Green Hydrogen Policy

❖ Context

➢ Himachal Pradesh Chief Minister has recently announced the formulation of a 'Green Hydrogen' policy, with the goal of establishing the state as a leading hub for green hydrogen production.

❖ Key Highlights:

- Himachal Pradesh possesses abundant renewable energy resources, such as **sunlight, water, and wind, making** it an ideal location for generating green hydrogen.
- The 'Green Hydrogen' policy aims to attract investments in large-scale renewable energy projects, ensuring a consistent and **sustainable supply of green electricity** for electrolysis and creating an environment conducive to green hydrogen production.
- The state government has entered into a partnership with **Oil India Limited (OIL)** to enable pilot production of green hydrogen and green ammonia.
- **The National Hydroelectric Power Corporation (NHPC)** is working on the Green Hydrogen Mobility Project in the **Chamba district.**
- This pilot project will include a **dedicated solar plant,** an electrolyzer unit for hydrogen production, and a hydrogen storage system with a dispenser.
- The land has already been identified for this project, showcasing the state **government's commitment** to sustainable energy solutions.
- By leveraging its **natural advantages, Himachal Pradesh** aims to contribute to global climate change mitigation efforts and become a pioneer in **sustainable development.**
- The **'Green Hydrogen'** policy seeks to tap into the state's renewable energy potential, attract investments, and create a favourable ecosystem for green **hydrogen production.**

❖ What is Green Hydrogen?

- Green hydrogen is a type of hydrogen produced through the process of **electrolysis** using renewable energy sources, such as **solar, wind, or hydroelectric power.**
- It is considered "green" because the electricity used in the electrolysis process comes from **renewable sources,** resulting in zero greenhouse gas emissions.

Stelladens Mysteriosus

❖ Context

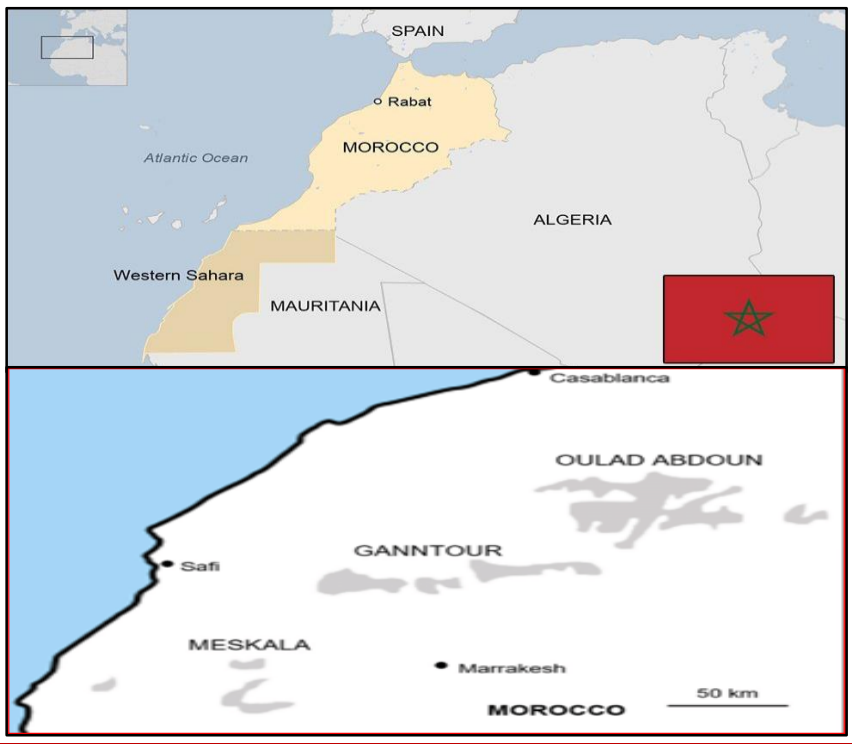
➢ A new species of mosasaur called Stelladens mysteriosus was discovered in the Oulad Abdoun Basin, and its distinct teeth have captured the attention of scientists.

