



Drishti IAS Presents...

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AGRICULTURE

(March 2023 – March 2024)



Multiple
Choice
Questions
and
Answers

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QUESTIONS

1. Consider the following statements:

1. The Grain Storage Plan aims to establish 700 lakh tonnes of storage capacity over the next 5 years, with an investment of Rs 1.25 lakh crores.
2. India has one of the world's largest cooperative networks, with over 800,000 cooperatives spread across various sectors like agriculture, credit, dairy, housing etc.

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:

1. Fertilizer grade Di-Ammonium Phosphate (DAP) contains 18% Nitrogen and 46% Phosphorus and is manufactured by reacting Ammonia with Phosphoric acid.
2. Indian Farmers Fertiliser Cooperative (IFFCO) launched Nano DAP, containing 8% Nitrogen and 16% Phosphorus by volume.

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

3. Regarding the Commission for Agricultural Costs and Prices (CACP), consider the following statements:

1. Minimum Support Price (MSP) is based on the recommendations of the CACP.
2. It is an attached office of the Ministry of Agriculture and Farmers Welfare.
3. The CACP recommends MSPs for all the crops grown in India.

How many of the statements given above are correct?

- A. Only One
- B. Only Two
- C. All Three
- D. None

4. Consider the following statements:

1. M.H. Marigowda is considered the Father of Indian Horticulture.

2. India is the 2nd largest producer and exporter of fruits and vegetables.

3. Productivity of horticulture crops is much higher compared to productivity of food grains.

How many of the statements given above are correct?

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

5. Regarding Pulses production in India, consider the following statements:

1. India is the largest producer and importer of pulses in the world.
2. Pulses account for around 25% of the total foodgrain production in the country.
3. Kharif pulses yield a higher contribution to the production compared to Rabi pulses nationwide.

How many of the above statements are correct?

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

6. Regarding the Litchi Cultivation across India, consider the following statements:

1. Litchi thrives in equatorial climates.
 2. Bihar alone accounts for nearly 40% of India's Litchi production.
 3. India ranks as the largest producer of litchi globally.
- How many of the above statements are correct?

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

7. Regarding Liquid Nano Urea, consider the following statements:

1. It is urea in the form of a nanoparticle.
2. This fertilizer should only be used once leaves have started to grow on the crops.
3. It has been indigenously developed at the National Agricultural Cooperative Marketing Federation of India Ltd (NAFED).



How many of the above statements are correct?

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

8. Consider the following statements:

Statement-I: India is recognized as the topmost global producer of premium saffron, contributing to 95% of the world's saffron production.

Statement-II: The Pampore region, in India, commonly known as the Saffron Bowl of Kashmir, is the main contributor to saffron production.

Which one of the following is correct in respect of the above statements?

- A. Both Statement-I and Statement-II are correct and Statement-II is the correct explanation for Statement I
- B. Both Statement-I and Statement-II are correct and Statement-II is not the correct explanation for Statement-I
- C. Statement-I is correct but Statement-II is incorrect.
- D. Statement I is incorrect but Statement-II is correct

9. Regarding Lentils, consider the following statements:

1. Lentils, a legume with flat disc-shaped seeds, are bushy annual plants bearing short stature and self-pollinated flowers.
2. Lentil, a rainfed crop, thrives in cold temperatures during vegetative growth and warm temperatures at maturity, typically cultivated in the rabi season.
3. The Bundelkhand region of Uttar Pradesh and Madhya Pradesh is considered as a lentil bowl which contributes nearly 25% to the total lentil production in the country.

How many of the statements given above are correct?

- A. Only One
- B. Only Two
- C. All Three
- D. None

10. Consider the following statements:

1. Wheat is a rabi crop that requires a cool growing season and bright sunshine at the time of ripening.
2. Despite being the world's second-biggest wheat producer after China, India accounts for less than 1% of the global wheat trade.

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

11. Pantoea Tagorei' which was recently seen in the news is:

- A. A newly discovered frog species in the Western Ghats.
- B. A newly discovered butterfly species in the Himalayas.
- C. A new species of bacteria that could transform agricultural practices.
- D. An ancient rock painting recently discovered in Madhya Pradesh.

12. Consider the following statements related to Pesticide?

1. Pesticides are regulated under the Insecticides Act, 1968.
2. The Indian government has banned Dicofol, Dinocap and Methomyl.

Which of the statement/s given above is/are correct?

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

13. Consider the following statements:

1. 'Aus', 'aman' and 'boro' are three varieties of rice grown in West Bengal.
2. Both West Bengal and Punjab are leading as well as high yielding rice producing states.
3. As per the US Dept of Agriculture (USDA), India was the biggest rice exporter in the world accounting for about 40% of the total rice exports.
4. Iran, Saudi Arabia, Iraq, UAE, and Yemen are the top destinations for Indian basmati rice.

How many of the above statements are correct?

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

14. With reference to Aquaculture, consider the following:

1. The term aquaculture refers to the cultivation of aquatic organisms in controlled aquatic environments for any commercial, recreational or public purpose.
2. Aquaculture farming and cultivation is regulated by the Ministry of Agriculture and Farmers' Welfare.

3. The breeding, rearing and harvesting of plants and animals takes place in all types of water environments except brackish and freshwater ecosystems.

How many of the statements given above are correct?

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

15. With reference to the National Agricultural Cooperative Marketing Federation of India Limited (NAFED), consider the following statements:

1. It is a leading Indian cooperative organization for agricultural product procurement and marketing founded in 1958.
2. It is registered under the Multi-State Co-operative Societies Act, of 2002.

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

16. PUSA Decomposers, Happy Seeder and Palletisation are techniques often heard in reference to which of the following?

- A. Crop rotation
- B. Precision agriculture
- C. Alternative to Stubble Burning
- D. None of the above

17. Regarding the Crop Residue Management (CRM) Scheme, consider the following statements:

1. It is a Centrally Sponsored Scheme launched under the Ministry of Agriculture & Farmers Welfare.
2. Under this scheme, farmers receive financial assistance for the purchase of crop residue management machinery.
3. Cooperative Societies, Farmer Producer Organizations (FPOs), and Panchayats receive financial assistance at a rate of 100% for establishing Custom Hiring Centers (CHCs).

How many of the statements given above are correct?

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

18. Which of the following statements is true about Kolkali?

- A. Kolkali is a martial art of Kerala that involves striking small sticks and keeping rhythm with special steps.
- B. Kolkali is a folk art performed in the south Malabar region of Kerala that involves singing and dancing around a nilavilakku.
- C. Kolkali is a folk art performed in the north Malabar region of Kerala that involves striking small sticks and keeping rhythm with special steps.
- D. None of the above

19. Regarding the International Sugar Organization (ISO), consider the following statements:

1. The ISO exists to administer the internationally negotiated 1992 International Sugar Agreement (ISA).
2. The ISO holds annual Seminars with the objective of increasing knowledge and understanding of the sugar market and related problems.
3. India is set to chair the organization in 2024, marking a pivotal milestone in its global stature within the sugar industry.

