Deep Ocean Mission

❖ Context

➢ Recently, the Union Minister of State (Independent Charge) Earth Sciences chaired the **first-ever high-level Steering Committee meeting of Deep Ocean Mission.**

❖ Key Highlights:

- Deep Ocean Mission is part of Government of **India's Blue Economy initiative.**
- **The Mission Steering Committee (MSC)** is the highest Policy making body constituted under the Deep Ocean Mission (DOM).
- The design and development of subsystems of the manned submersible to carry three humans has been completed and integration is in progress.
- **National Institute of Ocean Technology (NIOT**), has been developing **a manned submersible (Matsya 6000)** with a capacity to **carry three human beings to 6000 m ocean depth.**
  - NIOT is an autonomous institute under the Ministry of Earth Sciences.
- **The Vikram Sarabhai Space Center (VSSC)** of ISRO is involved in **developing a titanium alloy human sphere** of 2.1 m diameter for the manned submersible.
- The overall estimated cost of the Deep Ocean Mission is Rs. 4077 crores for a period of five years (2021 to 2026).
- The development of the mission has been going on **since 2018.**

❖ About The Mission:

- **Aim :** The focus of the mission will be on **deep-sea mining, ocean climate change advisory services, underwater vehicles and underwater robotics related technologies.**
- **Nodal Ministry :** Ministry of Earth Sciences.
- **Components of the Mission :** The mission focuses on the **following six thematic areas.**
  i. Development of Technologies for Deep Sea Mining, Manned Submersible, and Underwater Robotics
  ii. Development of Ocean Climate Change Advisory Services
  iii. Technological innovations for exploration and conservation of deep-sea biodiversity
  iv. Deep Ocean Survey and Exploration
  v. Energy and freshwater from the Ocean and
  vi. Advanced Marine Station for Ocean Biology which will be implemented by the institutions of MoES and its partner institutions.
- **Significance:**
  - The mission will give a **boost to efforts to explore India's vast Exclusive Economic Zone and Continental Shelf.**
  - The plan will enable India to develop capabilities to **exploit resources in the Central Indian Ocean Basin (CIOB).**
  - It will pave the way for further studies and research into **deep-sea biodiversity.**
  - As the ocean will be monitored continuously, **every slight change in climate will be noted,** leading to better data collections and hence improved actions.

Coco Islands

❖ Context

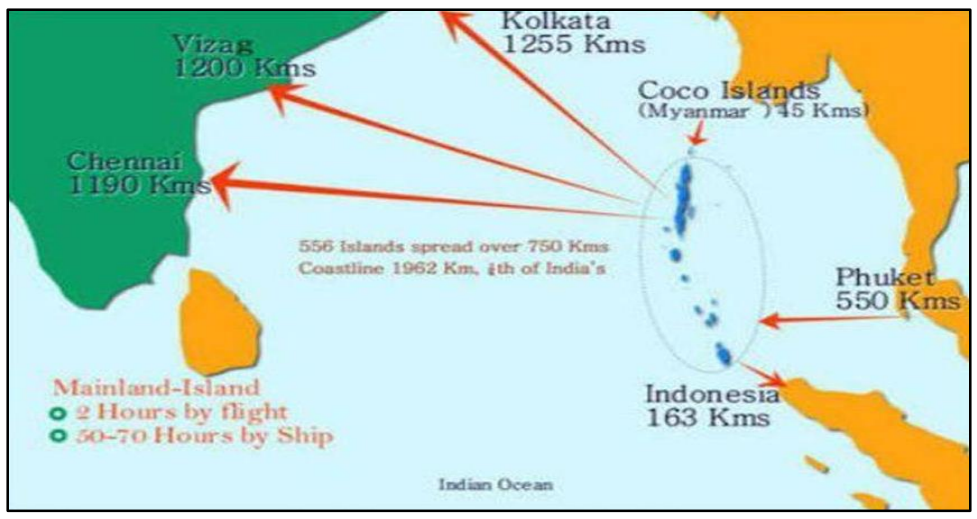
➢ Amid recent reports of suspicious infrastructure upgrades at **Myanmar's Coco Islands,** a MQ-9 drone leased by the Indian Navy was seen reconnoitering the nearby areas of Andaman and Nicobar Islands.

❖ Key Highlights:

- The Great Coco island, held by Myanmar, has seen **increased building activity recently,** according to a report by a U.K.-based think tank group.
- This island has long been believed to be **China's eyes and ears in the area.**
- The islands are only about **55 km away from India's strategically important Andaman and Nicobar Islands.**

❖ About Coco Island:

- The Coco Islands are a **small group of islands in the northeastern Bay of Bengal.**
- They are **part of the Yangon Region of Myanmar.**
- The islands are **located 414 km (257 mi) south of the city of Yangon.**
- Coco Island group consists of five islands: four on Great Coco Reef and one on the Little Coco Reef.
- To the **north** of this island group lies Preparis Island, belonging to Myanmar.
- To the **south** lies the Landfall Island, belonging to India.
- The Coco Islands consist of three main islands -
  - Great Coco Island and the smaller Little Coco Island, separated by the Alexandra Channel.
  - Table Island, a third small island located near Great Coco Island.
- Geographically, they are a **part of the Andaman and Nicobar Islands archipelago**, most of which belongs to India.