❖ Key Highlights:

- During the Late Cretaceous period, dinosaurs dominated the land and mosasaurs, large predatory **lizards, ruled the oceans** until a catastrophic event led to their extinction.
- Recent discoveries in Morocco, particularly in the Oulad Abdoun Basin, have revealed new insights into ancient marine creatures, particularly **mosasaurs.**
- The teeth of Stelladens mysteriosus have **blade-like ridges**, unlike any other known **mosasaur or reptile.**

❖ Significance:

- The discovery of Stelladens mysteriosus adds to the growing list of new mosasaur species found in Morocco, highlighting the astonishing diversity that existed during the Late Cretaceous period.
- **Morocco's fossil** record provides valuable insights into ancient ecosystems and the unique creatures that inhabited our planet millions of years ago.



News in Between the Lines

Panch Karma Sankalp

❖ Context

➢ Union Minister Sarbananda Sonowal recently announced five major initiatives in the maritime sector, aiming to make India a global leader.

❖ Key Highlights:

- **Development of Green Hydrogen Hubs:** Deendayal Port and VO Chidambaranar Port, Tuticorin, have been designated as Green Hydrogen Hubs.
  - These ports will focus on the **development and utilization of green hydrogen** as an environmentally friendly energy source, advancing sustainability.

- **Establishing a single window portal :** The ministry announced the establishment of a Single Window Portal to facilitate and monitor river and sea cruises.
- **Green Tug Transition Programme:** Four major ports, including **Jawaharlal Nehru Port, VO Chidambaranar Port, Paradip Port, and Deendayal Port, Kandla,** will procure two tugs each under the Green Tug Transition Programme.
  - This initiative promotes **green shipping practices** and reduces environmental impact.
- **Transforming specific ports into smart ports by next year:** Jawaharlal Nehru Port & VO Chidambaranar Port, Tuticorin, are set to become smart ports by the next year.
- **Cargo Movement and Growth in IWT:** Coastal shipping has witnessed remarkable growth, with cargo movement reaching 151 MMTPA in 2022-23 compared to 74 MMTPA in 2014-15.

❖ **Significance:**

- The initiatives are expected to bring sustainable development and transformation to the sector.

Bakhmut

❖ **Context**

- Russia claimed to have fully captured the smashed eastern Ukrainian city of Bakhmut, which would mark an end to the longest and bloodiest battle of the 15-month war.

❖ **Key Highlights:**

- Bakhmut, also known as Artemivsk, is a city located in the Donetsk Oblast of Ukraine.
- Bakhmut is located approximately 75 kilometers (47 miles) northeast of the regional capital, Donetsk. It is situated in the eastern part of the country, close to the border with Russia.

Rayyanah Barnawi

❖ **Context**

- **Rayyanah Barnawi and Ali al-Qarni** made history on May 21 2023, as the first Arab woman and man, respectively, to venture into space, aboard the SpaceX Falcon 9 rocket.

❖ **Key Highlights:**

- **Peggy Whitson and John Shoffner,** renowned astronauts, joined Barnawi and al-Qarni on the mission, forming a team representing Saudi Arabia & the United States.
- The mission aimed to **advance space science** education in Saudi Arabia and reduce reliance on oil, aligning with the Vision 2030 reform program.
- The primary purpose of the mission was to conduct experiments on the **International Space Station (ISS)** in human research, cell sciences, and cloud seeding in microgravity.

❖ **About ISS:**

- The ISS is a long-standing example of international collaboration between Russia and the West, orbiting Earth at a speed of approximately **28,000 kilometres per hour (17,400 miles per hour) since 1998.**
- The ISS serves as a scientific outpost for research, innovation, and fostering international cooperation.
- The ISS is a joint project involving the space agencies of multiple nations.
- The initial assembly of the station began in 1998 and involved contributions from the **United States, Russia, Canada, Japan**, and several European countries.

PARAKH

❖ **Context**

- The Ministry of Education held a workshop in New Delhi to unite 60 school examination boards across states and union territories.

❖ **Key Highlights:**

- The **workshop focuses on PARAKH**, the National Assessment Centre, aiming to establish a common platform for school boards. The goal is to develop a fair assessment system, promote equity, and ensure equivalence in student assessments.