How many of the statements given above are **not** correct?

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

20. With reference to the Food Safety and Standards Authority of India, consider the following statements:

1. FSSAI is an autonomous statutory body established under the Consumer Protection Act, 1986.
2. The Ministry of Agriculture & Farmers Welfare is the administrative Ministry for FSSAI.

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

21. With reference to World Food India 2023, consider the following statements:

1. World Food India 2023 is a gateway to the Indian food economy, facilitating partnerships between Indian and foreign investors.
2. The Ministry of Agriculture launched the first edition of World Food India in 2017.
3. Under this initiative, Seed Capital Assistance has been given directly to the farmers.

How many of the statements given above are correct?

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

22. Regarding the Pink Bollworm, consider the following statements:

1. PBW is a destructive pest that primarily affects wheat crops.
2. It is native to Africa.
3. Genetically modified Bt cotton seeds have lost their efficacy in combating PBW due to the insect's resistance.

How many of the statements given above are correct?

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

23. With reference to Cashew nuts (*Anacardium occidentale*), consider the following statements:

1. Cashew trees are native to India.
2. Well-drained deep sandy loam soils are the best for growing cashew.
3. As per National Horticulture Board, Karnataka is the leading producer of cashew nuts.

How many of the statements given above are correct?

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

24. Regarding the Pusa-Biodecomposer, consider the following statements:

1. It is a fungi-based liquid solution that can soften hard stubble to the extent that it can be easily mixed with soil in the field to act as compost.
2. It rapidly converts crop residues, animal waste, dung, and other waste into organic manure.
3. It is developed by the Indian Council of Agricultural Research (ICAR).

How many of the statements given above are correct?

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

25. With reference to the Sustainable Agri Food Systems, consider the following statements:

1. It encompasses a holistic approach to agricultural production, distribution, consumption, and waste management that is environmentally sound.
2. Pokkali rice, Kuttanad below Sea Level Farming System of Kerala are the example of Sustainable Agri Food Systems
3. The 16th Agricultural Science Congress (ASC) organized in Kerala in order to promote Sustainability in the Agri-Food System by Indian Agricultural Research Institute (IARI).

How many of the above statements are **not** correct?

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

26. With reference to Millet production India, consider the following statements:

1. India is the largest producer of Millet in the world.
2. Maharashtra is the largest Millet producing state in India.
3. The Indian government had suggested to the United Nations to declare the year 2025 as the International Year of Millets.

How many of the statements given above are correct?

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

27. With reference to Nutrient Based Subsidy (NBS) Regime, consider the following :

1. It has been implemented from April 2010 by the Department of Fertilizers.
2. Under the regime, Urea is provided to the farmers at subsidized rates.
3. It intends to decrease the consumption of Phosphatic and Potassic (P&K) fertilizers.

How many of the statements given above are correct?

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

28. Which of the following statements is not correct about the Food and Agriculture Organization (FAO)?

- A. It is a specialised agency of the United Nations that leads international efforts to defeat hunger.

- B. It is one of the UN food aid organisations based in Rome (Italy) along with the World Food Programme and the International Fund for Agricultural Development (IFAD).
- C. It monitors the Desert Locust situation throughout the world.
- D. It publishes the State of World Fisheries and Aquaculture (SOFIA) report every year.

29. With reference to the cultivation of rice in India, consider the following statements:

1. It is a kharif crop which requires high temperature (above 25°C) and high humidity with annual rainfall above 100 cm.
2. India is the second-largest producer of rice after China.
3. Haryana is among the top producer states of rice and wheat production.

How many of the statements above are **not** correct?

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

30. With reference to the “Rubber Board” in India, consider the following statements:

1. The Rubber Board is a statutory body.
2. It is a regulatory body attached to the Ministry of Agriculture and Farmers Welfare.
3. The Board is headed by a Chairman appointed by the Central Government
4. The Rubber Board’s Head Office is situated in Bengaluru.

Which of the statements given above are correct?

- A. 1 & 2 only
- B. 2 & 3 only
- C. 1 & 3 only
- D. 1 & 4 only

31. With reference to the Hybrid seeds, consider the following statements:

1. A hybrid seed is produced by controlled Cross-Pollination between different varieties of the same plant.
2. These are often easier and faster to grow than Heirloom Seeds.
3. All hybrid seeds in a packet have the same parent plants, which means they will all grow into uniform plants.

How many statements above are **not** correct?

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

32. Consider the following statements regarding Palm Oil:

1. Palm oil is an edible vegetable oil derived from the seeds of oil palm trees.
2. Biodiesel made from crude palm oil is branded as ‘green diesel’.
3. High preference of palm oil can be attributed to its cheap cost and more production per hectare compared to other vegetable oil plants.
4. Indonesia alone accounts for almost 90% of the global palm oil production.

How many of the above statements are correct?

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

33. Consider the following statements regarding Kharif Crops:

1. They depend on retreating and northeast monsoon seasons for irrigation and growth.
2. They account for more than 50% of the total foodgrain production in India.
3. Pearl millet, finger millet and pulses are major kharif crops.

How many of the statements given above are correct?

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

34. Q.Consider the following statement regarding Quality Planting Material (QPM):

1. QPM certification is a process of ensuring that the planting material meets the prescribed standards of quality and is suitable for the intended purpose.
2. QPM is an essential input in agriculture and forestry for maximizing revenues, improving adaptability to adverse environmental conditions, and meeting quality raw material requirements of markets.

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

35. With reference to cotton, consider the following statements:

1. It is a Kharif crop.
2. It is a drought resistant crop ideal for arid climates.
3. Optimum temperature required for cotton is between 21-30°C.
4. Around 50 to 100 cm rainfall is required.

Which of the statements given above is/are correct?

- A. Only One
- B. Only Two
- C. Only Three
- D. All Four

36. With reference to Urea gold fertiliser consider the following statements:

1. Regular urea comprises 46% nitrogen, whereas urea gold contains a higher nitrogen content of 67%.
2. It is aimed at achieving two main goals, addressing sulfur needs in Indian soils and improving Nitrogen Utilization Efficiency (NUE).

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

37. Consider the following statements:

1. India is the largest producer and exporter of pulses in the world.
2. Pulses are grown in both Kharif and Rabi seasons.
3. Pulses contribute around 7-10% of the total foodgrains production in India.

How many of the statements given above are correct?

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

38. With reference to the Global Research Alliance (GRA), consider the following statements:

1. The GRA focuses on three main agricultural sub-sectors including paddy rice, croplands, and livestock.
2. India is not a members of GRA.

Which of the statements given above is/are **not** correct?

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

39. Consider the following statements:

1. Fair and Remunerative Price (FRP) and Minimum Support Price (MSP) are determined by the central government for the sugarcane.
2. State Advised Prices (SAP) are announced by state governments and are generally higher than the Fair and Remunerative Price (FRP).

