Roll No		Registered Photo	Exam Day Photo
Application No			
Candidate Name			
Module Name			
Exam Date	**03-Jul-2025**		
Exam Batch	**10:00-12:00**		

1) PLANT SCIENCES

Question No. 1 / Question ID 16068 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A): Sesamum phyllody is caused by Phytoplasma and develop Witches broom symptom.

Reason (R): All floral parts turn green, apical leaves also become very small and hence the name is phyllody. It is transmitted by both leaf hopper (*Orosius albicinctus*) and aphids.

In light of the above statements, choose the *most appropriate* answer from the options given below .

1. Both (A) and (R) are correct and (R) is the correct explanation of (A).
2. Both (A) and (R) are correct, but (R) is not the completely correct explanation of (A).
3. (A) is correct but (R) is not correct.
4. (A) is not correct but (R) is correct.

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 2 / Question ID 16117 Marks: 4.00

During its growth through the style, the pollen tube's cell wall is modified to facilitate its progression and interaction with the female tissues. Which of the following components is primarily involved in the strengthening and extension of the pollen tube cell wall?

1. Lignin
2. Cellulose and pectin
3. Suberin
4. Chitin

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 3 / Question ID 16026 Marks: 4.00

Test Prime By Adda247

ALL EXAMS, ONE SUBSCRIPTION

Test. Analyze. Improve. Repeat.

Don't just prepare. Perform.

Test Prime — built only for mock tests.

1,50,000+ Mock Tests

25,000+ Previous Year Papers

800+ Exam Covered

500% Refund on Selection

5 lakh+ Free Quizzes

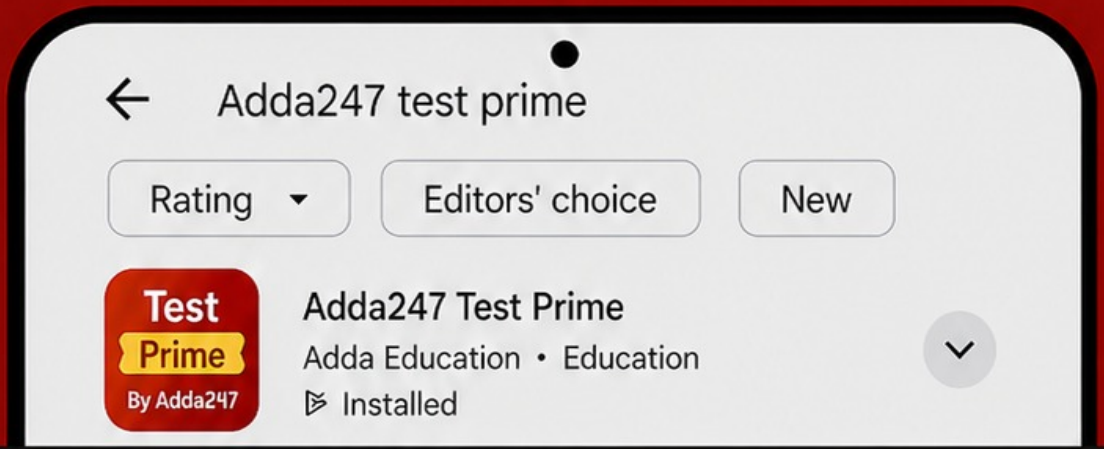
Daily Free PDFs

Job Alerts Stay Updated

- Multilingual
- Detailed Solution
- Strong and Weak Areas

All India Rankings

Compete with lakhs.
Rank. Improve. Repeat.



DOWNLOAD THE APP

In Frederick Griffith's transformation experiment (1928), the following activities were performed. Arrange the activities in proper sequential order from first to last.

(A) Injected mice with live R-strain: Mice lived.

(B) Injected mice with a mixture of heat-killed S-strain and live R-strain: Mice died.

(C) Injected mice with live S-strain: Mice died.

(D) Injected mice with heat-killed S-strain: Mice lived.

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

1. (A), (C), (B), (D).
2. (A), (C), (D), (B).
3. (B), (A), (D), (C).
4. (C), (A), (D), (B).

- ○ 1
- ○ 2
- ○ 3
- ○ 4 (Chosen Option)

Question No. 4 / Question ID 16095 Marks: 4.00

Given below are two statements:

Statement (I): Heterosis breeding involves crossing two genetically diverse inbred lines to produce F_1 hybrids with superior traits.

Statement (II): The vigour observed in F_1 hybrids remains unchanged for many subsequent generations if the hybrid is self-pollinated.

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 5 / Question ID 16108 Marks: 4.00

During the development of the female gametophyte (megagametogenesis) in angiosperms, the functional megaspore that results from meiotic division of the megasporocyte proceeds through a specific sequence of nuclear events. Which of the following options best characterizes this developmental pathway?

1. The functional megaspore undergoes a single meiotic division followed by cytokinesis to directly form the egg apparatus.
2. Following meiotic reduction, the surviving megaspore completes three successive mitotic divisions without immediate cellular partitioning, leading to an eight-nucleate, seven-celled embryo sac.
3. All four megaspores formed by meiosis contribute equally to the formation of a sixteen-nucleate mature female gametophyte.
4. The megaspore enters two rounds of meiosis followed by syngamy-independent nuclear fusion events forming a triploid embryo sac prior to fertilization.

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 6 / Question ID 16034 Marks: 4.00

The 'random cup method' of seed sampling techniques is particularly suitable for seeds that are not extremely chaffy, do not tend to bounce or roll and require a representative working sample of size (gram):

1. Up to 10 grams
2. Up to 50 grams
3. Up to 100 grams
4. Up to 150 grams

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 7 / Question ID 16051 Marks: 4.00

The fourth rule of Koch's postulates was contributed by:

1. Robert Koch
2. Antonie van Leeuwenhoeck
3. E. F. Smith
4. Julius Oscar Brefeld

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 8 / Question ID 16003 Marks: 4.00

The megaspore mother cell (MMC) in angiosperms undergoes meiosis to produce:

1. Four microspores, of which usually one is functional
2. Four megaspores, of which usually one is functional
3. A diploid embryo sac
4. A triploid endosperm

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 9 / Question ID 16004 Marks: 4.00

In plant species exhibiting alternation of generations (sporophyte, gametophyte), the sporophytic generation is characterized by:

1. Haploid chromosome number and gamete production via mitosis.
2. Diploid chromosome number and spore production via meiosis.
3. Haploid chromosome number and spore production via meiosis.
4. Diploid chromosome number and gamete production via mitosis.

- ○ 1
- ○ 2
- ○ 3
- ○ 4 (Chosen Option)

Question No. 10 / Question ID 16114 Marks: 4.00

Which of the following statements is CORRECT about Nucleus Seed?

1. Nucleus seed is produced solely by private seed companies under minimal supervision.
2. Nucleus seed is a mix of different varieties bred for broad adaptation.
3. Nucleus seed is the genetically pure seed maintained by the original breeder or institution.
4. Nucleus seed is always distributed directly to farmers for commercial planting.

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 11 / Question ID 16063 Marks: 4.00

Integrated plant disease management is necessary for sustainability and to avoid adverse effects on the environment. Hence, step-wise one should follow the plant disease management principles like :

(A) Eradication

(B) Avoidance

(C) Exclusion

(D) Protection

(E) Resistance

(F) Therapy

Choose the **correct** answer (proper sequence) from the options given below:

1. (B), (A), (C), (E), (D), (F)
2. (B), (C), (A), (E), (D), (F)
3. (A), (B), (C), (E), (D), (F)
4. (A), (D), (F), (B), (C), (E)

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 12 / Question ID 16087 Marks: 4.00

Given below are two statements, one is labeled as Assertion (A) and other one labelled as Reason (R).