- The workshop discussed the need to move away from rote learning and adopt holistic assessments.
- It emphasized the **importance of standardized question** papers, balancing formative and summative assessments, and reducing the burden of high-stakes exams.
- Officials from various education-related organizations and state examination boards attended the workshop.
- The workshop aims to study **school assessments, examination practices, and board equivalence across the country.**

e-Cigarettes

❖ Context

- ➢ The Union Health Ministry has recently issued a public notice to enforce the ban on **electronic cigarettes** and strengthen its implementation.

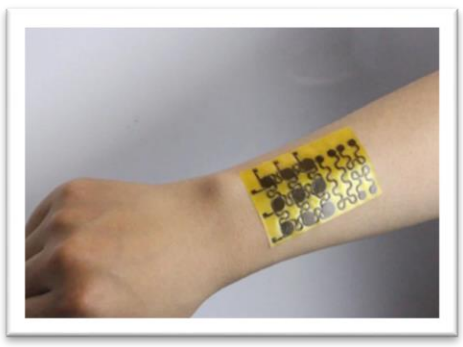
❖ Key Highlights:

- Despite the Prohibition of **Electronic Cigarettes Act** coming into force in 2019, e-cigarettes **remain easily available** online and in tobacco shops.
- The notice directs producers, manufacturers, importers, distributors, advertisers, and others to refrain from producing, selling, advertising, or promoting e-cigarettes.
- The ministry emphasizes that offenses related to e-cigarettes are punishable under the Act.
- The market is flooded with cheap, unbranded e-cigarettes, which pose a risk to children and the youth.

❖ Significance:

- The notice aims to raise awareness and ensure strict enforcement to protect the younger generation from addiction.

e-Skin



❖ Context

- ➢ Stanford University's Bao Research Group has developed **flexible electronic skin** to restore sensations for amputees, representing a significant breakthrough.

❖ Key Highlights:

- The human skin is an **extraordinary organ capable of sensing various stimuli**, but individuals with prosthetic limbs often lack these sensory experiences.
- The electronic skin mimics **the natural reactions** of human fingers and toes, responding to touch and temperature by moving away, similar to biological skin.
- It can transmit electrical signals directly to the wearer's brain, allowing amputees to regain a sense of pressure, strain, and temperature changes.
- The electronic skin employs **soft integrated circuits** to convert sensory information into electrical signals that imitate nerve impulses, enhancing control in prosthetic limbs.
- In experiments with rats, the electronic skin connected to the **somatosensory cortex** produced electrical signals that reached the **sciatic nerve**, leading to limb motion.
- Future improvements aim for a **less invasive system**, potentially implanting the electronic skin in the peripheral nervous system for greater accessibility.

Shavuot

❖ Context

- ➢ Shavuot, known as the Feast of Weeks, is a significant Jewish festival that commemorates the giving of the Torah at Mount Sinai and the first-fruits harvest.

❖ Key Highlights:

- Shavuot is associated with the consumption of **dairy products**, symbolizing the abundance of the land of Israel and its agricultural prosperity.
- The festival coincides with the **harvest season**, emphasizing its agricultural significance, and in ancient times, Jews would offer their first fruits as a gesture of gratitude at the **Temple in Jerusalem.**
- **Flowers and greenery** are symbolic of Shavuot, representing the blossoming of the land after the spring harvest and celebrating the **beauty and rejuvenation of nature.**
- **Shavuot highlights the central role** of the **Torah in Jewish life**, serving as a reminder of the divine wisdom and ethical principles that guide individuals on their spiritual journeys.
- The festival provides a time for reflection, study, and gratitude for the gift of knowledge and the teachings of the **Torah.**