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

40. Consider the following statements regarding Fortification of Rice & its distribution through Public Distribution System:

1. It's a centrally sponsored scheme.
2. Under the scheme, the beneficiaries are supplied rice at 1 Rs/kg.

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

41. Consider the following statements related to Wheat Crop:

1. It requires a cool growing season and bright sunshine at the time of ripening.
2. India is the world's second-biggest wheat producer after China.

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

42. With reference to Cellular Agriculture, consider the following statements:

1. It is the process of growing Plant from cell structure.
2. Gene Editing and Cloning are two different approaches involved in Cellular Agriculture.
3. Cellular agriculture reduces resource consumption and Greenhouse gas emissions.

Which of the statements given above is/are correct?

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

43. Consider the following statements:

1. Nano Urea is developed by Indian Agricultural Research Institute (IARI).
2. Urea based fertilisers aren't included under Nutrient Based Subsidy (NBS) scheme.

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

44. With reference to the Indian Council of Agricultural Research (ICAR), consider the following statements:

1. It was established under the Societies Registration Act, 1860.
2. It is an autonomous organisation under the Department of Agricultural Research and Education (DARE).
3. It is headquartered in New Delhi.

Which of the following statements is/are correct?

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

45. Regarding Milk Production in India, consider the following statements:

1. Total milk production in India was around 500 million tonnes in 2021-2022.
2. Production had increased by about 5% over the previous year.
3. Rajasthan is the top milk-producing state in India.

Which of the statements given above is/are correct?

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

46. With respect to the Indian Farmers and Fertilizer Cooperative (IFFCO), consider the following statements:

1. It is one of India's biggest cooperative societies which is partly owned by Indian Cooperatives and the government.
2. Nano urea liquid was developed by IFFCO to replace conventional urea and reduce its requirement by 50%.

Which of the statements given is/are correct?

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

47. With reference to Nano Fertilizers, consider the following statements:

1. They are highly efficient types of fertilizers that provide nutrients like nitrogen to crops through fine granules.
2. They improve the effectiveness of nitrogen delivery artificially and thus increase the losses to environment.

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

ANSWERS

1.

Ans: C

Exp:

- The Grain Storage Plan aims to establish **700 lakh tonnes of storage capacity** over the next 5 years, with an investment of ₹1.25 lakh crore. **Hence, statement 1 is correct.**
 - ◆ This involves creating agricultural infrastructure at the PACS level, including **decentralised godowns, custom hiring centres, processing units, Fair Price Shops**, etc., by integrating various existing schemes of the Government of India.
- Cooperatives are people-centred enterprises owned, controlled and run by and for their members to realise their common **economic, social, and cultural needs** and aspirations.
 - ◆ India has one of the world's largest cooperative networks, with over **800,000 cooperatives** spread across various sectors like agriculture, credit, dairy, housing, and fisheries. **Hence, statement 2 is correct.**

2.

Ans: C

Exp:

- **DAP (Di-Ammonium Phosphate):**
 - ◆ DAP is the second most commonly used fertilizer in India after urea.
 - ◆ DAP is a preferred fertilizer in India because it contains both **Nitrogen and Phosphorus** which are primary macronutrients and **part of 18 essential plant nutrients**.
 - ◆ Fertilizer grade DAP **contains 18% Nitrogen and 46% Phosphorus**. It is manufactured by **reacting Ammonia with Phosphoric acid** under controlled conditions in fertilizer plants. **Hence, statement 1 is correct.**
- Nano DAP:
 - ◆ **Nano DAP is a specialized form of DAP** designed with the goal of improving the fertilizer's effectiveness in promoting plant growth and development.
 - ◆ In 2023 **Indian Farmers Fertiliser Cooperative (IFFCO)** launched its Nano DAP, containing **8% Nitrogen and 16% Phosphorus by volume**. **Hence, statement 2 is correct.**
 - ◆ Unlike conventional DAP, which comes in granular form, IFFCO's **Nano DAP is in liquid form**.

3.

Ans: B

Exp:

Commission for Agricultural Costs and Prices (CACP):

- **Minimum Support Price (MSP)** is the guaranteed amount paid to farmers when the government buys their produce.
- MSP is based on the recommendations of the Commission for Agricultural Costs and Prices (**CACP**), which considers various factors such as cost of production, demand and supply, market price trends, inter-crop price parity, etc. **Hence, statement 1 is correct.**
- CACP is an attached office of the **Ministry of Agriculture and Farmers Welfare**. It came into existence in January 1965. **Hence, statement 2 is correct.**
- The CACP recommends MSPs for **22 mandated crops** and fair and remunerative prices (FRP) for sugarcane. **Hence, statement 3 is not correct.**

4.

Ans: B

Exp:

Horticulture:

- Horticulture is the **branch of agriculture concerned with intensively cultured plants directly used by humans** for food, medicinal purposes and aesthetic gratification.
- It is the cultivation, production and sale of vegetables, fruits, flowers, herbs, ornamental or exotic plants.
- L.H. Bailey is considered the Father of American Horticulture and **M.H. Marigowda** is considered the Father of Indian Horticulture. **Hence, statement 1 is correct.**
- India is the **2nd largest producer** of fruits and vegetables. In terms of export, India is ranked 14th in vegetables and 23rd in fruits, and its share in the global horticultural market is a mere 1%. **Hence, statement 2 is not correct.**
 - ◆ Productivity of horticulture crops is much higher compared to productivity of food grains. **Hence, statement 3 is correct.**

5.

Ans: A

Exp:

Status of Pulse Production in India:● **About:**

- ◆ India is the **largest producer** (25% of global production), **consumer** (27% of world



consumption) and **importer** (14%) of pulses in the world. **Hence, statement 1 is correct.**

- ◆ Pulses account for around 20% of the area under food grains and contribute around 7-10% of the total foodgrains production in the country. **Hence, statement 2 is not correct.**

- **Top Pulses Producing States:** Madhya Pradesh, Maharashtra, Rajasthan, Uttar Pradesh and Karnataka.

- **Main Varieties:** Pulses are grown throughout the agricultural year.

- ◆ **Rabi Pulses (contribute over 60%):** Gram (chickpea), Chana (Bengal gram), Masoor (lentil), Arhar (pigeon pea). **Hence, statement 3 is not correct.**

- ◆ **Kharif Pulses:** Moong (green gram), Urad (black gram), Tur (arhar dal).

- Rabi crops require **mild cold climate during sowing period**, during vegetative to pod development- cold climate and during maturity/ harvesting - warm climate.

- Kharif pulse crops require a warm climate throughout their life from sowing to harvesting.

6.

Ans: A

Exp:

- **Litchi Cultivation:**

- ◆ Litchi thrives in **sub-tropical climates and prefers moist conditions**. It grows best in regions with low elevation, up to an altitude of around 800 meters. **Hence, statement 1 is not correct.**

- ◆ **Bihar alone accounts for nearly 40% of India's litchi production.** Bihar is followed by West Bengal (12%) and Jharkhand (10%). **Hence, statement 2 is correct.**

- ◆ India ranks as the **second largest producer of litchi globally**, following China. Other significant litchi-producing countries include Thailand, Australia, South Africa, Madagascar, and the United States. **Hence, statement 3 is not correct.**

7.

