

PREVIEW QUESTION BANK

Module Name : Plant Physiology - 09-ENG
Exam Date : 29-Jun-2024 Batch : 14:30-16:30

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
1	201	Movement of DNA from one bacterium to another through a tubular bridge or pilus: 1. Conjugation 2. Transposition 3. Transfection 4. Transduction A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
2	202	Which of the following is responsible for eliminating toxic oxygen by-products from cells? 1. Mitochondria 2. Golgi complex 3. Peroxisomes 4. Chloroplasts A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
3	203	A form of multiple parasitism in which a parasite preferentially attacks a host that is already parasitized by another species is known as 1. Cleptoparasitism 2. Ectoparasitoid 3. Obligate parasitism 4. Superparasitism A1 : 1		

A2 : 2

A3 : 3

A4 : 4

Objective Question

4 204

For mass multiplication of DD-136 nematode, the common host used is

1. Silk moth
2. Fruit sucking moth
3. Codling moth
4. Lesser wax moth

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

5 205

Chlorpyrifos methyl is effective against stored product insects except

1. *Rhizopertha dominica*
2. *Tribolium castaneum*
3. *Caryedon serratus*
4. *Oryzaephilus surinamensis*

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

6 206

Which of the following insects often cause inhalational allergies in human following large emergence of adult insects

1. Stick insects
2. May flies
3. Ear wigs
4. Preying mantis

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

7 207

Given below are two statements:

Statement (I): Climate is a weather condition related to smaller areas at a given place and at a given time,

Statement (II): Weather is a condition of atmosphere at a given place and at a given time

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

1. Both Statement (I) and Statement (II) are correct.
2. Both Statement (I) and Statement (II) are incorrect.
3. Statement (I) is correct but Statement (II) is incorrect.
4. Statement (I) is incorrect but Statement (II) is correct.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

8 208

The local name of cyclone in Phillippines is

1. Hurricane
2. Cyclone
3. Baquio
4. Typhoon

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

9 209

Which one of the following are secondary tillage implements?

- (A). Subsoiler
- (B). Cultivator
- (C). Disc harrow
- (D). Wetland plough

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

10 210

_____ is the most suitable, drought resistant and persistent grass?

- 1. *Alylosia* sp.
- 2. *Cenchrus ciliaris*
- 3. *Stylosanthes hamata*
- 4. *Sorghum bicolor*

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

11 211

The rainfed area in India is approximately

- 1. 30 mha
- 2. 40 mha
- 3. 57 mha
- 4. 70 mha

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

12 212 Which nutrient is often a limiting factor in agricultural production?

1. Nitrogen
2. Carbon
3. Oxygen
4. Hydrogen

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

13 213 What is a potential disadvantage of agroforestry systems?

1. Increased soil erosion
2. Decreased carbon sequestration
3. Reduced biodiversity
4. Enhanced susceptibility to pests

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

14 214 Pungency in mustard oil is due to

1. Amino acid
2. Allyl isothiocyanate
3. Erusic acid
4. Oxalic acid

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

15 215

Sesamum belongs to the family

1. Chenopodiaceae
2. Papilionaceae
3. Leguminosae
4. Pedaliaceae

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

16 216

Dark period is critical in which type of plant?

1. Short day plant
2. Long day plant
3. Day neutral plant
4. All the options

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

17 217

Which of the following is NOT a significant contributor to greenhouse gas emissions from livestock farming?

1. Carbon dioxide
2. Methane
3. Nitrous oxide
4. Ammonia

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

18 218

Fe deficiency is mostly seen in crops growing on

1. Calcareous or alkaline soils
2. Salt affected soils
3. Acidic soils
4. Neutral soils

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

19 219

EDV (Essentially Derived Varieties) are those which are derived from:

1. crossing two commercially known varieties
2. hybrid introduced from other countries
3. existing variety through genetic engineering or mutation
4. crossing commercially known variety with its wild relative

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

20 220

What is the role of "companion planting" in agriculture?

1. Enhancing soil fertility through crop rotation
2. Growing different crop species together to deter pests
3. Cultivating plants in hydroponic system
4. Increasing soil compaction through cover cropping

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

21 1301

Which of the following is the correct stereoisomer representing Aspartame, the artificial sweetener?

1. L-aspartyl-D-phenylalanine methyl ester
2. D-aspartyl-L-phenylalanine methyl ester
3. D-aspartyl-D-phenylalanine methyl ester
4. L-aspartyl-L-phenylalanine methyl ester

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

22 1302

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

List-I	List-II
(Unit prefix)	(Multiple)
(A). Peta	(I). 10^{-1}
(B). Deca	(II). 10^{-15}
(C). Femto	(III). 10^{15}
(D). Deci	(IV). 10^1

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

23 1303

Given below are two statements:

Statement (I): Plant cells are usually smaller than animal cells.

