Rapid Fire Current Affairs

GMRT Detects Atomic Hydrogen

Astronomers from McGill University, Canada and **IISc, Bengaluru** have detected **a radio signal originating from atomic hydrogen** in an extremely distant galaxy **(so far, the largest distance)** using data from **Giant Metrewave Radio Telescope (GMRT).**

Atomic hydrogen is the basic fuel required for star formation in a galaxy. It emits **radio waves of 21 cm wavelength**, which can be **detected using low frequency radio telescopes** like the GMRT.

Until now, the most distant galaxy detected using 21 cm emission was at **redshift z=0.376,** (corresponding to the time elapsed between detecting the signal and its original emission – of **4.1 billion years**). **The one detected now was at redshift z=1.29**.

Redshift represents the change in wavelength of the signal depending on the object's location and movement; a greater value of z indicates a farther object.

This detection was made possible by a phenomenon called **gravitational lensing.** Gravitational lensing probes the distribution of matter in galaxies and clusters of galaxies, and enables observations of the distant universe.

Read More - Atomic Hydrogen**,** GMRT

AI-AQMS v1.0 for Air Quality Monitoring

Recently, the **Technology for Air Quality Monitoring System - AI-AQMS v1.0** was launched by **MeitY.**

The **Centre for Development of Advanced Computing (C-DAC)**, Kolkata has developed an outdoor air quality monitoring station to monitor environmental pollutants. It includes parameters like **PM 1.0, PM 2.5, PM 10.0, SO_2, NO_2, CO, O_2, ambient temperature, relative humidity, etc**, for continuous air quality analysis of the environment.

Read More - Monitoring Air Quality

Biosensing based EDC Detection System

MeitY has recently launched the Technology for **Biosensing system for the detection of Endocrine Disrupting Chemicals (EDC)** in aquatic ecosystems. The technology has been developed by **C-DAC, Kolkata in collaboration with** ICAR**-CIFRI for qualitative and quantitative analysis of EDC content in water bodies.**

Endocrine disruptors are chemicals that may **interfere with the body's endocrine system and produce adverse developmental, reproductive, neurological, and immune effects** in both humans and wildlife.

Read More - Endocrine Disruptors

Loan Loss Provision

The RBI recently proposed a framework for **adoption of an 'expected loss-based' approach** for provisioning by banks. Presently, banks are required to make loan loss provisions **based on an 'incurred loss' approach** - the global standard till recently. It will be a **more forward-looking 'expected credit losses' approach.**

Under the proposed framework, **Banks will be required to classify financial assets** (primary loans and investments) into one of the three categories - **Stage 1, Stage 2,** and **Stage 3,** depending upon the assessed credit losses on them

Loan Loss Provision - An expense that banks set aside for defaulted loans. Banks set aside a portion of the expected loan repayments from all loans in their portfolio to cover the losses either completely or partially. In the event of a loss, instead of taking a loss in its cash flows, the bank can use its loan loss reserves to cover the loss.

Read More - Reserve Bank of India

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