

# PG 2026 Agricultural Science Question Paper with Solutions

<b>Time Allowed :3 Hours</b>	<b>Maximum Marks :300</b>	<b>Total questions :75</b>
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## General Instructions

**Read the following instructions very carefully and strictly follow them:**

1. The Question Paper consists of 75 Multiple Choice Questions (MCQs).
2. Total marks for the exam is 300.
3. The total duration is 90 minutes; a, timer on the screen will display the remaining time, and the exam will automatically submit when the time reaches zero.
4. For every correct answer, 4 marks (+4) will be awarded to the candidate, and a 1 mark (-1) will be deducted for every incorrect answer.
5. Question papers are available in both English and Hindi.

### 1. The Botanical name of Indian Jujubee is:

- (A) Zizyphus rotundifolia
- (B) Z. mauritiana
- (C) Z. mummularia
- (D) None

**Correct Answer:** (B) Z. mauritiana

### **Solution:**

#### **Step 1: Understanding the Concept:**

Indian Jujubee, commonly known as Ber, is an important hardy fruit crop belonging to the family Rhamnaceae.

Botanical classification helps in identifying the specific species used for commercial cultivation versus wild relatives.

#### **Step 2: Detailed Explanation:**

The botanical name of the Indian Jujubee (Ber) is *Zizyphus mauritiana*.

It is native to the Indo-Malaysian region and is well-adapted to arid and semi-arid conditions. *Zizyphus rotundifolia* and *Zizyphus nummularia* (misspelled as mummularia in the option) are wild species found in India.

These wild species are primarily used as hardy rootstocks for grafting commercial varieties of *Z. mauritiana* due to their extreme drought resistance.

**Step 3: Final Answer:**

The correct botanical name for the cultivated Indian Jujubee is *Z. mauritiana*.

**Quick Tip**

Ber is often called the "Poor man's apple" because of its high nutritional value and low cost of cultivation in harsh environments.

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**2. Mango is commercially propagated by**

- (A) Inarching
- (B) Veneer
- (C) Side grafting
- (D) Stone grafting

**Correct Answer:** (B) Veneer

**Solution:**

**Step 1: Understanding the Concept:**

Propagation methods in mango are selected based on efficiency, percentage of success, and regional suitability.

**Step 2: Detailed Explanation:**

Veneer grafting is the most widely accepted commercial method of mango propagation in India, especially in the northern regions.

It is preferred because it has a high success rate, the grafts are easy to transport, and the method is relatively simple for nurserymen.

Inarching is an older, more labor-intensive method.

Stone grafting (Epicotyl grafting) is very popular in the Konkan region for varieties like Alphonso but is not as universally standard as Veneer grafting for the entire country.

**Step 3: Final Answer:**

The standard commercial propagation method is Veneer grafting.

**Quick Tip**

In Veneer grafting, the scion should be 3 – 4 months old and defoliated 8 – 10 days prior to the operation to ensure high success.

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**3. Passion fruit is commercially propagated by**

- (A) Cutting
- (B) Seed
- (C) Grafting
- (D) Budding

**Correct Answer:** (B) Seed

**Solution:**

**Step 1: Understanding the Concept:**

Propagation determines the vigor and longevity of the passion fruit vine.

**Step 2: Detailed Explanation:**

Passion fruit is primarily and commercially propagated through seeds.

Seeds germinate readily within 15 – 20 days and produce vigorous seedlings.

While asexual methods like stem cuttings and grafting are used to maintain clonal purity or provide disease resistance, the majority of large-scale plantations are established using seedlings.

**Step 3: Final Answer:**

Seed is the most common commercial method.

### Quick Tip

Passion fruit seeds should be sown soon after extraction as they lose viability quickly.

#### 4. Salt tolerant rootstock of Grape is

- (A) Dogridge
- (B) Salt creek
- (C) Both
- (D) None

**Correct Answer:** (C) Both

#### **Solution:**

##### **Step 1: Understanding the Concept:**

In grape cultivation, rootstocks are used to overcome abiotic stresses like soil salinity and drought.

##### **Step 2: Detailed Explanation:**

Dogridge is a highly vigorous rootstock (*Vitis champinii*) known for its excellent resistance to salinity and nematodes.

Salt Creek (also known as Ramsey) is another *Vitis champinii* selection specifically used in saline soils to maintain vine health and productivity.

Both rootstocks are widely used in Indian viticulture to combat high salt levels in soil and water.

