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Daily MCQs: 16-03-2023

1. Consider the following statements about Microplastics.

1. They are poorly soluble in water and may persist in aquatic environments.
2. Secondary microplastics are particles that result from the breakdown of larger plastic items.

Which of the statements given above is/are correct?

- A. 1 only
- B. 2 only
- C. Both 1 and 2
- D. Neither 1 nor 2

2. Consider the following statements about Methane.

1. Major natural sources of methane include emissions from wetlands and oceans, and from the digestive processes of termites.
2. Methane's lifetime in the atmosphere is much shorter and less efficient at trapping radiation than carbon dioxide.
3. Methane contributes to the formation of ground-level ozone.

Which of the statements given above is/are correct?

- A. 1 only
- B. 2 and 3 only
- C. 1 and 3 only
- D. 1, 2 and 3

3. Togalu Gombeyata is a puppet show unique to the state of?

- A. Andhra Pradesh
- B. Tamil Nadu
- C. Kerala
- D. Karnataka

4. The Kuno National Park is located in the state of

- A. Gujarat
- B. Karnataka
- C. Madhya Pradesh
- D. Maharashtra

5. Consider the following countries.

1. Egypt
2. Sudan
3. Oman
4. Jordan

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5. Eritrea

Which of the above countries share their border with the Red sea?

- A. 1, 2 and 5 only
- B. 2, 3 and 5 only
- C. 1, 4 and 5 only
- D. 1, 2, 3, 5 only

Solutions:

1. Answer: C

Sol:

- Microplastics are tiny plastic particles **up to 5 millimetres in diameter**. In the last four decades, concentrations of these particles appear to have increased significantly in the surface waters of the ocean.
- **Statement 1 is correct:** Because microplastics are **poorly soluble in water** and do not degrade, they may persist in aquatic environments, absorb toxins in the water, be eaten by marine life and eventually enter our food chain.
- Microplastics have been detected in marine organisms from plankton to whales, in commercial seafood, and even in drinking water. Alarmingly, **standard water treatment facilities cannot remove all traces of microplastics**.
- To further complicate matters, microplastics in the ocean can bind with other harmful chemicals before being ingested by marine organisms.

Where do microplastics in the ocean come from?

- Microplastics are included in **personal care products** such as toothpaste and skin care products. They tend **not to be filtered out during sewage treatment**, but to be released directly to the ocean or other water bodies such as lakes and rivers.
- Microplastics are also found in **synthetic textiles**. Similar fibres have been observed in sewage effluent and sludge on shorelines near large population centres.
- A proportion of the microplastics used in **industrial applications** also enter the environment.
- Avoiding such uses and releases of microplastics would reduce the quantities entering the marine and coastal environment. As the world population grows and more products containing microplastics are placed on the market, the amounts found there are likely to increase.
- There are **two categories of microplastics: primary and secondary**.
 - Primary microplastics are tiny particles designed for commercial use, such as cosmetics, as well as microfibers shed from clothing and other textiles, such as fishing nets.
 - **Statement 2 is correct:** Secondary microplastics are particles that result from the breakdown of larger plastic items, such as water bottles. This breakdown is caused by exposure to environmental factors, mainly the sun's radiation and ocean waves.

Impacts

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- Scientists are still unsure whether consumed microplastics are harmful to human or animal health—and if so, what specific dangers they may pose. Even so, many countries are taking action to reduce microplastics in the environment.
- A **2017 United Nations resolution** discussed microplastics and the need for regulations to reduce this hazard to our oceans, their wildlife, and human health.

2. Answer: C

Sol:

- Methane (CH₄) is the simplest hydrocarbon, consisting of one carbon atom and four hydrogen atoms.
- **Statement 1 is correct:** It is produced by **both natural processes and human activities**. Major natural sources of methane include **emissions from wetlands and oceans, and from the digestive processes of termites**.
- Methane is emitted during the **production and transport of coal, natural gas, and oil**. Methane emissions also result from **livestock and other agricultural practices, land use and by the decay of organic waste in municipal solid waste landfills**.
- Globally, 50-65 percent of total CH₄ emissions come from **human activities**.
- Although the concentration of methane in Earth's atmosphere is small (around 1.8 parts per million), it is an important greenhouse gas because it is such a **potent heat absorber**.
- **Statement 2 is incorrect:** Methane's lifetime in the atmosphere is **much shorter** than carbon dioxide (CO₂), but CH₄ is **more efficient at trapping radiation** than CO₂ (almost 25 times more potent than CO₂).
- **Statement 3 is correct:** Methane contributes to the formation of **ground-level ozone**, a dangerous air pollutant.

3. Answer: D

Sol:

Types of Puppetry in India

Glove Puppets

- The puppets are worn on the hand of the puppeteers like gloves.
 - Pavakkoothu – Kerala

String Puppets

- Strings are attached to small holes in the hands, head and back of the body which are then controlled by the puppeteer.
 - Gopalila Kundhei – Orissa
 - Bommalattam – Tamil Nadu
 - Kalasutri Bahulya – Maharashtra
 - Putola Nach – Assam
 - Kathputli – Rajasthan
 - Gombeyatta – Karnataka

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Shadow Puppets

- Puppets are placed on a white screen with light falling from behind to create a shadow effect on the screen.
 - Thol Bommalattam – Tamil Nadu
 - **Togalu Gombeyata – Karnataka**
 - Chamadyache Bahulya – Maharashtra
 - Tholpavakoothu – Kerala
 - Ravanachhaya – Orissa
 - Tholu Bommalata – Andhra Pradesh

Rod Puppets

- A rod puppet is a figure operated from beneath by means of wooden or metal rods.
 - Kathi Kandhe – Orissa
 - Putul Nach – West Bengal
 - Yampuri – Bihar

4. Answer: C

Sol:

- Kuno National Park is located in **Madhya Pradesh**. Earlier it was a wildlife sanctuary but in 2018 it was given national park status.
- The **Kuno river** flows through the national park.
- Bio-Geographically this area falls under the **Kathiawar-Gir dry deciduous forest ecoregion** and the forest types found in this area include the Northern tropical dry deciduous forest, Southern tropical dry deciduous forest, Dry Savannah forest & grassland and Tropical riverine forest.
- The main predators in the protected area are Indian leopard, jungle cat, sloth bear, dhole, Indian wolf, golden jackal, striped hyena and Bengal fox.
- In the 1990s, it was selected as a possible site to implement the **Asiatic Lion Reintroduction Project**, which aimed at establishing a second lion population in India, apart from **Gir National Park in Gujarat**.

5. Answer: A

Sol:

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- The Red Sea is a semi-enclosed, inlet (or extension) of the Indian Ocean between the continents of Africa from Asia. It is connected to the Arabian Sea and the Indian Ocean to the south through the Gulf of Aden and the narrow strait of Bab el Mandeb. The northern portion of the Red Sea is bifurcated by the Sinai Peninsula into the Gulf of Aqaba and the Gulf of Suez, where it is connected to the Mediterranean Sea via the famous Suez Canal.

A total of 6 countries of Asia and Africa, border the Red Sea. The countries of **Yemen and Saudi Arabia** border the Red Sea to the east. The Red Sea is bordered by **Egypt** to the north and west, and by **Sudan, Eritrea, and Djibouti** to the west.