



Daily Current Affairs Prelims Quiz 03-06-2023 (Online Prelims Test)

1) Consider the following statements with respect to University Grants Commission Act, 1956

Statement - I

It empowers the Governor of a State to declare any institution other than a university to a status of Institution deemed to be University.

Statement - II

In most cases, the Governor of the state is the ex-officio chancellor of the universities of that state.

Which one of the following is correct in respect of the above statements?

- a. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement-I
- b. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- c. Statement-I is correct but Statement-II is incorrect
- d. Statement-I is incorrect but Statement-II is correct

Answer : d

Union Minister of Education and Skill Development, Shri Dharmendra Pradhan releases the UGC (Institutions Deemed to be Universities) Regulations, 2023

UGC (Institutions Deemed to be Universities) Regulations, 2023

- The UGC Act 1956 provides for **Central Government** to declare any institution other than a University to a status of Institution Deemed to be University.
- The first set of Regulations was notified in the year 2010, which was revised in 2016 and 2019.
- It is aligned with the National Education Policy 2020.

New Regulations

- **Eligibility criteria** - To apply for deemed to be university status is NAAC 'A' grade with at least a 3.01 CGPA for three consecutive cycles (or)
- NBA accreditation for 2/3rd of eligible programmes for 3 consecutive cycles (or)
- In the top 50 of any specific category of NIRF Ranking for last 3 years continuously.
- A cluster of institutions managed by more than one sponsoring body can also apply for deemed to be university status.
- They may provide fee concession or scholarships or may allocate seats to meritorious students belonging to socially and economically deprived groups of the society.

2) Consider the following statements with respect to Strategic Petroleum Reserves (SPR) in India

1. Underground rock caverns are developed through excavation whereas salt caverns are developed by the process of solution mining.
2. Oil Absorbency is high in rock cavern based reserves compared to salt based cavern reserves.

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

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

Answer : c

A Govt-owned engineering firm is studying whether petroleum reserves can be developed in Rajasthan's salt caverns.

Strategic Petroleum Reserves (SPR)

- Currently, India has 3 strategic oil storage facilities at
 - Mangaluru - Karnataka
 - Padur - Karnataka
 - Visakhapatnam - Andhra Pradesh
- India is also in the process of expanding its SPR capacity at two locations
 - Chandikhol - Odisha
 - Padur - Karnataka
- They all are made up of excavated rock caverns.
- India, the world's 3rd largest consumer of crude, depends on imports for more than 85% of its requirement.
- Strategic Petroleum Reserves (SPR) could help ensure energy security and availability during global supply shocks and other emergencies.
- In India construction of strategic crude oil storage is managed by Indian Strategic Petroleum Reserves Limited (ISPRL).
- ISPRL is a special purpose vehicle (SPL) wholly owned by subsidiary of Oil Industry Development Board (OIDB) under the Ministry of Petroleum and Natural gas.

Rock based cavern Reserves	Salt based Cavern Reserves
<ul style="list-style-type: none"> • Developed through Excavation • Complex, Slow and High Cost. • High Oil Absorbency compare to Salt based method. 	<ul style="list-style-type: none"> • Developed through solution mining (pumping water into geological formations with large salt deposits to dissolve the salt). • Simple, Fast and Cost effective. • Low Oil absorbency

Strategic Petroleum Reserves

Boosting India's Energy Security

SPR-I

Gol has set up 5.33 MMT of strategic crude oil storages in SPR Phase-I at following 3 locations:

Vishakhapatnam, AP

Mangalore, Karnataka

Padur, Karnataka

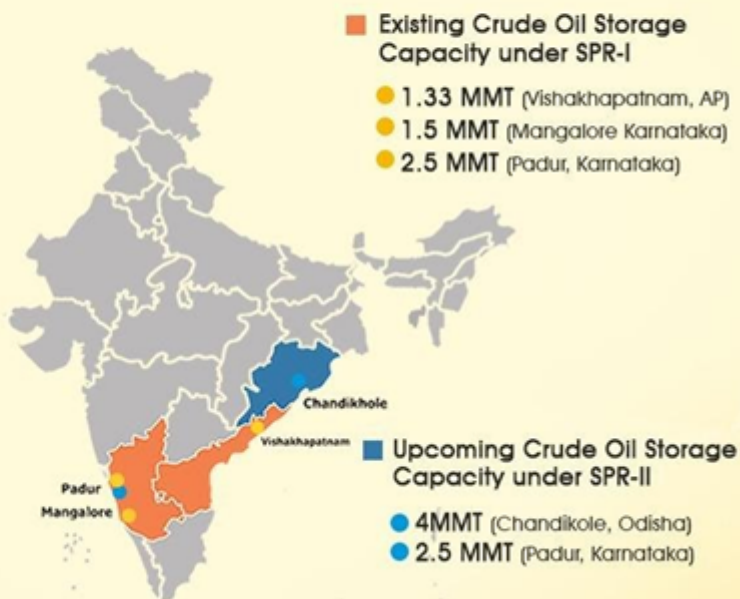
SPR-I has been commissioned and dedicated to the Nation in Feb' 2019

