# PRELIMS MANTRA – 14 (28/02/2025)

# Supreme Court stayed a Lokpal order on an HC judge over a corruption complaint:

- Section 15 of Bharatiya Nyaya Sanhita, 2023, effectively states that a judge cannot be charged with an offence if allegation is related to exercise of her official duties.
- o In K Veeraswami v Union of India (1991), SC held that President must sanction any criminal case against a judge after consulting Chief Justice of India to "protect a Judge from frivolous prosecution and unnecessary harassment". President is bound by the advice given by CJI.
- Procedure for filing a case against a sitting judge is different from procedure for impeaching a judge, where approval is required from Parliament.

#### Athena moon lander:

- It is built by Intuitive Machines and is expected to reach moon on March 6, 2025.
- While ten-day IM-2 mission is primarily focused on mining for precious resources on far side of moon, it will also attempt to deploy first lunar surface cellular network.
- Mobile network was developed as a partnership between NASA and Finnish telecom company Nokia.
- Lunar Surface Communication System (LSCS) comprises two device modules – a lunar rover and a hopper.
- Once Athena makes its landing, these devices will attempt to connect to its cellular network while exploring lunar surface.
- Athena will also be connected to Earth, enabling highdefinition video streaming & command & control operations.
- IM-2 Mission is part of NASA Commercial Lunar Payload Services Programme, designed to support private sectorled moon landings. IM-2 intends to build on its 2024 success and land on Mons Mouton, a mountain at the moon's south pole.

### **Hague Service Convention:**

- Formally known as Convention on Service Abroad of Judicial and Extrajudicial Documents in Civil or Commercial Matters, 1965.
- OBuilding on 1905 & 1954 Hague Conventions on Civil Procedure, this multilateral treaty ensures that defendants sued in foreign jurisdictions receive timely & actual notice of legal proceedings while facilitating proof of service.
- 84 countries, including India (2006) and U.S., are parties to Convention.
- Its procedures apply only when both sending and receiving countries are signatories.
- O Each member state must also designate a central authority to process requests and facilitate the service of documents from other signatory states.
- o Under Convention, primary mode of service is through designated central authorities. However, alternative channels are also available, including postal service, diplomatic and consular channels and direct communication between government authorities.
- Valid service can only be executed through Ministry of Law and Justice, India's designated central authority.
- Ministry is permitted to reject a service request but must specify the reasons for such refusal. For instance, under

- Article 13, a request can be denied if state believes its sovereignty or security would be compromised.
- Service is then treated as a summons issued by an Indian court under Section 29(c) of Code of Civil Procedure, 1908.

#### Measles:

- o It is a highly contagious disease caused by a virus.
- olt first affects the **respiratory tract**, with symptoms including a high fever, cough, runny nose and a telltale rash all over the body. A severe infection can be fatal.
- While measles spreads from an infected person breathing, coughing or sneezing, vaccination is effective protection from virus.

### 'One Nation-One Port Process (ONOP)' initiative:

- Government launched 'One Nation-One Port Process (ONOP)' initiative to standardise and streamline operations across India's major ports.
- It aims at removing inconsistencies in documentation and processes that led to inefficiencies, increased costs, and operational delays.

## Sagar Ankalan - the Logistics Port Performance Index (LPPI):

- olt is a significant step towards enhancing efficiency and global competitiveness in India's maritime sector.
- o It evaluates all major and non-major ports under Bulk (Dry & Liquid) and Container categories.
- Key performance indicators include cargo handling, turnaround time, berth idle time, container dwell time, and ship berth-day output.

# Master Application for International Trade and Regulatory Interface (MAITRI):

- By standardising trade documentation & integrating digital solutions, it will reduce processing time, optimise trade flows, and contribute to sustainable development.
- It plays a crucial role in operationalising the 'Virtual Trade Corridor'(VTC) between India and the UAE.
- It aligns with India-Middle East-Europe Economic Corridor
   & is expected to expand to BIMSTEC & ASEAN nations,
   leveraging AI & Blockchain for efficiency & security.

## Ocelot:

- Amazon Web Services (AWS) has unveiled Ocelot, its first quantum computing chip, designed to reduce quantum error correction costs by up to 90%.
- Ocelot uses "cat qubits" to suppress errors, potentially accelerating development of practical quantum computers by up to five years.

### Prani Mitra and Jeev Daya Awards:

- o "Prani Mitra and Jeev Daya Award Ceremony" was organised by Animal Welfare Board of India (AWBI), a statutory body of Department of Animal Husbandry and Dairying, at Vigyan Bhawan, New Delhi.
- AWBI has been established under Prevention of Cruelty to Animals (PCA) Act, 1960 to ensure that animals are not subjected to unnecessary pain or suffering.
- o "Prani Mitra Award" was introduced in 1966 for Individuals for their outstanding and remarkable contribution in field of Animal Welfare and Protection, which is now extended to organizations.
- AWBI has instituted "Jeev Daya Award" in 2001 to recognize & appreciate services rendered by animal lovers.
   Set-jetting:

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- olt refers to a phenomenon when travellers seek out destinations they have seen in movies, web series.
- Thailand's Samui Island is experiencing a new wave of tourism, courtesy of HBO show The White Lotus.
- 'Sashakt Bharat': Defence Minister released first edition of Ministry of Defence's bi-annual Hindi magazine 'Sashakt Bharat'.

#### National Science Day 2025:

- o It is celebrated every year **on February 28** to mark contribution of Indian scientists to society's development.
- o In 1986, Government designated this day to commemorate announcement of discovery of Raman Effect by Chandrasekhara Venkata (CV) Raman on February 28, 1928, for which he was awarded Nobel Prize in 1930.
- Theme of 2025 is 'Empowering Indian Youth for Global Leadership in Science and Innovation for Viksit Bharat'.
- National Council for Science & Technology Communication (NCSTC), Department of Science and Technology (DST) acts as a nodal agency to support, catalyse & coordinate celebration of National Science Day.

