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Important Facts For Prelims (27th April 2019)

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Centre for Predictive Human Model Systems

- Atal Incubation Centre (AIC) at the **Centre for Cellular and Molecular Biology (CCMB)** in collaboration with **Humane Society International-India (HSI-India)** has launched the Centre for Predictive Human Model systems.
- Under this system, computational models and in-vitro models have been developed that can be used for research and testing in life sciences.
- The model is not only resource-friendly with reduced costs but also more accurate at predicting human outcomes and are ethical.
- The center will be a dedicated facility to enable a new approach methodology instead of animal models.
- The center aims at prioritizing investment in human-based, non-animal methodologies in life sciences research in India.
- Recently, **“world laboratory animal day”** was also observed on 24th April.

Cyclone Kenneth



- A powerful **tropical cyclone** has made landfall in Mozambique, just six weeks after **Cyclone Idai** devastated the central part of the country and left hundreds dead.
- Cyclone Kenneth battered northern Mozambique with winds of up to 220 kilometers per hour. The cyclone also struck the island nation of Comoros.
- Mozambique is still recovering from the previous powerful storm, which made landfall further south in March 2019.
- This is the first time in known history that Mozambique has been hit by two cyclones in one season.

Panel to Review Microinsurance Framework

- **Insurance Regulatory and Development Authority (IRDAI)** has set up a committee to review the regulatory framework on microinsurance.
- **Microinsurance** products offer coverage to low-income households or to individuals who have little savings and is tailored specifically for lower valued assets and compensation for illness, injury or death.
- The 13-member panel has been tasked with suggesting product designs with customer-friendly underwriting, including easy premium payment methods and simple claims settlement procedures.
- Its mandate is to suggest changes in the distribution structure, including mobile-based and technology-driven solutions.

Kafala System

- **Qatar** is set to abolish its **controversial exit visa system** for all foreign workers by the end of 2019.
- Under the Kafala system, **a migrant worker's immigration status is legally bound to an individual employer or sponsor (kafeel) for their contract period.**
- The **migrant worker cannot enter the country, transfer employment nor leave the country** for any reason without first obtaining explicit written permission from the kafeel.

Xenon Decay Observed

- Scientists at **XENON Dark Matter Project** have detected the radioactive decay of liquid **Xenon-124 atomic nuclei for the first time.**
- The **half-life measured for Xenon-124 is 1.8×10^{22} years**, about one trillion times longer than the age of the universe. This is the **slowest radioactive decay ever spotted.**
- This makes the **observed radioactive decay the rarest process ever seen in the detector XENON1T.**

- The new study shows that the XENON detector is also able to measure other rare physical phenomena, such as **double electron capture**.

Double Electron Capture

In double electron capture, **two protons in the nucleus simultaneously “catch” two electrons from the innermost atomic shell**, transform into two neutrons, and emit two neutrinos.

- The XENON experiment is a **collaboration of 160 scientists, representing 24 different nationalities, and 27 institutions from the US, Europe, Japan, and UAE**.
- Xenon Dark Matter Project aims to search for Dark matter particles at Gran Sasso Laboratory of the **National Institute for Nuclear Physics (INFN) in Italy**.

Southern River Terrapin

- **Cambodia** has released **twenty critically endangered Southern Terrapin Turtle 'Royal Turtles' into their Cambodian rivers**.
- Southern River Terrapin was on the **brink of extinction because of hunting, trafficking, and illegal sand mining**.
- Southern River Terrapin is **found in Cambodia; Indonesia, Malaysia, and Thailand**.
- It is listed as **critically endangered in the IUCN red list**.

Manjira Wildlife Sanctuary

- The **Manjira sanctuary situated along the river Manjira in Telangana**. Originally a crocodile sanctuary, today more than 70 species of birds are spotted here and is home for the vulnerable species mugger crocodile.
- **Mugger crocodile**
 - The mugger crocodile most **commonly found in freshwater environments** such as rivers, lakes, hill streams, and village ponds. It can live in fresh water and coastal saltwater lagoons.
 - It also can live in **human-made reservoirs**.
 - This crocodile **does not migrate seasonally, inhabiting the same locale in wet seasons or dry seasons**. This species makes burrows on land in a wide variety of habitats.
 - Mugger crocodile has been listed as **vulnerable on the IUCN Red List**.