##### **Step 3: Final Answer:**

Both (A) and (B) are salt-tolerant rootstocks.

### Quick Tip

Dogridge is the most popular rootstock in Maharashtra (the grape capital of India) due to its drought and salt tolerance.

**5. Neelam Alphonso, Cross produce variety of mango**

- (A) Ratna
- (B) Neelphonso
- (C) Sindhu
- (D) None

**Correct Answer:** (A) Ratna

**Solution:**

**Step 1: Understanding the Concept:**

Hybridization aims to combine the regular bearing habit of one parent with the fruit quality of another.

**Step 2: Detailed Explanation:**

Ratna is a hybrid variety developed at Konkan Krishi Vidyapeeth, Dapoli.

It is a cross between Neelam (female) and Alphonso (male).

This variety is highly valued because it possesses the excellent fruit quality of Alphonso but is free from the physiological disorder 'spongy tissue'.

Sindhu is a seedless (very thin stone) variety derived from a cross between Ratna and Alphonso.

**Step 3: Final Answer:**

The cross of Neelam × Alphonso is Ratna.

**Quick Tip**

Remember the mnemonic "RNA" where R = Ratna, N = Neelam, and A = Alphonso.

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**6. Fruit crop exported on large scale from India is**

- (A) Grape
- (B) Banana
- (C) Mango
- (D) Citrus

**Correct Answer:** (C) Mango

**Solution:**

**Step 1: Understanding the Concept:**

Export focus is determined by international demand and domestic production surplus.

**Step 2: Detailed Explanation:**

Mango is the "National Fruit of India" and the primary fruit crop exported in large volumes and high value.

Varieties like Alphonso and Kesar have massive global demand, particularly in the Middle East, Europe, and North America.

While Grape exports are significant in terms of value per unit, Mango remains the most iconic and large-scale export from India's fruit basket.

**Step 3: Final Answer:**

Mango is the most exported fruit crop on a large scale.

#### Quick Tip

India is the leading producer of mangoes in the world, contributing nearly 50% of global production.

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**7. Family of tuberose is**

- (A) Malvaceae
- (B) Rosaceae
- (C) Compositae
- (D) Amaryllidaceae

**Correct Answer:** (D) Amaryllidaceae

**Solution:**

**Step 1: Understanding the Concept:**

Taxonomic classification is vital for understanding plant biology and breeding.

**Step 2: Detailed Explanation:**

Tuberose (*Polianthes tuberosa* or *Agave amica*) belongs to the family Amaryllidaceae (often listed as Amarylliadaceae in older exam texts).

Some modern systems place it in Asparagaceae, but Amaryllidaceae remains the standard answer in most agricultural competitive exams.

It is a bulbous perennial plant used for cut flowers and essential oils.

**Step 3: Final Answer:**

The correct family is Amarylliadaceae.

**Quick Tip**

Tuberose is famous for its night-fragrant flowers; varieties like 'Suvasini' and 'Prajwal' are very popular.

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**8. Spice crop largely exported from India is**

- (A) Black pepper.
- (B) Cardamom
- (C) Canine
- (D) Turmeric

**Correct Answer:** (A) Black pepper.

**Solution:**

**Step 1: Understanding the Concept:**

India is known as the "Land of Spices," and certain spices have high global trade volumes.

**Step 2: Detailed Explanation:**

Black Pepper (*Piper nigrum*) is known as the "King of Spices."

Historically and commercially, it has been one of India's most important export items in the spice category.

While Turmeric and Cardamom are also exported, Black Pepper holds a dominant position in the international market value for Indian spices.

**Step 3: Final Answer:**

Black pepper is the largely exported spice.

**Quick Tip**

The Spices Board of India is headquartered in Kochi, Kerala.

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**9. Exanthema in Citrus is due to deficiency of**

- (A) Mg
- (B) Cu
- (C) Zn
- (D) Cl

**Correct Answer:** (B) Cu

**Solution:**

**Step 1: Understanding the Concept:**

Micronutrient deficiencies in citrus result in specific physiological disorders.

**Step 2: Detailed Explanation:**

Exanthema, also known as 'dieback' or 'ammoniation,' is caused by Copper (Cu) deficiency. It is characterized by the appearance of gum pockets between the wood and the bark, leading to bark splitting and the death of young shoots.

Zinc (Zn) deficiency leads to 'Little Leaf' or 'Mottle Leaf'.