Saantinketan

❖ Context

➢ Saantinketan the home of Nobel laureate Rabindra Nath Tagore has been recently recommended for inclusion in UNESCO's World Heritage List.

❖ Key Highlights:

- The recommendation was made by the **International Council on Monuments and Sites (ICOMOS),** which is the advisory body to the UNESCO World Heritage Centre, based on a file moved by the Indian government.
- ICOMOS, a France-based International culture body, comprises of professionals, experts, representatives from local authorities, companies and heritage organizations.
- It is dedicated to the conservation and enhancement of global architectural and landscape heritage.
- Santiniketan, if selected would be the second cultural symbol from West Bengal, to make it to the UNESCO list.
- In 2021, UNESCO included '**Durga Puja in Kolkata'** in its list of Intangible Cultural Heritage of Humanity.
- To be included on the World Heritage List, sites must be of outstanding universal value and meet at least one out of **ten selection criteria mentioned** in the UNESCO list.

i. Represents a masterpiece of human creative genius.
ii. Exhibits an important interchange of human values.
iii. Represents a unique or exceptional testimony to a cultural tradition or civilization.
iv. Represents an outstanding example of a type of building, architectural or technological ensemble or landscape that illustrates a significant stage in human history.
v. Represents an outstanding example of a traditional human settlement, land use, or sea use.
vi. Represents a unique or exceptional natural phenomenon.
vii. Contains superlative natural beauty and aesthetic importance.
viii. Represents exceptional examples of ongoing ecological and biological processes.
ix. Represents outstanding examples of significant stages of Earth's history.
x. Contains the most important and significant natural habitats for the conservation of biological diversity.

ISRO Tests Semi-Cryogenic Engine

❖ Context

➢ The Indian Space Research Organisation recently successfully carried out the first test of a semi-cryogenic engine.

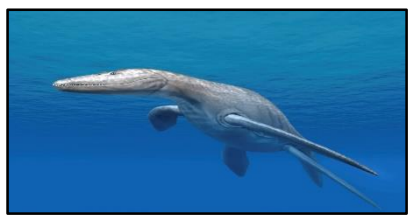
❖ Key Highlights:

- The test was done at the newly commissioned semi-cryogenic integrated engine and stage test facility at the **Isro propulsion complex** (IPRC) in Mahendragiri, Tirunelveli district.
- It was the first integrated test on an **intermediate configuration** of the 2000kN semi-cryogenic engine.
- The tested semi-cryogenic engine employs a propellant combination of Liquid Oxygen (LOX) and Kerosene, which provides an efficient and powerful fuel source, ensuring optimal performance during launch missions.
- During the testing phase, an intermediate configuration known as the **Power Head Test Article (PHTA)** is utilized. This configuration includes all engine systems except the thrust chamber.
- The PHTA setup enables a comprehensive evaluation of the propellant feed system and control components, allowing for a **thorough assessment** of their functionality and performance.

❖ Significance:

- The recent test carried out at IPRC is a notable milestone in the advancement of semi-cryogenic engines, signifying significant progress.
- The successful validation of the propellant feed system and control components during the test has opened doors for **the integration and qualification of the complete engine.**

Pliosaur



❖ Context

➢ A recent discovery in England revealed fossil remains of a giant pliosaur, making it a significant finding due to its enormous estimated size.

❖ Key Highlights:

- Pliosaurs, ancient marine reptiles, roamed the prehistoric seas of Europe between 220 and 70 million years ago.
- They were well-adapted for aquatic life and were known for their speed compared to their long-necked counterparts, the plesiosaurs.
- Despite their association with dinosaurs, pliosaurs are not classified as dinosaurs themselves but are **distant relatives of modern turtles.**
- They possessed unique characteristics that set them apart from other marine creatures of their time.
- As apex predators, pliosaurs were formidable hunters with four flipper-like limbs, large heads resembling crocodiles, and massive teeth.

FluHorse

❖ Context

➢ Recently, a new **Android malware known as 'FluHorse'** has been discovered.

❖ FluHorse:

- It targets users in Eastern Asia with malicious apps that look like legitimate versions with over 1,00,000 installs.
- It is typically **distributed via email.**
- These malicious apps are designed to extract sensitive information, including user credentials and Two-Factor Authentication (2FA) codes.

- In some cases, high-profile entities such as government officials were targeted at the initial stages of the phishing email attack.
- One of the most concerning aspects of FluHorse is **its ability to go undetected for long periods of time**, making it a persistent and dangerous threat that is difficult to detect.