Ans: B

Exp:

- It is urea in the **form of a nanoparticle**. It is a **nutrient (liquid) to provide nitrogen to plants** as an alternative to conventional urea. **Hence, statement 1 is correct.**

- This fertilizer is a **foliar spray**, meaning it should **only be used once leaves** have started to grow on the crops. **Hence, statement 2 is correct.**

- It has been indigenously developed at **IFFCO- Nano Biotechnology Research Centre, Kalol, Gujrat in line with Atmanirbhar Bharat** and Atmanirbhar Krishi. **Hence, statement 3 is not correct.**

8.

Ans: D

Exp:

- **Iran** is considered to be the **largest producer of high-quality saffron** in the world. The country is responsible for 95% of saffron produced in the world. **Hence, statement-I is not correct.**

- ◆ The country's diverse climate and fertile soil, make it the prime location to start growing saffron. The primary producer of saffron in Iran belongs to the **Khorasan province**, which produces most of the saffron in Iran.

- Saffron production has long been restricted to a limited geographical area in the Union territory of Jammu & Kashmir.

- ◆ **Pampore region**, in India, commonly known as the **Saffron bowl of Kashmir**, is the main contributor to saffron production. **Hence, statement-II is correct. Hence, option D is correct.**

9.

Ans: C

Exp:

- **Lentils**, a legume with flat disc-shaped seeds, are bushy annual plants bearing **short stature** and self-pollinated flowers. **Hence, statement 1 is correct.**

- Lentil, a **rainfed crop**, thrives in cold temperatures during vegetative growth and warm temperatures at maturity, typically cultivated in the rabi season. **Hence, statement 2 is correct.**

- It is mainly cultivated in Uttar Pradesh, Madhya Pradesh, Bihar, West Bengal, Chhattisgarh and Jharkhand.

- ◆ The **Bundelkhand region of Uttar Pradesh and Madhya Pradesh** is considered as a lentil bowl which contributes nearly 25% to the total lentil production in the country. **Hence, statement 3 is correct.**

10.

Ans: C

Exp:

Wheat Distribution Across India:

- Wheat is the **second most important cereal crop** in India after rice.

- It is the main food crop, in the **north and north-western part of the country.**

- Wheat is a **rabi crop that requires a cool growing season** and bright sunshine at the time of ripening. **Hence, statement 1 is correct.**
- India is the world's **second-biggest wheat producer after China**. But it accounts for less than 1% of the global wheat trade. It keeps a lot of it to provide subsidised food for the poor. **Hence, statement 2 is correct.**

11.

Ans: C

Exp:

Pantoea Tagorei:

- Researchers at Visva-Bharati University have discovered a **new species of bacteria** that could transform agricultural practices.
- They named it *Pantoea Tagorei* after the famous Nobel laureate **Rabindranath Tagore**. **Hence, option C is correct.**

12.

Ans: C

Exp:

- Pesticides are regulated under the **Insecticides Act, 1968** and the Insecticides Rules, 1971. **Hence, statement 1 is correct.**
 - ◆ The Insecticides Act of 1968 covers the registration, manufacture and sale of pesticides in India.
 - ◆ The Act is administered by the Department of Agriculture and Farmers Welfare, Ministry of Agriculture and Farmers Welfare.
- The government has banned **Dicofol, Dinocap, and Methomyl**, in addition to monocrotophos. **Hence, statement 2 is correct.**

13.

Ans: D

Exp:

- Rice is a staple food for most of the population in India. It is a kharif crop which requires high temperature (above 25°C) and high humidity with annual rainfall above 100 cm.
- In **West Bengal** farmers grow three crops of rice called 'aus', 'aman' and 'boro'. **Hence, statement 1 is correct.**
- About one-fourth of the total cropped area in India is under rice cultivation.
 - ◆ **Leading Producer States:** West Bengal, Uttar Pradesh, and Punjab.
 - ◆ **High Yielding States:** Punjab, Tamil Nadu, Haryana, Andhra Pradesh, Telangana, **West Bengal** and Kerala. **Hence, statement 2 is correct.**

- India is the second-largest producer of rice after China. **India is the biggest exporter of rice in the world.** As per the United States Department of Agriculture (USDA), India accounted for **about 40% of the total rice exports** (56 million tonnes) in the world during 2022. **Hence, statement 3 is correct.**
- India's rice exports are broadly categorised into Basmati and Non-basmati rice.

◆ **Basmati Rice:** In 2022-23, India exported 45.61 lakh metric tonnes of basmati rice.

- **Top destinations** for Indian basmati rice included **Iran, Saudi Arabia, Iraq, UAE, and Yemen**. **Hence, statement 4 is correct.**

14.

Ans: A

Exp:

- The term aquaculture **broadly refers to the cultivation of aquatic organisms** in controlled aquatic environments for any commercial, recreational or public purpose. **Hence, statement 1 is correct.**
 - ◆ Purposes:
 - Food production for human consumption,
 - Rebuilding of populations of threatened and endangered species,
 - Habitat restoration,
 - Wild stock enhancement,
 - Production of baitfish, and
- The breeding, rearing and harvesting of plants and animals takes place in all **types of water environments** including ponds, rivers, lakes, the ocean and man-made "closed" systems on land. **Hence, statement 3 is not correct.**
 - ◆ **The Ministry of Fisheries, Animal Husbandry & Dairying** has addressed the technical challenges in the implementation of the **Aquaculture** Crop Insurance scheme for Shrimp and Fish farming. **Hence, statement 2 is not correct.**

15.

Ans: C

Exp:

National Agricultural Cooperative Marketing Federation of India Limited (NAFED):

- NAFED, founded in 1958, is a leading Indian cooperative organization for **agricultural product procurement and marketing**. **Hence, statement 1 is correct.**
- NAFED is registered under the **Multi-State Co-operative Societies Act, of 2002**. **Hence, statement 2 is correct.**



- **Bharat Atta** will be available through various outlets, including **Kendriya Bhandar**, **National Agricultural Cooperative Marketing Federation of India Limited (NAFED)**, and **National Cooperative Consumer Federation (NCCF)**, ensuring its accessibility to a broader consumer base.

16.

Ans: C

Exp:

Alternatives to Stubble Burning:

- **PUSA Decomposers:** The decomposers are in the form of capsules made by extracting fungi strains that help the paddy straw to decompose at a much faster rate.
- **Happy Seeder:** It is a tractor-mounted device offering an eco-friendly alternative to stubble burning.
 - ◆ It works by cutting and lifting rice straw, simultaneously sowing wheat into the exposed soil and depositing the straw over the sown area as protective mulch.
- **Palletisation:** Paddy straw, when dried and transformed into pellets, becomes a viable alternative fuel source.
 - ◆ When mixed with coal, these pellets can be utilized in thermal power plants and industries, potentially saving coal usage and lowering carbon emissions.
- Hence, option C is correct.