Magnesium (Mg) deficiency causes 'Bronzing' of leaves.

**Step 3: Final Answer:**

Exanthema is caused by Cu deficiency.

**Quick Tip**

Application of 0.3–0.5% Copper Sulphate spray is the common remedy for Exanthema.

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**10. \_\_\_\_\_ is the major pest of Brinjal.**

- (A) Fruit fly
- (B) Thrips
- (C) Fruit & shoot borer
- (D) Mealy bug

**Correct Answer:** (C) Fruit & shoot borer

**Solution:**

**Step 1: Understanding the Concept:**

Key pests are those that cause the most significant economic damage to a crop.

**Step 2: Detailed Explanation:**

The Brinjal Fruit and Shoot Borer (*Leucinodes orbonalis*) is the most destructive pest of brinjal.

The larvae bore into the tender shoots, causing drooping and wilting. Later, they bore into the fruits, making them unfit for consumption.

This pest can reduce crop yields by as much as 70 – 90%.

**Step 3: Final Answer:**

Fruit & shoot borer is the major pest.

#### Quick Tip

Clip and destroy the infested shoots as soon as wilting symptoms are seen to prevent further spread.

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**11. Pod colour in forestro variety of Cacao is**

- (A) Purple
- (B) Green
- (C) Blue
- (D) White

**Correct Answer:** (B) Green

**Solution:**

**Step 1: Understanding the Concept:**

Cacao varieties are classified by their pod and bean characteristics.

**Step 2: Detailed Explanation:**

The Forastero (misspelled as forestro) variety accounts for about 80% of the world's cocoa production.

Its pods are typically green when immature and turn yellow as they ripen.

Criollo variety pods, on the other hand, often have a reddish or purple tinge.

**Step 3: Final Answer:**

Immature pod colour in Forastero is Green.

**Quick Tip**

Forastero is preferred for commercial cultivation because it is more disease-resistant and has higher yields than Criollo.

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**12. Main constraint in commercial cultivation of medicinal plants is**

- (A) Lack of planting material
- (B) Lack of market
- (C) Lack of knowledge
- (D) All

**Correct Answer:** (D) All

**Solution:**

**Step 1: Understanding the Concept:**

Cultivation of medicinal plants faces different bottlenecks than traditional field crops.

**Step 2: Detailed Explanation:**

Commercialization of medicinal plants is hindered by:

- (A) Scarcity of genuine, quality-certified seeds or planting materials.
- (B) Lack of organized markets and direct buyer-seller links, leading to price exploitation.
- (C) Insufficient knowledge among farmers regarding scientific cultivation, harvesting times,

and post-harvest drying.

**Step 3: Final Answer:**

All listed factors are significant constraints.

**Quick Tip**

Standardized cultivation practices (GAP - Good Agricultural Practices) are essential for consistent active ingredient levels in medicinal plants.

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**13. Origin of Brinjal is**

- (A) Africa
- (B) America
- (C) India
- (D) China

**Correct Answer:** (C) India

**Solution:**

**Step 1: Understanding the Concept:**

The center of origin is where the greatest genetic diversity of a species exists.

**Step 2: Detailed Explanation:**

India is considered the primary center of origin for Brinjal (*Solanum melongena*).

Vast genetic diversity and wild relatives are found throughout the Indian subcontinent.

China is considered a secondary center of diversity for this crop.

**Step 3: Final Answer:**

The origin of Brinjal is India.

**Quick Tip**

Brinjal is also known as Eggplant or Aubergine.

**14. Which growth regulator is commonly used as weedicide**

- (A) ABA
- (B) IBA
- (C) NAA
- (D) 2, 4-D

**Correct Answer:** (D) 2, 4-D

**Solution:**

**Step 1: Understanding the Concept:**

Selective herbicides are chemicals that kill specific weeds while sparing the crop.

**Step 2: Detailed Explanation:**

2, 4-D (2,4-Dichlorophenoxyacetic acid) is a synthetic auxin that acts as a growth regulator at low concentrations.

At higher concentrations, it is widely used as a selective herbicide (weedicide) to kill broad-leaved weeds in cereal (monocot) crops.

ABA is a stress hormone, while IBA and NAA are primarily used as rooting hormones.

**Step 3: Final Answer:**

2, 4-D is the growth regulator used as a weedicide.

**Quick Tip**

2, 4-D is highly effective against dicot weeds in monocot crops like wheat and rice.

