather than sea or freshwater.
- Groups called decomposers grow in soil or on dead plant matter, where they play an important role in the cycling of carbon and other elements.
- Parasites of some plants cause diseases like mildew, scab, scab.
- A small number of fungi cause diseases in animals. In humans these include skin diseases such as athlete's foot, ringworm and thrush.

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