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Daily MCQs: 24-01-2025

1. The primary purpose of geoengineering techniques is to

- A) Exploit natural resources for economic development
- B) Reverse the process of desertification
- C) Mitigate the effects of climate change, such as global warming
- D) Enhance agricultural productivity in all regions

2. With reference to the National Payments Corporation of India (NPCI), consider the following statements.

- 1. NPCI has been incorporated as an umbrella organization for operating retail payments and settlement systems in India.
- 2. It is an initiative of SEBI.
- 3. NPCI has been incorporated as a "Not for Profit" Company under the Companies Act.

How many of the statements given above are correct?

- A. Only one
- B. Only two
- C. All three
- D. None

3. Liquid nitrogen finds its application in which of the following?

- 1) Cryopreservation of blood
- 2) Cooling of superconductors
- 3) Freezing and transporting of food products

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

4. Consider the following statements about the Purchasing Managers' Index.

- 1. It is an indicator of economic health for both manufacturing and service sectors.
- 2. It is published by the Central Statistics Office (CSO).
- 3. PMI >50 implies an expansion of business and economic activity, PMI <50 means contraction.

How many of the statements given above is/are correct?

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- A. Only one
- B. Only two
- C. All three
- D. None

5. With reference to diplomatic passports, consider the following statements

- 1) Holders of such passports are entitled to certain privileges and immunities in the host country.
- 2) Any Indian Citizen is eligible to have a diplomatic passport.
- 3) The Ministry of Home Affairs issues diplomatic passports.
- 4) The provisions relating to the revoking of a diplomatic passport is provided in the Passport Act,1967.

How many of the statements given above are correct?

- A) Only one
- B) Only two
- C) Only three
- D) All four

Solutions:

1. Answer: C

Explanation

- Geoengineering is a deliberate, **large-scale intervention** carried out in the Earth's natural systems **to reverse the impacts of climate change**, according to the Oxford Geoengineering Programme. This involves techniques to physically manipulate the global climate to cool the planet.
- These techniques fall primarily under three categories:
 - **Solar radiation management (SRM)**
 - **Carbon dioxide removal (CDR) and**
 - **Weather modification.**
- Specific technologies include
 - **Solar geoengineering** or 'dimming the sun' by spraying sulfates into the air to reflect sunlight back into space;
 - **Ocean fertilization** or the dumping of iron or urea to stimulate phytoplankton growth to absorb more carbon;
 - **Cloud brightening** or spraying saltwater to make clouds more reflective and more.

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2. Answer: B

Explanation

- **Statement 1 is correct:** National Payments Corporation of India (NPCI) was incorporated in 2008 as an umbrella organization for operating retail payments and settlement systems in India.
- **Statement 2 is incorrect:** It is an initiative of **the RBI and Indian Banks' Association (IBA)** under the provisions of the Payment and Settlement Systems Act, 2007, for creating a robust Payment & Settlement Infrastructure in India.
- **Statement 3 is correct:** It has been incorporated as a **"Not for Profit" Company** under the Companies Act 2013.
- It has changed the way payments are made in India through a bouquet of retail payment products such as **RuPay card, Immediate Payment Service (IMPS), Unified Payments Interface (UPI), Bharat Interface for Money (BHIM), BHIM Aadhaar, National Electronic Toll Collection (NETC Fastag) and Bharat BillPay.**

3. Answer: D

Explanation

- Liquid nitrogen is a **cryogenic liquid**. It has a boiling point of -320°F (-196°C).
 - Cryogenic liquids are **liquefied gasses that have a normal boiling point below -130°F (-90°C)**. Liquid nitrogen has a boiling point of -320°F (-196°C).
- Liquid nitrogen is **inert, colorless, odorless, non corrosive, nonflammable, and extremely cold.**

Applications

All the three statements are correct.