Assertion (A): *Trichoderma harzianum* is used as a biocontrol agent against *Rhizoctonia solani*

Reason (R): *Trichoderma harzianum* parasitize *Rhizoctonia* by coiling around and penetrating its hyphae thus disrupting the cytoplasm and causing suppression.

In light of the above statements, choose the *correct* answer from the options given below.

1. Both (A) and (R) are true and (R) is the correct explanation of (A).
2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
3. (A) is true but (R) is false.
4. (A) is false but (R) is true.

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 13 / Question ID 16002 Marks: 4.00

Arrange the following crops in ascending order of their area under cultivation (mha-million hectares) during 2023-24 (based on Government of India data):

(A) Groundnut

(B) Rapeseed and Mustard

(C) Soybean

(D) Sunflower

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

1. (A), (B), (C), (D).
2. (B), (C), (D), (A)
3. (C), (B), (A), (D).
4. (D), (A), (B), (C).

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 14 / Question ID 16084 Marks: 4.00

Which of the following pigment contributes to the yellow colour of the maize kernel:

1. Cryptocyanin
2. Anthocyanin
3. Zeaxanthin
4. Pyocyanin

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 15 / Question ID 16118 Marks: 4.00

Seed germination is a tightly regulated physiological process that requires the weakening of the seed coat to allow the emergence of the radicle. This weakening involves hormonal signaling that activates enzymes responsible for degrading specific components of the seed coat and surrounding tissues. Which of the following hormonal interactions is primarily responsible for initiating this seed coat weakening during the early stages of germination?

1. Synergistic action of GA and ethylene stimulating the production of cell wall–degrading enzymes.
2. ABA and cytokinin working together to weaken the seed coat.
3. Auxin and salicylic acid inhibiting cell wall reinforcement.
4. Ethylene and ABA collaborating to induce seed coat lignification.

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 16 / Question ID 16069 Marks: 4.00

Select the rRNA associated with the eukaryotic ribosomes:

(A). 5S

(B). 23S

(C). 28S

(D). 18S

(E). 5.8S

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

1. (A), (D) and (E) only
2. (C), (D) and (E) only
3. (A), (B), (C) and (D) only
4. (A), (C), (D) and (E) only

- ○ 1
- ○ 2
- ○ 3
- ○ 4 (Chosen Option)

Question No. 17 / Question ID 16073 Marks: 4.00

Identify the yeast genera :

(A). *Saccharomyces*

(B). *Stenotrophomonas*

(C). *Rhodotorula*

(D). *Candida*

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

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

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 18 / Question ID 16109 Marks: 4.00

In a typical diploid angiosperm, the unique process of double fertilization involves the fusion of two male gametes with distinct female gametophytic cells. Considering the ploidy of the gametes and the nuclei involved, what is the resultant ploidy level of the primary endosperm nucleus formed immediately after double fertilization?

(A). It is haploid (n), as it originates from a single male gamete fusing with one polar nucleus.

(B). It is diploid (2n), similar to the zygote, since it involves two nuclei.

(C). It is triploid (3n), due to the fusion of one male nucleus with two haploid polar nuclei.

(D). It becomes tetraploid (4n) if both sperm nuclei fuse with the central cell simultaneously.

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

1. (A) only.
2. (C) only.
3. (B) only.
4. (A) and (D) only.

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 19 / Question ID 16001 Marks: 4.00

The inheritance of mitochondrial DNA (mtDNA) in most sexually reproducing organisms exhibits a unique pattern primarily due to

1. High rates of homologous recombination during oogenesis.
2. Predominant paternal inheritance of mitochondrial genomes.
3. Maternal inheritance of mitochondrial genomes.
4. Strict biparental inheritance with equal contribution from both parents.

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 20 / Question ID 16008 Marks: 4.00

Which is NOT a multi-parent mapping population?

1. MAGIC population
2. NAM population
3. Association mapping panel
4. $F_{2:3}$ plants

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 21 / Question ID 16077 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A): *Bacillus thuringiensis*, a soil bacterium possessing *Cry-1Ac* gene, kills the larvae of boll worms.
Reason (R): *Cry-1Ac* gene codes for crystal protein which is responsible for the insecticidal effect

In light of the above statements, choose the *correct* answer from the options given below.

1. Both (A) and (R) are true and (R) is the correct explanation of (A).
2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
3. (A) is true but (R) is false.
4. (A) is false but (R) is true.

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 22 / Question ID 16032 Marks: 4.00

In hybrid sunflower seed production, what is the typical ratio of the A-line (female parent) to the R-line (male parent)?

1. 1:1
2. 2:1
3. 3:1
4. 4:1

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 23 / Question ID 16007 Marks: 4.00

Consider a hypothetical repressible operon under negative control. A mutation in the gene encoding the repressor protein results in a non-functional repressor that cannot bind to the operator. What would be the expected expression pattern of the structural genes in this operon?

1. Expression would be induced only in the presence of the corepressor.
2. Expression would be repressed under all conditions.
3. Expression would occur constitutively, regardless of the presence or absence of the corepressor.
4. Expression would be completely abolished.

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 24 / Question ID 16110 Marks: 4.00

If a typical diploid rice plant *(Oryza sativa)* has 2n = 24, which of the following could be an example of an aneuploid form?

1. A plant with 12 chromosomes
2. A plant with 24 chromosomes
3. A plant with 48 chromosomes
4. A plant with 25 chromosomes

- ○ 1
- ○ 2
- ○ 3
- ○ 4 (Chosen Option)

Question No. 25 / Question ID 16014 Marks: 4.00

A series of groundbreaking experiments were conducted by various workers that collectively led to the scientific understanding that DNA is the genetic material. Identify the key experiments from the list:

(A) Alfred Hershey and Martha Chase's Experiment (1952)

(B) Frederick Griffith's Transformation Experiment (1928)

(C) Heinz Fraenkel-Conrat's Experiment (1957)

(D) Oswald Avery, Colin MacLeod, and Maclyn McCarty's Experiment (1944)

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

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

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 26 / Question ID 16080 Marks: 4.00

Given below are two statements:

Statement (I): Population of Actinobacteria is higher in alkaline soils.

Statement (II): Actinobacteria plays an important role in the decomposition of recalcitrant compounds such as chitin, lignin and cellulose.

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- ○ 1 (Chosen Option)
- ○ 2

- 3
- 4

Question No. 27 / Question ID 16093 Marks: 4.00

Given below are two statements:

Statement (I): Transformation is a natural process in which a bacterium can take up naked DNA from the environment.

Statement (II): Transformation does not cause genetic recombination .

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- 1
- 2
- 3 (Chosen Option)
- 4

Question No. 28 / Question ID 16023 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
Eukaryotic cell organelles	**Major function**
(A) Mitochondria	(I) Site of protein synthesis and modification for secretion.
(B) Endoplasmic reticulum (rough)	(II) Contains digestive enzymes to break down waste materials and debris.
(C) Golgi apparatus	(III) Generates most of the cell's supply of adenosine triphosphate (ATP).
(D) Lysosomes	(IV) Modifies, sorts, and packages proteins and lipids for secretion or delivery to other organelles.

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

1. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
2. (A) - (I), (B) - (III), (C) - (IV), (D) - (II)
3. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 29 / Question ID 16031 Marks: 4.00

Which one of the following is a rapid test to detect the mechanical damage to legume seeds?