17.

Ans: A

Exp:

- About:
 - ◆ It is a **Central Sector Scheme** launched under the Ministry of Agriculture & Farmers Welfare to address the issue of **stubble burning** by assisting farmers and related organizations. **Hence, statement 1 is not correct.**
- Financial Assistance under the Scheme:
 - ◆ Farmers receive financial assistance at a rate of 50% for the purchase of crop residue management machinery. **Hence, statement 2 is correct.**
 - ◆ **Cooperative Societies, Farmer Producer Organizations (FPOs)**, and Panchayats receive financial assistance at a rate of 80% for establishing **Custom Hiring Centers (CHCs)**. **Hence, statement 3 is not correct.**

18.

Answer: C

Explanation:

Kolkali, a folk art of **Malabar region of Kerala**, is being performed in remembrance of **St. Thomas'** (one of the disciples of **Jesus Christ**) arrival in India who landed in **Muziris (Cranganore)** on the Kerala coast in **52 AD**.

- With a history of about 200 years, Kolkali art is said to have drawn elements from **Kalaripayattu**, a martial art practised in **Kerala and Tamil Nadu**.
- In Kolkali, each of the performers **holds a stick and moves in circle, striking the sticks and keeping rhythm** to the accompanying music. **Hence, option C is correct.**
- As the music gradually rises in pitch, **the pace increases till the performance reaches its climax**. The circle expands and contracts as the dance progresses.

19.

Ans: D

Exp:

International Sugar Organization (ISO):

- The **ISO is based in London**, the **87 member** states of the ISO represent (based on data for 2022):
 - ◆ 87% of world sugar production
 - ◆ 64% of world sugar consumption
 - ◆ 34% of world imports
 - ◆ 92% of world exports
- The ISO exists to administer the internationally negotiated **1992 International Sugar Agreement (ISA)**. **Hence, statement 1 is correct.**
- The objectives of which are:
 - ◆ to **ensure enhanced international cooperation** in connection with world sugar matters and related issues.
 - ◆ to provide a **forum for intergovernmental consultations** on sugar and on ways to improve the world sugar economy.
 - ◆ to **facilitate trade by collecting and providing information** on the world sugar market and other sweeteners.
 - ◆ to **encourage increased demand for sugar**, particularly for non-traditional uses.
- The ISO **holds annual Seminars** with the objective of increasing knowledge and understanding of the sugar market and related problems. **Hence, statement 2 is correct.**
- **India is set to chair the organization in 2024**, marking a pivotal milestone in its global stature within the sugar industry. **Hence, statement 3 is correct.**

20.

Ans: D

Exp:

- About FSSAI:
 - ◆ FSSAI is an autonomous statutory body established under the Food Safety and Standards Act, 2006 (FSS Act). **Hence, statement 1 is not correct.**
 - ◆ The Ministry of Health & Family Welfare is the administrative Ministry for FSSAI. **Hence, statement 2 is not correct.**
 - ◆ **Headquarters:** Delhi.
 - ◆ Functions of FSSAI:
 - Framing of regulations to lay down the standards and guidelines of food safety.
 - Granting FSSAI food safety license and certification for food businesses.
 - Laying down procedures and guidelines for laboratories in food businesses.
 - To provide suggestions to the government in framing the policies.
 - To collect data regarding contaminants in food products, identification of emerging risks, and introduction of a rapid alert system.

21.

Ans: A

- ◆ World Food India 2023 is a gateway to the **Indian food economy**, facilitating partnerships between Indian and foreign investors. **Hence, Statement 1 is correct.**
- ◆ The Ministry of Food Processing Industries launched the first edition of World Food India in 2017. **Hence, Statement 2 is not correct.**
- ◆ Under this initiative, the Prime Minister of India provided **Seed Capital Assistance** to over **one lakh Self Help Group (SHG)** members. **Hence, Statement 3 is not correct. Hence, Statement 3 is not correct.**

22.

Ans: A

Exp:

Pink Bollworm:

- The PBW is a destructive pest that primarily affects cotton crops. **Hence, statement 1 is not correct.**
- It is native to Asia and was first reported in India in 1842. **Hence, statement 2 is not correct.**

- Genetically modified Bt cotton seeds, initially effective against certain pests, have lost their efficacy in combating PBW due to the insect's resistance. **Hence, statement 3 is correct.**

23.

Ans: A

Exp:

- Cashew was native to northeast Brazil in Latin America and Goan Cashew was introduced to Goa by the Portuguese in the 16th century (1570). **Hence, statement 1 is not correct.**
- Well-drained deep sandy loam soils are the best for growing cashew. Heavy clay soils are not suitable, as cashew does not withstand water logging. **Hence, statement 2 is correct.**
- As per National Horticulture Board, Maharashtra is the leading producer of cashew nuts followed by Andhra Pradesh, Orissa, Tamil Nadu, Karnataka, Kerala, Chhattisgarh, West Bengal, Meghalaya, Gujarat in 2021-2022. **Hence, statement 3 is not correct.**

24.

Ans: C

Exp:

- It is a **fungi-based liquid solution** that can soften **hard stubble** to the extent that it can be easily mixed with soil in the field to act as compost. **Hence, statement 1 is correct.**
- The fungi thrive at 30-32 degrees Celsius, which is the temperature prevailing when paddy is harvested and wheat is sown.
- It produces enzymes to digest cellulose, lignin, and pectin in paddy straw.
- It rapidly **converts crop residues**, animal waste, dung, and other waste into organic manure. **Hence, statement 2 is correct.**
- It is developed by the **Indian Council of Agricultural Research (ICAR)** and named after **ICAR's campus at Pusa in Delhi**. **Hence, statement 3 is correct.**

25.

Ans: A

Exp:

- **Sustainable agri-food systems** encompass a holistic approach to agricultural production, distribution, consumption, and waste management that is **environmentally sound, socially equitable, and economically viable**. **Hence, statement 1 is correct**

- There are several **sustainable** and climate resistant agricultural practices in India which are recognised by the **GIAHS (Globally Important Agricultural Heritage Systems)**, like Pokkali rice, Kuttanad below Sea Level Farming System of Kerala etc. **Hence, statement 2 is correct.**
- The **16th Agricultural Science Congress (ASC)** organized in **Kerala** in order to promote Sustainability in the Agri-Food System by the National Academy of Agricultural Sciences (NAAS). **Hence, statement 3 is not correct.**

26.

