

# IMPORTANT NEWS

## INS Sumedha - Unveiling a New Marine Discovery

### Inside Story of the News:

On **September 6, 2023**, the INS Sumedha docked at Port Alexandria, Egypt, as part of its involvement in '**Exercise BRIGHT STAR-23.**' This iteration of the multinational Tri-Services military drill will witness the engagement of 34 nations, making it the most extensive joint military exercise ever held in the Middle East and North Africa region.

- The INS Sumedha belongs to the Saryu class of Naval Offshore Patrol Vessels (NOPV), being the third in the series.
- It officially joined **the Indian Navy's fleet on March 7, 2014**, following its commissioning.
- This vessel was entirely conceived and constructed within India, a product of the skilled workmanship at Goa Shipyard Limited.
- It is stationed within the Indian Navy's Eastern Fleet, with its **home base in Visakhapatnam.**
- Designed and constructed domestically at Goa Shipyard Limited, it possesses **the capability to accommodate an integral helicopter and boasts impressive endurance.**
- The ship's participation in a significant event hosted by the UAE underscores the strong strategic and cultural ties between India and the UAE.
- **This marks the Indian Navy's inaugural participation in Exercise BRIGHT STAR.**
- Exercise BRIGHT STAR 23 is set to unfold in two distinct phases:
  - The Harbour Phase encompasses a wide array of activities, including cross-deck visits, professional exchanges, sports competitions, and discussions aimed at planning and executing the Sea Phase.
  - The Sea Phase will entail intricate and high-intensity exercises, covering aspects such as cross-deck flying, anti-surface and anti-air exercises, including live weapon firing drills.
- The primary responsibilities of the INS Sumedha encompass activities such as
  - surveillance of Exclusive Economic Zones (EEZ),
  - conducting anti-piracy patrols,
  - providing support to fleet operations,
  - ensuring maritime security for offshore assets, and
  - carrying out escort missions for high-value assets.

### Characteristics of INS Sumedha:

- With a displacement of 2,230 tons, the INS Sumedha stretches out to a length of 105 meters and boasts a beam width of 12.9 meters.
- It is equipped with an advanced weaponry and sensor system, ensuring top-tier capabilities.
- The vessel has the capacity to embark an Advanced Light Combat Helicopter, enhancing its versatility.

- Its propulsion relies on two diesel engines, the largest ever deployed in the Indian Navy, affording it a remarkable top speed of 25 knots.
- Featuring an impressive operational range of 6,000 nautical miles (approximately 11,000 kilometers) at a speed of 16 knots (about 30 kilometers per hour), this offshore patrol vessel is well-suited for extended missions and operations.

## An Overview of Monoclonal Antibodies

### Inside Story of the News:

India has made contact with Australia to request restore the stock of monoclonal antibody supplies for combating the Nipah virus.

- The monoclonal antibody has successfully completed its phase-one trial and has been administered to 14 individuals worldwide thus far.
- Given the substantial mortality rate of Nipah infection, ranging from 40% to 70%, the current priority is to expedite the containment of the Nipah virus, with monoclonal antibodies being considered as a potential means to reduce mortality.
- Monoclonal antibodies are artificially created proteins that mimic the action of antibodies found naturally in our immune system.
  - Antibodies are integral components of our immune system.
  - They identify and adhere to foreign substances (antigens) to neutralize them.
  - Laboratory-produced monoclonal antibodies serve to activate the immune system.
- The term "monoclonal" denotes that these laboratory-generated antibodies are exact replicas.
- Monoclonal antibodies are employed in various medical contexts, including disease diagnosis, treatment, and research.
- Monoclonal antibodies have already been successfully employed in the treatment of the Covid-19 virus.
- They are generated by replicating a single type of immune cell, known as a B cell, to produce abundant quantities of identical antibodies.
- This manufacturing process **yields highly specific antibodies designed to target specific antigens, which could be viruses, bacteria, cancer cells, or other disease-related molecules**.
- Monoclonal antibodies find utility in numerous medical applications, encompassing the treatment of cancer, autoimmune conditions, and infectious diseases.
- In Australia, monoclonal antibodies are utilized for combating **the Hendra virus, a bat-borne virus** linked to severe and often fatal infections in both horses and humans.
- The Hendra virus has been responsible for numerous outbreaks among horses in Australia.

## Kerala Discovery of Two New Antlion Species in Kerala

### Inside Story of the News:

Two new antlion species belonging to the **Myrmeleontidae family** within the **Neuroptera order** have been discovered in Kerala by scientists.