Medical applications

- It is used in cryotherapy to remove skin abnormalities; Cryosurgery (removing dead cells from the brain); **Cryopreservation of blood**; Cryopreservation of biological samples like eggs, sperm, and animal genetic samples.

Food applications

- Serves as a source of an extremely dry gas; **Freezing and transporting of food products**; Making ice cream.

Industrial applications

- **Cooling of superconductors** like vacuum pumps, and other equipment
- Quick freezing of water or pipes to let workers work on them when valves are not available.

Health Impacts

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- **Tissue Damage:** The extreme cold of liquid nitrogen can cause cryogenic burns or frostbite if it contacts skin or mucosal membranes, which is a concern if ingested before completely evaporated.
- **Internal Damage:** Swallowing liquid nitrogen can lead to severe internal damage, including perforations in the stomach or intestines due to rapid expansion from liquid to gas.
- **Asphyxiation:** Liquid nitrogen expands 695 times in volume when it vaporizes and has no warning properties such as odor or color. The rapid expansion can also displace oxygen in the environment, particularly in enclosed spaces, posing a risk of asphyxiation.

4. Answer: B

Explanation

- **Statement 1 is correct:** Purchasing Managers' Index is an economic indicator which indicates the business activity & economic health of both the **manufacturing and service sectors**.
- **Statement 2 is incorrect:** PMI of India is compiled by **S&P Global**, a financial information and analytics business company.
- The PMI is an investor sentiment tracking index and is dynamic in nature.
- They are derived from monthly surveys of about 400 private companies.
- Variables used for calculating the PMI are: Output, New Orders, Employment, Input Costs, Output Prices, Backlogs of Work, Export Orders, Quantity of Purchases, Suppliers' Delivery Times, Stocks of Purchases and Stocks of Finished Goods.

How to read PMI?

- **Statement 3 is correct:** While PMI >50 implies an expansion of business and economic activity, PMI <50 means contraction.

5. Answer: B

Explanation

What is a Passport?

- A Passport is an **official travel document** for those who wish to travel abroad for education, pilgrimage, tourism, business purposes, medical attendance and family visits.
- The **Ministry of External Affairs (MEA)** is responsible for issuance of Passports to Indian Citizens.

What is a Diplomatic Passport?

- Diplomatic passports have **maroon covers**, and are **valid for five years or less**.

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- **Statement 1 is correct:** Holders of such passports are **entitled to certain privileges and immunities** as per the international law, including immunity from arrest, detention, and certain legal proceedings in the host country.

Eligibility for having a diplomatic passport

- Diplomatic passports are issued to people falling under the five categories:
 - 1) Those with diplomatic status;
 - 2) government-appointed individuals traveling abroad for official business;
 - 3) officers working under the branches A and B of the Indian Foreign Service (IFS), normally at the rank of Joint Secretary and above; and
 - 4) relatives and immediate family of officers employed in IFS and MEA.
 - 5) select individuals who are authorized to undertake official travel on behalf of the government". This includes union ministers and MPs who often travel abroad representing the government. The validity of these passports is concurrent with the term of the MP. Hence **statement 2 is incorrect.**
- **Issuing Authority: Consular, Passport & Visa Division of Ministry of External Affairs** issues diplomatic passports. Hence **statement 3 is incorrect.**

Revoking Authority

- **Statement 4 is correct:** The provisions relating to the revoking of a diplomatic passport is provided in the **Passport Act,1967.**
- As per the Act, The passport authority may impound or revoke a passport
 - 1) if the holder is in wrongful possession, or if it was obtained by the suppression of material information; or
 - 2) if the passport authority deems it necessary to do so in the interests of the sovereignty and integrity of India, or friendly relations of India with any foreign country.
 - 3) if the holder has, after the issue of the passport, been convicted by a court in India, and sentenced to imprisonment for not less than two years.
 - 4) A diplomatic passport can be revoked upon orders from a court during proceedings with respect to an offense allegedly carried out by the passport holder before a criminal court.