Ans: A

Exp:

- India is the **largest producer of millets** in the world. India accounts for 20% of worldwide millet production and 80% of millet production in Asia. **Hence, statement 1 is correct.**
- Rajasthan is the **largest millet producing state** in India. **Hence, statement 2 is not correct.**
- The Indian government had suggested to the United Nations to declare the year 2023 as the International Year of Millets. **Hence, statement 3 is not correct.**

Millets


About

- Small-grained cereals also known as **coarse grains**
- Often referred to as **'Superfood'**
- Among the **first crops to be domesticated** - evidence of millet consumption dates back to the **Indus Valley Civilisation (3,000 BC)**

Climatic Conditions

- Mainly a Kharif crop in India**
- Temperature:** 27°C - 32°C
- Rainfall:** Around 50-100 cm
- Soil Type:** Inferior alluvial or loamy soil

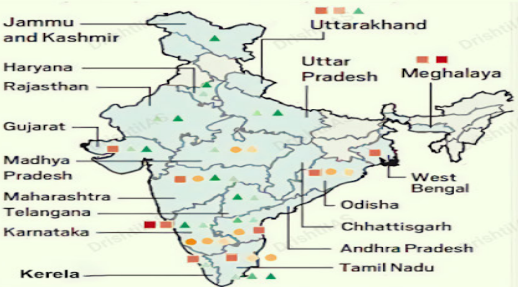
India and Millets




- Global Largest Millet Producer:**
 - 20% of global production, 80% of Asia's production
- Common Millets:**
 - Ragi** (Finger millet), **Jowar** (Sorghum), **Sama** (Little millet), **Bajra** (Pearl millet), and **Variga** (Proso millet)
 - Indigenous varieties** (small millets) - **Kodo, Kutki, Chenna and Sanwa**
- Top Millets Producing States:**
 - Rajasthan (largest), Karnataka, Maharashtra, Madhya Pradesh and Uttar Pradesh
- Govt. Initiatives:**
 - Initiative for Nutritional Security through Intensive Millet Promotion (INSIMP)
 - '**India's Wealth, Millets for Health**'
 - Millet Startup Innovation Challenge
 - Hiked MSP** for Millets
 - Agriculture Ministry declared millets as **"Nutri Cereals"** in 2018

Significance

- Less expensive, **nutritionally superior**
- High protein, fibre, minerals, iron, calcium and a **low glycemic index**
- Help **tackle lifestyle problems and health** (obesity, diabetes etc.)
- Photo-insensitive, **resilient to climate change & water efficient**





States labeled on map: Jammu and Kashmir, Haryana, Rajasthan, Gujarat, Madhya Pradesh, Maharashtra, Telangana, Karnataka, Kerala, Uttarakhand, Uttar Pradesh, Meghalaya, West Bengal, Odisha, Chhattisgarh, Andhra Pradesh, Tamil Nadu.



International Year of Millets - Year 2023

Proposed by India, declared by UNGA





27.

Ans: A

Exp:

- The Nutrient Based Subsidy (NBS) Regime has been implemented from April 2010 **by the Department of Fertilizers, Ministry of Chemicals & Fertilizers. Hence, statement 1 is correct.**
- Under the **NBS regime** – fertilizers are provided to the farmers at the subsidized rates based on the **nutrients (N, P, K & S)** contained in these fertilizers. It does not include Urea. **Hence, statement 2 is not correct.**
- NBS policy intends to increase the **consumption of Phosphatic and Potassic (P&K)** fertilizers so that optimum balance (**N:P:K= 4:2:1**) of NPK fertilization is achieved. **Hence, statement 3 is not correct.**

28.

Ans: D

Explanation:

Food and Agriculture Organization

- About:
 - ◆ FAO is a specialised agency of the **United Nations** that leads international efforts to defeat hunger. **Hence, statement A is correct.**
 - **World Food Day** is celebrated every year **around the world on 16th October.** The day is celebrated to mark the anniversary of the founding of the FAO in 1945.
 - ◆ It is one of the UN food aid **organisations based in Rome (Italy).** Its sister bodies are the **World Food Programme** and the International Fund for Agricultural Development (IFAD). **Hence, statement B is correct.**
- Initiatives Taken:
 - ◆ Globally Important Agricultural Heritage Systems (GIAHS).
 - ◆ Monitors the **Desert Locust** situation throughout the world. **Hence, statement C is correct.**
 - ◆ The **Codex Alimentarius Commission or CAC** is the body responsible for all matters regarding the implementation of the Joint FAO/WHO Food Standards Programme.
 - ◆ The **International Treaty on Plant Genetic Resources for Food and Agriculture** was adopted by the Thirty-First Session of the Conference of the FAO in 2001.
- Publications:
 - ◆ The State of World Fisheries and Aquaculture (SOFIA).

- This report is published biennially. **Hence, statement D is not correct.**

- ◆ The State of the World's Forests (SOFO).
- ◆ The State of Food Security and Nutrition in the World (SOFI).
- ◆ The State of Food and Agriculture (SOFA).
- ◆ The State of Agricultural Commodity Markets (SOCO).

29.

Ans: A

Exp:

Key Facts About Rice:

- Rice:
 - ◆ Rice is a **staple food for most** of the population in India.
 - ◆ It is a kharif crop which requires **high temperature (above 25°C)** and high humidity with annual rainfall above 100 cm. **Hence, statement 1 is correct.**
 - In the areas of less rainfall, **it is grown with the help of irrigation.**
 - ◆ In southern states and West Bengal, the climatic conditions allow the **cultivation of two or three crops of rice** in an agricultural year.
 - In West Bengal farmers grow three crops of rice called 'aus', 'aman' and 'boro'.
 - ◆ About one-fourth of the total cropped area in India is under rice cultivation.
 - **Leading Producer States:** West Bengal, Uttar Pradesh, and Punjab. **Hence, statement 3 is not correct.**
- **Top Wheat Producing States:** Uttar Pradesh, Madhya Pradesh, Punjab, Haryana, Rajasthan, Bihar, Gujarat.
 - **High Yielding States:** Punjab, Tamil Nadu, Haryana, Andhra Pradesh, Telangana, West Bengal and Kerala.
 - ◆ India is the **second-largest producer of rice** after China. **Hence, statement 2 is correct.**

30.

Ans: C

- The **Rubber Board** is a **statutory organization constituted under Section (4) of the Rubber Act, 1947** and . **Hence, statement 1 is correct.**
- It functions under the administrative control of the Ministry of Commerce and Industry. **Hence, statement 2 is not correct.**

- The Board is headed by a Chairman appointed by the Central Government and has 28 members representing various interests of the natural rubber industry. Hence, statement 3 is correct.

- The Board's headquarters is located at Kottayam in Kerala. Hence, statement 4 is incorrect.

31.

Ans: D

Exp:

Hybrid Seeds:

- A hybrid seed is produced by controlled Cross-Pollination between different varieties of the same plant. Hence, statement 1 is correct.
 - ◆ The transfer of pollen grains from the anther of one plant to the stigma of another different plant is called cross-pollination.
- These are chosen to enhance the characteristics of the resulting plants including – better yield, greater uniformity, and disease resistance.
- Since all hybrid seeds in a packet have the same parent plants, which means they will all grow into uniform plants. Hence, statement 3 is correct.
- These are often easier and faster to grow than Heirloom Seeds. Hence, statement 2 is correct.
 - ◆ Heirloom Seeds come from open-pollinated plants, meaning the plants were pollinated by natural mechanisms like wind, insects, or birds, rather than through controlled cross-breeding or hybridization.