1. Topographical Tetrazolium Test
2. X-ray Photography Test
3. Lactophenol Test
4. Ferric Chloride Test

- ○ 1
- ○ 2
- ○ 3
- ○ 4 (Chosen Option)

Question No. 30 / Question ID 16058 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
(Pathogen)	**(Culture media)**
(A) Fluorescent pseudomonads	(I) Tetrazoium chloride agar
(B) *Ralstonia solanacearum*	(II) Potato dextrose agar
(C) *Xanthomonas* species	(III) King's B medium
(D) Fungi and bacteria	(IV) Yeast extract nutrient agar

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

1. (A) - (II), (B) - (IV), (C) - (III), (D) - (I)
2. (A)- (III), (B) - (I), (C) - (IV), (D) - (II)
3. (A) - (IV), (B) - (II), (C) - (III), (D) - (I)
4. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 31 / Question ID 16106 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
Institute	**Mandates**
(A). Central Plantation Crops Research Institute (CPCRI)	(I). Avikanagar, Rajasthan
(B). Central Arid Zone Research Institute (CAZRI)	(II). Thiruvananthapuram, Kerala
(C). Central Tuber Crops Research Institute (CTCRI)	(III). Jodhpur, Rajasthan
(D). Central Sheep and Wool Research Institute (CSWRI)	(IV). Kasaragod, Kerala

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

1. (A) -(II), (B) - (III), (C) - (IV), (D) - (I)
2. (A) -(III), (B) - (IV), (C) - (II), (D) - (I)
3. (A) -(IV), (B) - (I), (C) - (II), (D) - (III)
4. (A) -(IV), (B) - (III), (C) - (II), (D) - (I)

- ○ 1
- ○ 2
- ○ 3
- ○ 4 (Chosen Option)

Question No. 32 / Question ID 16011 Marks: 4.00

The likelihood of an individual in a population carrying two specific alleles of a human DNA marker, each of which has a frequency of 0.3, will be:

1. 0.03
2. 0.06
3. 0.18
4. 0.09

- ○ 1
- ○ 2
- ○ 3
- ○ 4 (Chosen Option)

Question No. 33 / Question ID 16020 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
Event	**Scientist**
(A) Coining the term "Gene"	(I) James Watson and Francis Crick
(B) Construction of the first accurate physical model of DNA.	(II) Erwin Chargaff
(C) Confirmation of the semi-conservative replication of DNA.	(III) Wilhelm Johannsen
(D) Discovery of Chargaff's Rules	(IV) Matthew Meselson and Franklin Stahl

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

1. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
2. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)
3. (A) - (III), (B) - (II), (C) - (IV), (D) - (I)
4. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)

- ○ 1
- ○ 2
- ○ 3
- ○ 4 (Chosen Option)

Question No. 34 / Question ID 16041 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A): Synchronization of flowering between parental lines ensures effective hybrid seed set.

Reason (R): For effective synchronization of flowering, the seed parental line is sown earlier than the pollen parent.

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both (A) and (R) are correct and (R) is the correct explanation of (A).
2. Both (A) and (R) are correct but (R) is NOT the correct explanation of (A).
3. (A) is correct but (R) is not correct.
4. (A) is not correct but (R) is correct.

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 35 / Question ID 16097 Marks: 4.00

Match the following items

List-I	List-II
Marker technique	**Description**
(A). RFLP	(I). Uses short arbitrary primers under low-stringency PCR
(B). RAPD	(II). Polymorphisms detected by restriction enzymes and Southern blot
(C). AFLP	(III). Tandem repeats amplified by specific flanking primers
(D). SSR (Microsatellite)	(IV). Combines restriction digestion with selective PCR amplification

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

1. (A)-(II), (B)-(I), (C)-(IV), (D)-(III)
2. (A)-(II), (B)-(I), (C)-(III), (D)-(IV)
3. (A)-(I), (B)-(II), (C)-(IV), (D)-(III)
4. (A)-(II), (B)-(IV), (C)-(I), (D)-(III)

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 36 / Question ID 16101 Marks: 4.00

Arrange the following legal instruments in chronological order of their adoption/ enactment:

(A). Convention on Biological Diversity

(B). Protection of Plant Varieties and Farmers' Rights Act, India

(C). Biological Diversity Act, India

(D). International Treaty on Plant Genetic Resources for Food and Agriculture

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

1. A → B → C → D
2. A → D → B → C
3. B → A → D → C
4. C → A → B → D

- 1 (Chosen Option)
- 2
- 3
- 4

Question No. 37 / Question ID 16119 Marks: 4.00

Certain plant species produce recalcitrant seeds that are highly sensitive to desiccation and low temperatures, making traditional seed banking unsuitable. Which of the following *ex situ* conservation approaches is most appropriate for long-term preservation of such species, and why?

1. Establishing field gene banks, because natural conditions are best replicated *in situ*.
2. Conventional seed storage in dry, cold conditions, as it maximizes longevity.
3. *In vitro* tissue culture combined with cryopreservation, as it circumvents the drying intolerance.
4. Botanical gardens, since they provide a semi-controlled outdoor environment.

- 1
- 2
- 3 (Chosen Option)
- 4

Question No. 38 / Question ID 16006 Marks: 4.00

Which of the following best describes the primary mechanism by which histone modifications contribute to heritable changes in gene activity without altering the DNA sequence?

1. They directly alter the base pairing within the DNA double helix.
2. They recruit DNA repair enzymes that introduce specific mutations.
3. They influence chromatin compaction and accessibility to transcription factors.
4. They lead to the degradation of specific mRNA transcripts.

- 1
- 2
- 3 (Chosen Option)
- 4

Question No. 39 / Question ID 16010 Marks: 4.00

The classic 'Operon' structure, which consists of a cluster of genes under the control of a single promoter, and is transcribed together into a single polycistronic mRNA molecule, is primarily found in:

1. Viruses only
2. Eukaryotes only
3. Prokaryotes (Bacteria and Archaea)
4. Both prokaryotes and eukaryotes.

- 1
- 2
- 3 (Chosen Option)
- 4

Question No. 40 / Question ID 16040 Marks: 4.00

Seed certification processes typically involve several key steps as given below. Arrange the steps in the correct sequence order from the start to the end.

(A) Supervision at post-harvest stages, including processing and packaging.

(B) Receipt and scrutiny of application, and verification of seed source.

(C) Seed sampling and testing for genetic purity and seed health, and grant of the certificate.

(D) Field inspection to verify compliance with the prescribed field standard.

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

1. (B), (D), (C), (A).
2. (A), (B), (C), (D).
3. (B), (D), (A), (C).
4. (C), (B), (D), (A).

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 41 / Question ID 16096 Marks: 4.00

Which type of pollination involves the transfer of pollen from the anther to the stigma of the same flower?

1. Geitonogamy
2. Autogamy
3. Xenogamy
4. Plasmogamy

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 42 / Question ID 16052 Marks: 4.00

A plant infected with a mild strain of virus can protect it from the infection of virulent strain of the same virus. This phenomenon is known as:

1. Antagonism
2. Parasitism
3. Cross protection
4. Allelopathy

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 43 / Question ID 16107 Marks: 4.00

Given below are two statements:

Statement (I): The National Dairy Research Institute (NDRI) in Karnal, Haryana, focuses on dairy production, management, and processing research.

Statement (II): The Central Institute of Fisheries Education (CIFE), Mumbai, is not recognized as a Deemed-to-be University under ICAR.

In light of the above statements,choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 44 / Question ID 16053 Marks: 4.00

In host plant resistance, the race specific PR proteins are encoded by genes:

(A) *RFO1*

(B) *Rpr1*

(C) *Cf-2*

(D) *Yr*

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

1. (A) and (B)
2. (B) and (C)
3. (C) and (D)
4. (B) and (D)

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 45 / Question ID 16067 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A): Digitally assisted diagnosis (DAD) is one kind of modern telecommunications used in plant disease diagnosis.

