



Daily Current Affairs Prelims Quiz 01-07-2022 - (Online Prelims Test)

1) Consider the following statements:

1. The PSLV Orbital Experimental Module (POEM) is a platform that will help perform in-orbit experiments using the third and fourth stages of the PSLV.
2. POEM has a dedicated Navigation Guidance and Control System for attitude stabilization, which controls the aerospace vehicle within permitted limits.

Which of the above statement(s) is/are correct?

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

Answer : b

PSLV Orbital Experimental Module (POEM)

- The PSLV Orbital Experimental Module is a platform that will help perform in-orbit experiments using the final, and otherwise discarded, stage of ISRO's workhorse rocket, the Polar Satellite Launch Vehicle (PSLV).
- The PSLV is a four-stage rocket where the first three spent stages fall back into the ocean, and the final stage (PS4) — after launching the satellite into orbit — ends up as space junk.
- POEM has a dedicated Navigation Guidance and Control (NGC) system for attitude stabilization, which stands for controlling the orientation of any aerospace vehicle within permitted limits.
- The NGC will act as the platform's brain to stabilize it with specified accuracy.

2) Consider the following statements regarding the Snake Island:

1. It is located in the Black Sea to the east of the mouth of the Danube river and southwest of Odesa.
2. The island is close to the coast of Georgia and serves as a maritime border between Russia, Georgia, and Ukraine.

Which of the above statement(s) is/are correct?

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

Answer : a

Snake Island

- Snake or Serpent Island, called Zmiinyi in Ukrainian, is a rocky outcrop that extends less than 700 meters from end to end and is often described as being “X-shaped”.
- It is located 35 km from the coast, to the east of the mouth of the Danube, and roughly southwest of Odessa.
- The island is marked on the map by the tiny village of Bile that is located on it.
- The island is close to the coast of Romania, with which Ukraine has had a dispute — and which was settled in 2009 by the International Court of Justice, which drew a new maritime border between the two countries.
- Parts of the Black Sea around Snake Island are believed to hold significant oil and gas reserves.

3) Consider the following Assertion and Reason:

Assertion (A): A major difference between geo-seismology and helioseismology is that while the Earth is solid, the layers in the Sun are fluid.

Reason (R): There are no shear waves in the Sun following the quakes.

- Both A and R are true, R is the correct explanation of A.
- Both A and R are true, R is not the correct explanation of A.
- A is true and R is false.
- Both A and R are false.

Answer : a

Helioseismology

- Seismology literally means the study of earthquakes.
- There are, thus, different types of waves generated by natural quakes as well as explosions made by people.
- Helioseismology is a technique used to study the Sun.
- Derived from the words Helios (Sun), seismos (quake), and logos (study of), helioseismology is both similar and different from geo-seismology.
- The study of the waves generated by quakes and explosions (seismic waves) and what they reveal about the interior of the Earth.
- A major difference between geo-seismology and helioseismology is that while the Earth is solid, the layers in the Sun are fluid.
- Hence, there are no shear waves in the Sun following the quakes.

4) Consider the following statements regarding the Udyami Bharat Programme:

1. It is an initiative of the Ministry of Micro, Small, and Medium Enterprise.
2. Under the program, the MUDRA Yojana, SFURTI, and Emergency Credit Line Guarantee Scheme were launched.

Which of the above statement(s) is/are correct?

- 1 only
- 2 only
- Both 1 and 2
- Neither 1 nor 2

Answer : c

Udyami Bharat Programme

- Udyami Bharat is reflective of the continuous commitment of the government, right from day one, to work towards the empowerment of MSMEs.

- The program is carried out by the Ministry of Micro, Small, and Medium Enterprises.
- The government has launched several initiatives from time to time like MUDRA Yojana, Emergency Credit Line Guarantee Scheme, Scheme of Fund for Regeneration of Traditional Industries (SFURTI), etc.
- In order to provide necessary and timely support to the MSME sector, which has helped benefit crores of people across the country.

5) Consider the following statements:

1. The electromagnetic aircraft launch system (EMALS) is used in launching an aircraft from the deck of naval aircraft carriers.
2. EMALS uses both steam power and linear induction force to catapult the aircraft and launch it.
3. The INS Vishal is the only aircraft carrier in India that consists of EMALS technology.

Which of the above statement(s) is/are correct?

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

Answer : a

Electromagnetic Aircraft Launch System (EMALS)

- Catapult Assisted Take-off But Arrested Recovery (CATOBAR)
- An aircraft on board a carrier needs extra help to get airborne since the length of the runway on deck is insufficient to achieve the speed needed for take-off.
- One of the ways to provide this extra push is by the use of catapults.
- In this, an aircraft takes off from a completely flat deck with the help of catapults.
- Once the catapult is released, the aircraft attached to the catapult moves forward with great speed in a short time, which helps it to gain the speed required to take off before it reaches the end of the runway.
- There are two types of catapult systems — steam-powered, and electromagnetic ones called EMALS.
- While the former uses steam pressure to fire catapults, EMALS uses linear induction motors.
- The electromagnetic force generated is used to launch the aircraft.

Is India using EMALS?

- In 2017, the U.S. provided India with its EMALS technology, developed by the U.S. defence company General Atomics Aeronautical Systems Inc.
- India explored the possibility of installing the system, but the Navy dropped the plan due to budget constraints, as per the Indian Defence Research Wing.
- However, the state-owned Bharat Electronics Limited in Bengaluru is reportedly working on an EMALS model that could be tested for CATOBAR operations on Indian warships in the near future.
- Presently, India's sole aircraft carrier INS Vikramaditya works on a Short Take-Off But Arrested Recovery, or STOBAR mechanism with an angular ski-jump.
- India's second aircraft carrier named INS Vikrant, set to be commissioned later this year, will use the CATOBAR system to launch aircraft.