Prelim Bits 04-06-2019

Parthenogenesis

- Parthenogenesis is a reproductive strategy that involves development of a female (rarely a male) gamete (sex cell) without fertilization.
- It occurs commonly among lower plants and invertebrate animals particularly rotifers, aphids, ants, wasps and bees and rarely among higher vertebrates.
- A gamete is the egg in females and the sperm in males.
- In animals, parthenogenesis means development of an embryo from an unfertilized egg cell.
- Many species that reproduce through parthenogenesis do not reproduce sexually.
- Parthenogenesis is one of the known means of asexual reproduction. Grafting (of plants) is also a type of asexual reproduction.
- Parthenogenetic offspring tend to be clones of the parent, as there has been no exchange and rearrangement of genetic information with another individual as happens in case of a sexual reproductive process.
- Parthenogenesis is rare in higher vertebrates like snake, but recently a green anaconda in USA had gave birth to a Parthenogenetic offspring.

Nipah Virus

- Nipah Virus infection spreads to human and other animals through fruit bats or 'flying foxes,' of the genus Pteropus, who are natural reservoir hosts of the Nipah and Hendra viruses.
- The virus is present in bat urine and potentially, bat faeces, saliva, and birthing fluids.
- In Bangladesh and India, there have been reports of possible human-to-human transmission of the disease.
- Typically, the human infection presents as an encephalitic syndrome marked by fever, headache, drowsiness, disorientation, mental confusion, coma, and potentially death.
- While there is no vaccine available for the infection, preventive measures can be a key to control the spread.
- Since encephalitic-symptoms are seen in NiV, the fundamental mode of

treatment is limited to intensive supportive care for neurological and respiratory complications.

Karikiyoor Rock Paintings

- 5,000 year old rock paintings are found Karikiyoor at Kil Kotagiri in the Nilgiri forests.
- The society that painted the symbols onto these rocks were contemporaneous with the Indus Valley civilisation.
- The rock paintings in Karikiyoor contain analogous-Indus script, meaning they resemble the script found in Indus civilization sites of northern India.
- Members of the Irula tribal community have an ancestral link to the site.
- The rock paintings serve both, as a “historical record,” detailing the hunting habits and ways of life of the local communities, and also a ritualistic purpose.

Diamond Formation

- Diamonds are crystals of carbon formed beneath the Earth's crust.
- They are brought to the surface in volcanic eruptions of a special kind of magma called kimberlite.
- Recent study has found that seawater in sediment from the bottom of the ocean reacts to produce the same composition of salts found in diamonds.
- Most diamonds found at the Earth's surface formed in this way according to the researchers, by this it has been found that Diamonds are naturally recycled minerals on the ocean floor.
- Diamonds that are carved into gemstones are mostly pure-carbon in their composition.
- But there is another kind 'fibrous' diamonds. They are cloudy, less appealing and not used in jewelry.
- Instead, they are used for industrial purposes, eg drill bits.
- Fibrous diamonds come with traces of sodium, potassium or other minerals that reveal information about the environment where they formed.
- This salty fluid found in these diamonds provided the base of study for researchers.

Kolleru Lake

- Kolleru Lake is one of the largest freshwater lakes in India located in state of Andhra Pradesh and forms the largest shallow freshwater lake in Asia.
- Kolleru is located between Krishna and Godavari deltas, the lake spans

into two districts Krishna and West Godavari.

- The lake is fed directly by water from the seasonal Budameru and Tammileru streams, and is connected to the Krishna and Godavari irrigation systems by over 67 major and minor irrigation canals.
- The lake was an important habitat for an estimated 20 million resident and migratory birds, including the grey or spot-billed pelican (Pelecanus philippensis).
- The significant birds migrate here during winter are Siberian crane, ibis, pelicans and painted storks.
- The lake was declared as a wildlife sanctuary in November 1999 under India's Wildlife Protection Act of 1972, and designated a wetland of international importance under the international Ramsar Convention.

Ramsar Convention

- The Ramsar Convention on Wetlands of International Importance especially as Waterfowl Habitat is an international treaty for the conservation and sustainable use of wetlands.
- It is also known as the Convention on Wetlands.
- It is named after the city of Ramsar in Iran, where the Convention was signed in 1971.

Source: The Hindu, PIB, Indian Express, Down to Earth

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