Reason (R): Diagnosis becomes fast and accurate; hence DAD is most reliable for first-hand information generation of crop diseases.

In light of the above statements, choose the *correct* answer from the options given below.

1. Both (A) and (R) are true and (R) is the correct explanation of the merit of (A).
2. Both (A) and (R) are true but (R) is NOT the correct explanation of the merit of (A).
3. (A) is true but (R) is false.
4. (A) is false but (R) is true.

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 46 / Question ID 16112 Marks: 4.00

Which statement is generally true regarding Bt cotton hybrids in India?

1. They are primarily used for resistance against sucking pests.
2. They incorporate genes for resistance against bollworm complexes.
3. They originated exclusively from *G. barbadense*.
4. They have completely eliminated the need for insecticide usage.

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 47 / Question ID 16113 Marks: 4.00

The sugar industry produces several by-products during the processing of sugarcane. Match the following by-products (Column A) with their corresponding uses or characteristics (Column B):

Column A	Column B
(A). Bagasse	(I). Filter cake used as soil amendment
(B). Molasses	(II). Fibrous residue used as biofuel or in paper/board manufacturing
(C). Press Mud	(III). Distillery effluent used for biogas or fertilizer
(D). Vinasse	(IV). Syrupy leftover used to produce ethanol or rum

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

1. (A)-(III), (B)-(I), (C)-(II), (D)-(IV)
2. (A)-(II), (B)-(IV), (C)-(I), (D)-(III)
3. (A)-(I), (B)-(II), (C)-(III), (D)-(IV)
4. (A)-(IV), (B)-(I), (C)-(II), (D)-(III)

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 48 / Question ID 16070 Marks: 4.00

Given below are two statements:

Statement (I): The respiratory chain of bacteria is associated with the cytoplasmic membrane

Statement (II): The respiratory chain of eukaryotes is present in the nuclear membrane

In light of the above statements, choose the most appropriate answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 49 / Question ID 16090 Marks: 4.00

Given below are two statements:

Statement (I): Pearl millet is considered as a drought tolerant crop.

Statement (II): Roots of pearl millet form association with microaerophilic diazotrophic bacteria of genus *Azospirillum*.

In light of the above statements,choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 50 / Question ID 16022 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
(A) Self-Incompatibility (Sporophytic Type)	(I) Two specialized cells located within the embryo sac at the micropylar end, which play a crucial role in guiding pollen tube entry and degeneration after fertilization.
(B) Synergids	(II) A situation where anthers mature and release pollen before the stigma becomes receptive, promoting outbreeding.
(C) Triple Fusion	(III) A pollen rejection mechanism determined by the genotype of the pollen-producing sporophyte, preventing self-fertilization.
(D) Dichogamy (Protandry)	(IV) A key event where one male gamete fuses with the two polar nuclei, leading to the formation of the primary endosperm nucleus.

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

1. (A) - (II), (B) - (I), (C) - (III), (D) - (IV)
2. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
3. (A) - (I), (B) - (III), (C) - (IV), (D) - (II)
4. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)

- ○ 1
- ○ 2
- ○ 3

○ 4 (Chosen Option)

Question No. 51 / Question ID 16029 Marks: 4.00

Given below are two statements:

Statement (I): In replication of DNA, the leading strand is synthesized continuously in the same direction as the movement of the replication fork, requiring only one initial primer

Statement (II): In DNA replication, the lagging strand is synthesized discontinuously in the opposite direction to the movement of the replication fork, in short fragments called Okazaki fragments. Each Okazaki fragment requires a new RNA primer.

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

○ 1 (Chosen Option)
○ 2
○ 3
○ 4

Question No. 52 / Question ID 16056 Marks: 4.00

The Ooomycetes can cause various foliar diseases like :

(A) Damping off

(B) White rust

(C) Downy mildews

(D) Stem rust

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

1. (A) and (B) only
2. (B) and (C) only
3. (A) and (C) only
4. (A), (B) and (C) only

○ 1
○ 2
○ 3
○ 4 (Chosen Option)

Question No. 53 / Question ID 16036 Marks: 4.00

Match **List-I** with **List-II**

List-I	List-II
Crop	**Technology**
(A) Onion	(I) Bolting
(B) Cabbage	(II) Emasculation and dusting
(C) Maize	(III) Bulb to seed method
(D) Cotton	(IV) Detasseling

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

1. (A) - (III), (B) - (I), (C) - (II), (D) - (IV)
2. (A) - (I), (B) - (III), (C) - (II), (D) - (IV)
3. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
4. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)

- ○ 1
- ○ 2
- ○ 3
- ○ 4 (Chosen Option)

Question No. 54 / Question ID 16005 Marks: 4.00

Hindrance to self-pollination due to some physical barriers, such as the presence of a thin membrane around the anther, is known as

1. Herkogamy
2. Dichogamy
3. Chasmogamy
4. Plasmogamy

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 55 / Question ID 16075 Marks: 4.00

N-Acetylglucosamine (NAG) and N-Acetylmuramic acid (NAM) of peptidoglycan layer in the cell wall of bacteria are linked by :

1. alpha-(1,4) glycosidic bond
2. alpha-(1,6) glycosidic bond
3. beta-(1,4) glycosidic bond
4. beta-(1,3) glycosidic bond

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 56 / Question ID 16062 Marks: 4.00

The disease cycle of a plant pathogen comprises various events/stages as mentioned below. The events/stages follow the proper order to complete the cycle. Arrange the following events/stages in the correct order of sequence:

(A) Dissemination,

(B) Inoculation,

(C) Incubation,

(D) Colonization,

(E) Penetration,

Choose the **correct** answer proper sequence from the options given below:

1. (A), (D), (B), (C), (E)
2. (A), (B), (C), (E), (D)
3. (B), (C), (E), (D), (A)
4. (B), (A), (C), (E), (D)

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 57 / Question ID 16012 Marks: 4.00

A cross between two breeding lines, one with dark red flowers and one with bright white flowers, produces F_1 offspring that flowered light red. When the F_1 progeny are selfed, a 1:2:1 ratio of dark red to light red to bright white flowers is observed. What genetic phenomenon is consistent with these results?

1. Complete dominance
2. Incomplete dominance
3. Co-dominance
4. Overdominance

- 1
- 2 (Chosen Option)
- 3
- 4

Question No. 58 / Question ID 16059 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
(Disease)	**(Year of entry into India)**
(A) Downy mildew of grapes	(I) 1940
(B) Bunchy top of banana	(II) 1910
(C) Rice blast	(III) 1953
(D) Wart of potato	(IV) 1918

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

1. (A) - (II), (B) - (III), (C) - (II), (D) - (IV)
2. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
3. (A) - (IV), (B) - (III), (C) - (I), (D) - (II)
4. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

- 1
- 2
- 3
- 4 (Chosen Option)

Question No. 59 / Question ID 16086 Marks: 4.00

Bacteria responsible for thermophilic flat sour defect in canned food is :

1. *Bacillus polymyxa*
2. *Bacillus stearothermophilus*
3. *Lacobacillus bulgaricus*
4. *Clostridium butyricum*

- 1
- 2 (Chosen Option)
- 3
- 4

Question No. 60 / Question ID 16015 Marks: 4.00

Here are four statements about meiosis. Identify the correct statements.

(A) Homologous chromosome pairing and synapsis during prophase I are critically mediated by the synaptonemal complex.

(B) The reductional division of meiosis I is followed by an equational division in meiosis II, where sister chromatids separate and reduce the chromosome number twice.

(C) Meiosis maintains the specific chromosome number of a species.

(D) Meiosis occurs in the reproductive cells.

