Daily Current Affairs Prelims Quiz 08-05-2024 (Online Prelims Test)

1) Consider the following statements with respect to National Centre for Polar and Ocean Research (NCPOR)

1. It is India's premier R&D institution responsible for planning and execution of research expeditions to the Arctic, the Antarctic and the Himalayas.
2. It works under the aegis of the ministry of Ministry of Science and Technology.
3. Financial affairs is provided by an eight-member Finance Committee (FC) headed by the Financial Adviser of the Ministry.

How many of the statements given above are correct?

a. Only one
b. Only two
c. All Three
d. None of the above

Answer : b

National Centre for Polar and Ocean Research (NCPOR)

NCPOR have recently decided to deploy full-time station managers throughout year at India's Arctic research base, Himadri.

- The National Centre for Polar and Ocean Research (NCPOR) was established as an ***autonomous Research and Development Institution*** of the ***Ministry of Earth Sciences*** May ***1998***.
- It is located at ***Goa*** and at NCPOR the scientific mandate is multidisciplinary.
- *Year-round maintenance of the two Indian stations (Maitri & Bharati) in Antarctica is the primary responsibility of the Centre*.
- Maitri (1989) and Bharati (2011) were established, for carrying out research by the Indian scientists in all disciplines of polar research.
- NCPOR has the ***Governing Body*** comprising ***13 members*** representing a cross section of the country's leadership in Polar and Ocean Sciences, research education and administration.
- ***Secretary, Ministry of Earth Sciences, is the Chairman (exofficio) of the Governing Body***.
- Guidance to the Centre in all its ***financial affairs*** is provided by an ***eight-member Finance Committee (FC) headed by the Financial Adviser of the Ministry***.
- Financial affairs includes finalization of the annual budget, monitoring of the expenditure and review of the Audit Reports.
- India launched its maiden ***winter research expedition to the Arctic*** in ***December 2023*** and is the ***fourth country*** to have round-the-year presence in the zone.
- The station manager will help and facilitate the visiting participants in their observation, be responsible for the maintenance of the instruments and field sampling.
- India, along with Italy and Japan, share the facilities at the *Gruvebadet laboratory* located in Artic. Gruvebadet is an initiative of CNR.

- In future, NCPOR would encourage novel project ideas that require Arctic winter setting, darkness for performing observations within limited mobility.

2) Consider the following statements with respect to Constructed Wetlands

1. They are engineered structures designed to replicate the functionalities of natural wetlands but are purposefully designed to efficiently treat wastewater.
2. The decentralised nature of many industries in India makes constructed wetlands an appealing option for on-site wastewater treatment.
3. Asola Bhatti Wildlife Sanctuary in Delhi is an example of Constructed Wetlands.

How many of the statements given above are correct?

a. Only one

b. Only two

c. All Three

d. None of the above

Answer : c

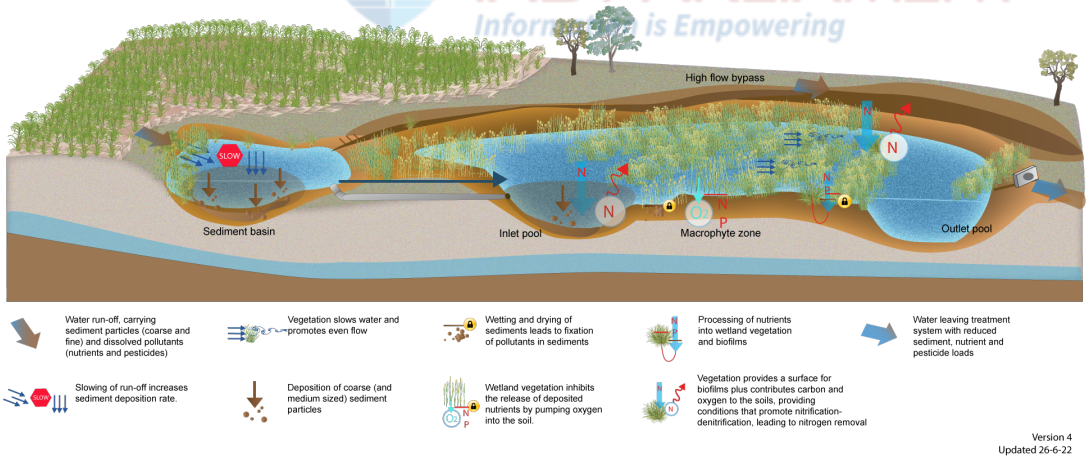
Constructed Wetlands

Constructed wetlands can indeed offer a promising avenue for addressing the environmental impacts of industrial activities while promoting sustainable development.