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**15. RRII headquarter is located at**

- (A) Kasargod
- (B) Calicut
- (C) Kottayan
- (D) Bangalore

**Correct Answer:** (C) Kottayan

**Solution:**

**Step 1: Understanding the Concept:**

The Rubber Research Institute of India (RRII) is the nodal agency for natural rubber research.

**Step 2: Detailed Explanation:**

The headquarters of RRII is located in Kottayam (misspelled as 'Kottayan' in the options), Kerala.

Kerala is the largest producer of natural rubber in India, making Kottayam the logical hub for its research.

Kasargod houses CPCRI, and Calicut (Kozhikode) houses IISR.

**Step 3: Final Answer:**

RRII is in Kottayam.

**Quick Tip**

Kottayam is often referred to as the 'Rubber Capital of India'.

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**16. Largest genebank of Coconut is located at**

- (A) CTCRI
- (B) CPCRI
- (C) IIHR
- (D) IARI

**Correct Answer:** (B) CPCRI

**Solution:**

**Step 1: Understanding the Concept:**

Genebanks preserve the germplasm of various crops for future breeding.

**Step 2: Detailed Explanation:**

The Central Plantation Crops Research Institute (CPCRI) in Kasaragod, Kerala, maintains the largest field genebank of Coconut.

It serves as the repository for hundreds of accessions of coconut varieties from across the

globe.

**Step 3: Final Answer:**

CPCRI houses the largest coconut genebank.

**Quick Tip**

CPCRI also conducts research on Arecanut and Cocoa.

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**17. Epigial germination is seen in**

- (A) Cashew
- (B) Rice
- (C) Jackfruit
- (D) Citrus

**Correct Answer:** (A) Cashew

**Solution:**

**Step 1: Understanding the Concept:**

Germination is categorized by whether the cotyledons stay underground (hypogeal) or emerge above ground (epigeal).

**Step 2: Detailed Explanation:**

In epigeal (epigial) germination, the hypocotyl elongates, pulling the cotyledons above the soil surface.

Cashew (*Anacardium occidentale*) exhibits this type of germination.

Rice, Jackfruit, and most Citrus typically show hypogeal germination.

**Step 3: Final Answer:**

Cashew shows epigeal germination.

### Quick Tip

Most dicots like pulses and oilseeds show epigeal germination, while monocots show hypogeal.

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**18. In Brinjal only those flowers set fruits which have:**

- (A) Short style
- (B) Long style
- (C) Medium style
- (D) Both B & C

**Correct Answer:** (D) Both B & C

**Solution:**

**Step 1: Understanding the Concept:**

Style length variation (heterostyly) in brinjal affects its fruit-setting ability.

**Step 2: Detailed Explanation:**

Brinjal flowers are categorized by their style length: long, medium, and short.

Fruit set is high in long-styled flowers and moderate in medium-styled flowers because the stigma is well-positioned for pollination.

Short-styled flowers almost never set fruit and usually drop.

**Step 3: Final Answer:**

Both Long and Medium styled flowers set fruits.

### Quick Tip

Varieties with a higher percentage of long-styled flowers are generally more productive.

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**19. Krishna is the variety of**

- (A) Tomato
- (B) Brinjal

- (C) Chilli
- (D) Potato

**Correct Answer:** (C) Chilli

**Solution:**

**Step 1: Understanding the Concept:**

Variety identification is a common part of agricultural examinations.

**Step 2: Detailed Explanation:**

'Krishna' is a prominent variety of Chilli.

(Note: 'Krishna' is also a very famous variety of Aonla, but since Aonla is not an option, Chilli is the correct context here).

**Step 3: Final Answer:**

Krishna is a variety of Chilli.

#### Quick Tip

Always check all options as many variety names (like Krishna or Pragati) are shared across different crops.

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**20. Which one of the following is highly cross-pollinated**

- (A) Okra
- (B) Bitter gourd
- (C) Chilli
- (D) Cowpea

**Correct Answer:** (B) Bitter gourd

**Solution:**

**Step 1: Understanding the Concept:**

Pollination behavior depends on floral morphology (monoecious, dioecious, etc.).

**Step 2: Detailed Explanation:**

Bitter gourd is monoecious (separate male and female flowers on the same plant).

This floral structure necessitates cross-pollination by insects.

Okra and Chilli are 'often cross-pollinated', while Cowpea is 'self-pollinated'.