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

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

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 61 / Question ID 16019 Marks: 4.00

Along with the 'Dominance' and 'Overdominance' hypotheses, there is another hypothesis called the 'Epistasis hypothesis' of heterosis. The following are statements about the 'Epistasis hypothesis' of heterosis. Select the correct statements about the epistasis hypothesis.

(A) Epistasis is also known as non-allelic interaction.

(B) Heterosis has a positive association with the presence and magnitude of non-allelic interaction.

(C) The non-allelic interactions are of two types only, viz., additive x additive and dominance x dominance.

(D) Epistasis, particularly those that involve dominance x dominance interaction, may contribute to heterosis.

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

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

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 62 / Question ID 16082 Marks: 4.00

Given below are two statements:

Statement (I): Viruses can spread by direct transfer of sap from a virus infected plant to a healthy plant.

Statement (II): Insects never transmit viruses in plants.

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 63 / Question ID 16088 Marks: 4.00

Which of the following missions were announced by the Government of India as part of the Union Budget 2025-26

(A). National Mission on High Yielding Seeds

(B). Mission for Cotton Productivity

(C). Millet Mission

(D). National Mission on Edible Oils

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

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

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 64 / Question ID 16064 Marks: 4.00

The black rust of wheat caused by *Puccinia gramins tritici*. This heteroecious pathogen completes its life cycle by various spore forms. These are:

(A) Basidiospores,

(B) Teleutospores/ Teliospores,

(C) Uredospores,

(D) Aeciospores,

(E) Pycniospores.

Choose the **correct** spore formation sequence from the options given below:

1. (C), (B), (A), (E), (D)
2. (B), (C), (A), (E), (D)
3. (A), (B), (C), (E), (D)
4. (A), (D), (B), (C), (E)

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 65 / Question ID 16061 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
(Institute/Centre)	**(Location)**
(A). HCIO and Indian Type Culture Collection (ITCC)	(I). Hyderabad
(B). National Bureau of Plant Genetic Resources (NBPGR)	(II). I A R I, New Delhi
(C). Central Potato Research Institute (CPRI)	(III). New Delhi
(D). International Crops Research Institute for Semi-Arid Tropics (ICRISAT)	(IV). Shimla, Himachal Pradesh

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

1. (A) - (II), (B) - (III), (C) - (IV), (D) - (I)
2. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
3. (A) - (IV), (B) - (III), (C) - (I), (D) - (II)
4. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 66 / Question ID 16048 Marks: 4.00

Common scab of potato is more severe in:

1. Sandy loam soil
2. Clay loam soil
3. Dry alkaline soil
4. Highly acidic soil

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 67 / Question ID 16057 Marks: 4.00

The crop(s) affected by smut diseases are :

(A). Wheat

(B). Rice

(C). Chickpea

(D). Sugarcane

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

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

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 68 / Question ID 16083 Marks: 4.00

Which of the following is a by-product of biogas production?

1. Ash
2. Slurry
3. Sawdust
4. Biochar

- ○ 1
- ○ 2
- ○ 3
- ○ 4 (Chosen Option)

Question No. 69 / Question ID 16035 Marks: 4.00

Which of the following tests is primarily used to check the viability of seeds?

(A). Germination test

(B). Grow-out Test

(C). Accelerated aging test

(D). Tetrazolium test

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

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

- 1
- 2 (Chosen Option)
- 3
- 4

Question No. 70 / Question ID 16060 Marks: 4.00

Match **List-I** with **List-II**

List-I	List-II
(Fungicides)	**(Disease control)**
(A). Sulphur	(I). Blast of rice
(B). Kitazin	(II). Rust
(C). Plantvax	(III). Late blight of potato
(D). Ridomil	(IV). Powdery mildews

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

1. (A) - (II), (B) - (I), (C) - (III), (D) - (IV)
2. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
3. (A) - (IV), (B) - (I), (C) - (II), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)

- 1
- 2
- 3 (Chosen Option)
- 4

Question No. 71 / Question ID 16091 Marks: 4.00

Given below are two statements:

Statement (I): Lignin is the constituent of cell wall that confers structural support, impermeability and resistance against microbial attack.

Statement (II): Lignin is not decomposed by any microorganism.

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 72 / Question ID 16021 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
Feature/Mechanism	**Primary Occurrence / Characteristic of**
(A) Initiation of protein synthesis using N-formylmethionine	(I) Eukaryotic genome organization
(B) Presence of spliceosomal introns within protein-coding genes.	(II) Prokaryotic cellular structure
(C) Cellular respiration sites, primarily located on the inner mitochondrial membrane.	(III) Prokaryotic protein synthesis
(D) Genetic material, typically organized as a single circular DNA molecule in the cytoplasm without a nuclear envelope	(IV) Eukaryotic energy metabolism

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

1. (A) - (III), (B) - (I), (C) - (IV), (D) - (II)
2. (A) - (III), (B) - (IV), (C) - (II), (D) - (I)
3. (A) - (I), (B) - (II), (C) - (IV), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

- 1 (Chosen Option)
- 2
- 3
- 4

Question No. 73 / Question ID 16085 Marks: 4.00

The large vessel containing conditions necessary for the growth of desired microorganisms is called as :

1. Bioreactor
2. Autoreactor
3. Impeller
4. Autoclave

- 1 (Chosen Option)
- 2
- 3
- 4

Question No. 74 / Question ID 16054 Marks: 4.00

The sclerotia of *Sclerotnia sclerotiorum* and *Sclerotium rolfsii* resemble to those of :

(A). Rat droppings

(B). Black sand particles

(C). Mustard seeds

(D). Flat-irregular structures

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

1. (A) and (B), respectively
2. (B) and (C), respectively
3. (B) and (D), respectively
4. (A) and (C), respectively

- 1
- 2
- 3
- 4

Question No. 75 / Question ID 16079 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A): Denitrification is favored under flooded conditions.

Reason (R): Enzyme nitrate reductase, which is involved in denitrification, is inhibited in the presence of oxygen.

In light of the above statements, choose the *correct* answer from the options given below.

1. Both (A) and (R) are true and (R) is the correct explanation of (A).
2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
3. (A) is true but (R) is false.
4. (A) is false but (R) is true.

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 76 / Question ID 16100 Marks: 4.00

Arrange the following in logical sequence for a farmer registering a traditional variety under the PPVFRA:

(A). Submission of registration form (with minimal fee or fee waiver)

(B). Verification of farmer's variety claims by the Authority

(C). DUS testing (if necessary/ feasible for that variety)

(D). Registration and issuance of certificate

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

1. C → B → A → D
2. A → C → D → B
3. A → B → C → D
4. B → A → D → C

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 77 / Question ID 16111 Marks: 4.00

Which of the following examples correctly illustrates the relationship among x, n, and 2n in a tetraploid species?

1. x = 5, n = 5, 2n = 10
2. x = 5, n = 10, 2n = 20
3. x = 5, n = 20, 2n = 40
4. x = 10, n = 5, 2n = 10

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 78 / Question ID 16102 Marks: 4.00

In a Hardy-Weinberg population, if the frequency of allele 'R' is p = 0.8 and of allele 'r' is q = 0.2, which genotype frequency is correct?

1. rr frequency= 0.4
2. RR frequency = 0.16
3. Rr frequency = 0.32
4. RR frequency = 0.48

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 79 / Question ID 16104 Marks: 4.00

Given below are two statements:

Statement (I): Inbreeding depression is most common in cross pollinated crops.

Statement (II): Repeated selfing, though it reduces vigour, is necessary to create genetically stable inbred lines that maximize heterosis in the F_1.

In light of the above statements,choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 80 / Question ID 16089 Marks: 4.00

Which of the following organization established by the Government of India is responsible for the promotion and exports of agricultural and processed food products?