- One of these newly discovered antlion species, named **Nemoleon ghoshi**, was found inhabiting the forested regions of Ranipuram in the Kasaragod district, as well as **Vallakadavu** and **Marayoor** in the Idukki district.
- Another previously unknown antlion species was identified at Madayippara, near the renowned Madayi Kavu in the Kannur district.
- This newly identified species goes by the name **Nemoleon madayiensis, a nod to the distinctive biological diversity of the region.**
- Antlions are easily recognizable **due to their elongated and distinctive antennae.**
- They fall under the Neuroptera order, which encompasses insects that undergo complete metamorphosis.
- Antlions are renowned for their characteristic behavior of constructing pits for hunting.
- Notably, only certain antlion genera in their larval stages build conical pits in loose, dry soil as part of their predation strategy.
- Nemoleon larvae do not engage in pit construction.
- They reside beneath the surface in loose soils, where they benefit from protection against direct sunlight, wind, and rain.
- These discoveries mark the identification of the fifth and sixth antlion species in Kerala and the 125<sup>th</sup> and 126<sup>th</sup> species in India.

## Deployment of Samudra Prahari to ASEAN Region

### Inside Story of the News:

From September 11<sup>th</sup>, 2023, to October 14<sup>th</sup>, 2023, **the Indian Coast Guard Ship Samudra Prahari**, a dedicated Pollution Control Vessel, has set out on an international mission to visit ASEAN nations.

- Equipped with a Chetak Helicopter configured for Pollution Response, the vessel significantly enhances its capabilities in addressing pollution-related incidents.
- The commencement of this mission was announced by Raksha Mantri Rajnath Singh during the ASEAN Defence Minister Meeting Plus gathering in Cambodia in November 2022.
- Throughout this overseas deployment, the ship is slated to make port calls in Bangkok, Ho Chi Minh, and Jakarta.
- It is outfitted with cutting-edge Pollution Response and Control equipment designed to effectively combat oil spills within the Exclusive Economic Zone.

- The ship possesses the capacity to **conduct unhindered oil recovery operations, boasting a storage capacity of 500 KL.**
- It is equipped for unmanned machinery operation.
- As part of an international exchange program, the ship has welcomed aboard 13 National Cadet Corps cadets to participate in the "Puneet Sagar Abhiyan," an outreach initiative focused on beach clean-ups and similar activities, conducted in collaboration with partner nations.
- This visit carries significant importance in strengthening bilateral relationships with key maritime agencies, including the Thai Maritime Enforcement Command Centre and BAKAMLA (Indonesia Maritime Security Agency).
- Over the years, these relationships have evolved to ensure the safety, security, and cleanliness of the seas within the region.
- The visit's agenda encompasses professional exchanges, cross-deck visits, planning and tabletop exercises, joint training exercises, as well as official and social engagements, including visits to capacity-building facilities.

## Santiniketan: India's Newest UNESCO World Heritage Site

### Inside Story of the News:

Santiniketan, a town situated within the Birbhum district of West Bengal, has been newly added to UNESCO's World Heritage List.

- Santiniketan now holds the distinction of being **India's 41<sup>st</sup> UNESCO World Heritage Site.**
- It constitutes a harmonious blend of historical edifices, natural landscapes, gardens, pavilions, artistic creations, and the enduring educational and cultural legacies that collectively epitomize its Exceptional Universal Value.
- Established in the **rural backdrop of West Bengal in 1901**, Santiniketan was conceived and **founded by Rabindranath Tagore**, a revered poet and philosopher.
- Initially, Santiniketan served as both a residential school and a center for art grounded in ancient Indian traditions.
- In 1921, it evolved into a '**world university**,' later recognized as '**Visva Bharati**.'
- Notably, Visva-Bharati in Santiniketan is the sole central university in Bengal, with the Prime Minister serving as its Chancellor.
- It deviates from the prevalent architectural norms of early 20<sup>th</sup>-century British colonialism and European modernism.
- Instead, it represents a path toward a pan-Asian modernity, drawing inspiration from ancient, medieval, and folk traditions spanning the entire region.

### Overview of UNESCO World Heritage:

- A World Heritage Site (WHS) is a location or zone afforded legal safeguarding through an international treaty overseen by UNESCO as part of the UNESCO World Heritage Convention, inaugurated in 1972.

- India boasts 41 world heritage sites, encompassing 33 cultural sites, 7 natural sites, and 1 site of mixed significance.
- UNESCO designates World Heritage Sites based on their cultural, historical, scientific, or other noteworthy attributes.
- These sites are recognized for housing "cultural and natural heritage of exceptional value to humanity on a global scale."