32.

Ans: B

Exp:

- Palm oil is an edible vegetable oil derived from the mesocarp (reddish pulp) of the fruit of the oil palms. Hence, statement 1 is not correct.
 - ◆ It is used as cooking oil, and in everything from cosmetics, processed foods, cakes, chocolates, spreads, soaps, shampoo, and cleaning products to biofuel.
- The use of crude palm oil in making biodiesel is being branded as 'green diesel'. Hence, statement 2 is correct.
- Indonesia and Malaysia together account for almost 90% of the global palm oil production, with Indonesia producing the largest quantity at over 45 million tonnes in 2021. Hence, statement 4 is not correct.

- Palm oil is preferred by many as it is inexpensive, oil palms produce more oil per hectare than some other vegetable oil plants like soybean. Hence, statement 3 is correct.

33.

Ans: B

Exp:

- Kharif Crops:

- ◆ Kharif crops are sown during the monsoon season, from June to October, and harvested in the late summer or early autumn.
 - They depend on the southwest monsoon for irrigation and growth. Hence, statement 1 is not correct.
- ◆ Major Kharif crops include rice, maize, sorghum, pearl millet (bajra), finger millet (ragi), groundnut and pulses like pigeon pea (arhar) and green gram (moong). Hence, statement 3 is correct.
- ◆ They account for about 55% of the total foodgrain production in India. Hence, statement 2 is correct.

- Rabi Crops:

- ◆ These crops are sown around the Retreating Monsoon and Northeast monsoon season, which begins in October and are called rabi or winter crops.
- ◆ The harvest for these crops happens typically during April and May, during the summer season.
- ◆ Major Rabi crops are wheat, gram, peas, barley etc.
- ◆ A warm climate is required for seed germination and cold climate for the growth of crops.

34.

Ans: (c)

Exp:

- QPM is an essential input in agriculture and forestry for maximizing revenues, improving adaptability to adverse environmental conditions, and meeting quality raw material requirements of markets. Hence, statement 2 is correct.
- The quality of planting material is determined by origin, the authenticity of variety and stock, vegetation development, and health state.
- QPM certification is a process of ensuring that the planting material meets the prescribed standards of quality and is suitable for the intended purpose. Hence, statement 1 is correct.

35.

Ans: (d)

Exp:

Key Facts about Cotton:

- Kharif Crop which requires 6 to 8 months to mature. **Hence, statement 1 is correct.**
- Drought-resistant crop ideal for arid climates. **Hence, statement 2 is correct.**
- Occupies 2.1% of the world's arable land, meets 27% of the world's textiles needs.
- Temperature: Between 21-30°C. **Hence, statement 3 is correct.**
- Rainfall: Around 50-100 cm. **Hence, statement 4 is correct.**
 - ◆ Soil Type: Well-drained black cotton soil (Regur Soil) (E.g. Soil of Deccan Plateau)
 - ◆ Products: fibre, oil and animal feed.
 - ◆ Top Cotton Producing Countries: India > China > USA
 - ◆ Top Cotton Producing States in India: Gujarat > Maharashtra > Telangana > Rajasthan > Andhra Pradesh
 - ◆ Four Cultivated Species of Cotton: Gossypium arboreum, G. herbaceum, G. hirsutum and G. barbadense.
 - ◆ Gossypium arboreum and G. herbaceum are known as old-world cotton or Asiatic cotton.
 - ◆ G. hirsutum is also known as American cotton or upland cotton and G. barbadense as Egyptian cotton. These are both new world cotton species.
 - ◆ Hybrid Cotton: Cotton made by crossing two parent strains that have different genetic characters. Hybrids are often spontaneously and randomly created in nature when open-pollinated plants naturally cross-pollinate with other related varieties.
 - ◆ Bt Cotton: It is a genetically modified pest-resistant variety of cotton.

36.

Ans: B

Explanation:

- **Urea Gold is created by infusing urea with sulfur, creating a composite fertilizer with 37% nitrogen (N) and 17% sulfur (S).** Normal urea contains 46% of a single plant nutrient: Nitrogen or N.
 - ◆ **Hence statement 1 is not correct.**

- **Urea gold serves two primary objectives:** fulfilling sulfur requirements in Indian soils and enhancing nitrogen use efficiency (NUE).

◆ **Hence statement 2 is correct.**

37.

Ans: B

Exp:

- India is the **largest producer (25% of global production)**, consumer (27% of world consumption) and **importer (14%)** of pulses in the world. **Hence, statement 1 is not correct.**
- Though pulses are grown in **both Kharif and Rabi seasons, Rabi pulses contribute more than 60% of the total production.** **Hence, statement 2 is correct.**
- Pulses account for around **20% of the area under food grains** and contribute around **7-10% of the total foodgrains production in the country.** **Hence, statement 3 is correct.**

38.

Ans: D

Exp:

Global Research Alliance (GRA):

- The GRA is an international organisation that brings countries together to find ways to grow **more food without growing greenhouse gas emissions.**
- The **GRA was launched in 2009 by New Zealand** and has since grown to include 67 member countries (**India is not a member**). **Hence, statement 2 is correct.**
- The GRA goal is to reduce the **emissions intensity of agricultural production systems** and increase their potential for **soil carbon sequestration.**
- The GRA focuses on three main agricultural sub-sectors: **paddy rice, croplands, and livestock.** **Hence, statement 1 is correct.**
 - ◆ It also coordinates **cross-cutting activities such as inventories and nationally determined contributions (NDCs)**, soil carbon and nitrogen cycling, and integrative research.

39.

Ans: B

Exp:

Sugarcane Production in India:

Recently, Madras High court in its judgment observed that **Fair and Remunerative Price (FRP) of Sugarcane is not the fair market price** and that Marginal farmers can survive only if the State governments paid them the much higher **State Advised Price (SAP).**

Prices of Sugarcane Determined:

- The Prices of Sugarcane are Determined by the **Central Government and the State Governments**.
- **Central Government:** Fair and Remunerative Price (FRP)
 - ◆ The Central Government announces FRP which are determined on the recommendation of the **Commission for Agricultural Costs and Prices (CACP)** and announced by the Cabinet Committee on Economic Affairs (CCEA).
 - ◆ **Minimum Support Price (MSP)** is the minimum price set by the government **for certain agricultural products (not for Sugarcane)**, at which the products would directly be bought from the farmers if the open market prices are less than the cost incurred. **Hence, statement 1 is not correct.**
 - ◆ The FRP is based on the **Rangarajan Committee** report on reorganising the **sugarcane industry**.
- **State Government:** State Advised Prices (SAP)
 - ◆ The SAP is announced by the Governments of key sugarcane producing states.
 - ◆ SAP is generally higher than FRP.
 - The price is calculated by the experts, who calculate the **entire economics of the crop by taking input cost** and then suggest to the government, which may agree or not. **Hence, statement 2 is correct.**

40.