1. NABARD
2. FSSAI
3. APEDA
4. NBPGR

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 81 / Question ID 16042 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A): According to the 'overdominance hypothesis', the 'heterosis' is the result of the superiority of the heterozygote over its two homozygous parents.

Reason (R): The 'overdominance hypothesis' states that the superiority of the heterozygotes arises due to the masking of the deleterious effect of the recessive alleles by their corresponding dominant alleles.

In light of the above statements, choose the *most appropriate* answer from the options given below .

1. Both (A) and (R) are correct and (R) is the correct explanation of (A).
2. Both (A) and (R) are correct but (R) is NOT the correct explanation of (A).
3. (A) is correct but (R) is not correct.
4. (A) is not correct but (R) is correct.

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 82 / Question ID 16047 Marks: 4.00

The family of the genus *Xanthomonas* was formerly known as:

1. Enterobacteriaceae
2. Rhizobacteriaceae
3. Pseudomonadaeae
4. Proteobacteriaceae

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 83 / Question ID 16074 Marks: 4.00

Given below are two statements:

Statement (I): Blue-green algae are a type of bacteria that are capable of photosynthesis

Statement (II): Blue-green algae possess phycocyanin pigment that is responsible for the blue color

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 84 / Question ID 16099 Marks: 4.00

Which of the following statements about the scope of the ITPGRFA are correct?

(A). It covers crop species that are listed under Annex I.

(B). It includes all the world's plant species across every biome.

(C). It emphasizes food security as a key motivation for its coverage.

(D). It aims to cover animals that support agriculture.

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

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

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 85 / Question ID 16076 Marks: 4.00

In endomycorrhizal associations, which of the following structures are formed intracellularly in the host plant :

1. Vesicles
2. Arbuscule
3. Spores
4. Sporangia

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 86 / Question ID 16038 Marks: 4.00

Match **List-I** with **List-II**

List-I	List-II
Crop	**Planting material**
(A) Sugarcane	(I) Vine cuttings
(B) Banana	(II) Seed setts
(C) Sweet potato	(III) Runner plant
(D) Strawberry	(IV) Suckers

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

1. (A) - (II), (B) - (IV), (C) - (III), (D) - (I)
2. (A) - (II), (B) - (III), (C) - (I), (D) - (IV)
3. (A) - (II), (B) - (IV), (C) - (I), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 87 / Question ID 16050 Marks: 4.00

Which of the following rust is not caused by fungi:

1. Red rust of tea
2. Black rust of wheat
3. White rust of mustard
4. Yellow rust of wheat

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 88 / Question ID 16071 Marks: 4.00

Given below are two statements:

Statement (I): Mycoplasmas are not inhibited even by high doses of penicillin

Statement (II): Mycoplasmas can be inhibited by antibiotics that affect protein synthesis

In light of the above statements, choose the most appropriate answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 89 / Question ID 16103 Marks: 4.00

Which of the following is NOT an assumption of the Hardy-Weinberg's law of equilibrium?

1. Mutations
2. Random mating
3. Small population size
4. Selection

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 90 / Question ID 16028 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A): The Indian Council of Agricultural Research (ICAR) celebrates Agricultural Education Day every year on December 03.

Reason (R): It is celebrated to commemorate the birth anniversary of Dr. Rajendra Prasad, the first President of independent India and the Union Minister of Agriculture

In light of the above statements, choose the *correct* answer from the options given below.

1. Both (A) and (R) are true and (R) is the correct explanation of (A).
2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A)
3. (A) is true but (R) is false.
4. (A) is false but (R) is true.

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 91 / Question ID 16024 Marks: 4.00

Here are 4 major activities during replication in prokaryotes. Arrange them in the sequential order of occurrence from start to finish.

(A) Primase synthesizes short RNA primers on both template strands, providing a free 3'-OH end to start synthesis.

(B) The enzyme helicase further unwinds the DNA at the replication forks, separating the two strands.

(C) DNA polymerase III adds deoxyribonucleotides to the 3' end of the RNA primers, extending the new DNA chain in the 5' to 3' direction.

(D) Initiator proteins bind to specific sequences within *oriC* and form a small replication bubble.

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

1. (D), (A), (B), (C)
2. (B), (A), (C), (D)
3. (D), (B), (A), (C)
4. (C), (B), (D), (A)

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 92 / Question ID 16044 Marks: 4.00

The cell wall of Oomycetes is composed of:

1. Cellulose only
2. Chitin only
3. Chitosan only
4. Cellulose and glucans

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 93 / Question ID 16030 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A): Pigeonpea (*Cajanus cajan*) is considered as an 'often cross-pollinated' crop.

Reason (R): In Pigeonpea, although self-pollination can occur within the bud before the flower opens, cross-pollination (20-70%), often facilitated by insects like bees, is a common and significant factor in seed set.

In light of the above statements, choose the *correct* answer from the options given below.

1. Both (A) and (R) are true and (R) is the correct explanation of (A).
2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
3. (A) is true but (R) is false.
4. (A) is false but (R) is true.

- 1 (Chosen Option)
- 2
- 3
- 4

Question No. 94 / Question ID 16094 Marks: 4.00

Blight disease in rice is caused by :

1. *Xanthomonas oryzae pv.oryzae*
2. *Xylella fastidiosa*
3. *Pseudomonas syringae*
4. *Pseudomonas putida*

- 1 (Chosen Option)
- 2
- 3
- 4

Question No. 95 / Question ID 16045 Marks: 4.00

The detection and identification of a physiological race is done only by :

1. Selective culture medium
2. ELISA
3. Differential host range
4. Nested mupltiplex PCR

- 1
- 2
- 3 (Chosen Option)
- 4

Question No. 96 / Question ID 16017 Marks: 4.00

Find out the events/factors that are exceptions to Mendelian principles-

(A) Complete dominance

(B) Incomplete dominance

(C) Co-dominance

(D) Polygenic traits

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

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

- ○ 1
- ○ 2
- ○ 3
- ○ 4 (Chosen Option)

Question No. 97 / Question ID 16078 Marks: 4.00

Given below are two statements:

Statement (I): Actinobacteria are a large group of bacteria that produce asexual spores like fungi

Statement (II): Some actinobacterial genera can be pathogenic to plants and animals

In light of the above statements, choose the *most appropriate* answer from the options given below.

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 98 / Question ID 16027 Marks: 4.00

Here are the general steps for seed processing. Arrange it in a typical sequence from start to end.

(A) Testing the seeds for quality parameters such as purity, germination percentage, vigour, and moisture content.

(B) Harvesting, threshing and drying the seeds to an appropriate moisture content.

(C) Packaging of the seeds and labelling with all necessary information.

(D) Thorough cleaning of the seeds to remove impurities such as weed seeds, other crop seeds, diseased seeds, insect-damaged seeds, and inert matter.

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

1. (B), (A), (D), (C).
2. (A), (C), (B), (D).
3. (B), (D), (A), (C).
4. (C), (B), (D), (A).

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 99 / Question ID 16016 Marks: 4.00

Here are 4 statements about 'heterosis'. Select the correct statements.

(A) Heterosis typically manifests as the superior performance of F_1 hybrids in traits like yield, growth rate, or stress tolerance compared to their homozygous parental lines.

(B) The dominance hypothesis explains heterosis by suggesting that deleterious recessive alleles from one parent are masked by dominant favorable alleles from the other parent in the hybrid.

(C) Overdominance hypothesis states that heterozygotes (Aa) have a fitness advantage superior to either homozygote (AA or aa) due to allelic interactions, etc.

(D) Narrow-sense heritability is consistently higher in F_1 hybrids exhibiting strong heterosis, reflecting the increased additive genetic variance contributed by the parental lines.

