

2020



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CURRENT AFFAIRS

SCIENCE & TECHNOLOGY

24th February - 29th February



BusinessLine



1. National Science Day

Why in News?

National Science Day (NSD) was celebrated every year on 28th February to commemorate the discovery of the Raman Effect by **Chandrasekhara Venkata Raman in 1928**.

- C.V Raman was awarded the **Nobel Prize in 1930 for the Raman Effect**.

Key Points

- The Government of India had first celebrated National Science Day (NSD) **in 1986**.
- The theme of NSD 2020 is “**Women in Science**”.
- **National Council for Science & Technology Communication (NCSTC)**, Department of Science and Technology (DST) acts as a nodal agency for the celebration of National Science Day.

Raman Effect

- The Raman Effect explains scattering of light.
- It is a **change in the wavelength of light** that occurs when a light beam is deflected by molecules.
 - When a beam of light comes out of a liquid, the light wave scattered in a direction is different from that of the incoming light wave.

2. INCOIS Products

Why in News?

The Indian National Centre for Ocean Information Services (INCOIS) has launched a trio of products to better cater to its diverse users.

The Products:

- **Small Vessel Advisory and Forecast Services System**
 - It is an innovative impact-based advisory and forecast service system for small vessels operating in Indian coastal waters.
 - It warns users about potential zones where vessel overturning can take place.
- **Swell Surge Forecast System**
 - Swell surge forecast system is an innovative system designed for the prediction of Kallakkadal (Swell Surge) that occurs along the Indian coast, particularly the west coast.
 - Kallakkadal (Swell) surge are **flash-flood events** that take place without any noticeable advance change in local winds or any other apparent sign in the coastal environment.
- **Algal Bloom Information Service (ABIS):**

- ABIS provides timely information on harmful algal blooms, which are detrimental to coastal fisheries, water quality and also tend to induce respiratory problems within the coastal population from time to time.
 - An algal bloom is a rapid increase in the population of algae in an aquatic system.
 - It may occur in freshwater as well as marine environments.
- The target users:
 - Fishermen
 - Marine fishery resource managers
 - Researchers, ecologists and environmentalists
- INCOIS-ABIS will provide near-real time information over the North Indian Ocean.
- Four regions have been identified as bloom hotspots:
 - North Eastern Arabian Sea
 - coastal waters off Kerala
 - Gulf of Mannar
 - Coastal waters of Gopalpur

Indian National Centre for Ocean Information Services

- INCOIS is an autonomous organisation under the Ministry of Earth Sciences (MoES).
- It is a unit of the Earth System Science Organization (ESSO), New Delhi.
- It is mandated to provide the best possible ocean information and advisory services to society, industry, government agencies and the scientific community through sustained ocean observations and constant improvement through systematic and focused research.

3. International conference on Ensemble Methods in Modelling and Data Assimilation (EMMDA)

Why in News

An international conference on **Ensemble Methods in Modelling and Data Assimilation (EMMDA)** was organised by the **National Centre for Medium-Range Weather Forecasting (NCMRWF)** from 24th -26th February 2020 in Noida.

Key Points:

- The Conference provides a platform for discussions and deliberations on the present status, future prospects and optimum use of **Ensemble Prediction System (EPS)**
 - Ensemble Prediction Systems (EPS) are Numerical Weather Prediction (NWP) systems that allow one to estimate the uncertainty in a weather forecast as well as the most likely outcome

- India has recently operationally implemented two global EPS and also a regional EPS.
- The major themes of the conference are:
 - Ensemble methods in Global Weather Prediction
 - Ensemble methods in Data Assimilation
 - Ensemble methods in Monthly and Seasonal Forecasting
 - Convection Permitting Ensemble Prediction Systems
 - Verification of Ensemble weather forecasts
 - Applications of Ensemble weather forecast.

National Centre for Medium Range Weather Forecasting (NCMRWF)

- The National Centre for Medium Range Weather Forecasting (NCMRWF) is a **Centre of Excellence in Weather and Climate Modelling** under the **Ministry of Earth Sciences**.
- The mission of the Centre is to continuously develop advanced numerical weather prediction systems, with increased reliability and accuracy over India and neighbouring regions.

4. InSights Mission

Why in News?

NASA has published a set of papers to reveal the information gathered by the InSights mission.