Ans: C

Exp:

Food Fortification:

- **About:**
 - ◆ **Fortification** is the addition of key vitamins and minerals such as iron, iodine, zinc, Vitamin A & D to staple foods such as rice, milk and salt to improve their nutritional content. These nutrients may or may not have been originally present in the food before processing.
- **Status of Food Fortification in India:**
 - ◆ **Rice:** Department of Food and Public Distribution (DFPD) has been running a **“Centrally Sponsored Pilot Scheme on Fortification of Rice & its distribution through Public Distribution System”**. **Hence, statement 1 is correct.**
 - The scheme was initiated in 2019-20 for a three-year pilot run.

- This scheme will run till 2023 and rice will be supplied to the **beneficiaries at the rate of Rs 1/kg. Hence, statement 2 is correct.**

- ◆ **Wheat:** The decision on fortification of wheat was announced in 2018 and is being implemented in 12 states under India’s flagship **Poshan Abhiyaan** to improve nutrition among children, adolescents, pregnant mothers and lactating mothers.

- ◆ **Edible Oil:** Fortification of edible oil, too, was made compulsory across the country by FSSAI in 2018.

- ◆ **Milk:** In 2017, the **National Dairy Development Board of India (NDDB)** initiated the fortification of milk by encouraging companies to add vitamin D

41.

Ans: C

Exp:

- **Wheat is a rabi crop** that requires a **cool growing season and bright sunshine at the time of ripening. Hence, statement 1 is correct.**
- **Success of the Green Revolution** contributed to the growth of Rabi crops, especially **wheat**.
- India is the **world’s second-biggest wheat producer after China**. But it accounts for less than **1% of the global wheat trade**. It keeps a lot of it to provide subsidised food for the poor. **Hence, statement 2 is correct.**
- Its top export markets are **Bangladesh, Nepal and Sri Lanka - as well as the United Arab Emirates (UAE)**.

42.

Ans: C

Exp:

- Cellular agriculture is the process of growing animal-based products such as meat, dairy, and seafood from cell cultures rather than directly from animals. **Hence, statement 1 is not correct.**
- Cellular agriculture comprises two different approaches, namely **cell cultivation and precision fermentation**.
- In the cell-cultivation method, **stem cells are fed with nutrients in large containers where they multiply and differentiate into muscle tissue**, which is the main component of meat.
- In the precision-fermentation method, **microorganisms such as yeast are used to produce products** such as milk and egg-white proteins. **Hence, statement 2 is not correct.**

- One of the main advantages of cellular agriculture is its potential to address the environmental and ethical issues associated with traditional animal agriculture. It **requires fewer resources** such as land, water, and feed, and **produces fewer greenhouse gas emissions** and waste. **Hence, statement 3 is correct.**

43.

Ans: B

Exp:

Nano Urea:

- LNU is urea in the form of a nanoparticle and is developed to replace conventional urea and curtail its requirement by at least 50%.
- Indian Farmers Fertiliser Cooperative Limited (IFFCO) launched liquid 'Nano Urea' in 2021. **Hence, statement 1 is not correct.**
- Urea is left out of the scope of Nutrient based subsidy scheme. **Hence, statement 2 is correct.**

44.

Ans:D

Exp:

Indian Council of Agricultural Research (ICAR):

- The ICAR was **established on 16 July 1929** as a **registered society** under the **Societies Registration Act, 1860**. **Hence, statement 1 is correct.**
- It is an **autonomous organisation** under the Department of Agricultural Research and Education (DARE), **Ministry of Agriculture and Farmers Welfare**, Government of India. **Hence, statement 2 is correct.**
- It is **headquartered in New Delhi**. With 102 ICAR institutes and 71 agricultural universities spread across the country, this is one of the largest national agricultural systems in the world. **Hence, statement 3 is correct.**
- It is the **apex body** for coordinating, guiding and managing research and education in agriculture including horticulture, fisheries and animal sciences in the entire country.
- The ICAR has **played a pioneering role in ushering Green Revolution** and subsequent developments in agriculture in India through its research and technology development that has enabled the country to increase the **production of foodgrains by 5.6 times, horticultural crops by 10.5 times, fish by 16.8 times, milk by 10.4 times and eggs by 52.9 times since 1950-51 to 2017-18.**

45.

Ans: B

Exp:

- **Milk Production:**
- Total milk production in India was **221.06 million tonnes** in 2021-2022, keeping it the **largest milk producing country** in the world. **Hence, statement 1 is not correct.**
- Production had increased by 5.29% over the previous year. **Hence, statement 2 is correct.**
- The Indigenous cattle contribute 10.35% of the total milk production in the country whereas **non-descript cattle contribute 9.82%** and non-descript buffaloes contribute 13.49% of the total milk production in the country.
- Top five major milk producing States are **Rajasthan (15.05%), Uttar Pradesh (14.93%), Madhya Pradesh (8.06%), Gujarat (7.56%) and Andhra Pradesh (6.97%)**. **Hence, statement 3 is correct.**

46.

Ans: B

Exp:

Indian Farmers Fertiliser Cooperative Limited:

- **About:**
 - ◆ It is one of India's biggest **cooperative societies** which is wholly owned by **Indian Cooperatives**. **Hence, statement 1 is not correct.**
 - ◆ Founded in 1967 with just **57 cooperatives**, today it is an **amalgamation of over 36,000 Indian Cooperatives** with diversified business interests ranging from **General Insurance to Rural Telecom** apart from its core business of manufacturing and selling fertilisers.
- **Objective:**
 - ◆ **To enable Indian farmers to prosper through timely supply of reliable, high quality agricultural inputs** and services in an environmentally sustainable manner and to undertake other activities to improve their welfare.
 - **Nano urea liquid was developed in 2022 by IFFCO** to replace conventional urea and reduce its requirement by 50%. **Hence, statement 1 is correct.**

47.

Ans: A

Exp:

- **About:**
 - ◆ Nano fertilisers are highly efficient types of fertilisers that provide nutrients like **nitrogen to crops through fine granules. Hence, statement 1 is correct.**
 - **Nitrogen is an essential macronutrient for plant functions**, and urea is one of the most concentrated nitrogenous fertilisers.
- **Nano Urea Liquid:**
 - ◆ **Nano urea liquid** was developed in 2022 by Indian

Farmers and Fertiliser Cooperative (IFFCO) to replace conventional urea and **reduce its requirement by 50%.**

- The government has heavily promoted the use of nano fertilisers since its development.
- **Significance:**
 - ◆ **Reduce Losses:**
 - Nano fertilisers exploit the **nanoscale porous domains on plant surfaces to deliver nutrients**, improve the **effectiveness of nitrogen delivery**, and **reduce losses to the environment. Hence, statement 2 is not correct.**