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

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

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 100 / Question ID 16081 Marks: 4.00

Which of the following polymers are associated with plant cell wall :

(A). Chitin

(B). Cellulose

(C). Peptidoglycan

(D). Hemicellulose

(E). Pectin

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

1. (A), (B) and (E) only.
2. (A), (B), (D) and (E) only
3. (B), (D) and (E) only.
4. (B), (C), (D) and (E) only.

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 101 / Question ID 16043 Marks: 4.00

The plant parasitic bacterium was first reported by :

1. Mikhail Woronin
2. T.J.Burril
3. E. F. Smith
4. R. A. Fischer

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 102 / Question ID 16065 Marks: 4.00

The Koch's postulates are the first approach to confirm a disease. There are a few major steps followed in the postulates. Those are:

(A) Inoculation: Introduction of the pure culture of the pathogen into healthy plants.

(B) Observation: The pathogen must be found in diseased plants, but not in healthy plants. Disease symptoms are noted.

(C) Isolation: The pathogen must be isolated from a diseased plant

(D) Pure culture: Maintenance of the pure culture of the suspected pathogen.

(E) Re-isolation: Isolation of the pathogen from the artificially inoculated plants.

(F) Comparison: The disease symptom developed through artificial inoculation must be matched with the original symptoms.

Choose the **correct** sequence of the activities from the options given below:

1. (C), (B), (A), (E), (D), (F)
2. (B), (C), (D), (A), (E), (F)
3. (A), (B), (C), (E), (F), (D)
4. (A), (D), (B), (C), (E), (F)

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 103 / Question ID 16120 Marks: 4.00

In the context of *ex situ* conservation of plant genetic resources, what is the primary benefit of integrating molecular marker technologies during germplasm characterization and evaluation?

1. They entirely eliminate the need for field-based phenotypic assessments.
2. They enable accurate and efficient evaluation of genetic diversity and help identify genetically redundant accessions.
3. They ensure that conserved germplasm is completely free from all harmful genetic mutations.
4. They significantly reduce the cost and labour required for maintaining live accessions in field gene banks.

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 104 / Question ID 16098 Marks: 4.00

Given below are two statements:

Statement (I): AFLP combines restriction enzyme digestion with selective PCR amplification of genomic fragments.
Statement (II): AFLP typically functions as a co-dominant marker system, providing easy heterozygote detection.

In light of the above statements,choose the *most appropriate* answer from the options given below:

1. Both Statement (I) and Statement (II) are true.
2. Both Statement (I) and Statement (II) are false.
3. Statement (I) is true but Statement (II) is false.
4. Statement (I) is false but Statement (II) is true.

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 105 / Question ID 16039 Marks: 4.00

The tetrazolium test is used to test the viability of a seed. The steps of a tetrazolium test are as follows. Arrange the steps in appropriate order from the first to the last.

(A) Immersing the seeds in the Tetrazolium salt solution and incubating for a specific (24-48 hrs) period.

(B) Rinsing the seeds in fresh water to remove the extra stain.

(C) Soaking the seeds to hydrate the tissues.

(D) Examining the seeds for intensity and location of staining.

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

1. (C), (B), (A), (D).
2. (A), (B), (C), (D).
3. (B), (A), (D), (C).
4. (C), (A), (B), (D).

- ○ 1
- ○ 2
- ○ 3
- ○ 4 (Chosen Option)

Question No. 106 / Question ID 16018 Marks: 4.00

Here are a few statements about crossing over, genetic recombination, and recombination frequencies. Choose the combination of correct statements.

(A) Crossing over takes place in the pachytene stage of meiotic prophase I, where unequal exchange of chromosomal segments occurs between non-sister chromatids.

(B) Recombination frequency depends on the distance between a pair of genes.

(C) Recombination frequency in general does not go beyond 50%.

(D) Genes located on different chromosomes exhibit independent assortment.

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

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

- ○ 1
- ○ 2
- ○ 3
- ○ 4 (Chosen Option)

Question No. 107 / Question ID 16025 Marks: 4.00

Here is a list of schemes that are running for the welfare of farmers in the country. Arranged the schemes in ascending order of their launching/introduction.

(A) PM Fasal Bima Yojana

(B) National mission on edible oils - Oil palm

(C) Soil Health Card

(D) PM Kisan Sanman Nidhi

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

1. (C), (A), (D), (B).
2. (C), (A), (B), (D).
3. (B), (A), (D), (C).
4. (C), (B), (D), (A).

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 108 / Question ID 16066 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A): Gene deployment strategy in wheat is the most effective strategy in restricting the spread of rust disease.

Reason (R): Monoculture of one popular variety but susceptible to a disease may lead to quick epidemic situation. Therefore, different resistant varieties are grown in a mosaic pattern covering large area.

In light of the above statements, choose the *correct* answer from the options given below.

1. Both (A) and (R) are true and (R) is the correct explanation of (A).
2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
3. (A) is true but (R) is false.
4. (A) is false but (R) is true.

- ○ 1 (Chosen Option)
- ○ 2
- ○ 3
- ○ 4

Question No. 109 / Question ID 16115 Marks: 4.00

Two genes, G and H, are located on the same chromosome and have a recombination frequency of 20%. An individual is GgHh in cis-configuration (GH / gh). What fraction of that individual's gametes is expected to be parental (GH or gh) versus recombinant (Gh or gH)?

1. 50% parental, 50% recombinant
2. 60% parental, 40% recombinant
3. 80% parental, 20% recombinant
4. 90% parental, 10% recombinant

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 110 / Question ID 16013 Marks: 4.00

Below are statements about the 'Dominance hypothesis' of 'Heterosis'. Choose the correct ones.

(A) The dominance hypothesis was originally proposed by Davenport in 1908.

(B) According to this hypothesis, heterosis results from 'heterozygosity'.

(C) It states that the heterosis is directly proportional to the number of dominant genes each parent contributes.

(D) In the heterozygous state, the deleterious effects of recessive alleles are masked by their dominant alleles.

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

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

- ○ 1

- 2 (Chosen Option)
- 3
- 4

Question No. 111 / Question ID 16116 Marks: 4.00

In self-pollinated crops, what is the most important step to make sure the seeds produced stay genetically pure and true to type?

1. Letting different varieties of the same crop grow side-by-side.
2. Keeping the seed field isolated and using seeds from only one uniform plant type (genotype).
3. Mixing seeds from different varieties to increase diversity.
4. Using machines to harvest the crop and cleaning the seeds after harvesting.

- 1
- 2 (Chosen Option)
- 3
- 4

Question No. 112 / Question ID 16092 Marks: 4.00

Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A) : Nitrogen deficiency significantly reduces a plant's capacity for photosynthesis.

Reason (R) : Nitrogen is an essential constituent of chlorophyll, and hence its deficiency affects photosynthesis.

In light of the above statements, choose the *correct* answer from the options given below.

1. Both (A) and (R) are true and (R) is the correct explanation of (A).
2. Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
3. (A) is true but (R) is false.
4. (A) is false but (R) is true.

- 1 (Chosen Option)
- 2
- 3
- 4

Question No. 113 / Question ID 16009 Marks: 4.00

In a Chi-square ($\chi 2$) test with 2 phenotypic classes for plant height, what would be the degree of freedom (df)?