- **Need for Constructed Wetlands** – Rapid industrialization in India has led to serious challenges in managing industrial effluents and wastewater pollution.
- In India, the potential for utilising constructed wetlands in industrial wastewater treatment is immense.
- Traditional treatment methods are often inadequate to handle the diverse array of pollutants present.
- Constructed wetlands offer a promising, eco-friendly alternative.
- *Constructed wetlands are engineered systems that mimic natural wetlands and utilize plants, microbes, and soil to purify wastewater*.
- They are typically *divided into 2 categories* that includes subsurface flow (SSF) and surface flow (SF).
- **Subsurface Flow (SSF) wetland** – It directs wastewater through gravel beds or porous media, promoting microbial activity that degrades organic matter.
- **Surface Flow (SF) wetland –** It demonstrates their aesthetic appeal above the water's surface, with gently flowing streams and lush vegetation.
- **Benefits of constructed wetlands**
- **Cost-effective** – Lower construction and maintenance costs compared to traditional methods.
- **Versatile** – Adaptable to treat various types of industrial wastewater.
- **Environmental benefits** – Promote biodiversity, flood control, and carbon sequestration.
- **Scalable and adaptable** – Can be designed for different sizes and treatment needs (centralized or decentralized).
- **Challenges** – Clear policies, incentives, technical expertise, and ongoing research are needed to overcome challenges.
- Community involvement is crucial for long-term sustainability.
- ***Constructed wetlands have the potential to significantly contribute to sustainable industrial practices and water resource conservation in India***.

Examples of Constructed wetlands	**Purpose of Constructed wetlands**

Asola Bhatti Wildlife Sanctuary in Delhi	• It aids in purifying sewage from nearby settlements while also providing a sanctuary for diverse flora and fauna, thus contributing to regional biodiversity conservation.
Perungudi and Kodungaiyur regions of Chennai , Tamil Nadu	• These wetlands effectively treat sewage from local communities, alleviating the burden on centralised treatment facilities and significantly reducing pollutant levels.
Kolkata East Wetlands in West Bengal	• Play a vital role in treating wastewater from Kolkata and its environs while also offering livelihood opportunities for local communities engaged in fishing and agriculture.
Palla village in Haryana	• It treats wastewater from Delhi before its discharge into the river. • It helps enhance water quality in the Yamuna and mitigates pollution levels downstream, benefiting both human populations and aquatic ecosystems.
Auroville, an international township in Tamil Nadu	• To manage sewage generated within its premises.
Sariska Tiger Reserve in Rajasthan	• This approach not only addresses the sanitation needs of local communities but also aids in maintaining the ecological integrity of the reserve, supporting the conservation of wildlife habitats.



3) Sahyadri-Konkan Corridor is a linear montane habitat that connects Sahyadri Tiger Reserve in Maharashtra with?

a. Bandipura Tiger Reserve
b. Mhadei Wildlife Sanctuary
c. Kali Tiger Reserve
d. Bhadra Tiger Reserve

Answer : c

Sahyadri-Konkan Corridor

Maharashtra government have recently decided to translocate tigers to Sahyadri reserve.

- Sahyadri-Konkan Corridor is a linear montane habitat that connects ***Sahyadri Tiger Reserve in Maharashtra***, ***Radhanagari Wildlife Sanctuary in Goa*** and ***Kali Tiger Reserve in Karnataka***.
- It is also called as Sahyadri-Radhanagari-Goa-Karnataka corridor and is crucial for the long-term survival of tiger populations in northern Western Ghats.
- It has high human density, and a lot of land is under private ownership.
- Tigers from Kali Tiger Reserve disperse regularly towards Goa where the prey base is comparatively low.
- These corridors are not only important for wildlife but also for the water security of communities living around these forests in Goa and Karnataka.
- This is an important watershed area and Tigers are also worshipped here.