SPR-II

Another 6.5 MMT of strategic crude reserves is being planned in SPR-II at:

Chandikhole, Odisha

Padur, Karnataka



3) Consider the following statements with respect to Myristica Swamps

1. Like Mangroves, Myristica Swamps thrive in saline water and has tilt roots.
2. Kammadam Kavu, the largest sacred grove in Kerala is home to this Myristica Swamps.
3. Myristica swamps are typically seen next to rivers and help in retaining water and act as a sponge, ensuring perennial water availability.

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

- a. Only One
- b. Only Two
- c. Only Three
- d. None

Answer : b

Climate change and human intervention threaten the Myristica swamps of Kerala.

Myristica Swamps

- Myristica swamps are freshwater swamps predominated by members of the Myristicaceae family.
- These swamps are found in the Sacred Groves or evergreen forest patches and are included in the littoral and swamp forest groups.
- Kammadam Kavu is the largest in Kerala.
- This grove is home to a Myristica swamp over 2-3 acres.
- This species has stilt roots, or knee roots that pop up above the water level to breathe creating a varied habitat for many life forms.
- These forests are characterized by trees with large protruding roots jutting out of waterlogged soil which remains inundated throughout the year.

- In India, these unique habitats occur in the Western Ghats and a smaller distribution exists in the Andaman and Nicobar Islands.
- The formation of these swamps is dependent on abiotic conditions like the shape of the valley between the forested hills, the amount of rainfall a place receives and water availability throughout the year.
- Typically, *Myristica* swamps are seen next to rivers and help in retaining water and act as a sponge, ensuring perennial water availability.
- Historically, they formed a large hydrological network all along the Western Ghats.

4) Consider the following statements with respect to Protein Nano-computers

1. Protein-based devices or Nano-computing agents rely on the expression or suppression of proteins that produce a desired action within a cell.
2. In this method, the target protein responds to light and a drug called rapamycin by adjusting its orientation, or position in space.

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

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

Answer : b

Protein Nano-computers

- The first protein-based nano-computing agent that functions as a circuit has been created by Penn State researchers.
- Traditional synthetic biology approach rely on the expression or suppression of proteins that produce a desired action within a cell.
- Protein-based devices or Nano-computing agents respond directly to stimuli (inputs) and then produce a desired action (outputs).
- Researchers engineered a target protein by integrating 2 sensor domains, or areas that respond to stimuli.
- In this case, the target protein responds to light and a drug called *rapamycin* by adjusting its orientation, or position in space.
- To test their design, the team introduced their engineered protein into live cells in culture. By exposing the cultured cells to the stimuli, they used equipment to measure changes in cellular orientation after cells were exposed to the sensor domains' stimuli.
- Previously, their nano-computing agent required two inputs to produce one output.
- Now, there are two possible outputs and the output depends on which order the inputs are received.
- If rapamycin is detected first, followed by light, the cell will adopt one angle of cell orientation, but if the stimuli are received in a reverse order, then the cell adopts a different orientation angle.
- This experimental proof-of-concept opens the door for the development of more complex nano-computing agents.
- Theoretically, the more inputs you embed into a nano-computing agent, the more potential outcomes that could result from different combinations.

5) Porpanaikottai Excavation Site recently seen in the news is located in which of the following states?

- a. Kerala
- b. Tamil Nadu
- c. Karnataka
- d. Andhra Pradesh

Answer : b

Brick structure revealed at Porpanaikottai excavation in Tamil Nadu's Pudukkottai district.

Porpanaikottai Excavation Site

- It is situated in the Pudukkottai town, Tamilnadu.
- It is a Sangam Age site with a big fort and habitation.
- The fort has 3 entrance gates.
- The northern side entrance has brick walls on both sides.
- A habitation mound with continuous settlements from the Iron Age is believed to have existed within the fort.
- Iron Age burials, black-and-red ware and early historic bricks have been recovered from the site.
- Potsherds engraved with graffiti, Tamil-Brahmi inscribed potsherds, shell bangles, bone tools and hopscotches were unearthed during an excavation.
- The earliest lithic evidence in the form of a memorial stone datable to 3rd - 4th century CE, on the palaeographical ground, emerged from this site.
- It looks contemporary to the *Poolankurchi* inscription.

Poolankurchi inscription

- Poolankurichi is a Village in Sivaganga District of Tamil Nadu.
- Idol of Tirthankar Neminatha, Yakshi Ambika, Inscriptions are found carved in the Pulankurichi hill.
- This inscription belongs to the period of the 4th century AD, under the rule of the Kalabhras, said to be tribal invaders from Karnataka following the Jaina faith.