1. 0
2. 1
3. 2
4. 4

- 1

- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 114 / Question ID 16055 Marks: 4.00

In loose smut of wheat, spore balls are formed due to conversion of :

(A). Flag leaf

(B). Floral parts

(C). All leaves

(D). Apical stems

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

1. (A) and (B)
2. (B) and (C)
3. (A) only
4. (B) only

- ○ 1
- ○ 2
- ○ 3
- ○ 4 (Chosen Option)

Question No. 115 / Question ID 16072 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
Specialty	**Crop Name**
(A). Golden fibre	(I). Jute
(B). White gold	(II). Maize
(C). King of cereals	(III). Cotton
(D). Queen of cereals	(IV). Wheat
(E). Camel crop	(V). Sorghum

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

1. (A) - (I), (B) - (II), (C) - (V), (D) - (III), (E) - (IV)
2. (A) - (I), (B) - (III), (C) - (IV), (D) - (V), (E) - (II)
3. (A) - (I), (B) - (III), (C) - (IV), (D) - (II), (E) - (V)
4. (A) - (I), (B) - (III), (C) - (II), (D) - (IV), (E) - (V)

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 116 / Question ID 16046 Marks: 4.00

Citrus tristeza virus is detected by using the indicator plant :

1. Sweet orange
2. Rangpur Lime
3. Trifoliate orange
4. Kagzi Lime

- ○ 1
- ○ 2
- ○ 3
- ○ 4 (Chosen Option)

Question No. 117 / Question ID 16049 Marks: 4.00

The first Krishi Vigyan Kendra (KVK) was established in 1974 at:

1. Puducherry (Pondicherry) under the TNAU, Chennai
2. Puducherry under the TNAU, Coimbatore
3. Kudumiyanmalai under the TNAU, Coimbatore
4. Puducherry under the TNAU, Madurai

- ○ 1
- ○ 2 (Chosen Option)
- ○ 3
- ○ 4

Question No. 118 / Question ID 16033 Marks: 4.00

As per the seed certification standard for sugarcane, the age of the seed cane crop at harvest for seed purposes in the tropics should be:

1. 4–6 months
2. 6–8 months
3. 8–10 months
4. 10–12 months

- ○ 1
- ○ 2
- ○ 3
- ○ 4

Question No. 119 / Question ID 16037 Marks: 4.00

Match **List-I** with **List-II**

List-I	**List-II**
Name of various seed tests	**Scientist concerned**
(A). Tetrazolium Test	(I). Mills and Gherna (1987)
(B). Indoxyl Acetate Test	(II). Fick and Hibbard (1925)
(C). Electrical Conductivity Test for seed vigor in Pea	(III). Florence Flemion (1934)
(D). Excised Embryo Test	(IV). George Lakon (1942)

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

1. (A) - (IV), (B) - (II), (C) - (III), (D) - (I)
2. (A) - (II), (B) - (I), (C) - (IV), (D) - (III)
3. (A) - (IV), (B) - (I), (C) - (II), (D) - (III)
4. (A) - (III), (B) - (IV), (C) - (I), (D) - (II)

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Question No. 120 / Question ID 16105 Marks: 4.00

A plant with both staminate (male) and pistillate (female) flowers on separate branches of the same plant can best be described as:

1. Cleistogamous
2. Dioecious
3. Monoecious
4. Apomictic

- ○ 1
- ○ 2
- ○ 3 (Chosen Option)
- ○ 4

Test Prime
By Adda247

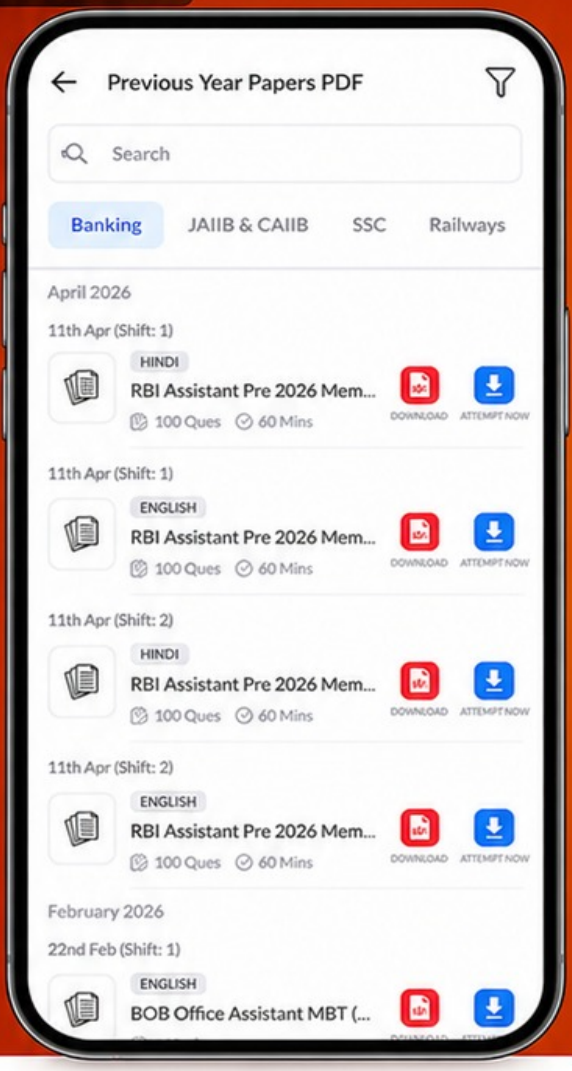
Previous Year Papers PDF

PRACTICE MORE, SCORE HIGHER!

PDF

Free 25,000+ PDF's

High-Quality | Exam-Wise | Updated Regularly



ATTEMPT AS MOCK

Turn PDFs into real exam experience.
Analyze. Improve. Succeed.

- Topic-wise & Exam-wise PDFs
- Download & Study Offline
- Attempt as Mock & Track Score
- Smart Analysis & Performance

AVAILABLE IN

Banking | SSC | Railway | Teaching | UGC | Agriculture | Nursing

Bihar | UP | Punjab | WB | Odisha | TN | AP & Telangana | Haryana

DOWNLOAD THE APP

NATIONAL TESTING AGENCY

Indian Council of Agricultural Research (ICAR) (PG) - 2025

Final Answer Key

Subject: Plant Sciences

Exam Shift: 10:00 to 12:00 Exam Date: 03-07-2025

Question ID	Correct Opt_ID	Question ID	Correct Opt_ID	Question ID	Correct Opt_ID	Question ID	Correct Opt_ID
16001	3	16035	2	16070	3	16104	1
16002	4	16036	4	16071	1	16105	3
16003	2	16037	3	16072	3	16106	4
16004	2	16038	3	16073	4	16107	3
16005	1	16039	4	16074	1	16108	2
16006	3	16040	3	16075	3	16109	2
16007	3	16041	3	16076	1,	16110	4
16008	4	16042	3		2	16111	2
16009	2	16043	2	16077	1	16112	2
16010	3	16044	4	16078	1	16113	2
16011	3	16045	3	16079	1	16114	3
16012	2	16046	4	16080	1	16115	3
16013	2	16047	3	16081	3	16116	2
16014	2	16048	3	16082	3	16117	2
16015	3	16049	2	16083	2	16118	1
16016	1	16050	1	16084	3	16119	3
16017	4	16051	3	16085	1	16120	2
16018	4	16052	3	16086	2		
16019	2	16053	2	16087	1		
16020	4	16054	4	16088	2		
16021	1	16055	4	16089	3		
16022	4	16056	4	16090	1		
16023	3	16057	2	16091	3		
16024	3	16058	2	16092	1		
16025	1	16059	2	16093	3		
16026	2,	16060	3	16094	1		
	4	16061	1	16095	3		
16027	3	16062	3	16096	2		
16028	1	16063	2	16097	1		
16029	1	16064	1	16098	3		
16030	1	16065	2	16099	4		
16031	4	16066	1	16100	3		
16032	3	16067	1	16101	1		
16033	2	16068	2	16102	3		
16034	1	16069	4	16103	3		