

# OFFICERS IAS ACADEMY

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Daily MCQs: 22-02-2025

**1. Consider the following statements about the Purchasing Managers Index.**

1. It is an economic indicator which indicates the business activity & economic health of the manufacturing sector alone.
2. It is a survey-based measure that asks the respondents about changes in their perception of some key business variables.

**Which of the above statements is/are correct?**

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

**2. Which of the following are a part of India's Foreign Exchange Reserves?**

1. Gold Stock of RBI.
2. Foreign Currency Assets.
3. Special Drawing Rights Holdings
4. Reserve Tranche Position.

**Choose the correct answer from the codes given below:**

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

**3. How many of the following countries share their borders with the Baltic Sea?**

1. Russia
2. Latvia
3. Lithuania
4. Estonia
5. Norway
6. Germany

**Choose the correct answer from the codes given below:**

- A. All the Six
- B. None
- C. Only four
- D. Only five

**4. This bird species generally favors flat open landscapes with minimal visual obstruction and disturbance, therefore they adapt well in grasslands. Its stronghold was once the Thar desert in the north-west and the Deccan plateau of the peninsula. Today, its population is confined mostly to Rajasthan and Gujarat. It is listed in Schedule I of the Indian Wildlife (Protection) Act, 1972.**

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The above description refers to which of the following species?

- A) Ceylon frogmouth
- B) Great hornbill
- C) Great Indian Bustard
- D) Black necked crane

5. Consider the following statements.

1. Gene editing is a group of technologies that give scientists the ability to change an organism's DNA.
2. CRISPR-Cas9 technology replicates a natural defense mechanism in some bacteria that uses a similar method to protect itself from virus attacks.
3. Gene editing has the potential to cure and prevent certain diseases.

How many of the above statements is/are correct?

- A) Only one
- B) Only two
- C) All the three
- D) None of the above

Solutions:

1. Answer: B

Explanation:

What is PMI?

- Purchasing Managers' Index is an economic indicator which indicates the business activity & economic health of both the **manufacturing and service sectors. Hence, statement 1 is incorrect.**
- PMI of India is compiled and constructed by **IHS Markit**, an information services provider.
- PMI is an **investor sentiment tracking index** and is more dynamic in nature. It is a survey-based measure that asks the respondents about changes in their perception of some key business variables from the month before. They are derived from monthly surveys of about 400 private companies. **Hence, statement 2 is correct.**
- 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.
- PMI, which is usually released at the **start of the month**, serves as a leading indicator of economic activity. It comes before the official data on industrial output, core sector manufacturing and GDP growth.

How to read PMI?

- While **PMI >50 implies an expansion of business and economic activity, PMI <50 means contraction.**

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2. Answer: D

Explanation:

Foreign Exchange Reserves:

- Foreign exchange reserves are **foreign currency assets held by the central banks** of countries.
- These assets include **foreign currency assets, gold, special drawing rights (SDRs) and reserve position in the International Monetary Fund (IMF)**.
- These reserves act as a cushion and provide liquidity, ensuring our country can meet its external obligations.
- Components of foreign exchange reserve:
  1. **Foreign Currency Assets:** Currencies of foreign countries are held in foreign exchange reserves. Apart from currency it also includes foreign currency deposits held by RBI with foreign central banks and the Bank for International Settlements (BIS).
  2. **Gold Stock of RBI:** The RBI has gold stock as a backup to issue currency and to meet unexpected Balance of Payments (BOP) problems. (*BOP problem occurs when a nation is unable to pay for essential imports or service its external debt repayments*).
  3. **SDR Holdings:** Special Drawing Rights (also called "*paper gold*") is a reserve **created by the IMF** to help countries that have BOP problems. The member countries have to contribute to this account in proportion to their IMF quota. The SDR basket consists of **five** major currencies of the world - the US dollar, Euro, British Pound, Chinese Renminbi and Yen (Japan).
  4. **Reserve Tranche:** The reserve tranche is a portion of the required quota of currency that **each IMF member country must provide to the IMF**. It can be accessed by the member country at any time for its own purposes **without a service fee**. Hence, **option D is correct**.

3. Answer: D

Explanation:

- From the map, only Norway does not have a shore in the Baltic sea. Hence, **option D is correct**.

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4. Answer: C

Explanation:

- Great Indian Bustards are one of the magnificent species of the Indian Subcontinent but today only some 200 individuals are left in the world.
- Historically, the great Indian bustard was distributed throughout Western India, spanning 11 states, as well as parts of Pakistan. Its stronghold was once the Thar desert in the north-west and the Deccan plateau of the peninsula.
- Today, its population is confined **mostly to Rajasthan and Gujarat**. Small populations occur in Maharashtra, Karnataka and Andhra Pradesh.
- Listed in **Schedule I** of the Indian Wildlife (Protection) Act, 1972, **Appendix I** of the CMS (Conservation of Migratory Species) Convention, **Appendix I** of CITES and as **Critically Endangered** on the IUCN Red List.
- It has also been identified as **one of the species for the recovery programme** under the Integrated Development of Wildlife Habitats of the Ministry of Environment, Forests and Climate Change.
- Bustards generally favor flat open landscapes with minimal visual obstruction and disturbance, therefore adapt well in grasslands.

5. Answer: C

Explanation:

- **Statement 1 is correct:** Gene editing (also known as genome editing) is a group of technologies that give scientists the **ability to change an organism's DNA**. These

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technologies allow genetic material to be added, removed, or altered at particular locations in the **genome**.

- *A genome is the complete set of genetic information in an organism. It provides all of the information the organism requires to function. In living organisms, the genome is stored in long molecules of DNA called chromosomes.*
- **Statement 3 is correct:** Genome editing is of great interest in the **prevention and treatment of human diseases**. Currently, most research on genome editing is done to understand diseases using cells and animal models.
- Gene editing is being explored in research on a wide variety of diseases, including single-gene disorders such as cystic fibrosis, hemophilia, and sickle cell disease.
- It also holds promise for the treatment and prevention of more complex diseases, such as cancer, heart disease, mental illness, and human immunodeficiency virus (HIV) infection.

### CRISPR-Cas9

- Several approaches to genome editing have been developed. A recent one is known as CRISPR-Cas9, which is short for clustered regularly interspaced short palindromic repeats and CRISPR-associated protein 9.
- This method of genome editing is **faster, cheaper, more accurate, and more efficient** than other existing methods.
- In essence, the technology works in a simple way — it locates the specific area in the genetic sequence which has been diagnosed to be the cause of the problem, cuts it out, and replaces it with a new and correct sequence that no longer causes the problem.
- **Statement 2 is correct:** The technology **replicates a natural defense mechanism in some bacteria** that uses a similar method to protect itself from virus attacks.

### How does it work?

- An **RNA molecule** is programmed to locate the particular problematic sequence on the DNA strand, and a special protein called **Cas9**, which now is often described in popular literature as '**genetic scissor**', is used to break and remove the problematic sequence.
- A DNA strand, when broken, has a natural tendency to repair itself. But the auto-repair mechanism can lead to the re-growth of a problematic sequence. Scientists intervene during this auto-repair process by supplying the desired sequence of genetic codes, which replaces the original sequence.
- It is like cutting a portion of a long zipper somewhere in between, and replacing that portion with a fresh segment.