Insight Mission:

- **Interior Exploration using Seismic Investigations, Geodesy and Heat Transport (InSight) lander** is the first mission dedicated to looking deep beneath the Martian surface.
- The aim of the mission:
 - Listen for quakes and tremors to understand the interior of the planet.
 - Understand the formation of rocky planets in the early days of the solar system.
- The InSight mission is part of **NASA's Discovery Program** and is being supported by a number of European partners.

Key Findings of the Mission:

- Mars trembles more often than expected, but also more mildly.
- Mars doesn't have tectonic plates like Earth, but it does have volcanically active regions that can cause rumbles.
- Mars used to have a magnetic field billions of years ago.
- Although the magnetic field is no longer present, it has left behind **ghosts** – magnetised rocks found underground.

5. Henneguya Salminicola

Why in News?

An international team of researchers has found a multicellular animal Henneguya Salminicola.

- It has no mitochondrial DNA.
- It is the only known animal that does not need oxygen for energy.

Background:

- One of the common characteristics of all multicellular animals on Earth is mitochondrial respiration.
 - Mitochondrial respiration is the process by which oxygen is used to generate triphosphate.
 - It is the fuel used to power cellular processes.
- The process takes place in Mitochondria.
- Henneguya Salminicola is now a known exception.

6. Mini-Moon

Why in News?

- Astronomers have observed a small object orbiting Earth.
 - They have dubbed it as a “mini-moon” or the planet’s “second moon”.
 - It has been named - 2020 CD3.
 - It was discovered by the NASA- funded Catalina Sky Survey in Arizona.

Key Points:

- The mini-moon is temporary unlike Earth’s permanent Moon.
 - It is called a Temporarily Captured Object (TCO).
- It is actually an asteroid with a diameter of about 1.9-3.5 m.
- It will eventually break free of Earth’s orbit and go off on its own way.
- It is orbiting at a distance farther from Earth.

7. Red Snow in Antarctica

Why in News?

- The phenomenon of “red snow” has been noticed around Vernadsky Research Base, Ukraine.
- The alga species- Chlamydomonas Chlamydomonas nivalis, is responsible for the red color of snow.
 - The red pigment keeps the algae warm in a glacial climate.

Significance

- The red snow causes the ice to melt faster, the darker the red tinge on

snow, the more the heat absorbed by the snow.

- The melting is good for the microbes that need the liquid water to survive and thrive but it is bad for already melting glaciers.

8. International Conference on Standardisation of AYUSH

Terminologies (ICoSDiTAUS-2020)

Why in News?

Two-day International Conference on Standardisation of Diagnosis and Terminologies (ICoSDiTAUS-2020) in AYUSH concluded in New Delhi.

- The conference was jointly organised by the Ministry of AYUSH & WHO.
- On the sidelines of the conference, “New Delhi Declaration on Collection and Classification of Traditional Medicine (TM) Diagnostic Data” was adopted.

New Delhi Declaration

- The New Delhi declaration **emphasised the commitment** of the countries to **Traditional Medicine** as a significant area of health care.
- It further sought the opportunity for including traditional systems of medicine like Ayurveda, Unani and Siddha in the **International Classification of Diseases of WHO** which is the standard diagnostic tool for health management across the world.
- Participating countries: Sri Lanka, Mauritius, Serbia, Curacao, Cuba, Myanmar, Equatorial Guinea, Qatar, Ghana, Bhutan, Uzbekistan, India, Switzerland, Iran, Jamaica and Japan.
- The conference focussed on following topics:
 - Challenges in classification of traditional medicine encounters.
 - Adapting International Classification of Diseases (ICD) to Traditional Medicine (TM) Systems and their implementation.
 - Relevance and regulation of Traditional Medicine in Health Systems.

9. Offshore patrol vessel "VAJRA "

Why in News?

The sixth offshore patrol vessel 'Yard 45006 VAJRA' was launched by the Union Shipping Minister in Chennai.

VAJRA

- The **VAJRA** is built by Larsen and Toubro under the 'Make in India' campaign.
- It has two navigation radars with ultra-modern technology, sophisticated navigational and latest communication systems.

- The vessel would be utilised in the exclusive economic zone for
 - Surveillance
 - Anti-terrorist
 - Anti-smuggling operations
- It would enhance operational, surveillance, search and rescue capability of Indian Coast Guard.



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