

**India to help build nuclear plant in Bangladesh**

India, Bangladesh and Russia have signed a tripartite memorandum of understanding (MoU) for cooperation in the construction of the Rooppur nuclear power plant in Bangladesh.

- The MoU was signed in Moscow by the Department of Atomic Energy of India, the Ministry of Science and Technology of Bangladesh and Rosatom.
- Russia is building the nuclear power plant in Bangladesh on a turnkey basis.
- Indian companies can be involved in construction and installation works and in the supply of equipment of a non-critical category.

**IR**

**Moscow breaching Cold War-era treaties: U.S.**

- The U.S. has accused Moscow of openly breaching Cold War-era treaties by developing what Russian President Vladimir Putin called a new generation of “invincible” hypersonic weapons.
- Mr. Putin unveiled the new arsenal in a State of the Nation address, challenging Washington to a new arms race.

**Brokers resist SEBI move to tighten oversight**

- **News**
- The move by the Securities and Exchange Board of India (SEBI) to enhance the supervision of market participants is facing fresh resistance from stock brokers.
- They are trying to stall the regulator’s attempts to monitor any possible misuse of client funds by the broking community.

**Real issue**

- Brokers are currently required to upload information related to client funds lying with them on a monthly basis. SEBI wants this to be done weekly, from April 1.
- This includes a wide array of important information such as the aggregate value of client fund balance, collateral, credit & debit balances in all the client accounts and value of margins utilised, among other data.

#### **‘Instances of misuse’**

- The regulator is in favour of enhanced oversight of market participants as it wants to minimise possible misuse of client funds by brokers.
- There have been instances in the past, where client money had allegedly been used by the stock broker for his own proprietary purposes.
- While it would certainly add to the compliance requirements, which are already quite stringent, the move will make it difficult for brokers to misuse client money, according to broking companies.
- The arbitration and investor grievance redressal mechanism set by the exchanges regularly sees cases wherein clients say that the money lying in their account was allegedly misused by brokers.

#### **Diabetes has five types, say scientists**

##### **News**

- Scientists unveiled a revised classification for diabetes.
- There are five distinct types of diabetes that can occur in adulthood, rather than the two currently recognised.
- The findings were reported in The Lancet Diabetes & Endocrinology, a leading medical journal.

**Benefit** - This could lead to better treatments and help doctors more accurately predict life-threatening complications from the disease.

### **Precision medicine**

- The findings are consistent with the growing trend toward “precision medicine”.
- Precision medicine takes into account differences between individuals in managing disease.
- In the same way that a patient requiring a transfusion must receive the right blood type, diabetes sub-types need different treatments, the study suggested.

### **Role of microbiomes**

- Similarly, scientists have also identified distinct kinds of microbiome — the bacterial ecosystem in our digestive tract — that can react differently to the same medication, rendering it more or less effective.

### **More on Diabetes**

- People with diabetes have excessively high blood glucose, or blood sugar, which comes from food.
- Some 420 million people around the world today suffer from diabetes, with the number expected to rise to 629 million by 2045, according to the International Diabetes Federation.
- Currently, the disease is divided into two sub-types.
- With type-1 — generally diagnosed in childhood and accounting for about 10% of cases — the body simply doesn't make insulin, a hormone that helps regulate blood sugar levels.
- For type-2, the body makes some insulin but not enough, which means glucose stays in the blood.
- This form of the disease correlates highly with obesity and can, over time, lead to blindness, kidney damage, and heart disease or stroke.

- It has long been known that type-2 diabetes is highly variable, but classification has remained unchanged for decades.
- For the study, researchers monitored 13,270 newly diagnosed diabetes patients ranging in age from 18 to 97.

### **Scientists detect water in exoplanet's atmosphere**

Astronomers have detected a large amount of water in the atmosphere of a Saturn-size exoplanet 700 light-years away. The planet, known as WASP-39b, is located in the Virgo constellation and has three times as much water as Saturn does, NASA said.

### **STATE-AP**

### **Race to save 3,000-year-old treasures**

#### **Why in news?**

- The State Archaeology department has dug up artefacts from burial sites in Rudramkota in Velperupeta mandal of West Godavari, dating back to 1000 B.C. and the megalithic era.
- The artefacts are believed to yield clues to life in the region some 3,000 years ago. However, it faces a challenge: to complete the excavations early because the area will be flooded by the Polavaram project.
- The site has so far yielded human figures, terracotta figurines, and red and black pottery, from a dolmen burial.
- The objects would be sent to the Centre for Cellular and Molecular Biology to determine their antiquity through carbon dating.

#### **Findings**

- The artefacts found include charred bones, seeds, beads of crystal and stones like chalcedony, carnelian and steatite.
- There are pointers to social life, such as a dagger, broken parts of a javelin, two ploughs, legged pottery and urns, besides red and black pottery.
- Rudramkota is one of the biggest megalithic excavations.

### **Documenting animal species in Kambalakonda**

- The Forest Department will conduct a scientific survey of habitat distribution of animals and document species in Kambalakonda Wildlife Sanctuary.
- The forest area will be put under hi-tech surveillance to ensure effective monitoring and conservation of the endangered wild animals, including the leopards.

### **Rich bio-diversity**

- Spread over an extent of 7,293 hectares, the sanctuary is home to several endangered species of fauna.
- Indian golden gecko was recently spotted, which is a protected species under Schedule 1 category of the Indian Wildlife Protection Act in the caves of the core forest area.
- The sanctuary also supports species such as the Indian wild dog (dhole) and Indian pangolin, both listed as endangered under the IUCN list, and other important and uncommon species such as the rusty spotted cat and the Indian rock python, another Schedule 1 category species.
- Recently, a 13-foot python was rescued from the tourist area and released into the core area.
- The sanctuary also has 114 species of birds, both migratory and resident, and rare raptors such as the white bellied sea eagle.

- But so far, no scientific documentation or study of habitats has been done.

**Benefits of the survey**

- This effort will help in conservation of endangered animals, enhance the efficiency of forest officials, identify zones prone to wildlife crimes, and provide factual data for effective decision-making.