**Step 3: Final Answer:**

Bitter gourd is highly cross-pollinated.

**Quick Tip**

Almost all cucurbits (except some like muskmelon) are highly cross-pollinated due to their monoecious nature.

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**21. Aroma in Coffee is due to**

- (A) Fermentation
- (B) Drying
- (C) Roasting
- (D) None

**Correct Answer:** (C) Roasting

**Solution:**

**Step 1: Understanding the Concept:**

Processing steps significantly alter the chemical composition of coffee beans to produce the final beverage.

**Step 2: Detailed Explanation:**

Roasting is the most critical step for developing coffee's aroma and flavor.

High temperatures cause the Maillard reaction, producing aromatic volatile oils like caffeol.

Fermentation and drying are preliminary steps that prepare the bean but do not develop the final aroma.

**Step 3: Final Answer:**

Roasting is responsible for the aroma.

### Quick Tip

Caffeol is the essential oil responsible for the characteristic smell of roasted coffee.

## 22. Banana seedlessness is due to

- (A) Vegetative parthenocarpy
- (B) Stimulative parthenocarpy
- (C) Stenospermocarpy
- (D) None

**Correct Answer:** (A) Vegetative parthenocarpy

### Solution:

#### Step 1: Understanding the Concept:

Parthenocarpy leads to fruit development without fertilization.

#### Step 2: Detailed Explanation:

Edible bananas are triploid ( $3n$ ), making them sterile.

They exhibit vegetative parthenocarpy, where the fruit develops completely without the stimulus of pollination or fertilization.

Stenospermocarpy is seen in seedless grapes and 'Sindhu' mango.

#### Step 3: Final Answer:

Seedlessness in banana is due to vegetative parthenocarpy.

### Quick Tip

Triploidy ( $2n = 3x = 33$ ) is the genetic basis for commercial seedless bananas.

## 23. The main problem in breeding of chausa & langra Mango is

- (A) Alternate bearing
- (B) Spongy tissue
- (C) Self incompatibility

(D) None

**Correct Answer:** (A) Alternate bearing

**Solution:**

**Step 1: Understanding the Concept:**

Alternate bearing is a physiological cycle where the tree produces heavy and light crops in successive years.

**Step 2: Detailed Explanation:**

Varieties like Chausa and Langra are strictly alternate (biennial) bearers.

This is a major bottleneck for breeders who want to develop regular-bearing versions of these high-quality varieties.

Spongy tissue is specifically a problem in Alphonso.

**Step 3: Final Answer:**

Alternate bearing is the primary problem.

#### Quick Tip

Hybrids like 'Amrapali' were developed specifically to overcome the alternate bearing problem.

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**24. Variety of Chilli which is resistant to leaf curl virus is**

(A) Bhaskar

(B) Pusa Deepti

(C) Jwalamukhi

(D) vPusa Jawala

**Correct Answer:** (C) Jwalamukhi

**Solution:**

**Step 1: Understanding the Concept:**

Chilli Leaf Curl Virus (LCV) is the most devastating disease in chilli cultivation.

**Step 2: Detailed Explanation:**

'Jwalamukhi' is a variety released for its resistance/tolerance to Leaf Curl Virus.

It is also characterized by highly pungent, small fruits.

Pusa Jwala (often misspelled as vPusa Jawala) is also a classic variety known for its tolerance to viruses.

**Step 3: Final Answer:**

Jwalamukhi is the resistant variety.

**Quick Tip**

Leaf curl virus is transmitted by whiteflies (*Bemisia tabaci*); controlling the vector helps manage the disease.

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**25. 25. Indicator plant for tristiza in Citrus is**

- (A) Sweet orange
- (B) Mandarin
- (C) Acid lime
- (D) Grape fruit

**Correct Answer:** (C) Acid lime

**Solution:**

**Step 1: Understanding the Concept:**

Indicator plants show symptoms quickly, allowing for rapid disease detection.

**Step 2: Detailed Explanation:**

Citrus Tristeza Virus (CTV) causes quick decline in citrus trees.

Acid Lime (*Citrus aurantifolia*) is the universal indicator plant for Tristeza.

When infected, it clearly shows symptoms like vein clearing, stem pitting, and leaf cupping.

**Step 3: Final Answer:**

Acid lime is the indicator plant.

### Quick Tip

Kagzi lime is the specific commercial variety of acid lime used for Tristeza testing.

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