

# OFFICERS IAS ACADEMY

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Daily MCQs: 09-07-2024

**1. In the context of India's energy security, what is the significance of Methanol?**

- A) It is a major component of Liquefied Natural Gas (LNG).
- B) It can be a low-carbon alternative fuel for transportation.
- C) It is a radioactive isotope used in nuclear power generation.
- D) It is a primary material for producing solar panels.

**2. Electromagnets find its application in which of the following?**

- 1) Loudspeakers
- 2) Magnetic Resonance Imaging
- 3) Maglev trains

**Select the correct answer using the codes given below**

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

**3. Consider the following statements about the Deputy Speaker**

- 1) A Deputy Speaker enjoys the same legislative powers as a Speaker.
- 2) According to the constitution, the Deputy Speaker of the Lok Sabha should be elected from a party other than the ruling party.

**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

**4. Which of the following are part of the world network of biosphere reserves under UNESCO's MAB program?**

- 1. Agasthyamalai
- 2. Seshachalam
- 3. Nanda devi
- 4. Panna

**Select the correct answer using the codes given below**

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

**5. Which of the following countries share its borders with the Baltic Sea?**

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1. Germany
2. Finland
3. Poland

Select the correct answer using the code given below

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

**Solutions:**

**1. Answer: B**

**Explanation**

- Methanol ( $\text{CH}_3\text{OH}$ ) is a clear liquid chemical, comprising four parts hydrogen, one part oxygen, and one part carbon.
- It is **water-soluble and readily biodegradable**.
- The **human body contains infinitesimal quantities of methanol** (4.5 ppm in the breath of healthy individuals) as a result of **eating some fruits**. But even for an adult, **more than 0.1 ml of pure methanol** per kilogram of body-weight can be **devastating**.

**Applications**

- Methanol, also known as **methyl alcohol**, is a **clean-burning, biodegradable fuel**.
- Increasingly, methanol's environmental and economic advantages make it an **attractive alternative fuel for powering vehicles and ships, cooking food, and heating homes**.
- Methanol also has several **industrial applications**, including as a precursor to acetic acid, formaldehyde, and aromatic hydrocarbons.
- It is used as a **solvent** and as **antifreeze**.

**2. Answer: D**

**Explanation**

- An electromagnet is a type of **temporary magnet** in which the **magnetic field is produced by electric current**. The field disappears when the current is turned off.
- It was invented in 1824 by the British physicist William Sturgeon.

**Permanent magnets** are magnets made of suitable materials, such as high-quality ferrite or neodymium, which are **constantly magnetic** and **take a long time to start losing their magnetic properties**.

**Applications**

- Electromagnets are used in **loudspeakers, motors, magnetic resonance imaging (MRI) machines, maglev trains, and particle accelerators**.

**3. Answer: A**

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### Explanation

- **Article 93** of the Constitution mandates that the **Lok Sabha** shall, “as soon as may be”, choose a member to be the **Deputy Speaker**. However, it **does not provide a specific time frame**.
- **Statement 1 is correct:** A Deputy Speaker enjoys the **same legislative powers as a Speaker**. And in the **absence of the Speaker** because of death, illness or any other reason, the **Deputy Speaker also assumes the administrative powers**.
- **Statement 2 is incorrect:** It is **parliamentary convention** to elect a Deputy Speaker of the Lok Sabha from a **party other than the ruling party** to run an accountable democratic parliament
- Traditionally, the position is reserved for the single largest Opposition party but not all governments have followed this norm.

### 4. Answer: B

### Explanation:

- Biosphere Reserves are areas of biodiversity where not only flora and fauna but human settlements that are closely dependent on nature for their survival, are protected.
- The **idea of ‘Biosphere Reserves’** was **initiated by UNESCO under its Man and Biosphere (MAB) Programme**.
- The MAB, launched in 1970 by UNESCO, is a broad based ecological programme aimed to develop within the natural and social sciences a basis for the **rational use and conservation of the resources of the biosphere** and for the **improvement of the relationship between man and the environment**, to predict the consequences of today’s actions on tomorrow’s world and thereby to increase man’s ability to manage efficiently the natural resources of the biosphere.
- The **Indian National Man and Biosphere (MAB) Committee** identifies and recommends potential sites for designation as Biosphere Reserves, following UNESCO’s guidelines and criteria. Hence, **statement 3 is correct**.
- There are **18 designated Biosphere Reserves (BRs)**.
- Out of 18 Biosphere Reserves, **12 Biosphere Reserves** have been included in the **World Network of Biosphere Reserves of UNESCO**.

### SITES THAT ARE INCLUDED IN WORLD NETWORK OF BIOSPHERE RESERVE

BIOSPHERE RESERVE	STATE
Nilgiri	Tamil Nadu, Kerala, Karnataka
Gulf of Mannar	Tamil Nadu
Agasthyamalai	Kerala, TN

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Sundarbans	West Bengal
<b>Nanda Devi</b>	Uttarakhand
Nokrek	Meghalaya
Pachmarhi	Madhya Pradesh
Simlipal	Odisha
Great Nicobar	Andaman and Nicobar islands
Achanakmar- Amarkantak	Chhattisgarh, Madhya Pradesh
Khangchendzonga	Sikkim

- Recently, the **United Nations Educational, Scientific and Cultural Organization (UNESCO)** has included the **Panna Biosphere Reserve (PBR)** in its World Network of Biosphere Reserves (WNBR). With this Panna becomes the **12th biosphere reserve** to be included in UNESCO's World Network of Biosphere Reserves (WNBR).
- Seshachalam is not a part of UNESCO MAB. Hence **option B is the correct answer.**

5. Answer: D

Explanation:

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- The Baltic Sea is enclosed by **Denmark, Estonia, Finland, Latvia, Lithuania, Sweden, Germany, Poland, Russia** and the North and Central European Plain.
- It includes the **Gulf of Bothnia, the Gulf of Finland and the Gulf of Riga.**