## Defence Ministry Approves Purchase of Pralay Ballistic Missiles for the Army

### Inside Story of the News:

The Ministry of Defence has approved the acquisition of a regiment of **Pralay tactical ballistic missiles for the Indian Army**, with the capability to **target objectives within a range of 150 to 500 kilometers**. Notably, this marks the inaugural introduction of a ballistic missile for conventional military operations. These missiles have the capacity to transport payloads ranging from 350 to 700 kilograms of high-quality explosives.

- Developed by the Defence Research Development Organisation (DRDO), Pralay stands as a remarkable achievement.
- It is set to become the **longest-ranged surface-to-surface missile** within the Indian Army's arsenal.
- Additionally, the Indian Army possesses the BrahMos supersonic cruise missile, boasting a stated range of over 290 kilometers.
- Pralay, India's maiden conventional quasi-ballistic missile, serves as a strategic response to potential conventional missile threats emanating from the northern or western borders.
- A quasi-ballistic missile follows a low-trajectory path and exhibits some capacity for mid-flight maneuvering.
- In contrast to ballistic missiles that initially rely on rocket propulsion and then travel on an unpowered trajectory, Pralay's solid-propellant rocket-powered design enables it to pursue a "quasi-ballistic trajectory," rendering it highly challenging to intercept.
- The missile maintains a predominantly ballistic profile but retains the capability to alter its course mid-flight, further enhancing its evasive characteristics.
- Pralay's development has prioritized its capability to evade interceptor missiles, while also allowing it to change its flight path after covering a certain distance in the air.
- The missile's primary objective is to target critical installations such as radar and communication facilities, command and control centers, and advanced airfields, utilizing conventional warheads.
- Pralay missiles are slated for deployment along the **Line of Actual Control (LAC)** and the **Line of Control (LoC)**, primarily safeguarding **India's borders with China and Pakistan**, respectively.
- Notably, both China and Pakistan have already **deployed ballistic missiles for tactical purposes in these regions, necessitating a robust Indian response**.

## Yashobhoomi: Exploring Its Significance

### Inside Story of the News:

In the first phase of the India International Convention and Expo Centre in Delhi, Prime Minister Modi will officially open a cutting-edge convention facility named 'YashoBhoomi.'

- 'YashoBhoomi,' also known as the India International Convention and Expo Centre (IICC), represents a **state-of-the-art modern convention center situated in Dwarka, New Delhi**.
- Spanning an impressive area of over 73,000 square meters, this convention center proudly features one of the world's largest facilities for Meetings, Incentives, Conferences, and Exhibitions (MICE), along with the largest LED media facade in the country.
- Comprising a total of 15 convention rooms, including the Main auditorium, the Grand ballroom, and 13 meeting rooms, it has a collective capacity to accommodate 11,000 delegates.
- The development of 'Yashobhoomi' comes at an expenditure of approximately Rs. 5,400 crores, making it the country's second convention center with top-tier infrastructure for exhibitions and conferences, following the Bharat Mandapam.
- 'Yashobhoomi' is equipped with an advanced wastewater treatment system that ensures 100% wastewater reuse and includes provisions for rainwater harvesting.
- Furthermore, it boasts **one of the world's most extensive exhibition halls**, spanning a vast area of over 1.07 lakh square meters.

## Empowering Thousands Through the SHREYAS Scheme

### Inside Story of the News:

The Scholarships for Higher Education for Young Achievers Scheme (SHREYAS) program has played a pivotal role in India's endeavors to empower students hailing from Scheduled Castes (SC) and Other Backward Classes (OBC), facilitating their access to high-quality education.

- SHREYAS is a comprehensive initiative falling under the purview of the Ministry of Social Justice & Empowerment, encompassing four central sector sub-schemes.
- The primary goal of SHREYAS is **to empower OBC (Other Backward Classes) and economically disadvantaged students through fellowships** for pursuing high-quality higher education and interest subsidies on educational loans for overseas studies.
- **The Free Coaching Scheme for SCs and OBCs:**
  - It serves the purpose of providing top-notch coaching to economically underprivileged SCs and OBCs to prepare them for competitive examinations and admissions to technical and professional institutions.
  - Eligibility under this scheme is determined by a maximum family income ceiling of 8 lakhs per annum.