# Significant contribution of ancient India in the field of science:

- Indian origin of Zero: In the 6th and 7th Century C.E. Indian mathematician Brahmagupta was the first to clearly define zero (as what remains when a number is subtracted from itself) and explore all its properties. He also invented negative numbers as a concept.
- OAtomic theory of Kanad: The sixth-century scientist of Vaisheshika School, Kanad had given his atomic theory that the material universe is made up of kanas, (anu/atom) which cannot be seen through any human organ. These cannot be further subdivided. Thus, they are indivisible and indestructible.
- Earthquake cloud theory: Varahamihira in his book Brhat Samhita has devoted a chapter on signs of earthquakes. He has tried to relate earthquakes to the influence of planets, undersea activities, underground water, unusual cloud formation, and abnormal behaviour of animals.
- **Position of nine planets:** Aryabhata was the first mathematician who discovered the position of nine planets and mentioned that they revolve around the sun.
- OCyclic Method to solve algebraic equations:

  Bhaskaracharya in his book Siddanta Shiromani has introduced the Chakrawat Method or the Cyclic Method to solve algebraic equations.
- Medicine: Charak in his book Charak Samhita had given a description of a large number of diseases and gives methods of identifying their causes as well as the method of their treatment. He was the first who emphasise that digestion, metabolism, and immunity are important for health.

- Metallurgy: The Iron Pillar of Delhi stands as evidence of ancient India's advanced metallurgical knowledge, particularly in corrosion resistance. Wootz steel, primarily iron with a high proportion of carbon, is known for high durability and strength has originated in India.
- oSurgery: Sushruta is often referred to as the "Father of Surgery". His works have immensely contributed to the field of surgery, especially cosmetic surgery and medical practices within the global community. His work in the book "Sushruta Samhita" reflects his mastery of surgical techniques and human anatomy, marking him as a pioneering figure in the history of medicine.
- o Yoga: The Yoga Sutras of Patanjal has systematically presented the science of Yoga. Yoga developed in ancient India as an allied science of Ayurveda for healing without medicine at the physical and mental levels.

# Key advancements in Science and Technology: 2024 Highlights:

- olndia has secured 39th rank in the Global Innovation Index 2024 and 6th position in global Intellectual Property (IP) filings, as per the WIPO report.
- oNetwork Readiness Index (NRI) 2024 also marked India's rise to 49th place from 79th in 2019, showcasing advancements in ICT infrastructure and digital transformation.
- OAnusandhan National Research Foundation (ANRF) is Launched under the ANRF Act 2023.
- OUnder the National Mission on Interdisciplinary Cyber-Physical Systems (NM-ICPS), the BharatGen initiative has been launched, focusing on the development of India's first multimodal, multilingual Large Language Model (LLM) for Generative AI (GenAI).
- olNSPIRE program, a flagship initiative of the Department of Science & Technology (DST), aims to attract and support young talent in science and research.
- Openation of Science and Technology (DST) has recently implemented the WISE-KIRAN (Women in Science and Engineering-KIRAN) scheme, a comprehensive program designed to support women at various stages of their scientific careers.
- OWomen's International Grants Support (WINGS) for research training in international labs and Women Leadership Programme for early and mid-level women scientists.
- Vigyan Jyoti Program: Encourages female students to pursue higher education and careers in STEM (Science, Technology, Engineering, Mathematics, and Medicine).
- OUnder the CURIE (Consolidation of University Research for Innovation and Excellence) Programme, 22 Women PG Colleges have been selected to establish state-of-theart research facilities.

# PRACTICE MCQs

- Q1. Consider the following statements about IM-2 mission:
  - 1. It is a Moon mission by NASA in collaboration with ISRO.
  - 2. It will attempt to deploy first lunar surface cellular network.
  - 3. As part of mission, Athena moon lander is built by Intuitive Machines Company.
- Which of the statements given above is/are correct?
  - a) 1 and 2 only
  - b) 2 only

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- c) 2 and 3 only
- d) 1, 2 and 3

#### Answer: C

Q2. Consider the following pairs:

- 1. Brahmagupta Origin of zero
- 2. Kanad Atomic theory
- 3. Varahamihira Earthquakes
- 4. Charaka Medicine

How many of the above pairs are correctly matched?

- a) Only one
- b) Only two
- c) Only three
- d) All four

#### Answer: D

Q3. Consider the following statements about Hague Service Convention:

- 1. It is a multilateral treaty which ensures that defendants sued in foreign jurisdictions receive timely & actual notice of legal proceedings.
- 2. Its procedures apply only when both sending and receiving countries are signatories.
- 3. India is not a party to the Convention.

Which of the statements given above is/are correct?

- a) 1 only
- b) 1 and 2 only
- c) 3 only
- d) 1 and 3 only

#### Answer: B

Q4. Consider the following statements about Sagar Ankalan:

- 1. It is a Logistics Port Performance Index launched by Ministry of Ports, Shipping, and Waterways.
- 2. It will evaluate only Major ports of India.

Which of the statements given above is/are correct?

- a) 1 only
- b) 2 only
- c) Both 1 and 2
- d) Neither 1 nor 2

### Answer: A

Q5. The term 'Set-jetting', sometimes seen in the news, refers to -

- a) A practice of anchoring boats to the dockyard.
- b) A component of event management practices.
- c) A phenomenon when travellers seek out destinations they have seen in movies, web series.
- d) A phenomenon when people visit the movie sets to see actor/actress.

Answer: C

...Celebrating 13 years of its establishment