4) Consider the following statements with respect to Indian National Centre for Ocean Information Services (INCOIS)

1. It is an autonomous body established in 1999 under the aegis of the Ministry of Earth Sciences.
2. Synergistic Ocean Observation Prediction Services (SynOPS) is an initiative of it.
3. It is a founding member of the Indian Ocean Global Ocean Observing System (IOGOOS).

How many of the statements given above are correct?

a. Only one
b. Only two
c. All Three
d. None of the above

Answer : c

Indian National Centre for Ocean Information Services (INCOIS)

INCOIS have recently cautioned several coastal states due to the possibility of swell surges and rough sea conditions approaching from the distant southern Indian Ocean.

- INCOIS was established as an autonomous body in ***1999*** under the ***Ministry of Earth Sciences (MoES)*** and is a ***unit of the Earth System Science Organisation (ESSO)***.
- It is mandated to provide the best possible ocean information and advisory services to society, industry, government agencies and the scientific community.
- The initiative of INCOIS includes:
    - **Synergistic Ocean Observation Prediction Services (SynOPS)** – For 2D/3D/4D visualisation of in situ ocean data.
    - **Small Vessel Advisory and Forecast Services** – For small vessels navigating the coastal waters on the east and west coast alerting about any ‘overturning’ zones 10 days in advance.
    - It issues ***Ocean State Forecast (OSF) Services*** about wave height, direction and period, sea surface currents, temperature and so on.
    - OSF is based on a multi-model operational forecasting system.
    - It is built upon numerical ocean models assimilated with real-time data from buoys deployed in the coastal waters as well as in the open ocean, even Deep South in the southern Indian Ocean.
- **International Involvement** – It a permanent member of the Indian delegation to IOC of UNESCO.
- A ***founding member of the Indian Ocean Global Ocean Observing System (IOGOOS)*** and the Partnership for Observing the Oceans (POGO).

- POGO is actively engaged in capacity building and international exchange of students and researchers.
- It houses the IOGOOS secretariat and the Sustained Indian Ocean Biogeochemistry and Ecosystem Research (SIBER) International Programme Office.
- Through the Regional Integrated Multi-Hazard Early Warning System for Africa and Asia (RIMES), it provides ocean information and forecasts to member countries.
- It is also a member of the Global Ocean Data Assimilation Experiment (GODAE) Ocean View Science Team (GOVST) and Patrons Group.

5) Currently, Indian warships are powered by?

1. Diesel engines
2. Gas turbines
3. Steam turbines
4. Electric propulsion system
5. Integrated full electric propulsion system

Select the correct answer using the code given below:

a. Only two

b. Only three

c. Only four

d. All five

Answer : b

Electric Propulsion System for Warships

India and the UK government are discussing the possibility of an agreement to develop an electric propulsion system in India to power domestic warships.

- Indian warships ***are currently powered by diesel engines, gas turbines or steam turbines***.
- The electric propulsion capability is meant to power larger warships with a displacement of over 6,000 tonnes.
- The India and the UK government are discussing the possibility of an agreement to develop an electric propulsion system in India.
- The pact to be signed between India and UK will also cover aspects such as training, equipment and infrastructure.
- Both countries have set up a joint electronic propulsion working group that met in the UK in February.
- Once the agreement is signed, the key capability will be developed through a collaboration between the UK's GE Power Conversion and state-owned Bharat Heavy Electricals Ltd (BHEL) from India.
- Both companies have signed a memorandum of understanding on developing the 'Integrated Full Electric Propulsion System'.
- The UK Royal Navy's The Queen Elizabeth Class aircraft carriers are integrated full electric propulsion vessels.
- In India, the system will first be tested on landing platform docks and next-generation destroyers.