







27 July 2024

National and International News

IndiaAl Mission	 Why in the news? Al Mission, With fresh budgetary allocation, the IT Ministry looks to procure up to 500 GPUs.
	 About IndiaAl Mission: Initial Steps: Tender to procure 300 to 500 GPUs for private sector Al development. Focus on Al compute, skilling, data sets, and applications. Mission Goals: Establish computing capacity of over 10,000 GPUs. Develop foundational Al models with over 100 billion parameters. Models trained on datasets covering major Indian languages for sectors like healthcare, agriculture, and governance. Public-Private Partnership Model: S0% viability gap funding for computing infrastructure. Rs 4,564 crore earmarked for building computing infrastructure. Rs 2,000 crore allocated for deeptech startup financing. IndiaAl Innovation Research Centre: Develop and deploy large foundational Al models. Focus on indigenous Large Multimodal Models and domain-specific foundational models. Rs 2,000 crore allocated for the research centre. Educational Support: Financial support for 4,000 BTech, 400 MTech, and 600 PhD candidates focusing on Al in premier institutions.
Moidams	 Why in the news? In a significant cultural achievement for India, "Moidams – the Mound-Burial System of the Ahom Dynasty" from Assam has been officially inscribed on the UNESCO World Heritage List.
	 Key points: The announcement was made on July 26, 2024, during the 46th session of the World Heritage Committee in New Delhi. This marks the 43rd property from India to be included on the list. This is the third World Heritage Property from Assam, following Kaziranga National Park and Manas Wildlife Sanctuary, both inscribed under the Natural category in 1985.























	 Real-time monitoring and evaluation of progress. Integration of best practices and global learning resources. Mission Karmayogi aims to create a competent civil service that can effectively tackle current and future challenges, driving India's growth and development.
Dark oxygen	 Why in the news? Scientists discover 'dark oxygen' produced on a deep-ocean floor where the Sun doesn't shine.
	 About Dark oxygen: Discovery of Dark Oxygen: New evidence suggests oxygen can be produced by electrolysis on the ocean floor, challenging traditional views of the origin of life. Photosynthesis vs. Electrolysis: Traditionally, oxygen supporting life is produced by photosynthetic organisms (plants, algae). New discovery shows oxygen can be produced 4,000 meters below the surface through electrolysis. Polymetallic Nodules: Electric voltage in seabed mineral masses (polymetallic nodules) can split seawater into oxygen and hydrogen. Dark Oxygen produced in the absence of sunlight is termed "dark oxygen". Previous evidence of bacteria producing oxygen without photosynthesis (e.g., Candidatus Methylomirabilis oxyfera). Significance of Discovery: First evidence of oxygen production at the seafloor. Challenges the belief that deep-sea oxygen comes solely from the atmosphere and photosynthesis. Implications for Origin of Life: Questions the long-standing understanding of how life began on Earth. Suggests dark oxygen production in the deep sea is more significant than previously thought.
NuMI Off-axis ve Appearance (NOvA) Experiment	 Why in the news? New data from the NOvA experiment adds to the mystery of neutrino mass.
	 About NOvA experiment: Experiment Purpose: Study of neutrinos, one of nature's most elusive particles. Management: Managed by the U.S. Department of Energy's Fermi National Accelerator Laboratory (Fermilab). Location: Fermilab is located outside of Chicago, USA. Neutrino Beam: Fermilab sends a beam of neutrinos 500 miles north to Ash River, Minnesota. Research Focus: Measuring neutrinos and their antimatter















partners, antineutrinos, at both locations.

- Phenomenon Studied: Neutrino oscillation, which is the change in • type of neutrinos as they travel.
- Aim: To learn more about the ordering of neutrino masses.

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