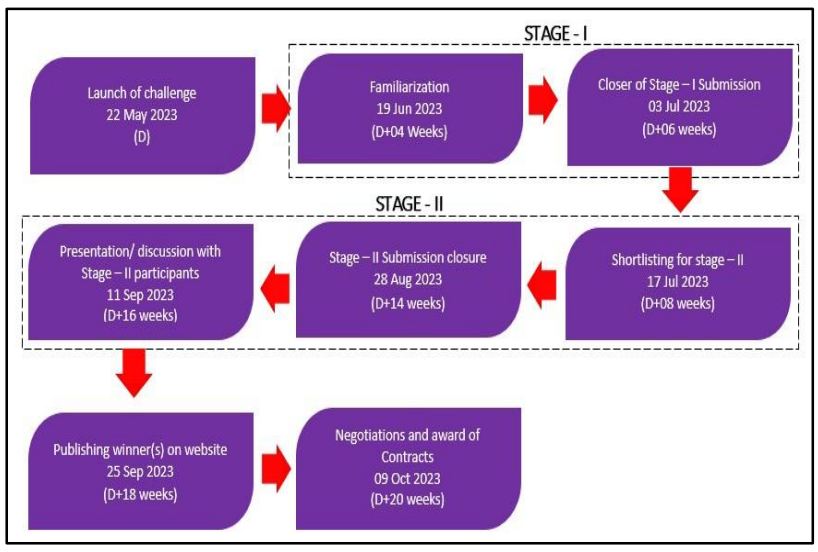
GAINS 2023

❖ Context

- Garden Reach Shipbuilders and Engineers (GRSE) Ltd has **launched the GAINS** 2023 initiative to promote innovation in shipbuilding.

❖ Key Highlights:

- GAINS 2023 aims to harness **the potential of startups** and encourage innovative solutions in ship design and construction.
- GRSE, a premier **defence shipyard in India**, has a rich history in shipbuilding since its establishment in 1960.
- The **GAINS 2023 Challenge** is a two-stage process to generate ideas and nurture promising concepts.
- GAINS aims to address :
  - industry challenges,
  - promote Atmanirbhar Bharat (self-reliant India),
  - and focus on thematic areas like artificial intelligence,
  - renewable/green energy,
  - and energy efficiency.



Excavation at Khatiya Village

❖ Context

- Archaeologists are excavating a 5,000-year-old burial site near Khatiya village in Gujarat's Kutch district, India, hoping to uncover **clues about the pre-urban phase** of the Harappan civilization and the nature of the settlements it served.

❖ Key Highlights:

- The arid soil on a 16-hectare expanse near Khatiya village in Gujarat's Kutch district has revealed surprising discoveries, **including a shell bangle, pottery shards, stone blades, and human skeletal remains.**
- The cemetery is believed to be 5,000 years old and belongs to the 'pre-urban' phase of the Harappan civilization, which thrived along the banks of the Indus River from around 5,000 BC to 1,000 BC.
- The pottery found at the site, including **redware, buffware, and grayware**, is comparable to the pre-urban Harappan pottery of Sindh, Balochistan, & North Gujarat.
- The acidic soil at the site makes it difficult to extract DNA samples from the excavated remains, hindering the identification of the individuals buried there.
- Other well-known Harappan sites in western Kutch, such as **Desalpar, Khirsara, Kotda Bhadli, and Nadapa,** belong to the urban and post-urban periods of the Harappan civilization and are more than 50 kilometers away from Khatiya.
- The researchers also believe that another location in the nearby village of Lakhapar may provide additional clues about the Khatiya cemetery.
- Khatiya is located on the banks of the **Gandi stream**, which used to flow into the **Great Rann of Kutch.**
- The region has become arid over time, but it is believed to have been navigable and connected to the **Ghaggar-Harka-Nara river in prehistoric times.**

Neeraj Chopra

❖ Context

- **Neeraj Chopra** becomes **World Number one** in **men's javelin throw rankings.**
- Chopra topped the charts with **1455 points, 22 ahead of Grenada's reigning world champion Anderson Peters (1433).**

❖ Key Highlights:

- **Javelin throw** is an athletic field event that involves throwing a spear-like implement known as a **javelin** as far as possible.
- It is one of the oldest known sports and has been part of the **Olympic Games** since its inception in **ancient Greece.**
- The javelin used in the event is a long, slender spear typically made of metal or carbon fiber.
- It has a metal tip at one end and a grip or corded binding at the other, allowing the athlete to hold and throw it effectively.

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