- Each year, 3,500 slots are allocated for this scheme.
- The distribution ratio of SC:OBC is 70:30.
- 30% of slots reserved for females in both categories.
- Since its inception from 2014-15 to 2022-23, this initiative has benefited 19,995 beneficiaries.
- **The Top Class Education for SCs scheme:**
  - It seeks to recognize and promote quality education among SC students by providing comprehensive financial support.
  - This program covers 266 higher education institutions, including prestigious ones like IIMs, IITs, and NITs.
  - It covers tuition fees, non-refundable charges, academic allowances, and other expenses.
  - From 2014-15 to 2022-23, this scheme has benefitted 21,988 beneficiaries.
- **The National Overseas Scheme for SCs:**
  - It offers financial assistance to selected students from SCs, De-notified, Nomadic and Semi-Nomadic Tribes, landless agricultural laborers, and traditional artisans pursuing master's and Ph.D. level courses abroad.
  - It provides complete coverage for tuition fees, maintenance, contingency allowances, visa fees, and round-trip airfare.
  - From 2014-15 to 2022-23, this scheme has aided 950 beneficiaries.
- **The National Fellowship for SC Students:**
  - It supports SC students pursuing M.Phil/Ph.D. degrees in Sciences, Humanities, and Social Sciences in Indian universities and institutions recognized by the University Grants Commission (UGC).
  - This scheme annually offers 2,000 new slots (500 for the science stream and 1,500 for the Humanities and Social Sciences).

## The Sacred Ensembles of the Hoysalas

### Inside Story of the News:

The distinguished Hoysala temples of **Belur**, **Halebid**, and **Somanathapur** in Karnataka, collectively known as the **Sacred Ensembles of the Hoysala**, have received recognition and have been inscribed on the **United Nations Educational, Scientific and Cultural Organization (UNESCO) World Heritage list**. With this addition, India now boasts 42 UNESCO World Heritage Sites.

- The Hoysala dynasty, a significant medieval South Indian ruling family, governed a substantial portion of the Deccan Plateau from the 10<sup>th</sup> to the 14<sup>th</sup> century.
- The origins of the Hoysala dynasty are believed to be humble, but it ascended to power in the present-day Karnataka region of India.

- Among their notable contributions to art and culture are the exquisite temple complexes known as "sacred ensembles."
- Established by King Nripa Kama II in the 10<sup>th</sup> century, the Hoysala dynasty gained prominence in the southern Deccan region of India.
- The Sacred Ensembles of the Hoysalas consist of a collection of Hoysala temples constructed during the 12<sup>th</sup>-13<sup>th</sup> centuries, with representation from the three components of Belur, Halebid, and Somnathapura.
- These three temples include:
  - **The Chennakeshava temple:** Located at the heart of Belur (in the Hassan district), it forms the central point of the traditional settlement, enclosed by remnants of a mud fort and a moat.
  - **The Hoysaleswara Temple:** Situated on the banks of the Dwarasamudra tank in Halebidu (Hassan district), this town is home to numerous protected and unprotected temples, as well as archaeological ruins and mounds.
  - **The Keshava Temple:** Found at the center of Somanathapura village (Mysore district).
- These temples are primarily dedicated to Hindu deities such as Shiva and Vishnu, while some also hold significance in the Jain faith.

#### Characteristics of the Architecture:

- The architects of the Hoysala dynasty exhibited a deliberate and thoughtful approach in their architectural endeavors.
- They judiciously picked elements from various temple styles, adapting, and enhancing them with their unique innovations.
- The Hoysala architectural style emerged because of a meticulous fusion of elements from contemporary temple designs and historical influences, establishing a distinct identity separate from neighboring kingdoms.
- These sanctuaries are distinguished by their incredibly detailed sculptures and stone carvings that adorn every facet of the architectural structure.
- They also feature a surrounding platform for circumambulation, an expansive sculptural gallery, a multi-tiered decorative frieze, and depictions of the legendary Sala.

### Former President A.P.J. Abdul Kalam Honored with New Marine Tardigrade Species Name

#### Inside Story of the News:

A newly identified **marine tardigrade species** has been named in honor of the **late former President and scientist A.P.J. Abdul Kalam** by researchers from Cochin University of Science and Technology (Cusat).



- This discovery represents the **second marine tardigrade discovery in Indian waters** and the **first from the east coast**.
- It is the inaugural taxonomically described species of the Batillipes genus in India and the 37<sup>th</sup> in the genus.
- Measuring approximately 0.17 millimeters (mm) in length and 0.05 mm in width.
- This new species is characterized by possessing four pairs of legs.
- Its head has a trapezoid shape with sharp-tipped filament-like appendages (cirri) extending from it.
- All four pairs of legs feature sensory spines of varying lengths.
- The females of this species are slightly larger compared to the males.
- This novel species was **discovered by Vishnudattan N.K., a Research Scholar, and senior Prof. Dr. S. Bijoy Nandan from the Department of Marine Biology** as part of an extensive marine biodiversity survey conducted along the Tamil Nadu coast.