❖ Two-Factor Authentication (2FA) Codes:

- Two-factor authentication (2FA) is a **security system** that requires **two separate, distinct forms of identification in order to access something.**
- The first factor is a password and the second commonly includes a text with a code sent to your smartphone, or biometrics using your fingerprint, face, or retina. **While 2FA does improve security, it is not foolproof**

National Technology Day

❖ Context

➢ National Technology Day is celebrated every year on **May 11.**

➢ On this day, different government organisations, institutes, schools, and colleges hold programmes in **honour of India's scientists and their achievements**

❖ Quasars:

- **Background:**
  - The **first Nuclear test was conducted in May 1974**.
  - In 1998, India became the **world's sixth nuclear test.**
  - Under the leadership of the then Prime Minister Atal Bihari Vajpayee, India conducted a series of five nuclear bomb tests (**Pokhran-II**) in May 1998.
  - The country was put under **heavy sanctions by the US government** following the nuclear test.
  - However, India didn't back down under the influence of western powers and went ahead with the test.
  - Since then, May 11 is being celebrated as National Technology Day to acknowledge the contribution of scientists and engineers in the development of the country.
- **Theme:**
  - For 2023, the theme is **'School to Startups-Igniting Young Minds to Innovate.'**

News in Between the Lines

State Visits

❖ Context

➢ **Prime Minister of India will travel to the US** for an official state visit from June 21 to 24, 2023 where he will be hosted by US President Joe Biden at the White House.

➢ The **last state visit to the US by an Indian** was by the then Prime Minister in **2009.**

❖ About State Visits:

- State visits are visits to foreign countries **led by a head of state/government, acting in their sovereign capacity.**
- They are, therefore, officially described as a **"visit of [name of state]"** rather than **"visit of [name of leader]".**
- State visits to the US only occur on the invitation of the president of the United States, acting in their capacity as the head of state.
- **State visits are typically a few days long** and comprise a number of elaborate ceremonies, subject to the schedule of the visiting head of state.
- State visits are the **highest-ranked category of foreign visits** and are considered to be the highest expression of friendly bilateral relations.
- Less important visits are classified (in descending order of magnitude, according to US diplomatic policy) as
  - Official visits, official working visits, working visits, guest-of-government visits, and private visits.
- Each of these visits have different protocols to be followed.

Right To Walk

❖ Context

- Amid a **consistent rise in deaths of pedestrians and cyclists,** Punjab has taken the lead among the states and UTs to implement the **'right to walk'.**

❖ Key Highlights:

- The state government has issued these directions following two court orders after PILs were filed at Punjab and Haryana HC and another in the Supreme Court.
- It has been made mandatory for all road-owning agencies, **including the NHAI**, to provide footpaths and cycle tracks in all future expansion of roads and construction of new ones.

"Buddham Saranam Gacchami" Exhibition

❖ Context

- The **National Gallery of Modern Arts in Delhi** recently hosted the "Buddham Saranam Gacchami" exhibition, showcasing artistic works depicting the **life and teachings of Lord Buddha.**

❖ Key Highlights:

- The exhibition, which will run until June 10 2023, provided visitors with a profound understanding of Lord Buddha's **journey towards enlightenment.**
- The **exhibition attracted** the participation of countries with significant Buddhist populations, including **Nepal, Myanmar, Mongolia, South Korea, Thailand, and Bhutan.**

Ranthambore Tiger Reserve (RTR)

❖ Context

- The **National Tiger Conservation Authority (NTCA)** has approved shifting three tigresses from **Ranthambore Tiger Reserve (RTR)** to two other state reserves.

❖ Key Highlights:

- Ranthambore Tiger Reserve is situated in the **Sawai Madhopur district** of Rajasthan.
- It covers an area of approximately **1,334 square kilometres (515 square miles).**

- It is known for its significant tiger population and is one of the best places in India to spot these **majestic big cats in their natural habitat.**
- It encompasses a variety of ecosystems, including **dry deciduous forests, lakes, and rocky terrain.**
- Apart from tigers, the **reserve is home to several other wildlife species** such as leopards, sloth bears, striped hyenas, sambar deer, chital (spotted deer), and numerous bird species.
- IUCN Red List Status of Tigers: **Endangered**

Telangana's Robotics Policy Framework

❖ Context

- Telangana has become the first state in the country to launch a **state robotics framework** with a vision to **create a sustainable robotics ecosystem.**

❖ Key Highlights:

- This is aimed at **promoting innovation, entrepreneurship, and research and development** to position Telangana as a leader in the field of robotics.
- It has been developed by the **Emerging Technologies Wing** in **collaboration with the All-India Robotics Association** and inputs from **academia, industry experts and stakeholders.**
- The framework focuses on leveraging robotics technology to drive growth and development across **identified four key domains** – agriculture, healthcare, industrial automation and consumer robotics.
- In order to achieve the vision of the framework, the government has **identified five key pillars:** infrastructure access, business enablement, fostering research & innovation, human capital enhancement and responsible deployment.
- The state will set up a separate body called the **Telangana Robotics Innovation Center (TRIC) which** will be responsible for the implementation of this framework and will be the nodal point to implement the key pillars of the framework.

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