Statement (II): Plant cells range from 10µm to 100 µm in diameter.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

24 1304

Sialic acid is also called as

1. N-Acetylgalactosamine
2. N-Acetylglucosamine
3. N-Acetylneuraminic acid
4. N-Acetylmuramic acid

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

25 1305

Which one of the following was the first amino acid to be discovered?

1. Arginine
2. Alanine
3. Glycine
4. Asparagine

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

26 1306

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

Assertion (A) : Archaeobacteria survive on extreme conditions like high temperature and low pH.

Reason (R) : Archaeobacteria have unique membrane lipids linked through ester bonds that is more stable than ether bonds found in other lipids.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

27 1307

Given below are two statements:

Statement (I): Prostaglandins are known as eicosanoids and contain 15 carbons.

Statement (II): Prostaglandins E and F were first isolated from the biological fluids.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

28 1308

Given below are two statements:

Statement (I): Biological nitrogen fixation is carried out by a highly conserved complex of proteins called the nitrogenase complex.

Statement (II): Nitrogen fixation requires ten electrons for the reduction of N_2 and to produce one molecule of H_2 .

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

29 1309

What is the function of mitochondria?

1. Generation of ATP
2. Synthesis of nucleotides
3. Fatty acid synthesis
4. Degradation of amino acids

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

30 1310

Given below are two statements:

Statement (I): The compounds acetone, aceto-acetate and β -hydroxybutyrate are known as ketone bodies.

Statement (II): Ketone bodies are synthesized in muscles and are fat-soluble in nature.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

31 1311

What are essential amino acids?

1. Proline and Glycine
2. Lysine and methionine
3. Lysine and alanine
4. Glutamic acid and Leucine

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

32 1312

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

List-I	List-II
Enzyme	Cofactor (Metal)
(A). Carbonic anhydrase	(I). Mo
(B). Hexokinase	(II). Zn^{2+}
(C). Nitrate Reductase	(III). Ni^{2+}
(D). Urease	(IV). Mg^{2+}

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

33 1313

Given below are two statements:

Statement (I): The active absorption of water takes place due to the activity of root and root hairs.

Statement (II): The rate of absorption depends upon transpiration in active absorption of water.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

34 1314

Who proposed the term isozyme?

1. Euler (1953)
2. Market and Moller (1959)
3. Mayrback (1952)
4. Thompson (1962)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

35 1315

Which one of the following is NOT the characteristic of ephimerales?

1. They are short lived plants.
2. They are drought escaping plants.
3. They pass dry period in the form of seeds.
4. They accumulate large quantity of water and use it slowly during dry periods.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

36 1316

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

Assertion (A) : Ethylene reduces biosynthesis of auxins and inhibits its transport from the region of synthesis to the site of action.

Reason (R) : Ethylene is considered to stimulate genes and results in the inhibition of certain mRNA and enzyme.

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

- Both (A) and (R) are true and (R) is the correct explanation of (A).
- Both (A) and (R) are true but (R) is NOT the correct explanation of (A).
- (A) is true but (R) is false.
- (A) is false but (R) is true.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

37 1317

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

List-I	List-II
(Trace Element)	(Concentrations for normal plant growth)
(A). Manganese	(I). 0.02 to 0.2 ppm
(B). Molybdenum	(II). 0.1 to 0.5 ppm
(C). Iron	(III). 0.01 to 0.05 ppm
(D). Zinc	(IV). 0.5 to 5.0 ppm

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

- (A) - (III), (B) - (II), (C) - (IV), (D) - (I)
- (A) - (I), (B) - (IV), (C) - (III), (D) - (II)
- (A) - (II), (B) - (III), (C) - (IV), (D) - (I)
- (A) - (IV), (B) - (I), (C) - (II), (D) - (III)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

38 1318

Which one of the following statements is NOT CORRECT regarding dormancy?

1. Dormancy is not a light sensitive
2. Dormancy due to seed coat
3. Dormancy due to immature embryo
4. Dormancy requires chilling treatment

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

39 1319

Which hormone inhibits gibberellin-induced enzyme production?

1. Ethylene
2. Jasmonic acid
3. Absciscic acid
4. Cytokinins

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

40 1320

What is the function of amyloplasts?

1. Storage of proteins
2. Storage of starch
3. Storage of oil
4. Storage of carbohydrates

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

41 1321

Given below are two statements:

Statement (I): In acrocentric, the centromere is situated at the center of the middle part of the chromosome.

Statement (II): In the sub-metacentric, the centromere is close to the center and chromosomes have unequal arms.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

42 1322

Given below are two statements:

Statement (I): Leucoplasts and chromoplasts are considered active stages of plastids while chloroplasts as the degenerative ones.

Statement (II): The chloroplast is also considered as a prokaryotic cell within an eukaryotic cell.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

43 1323

Which plant hormone reports the delay in senescence?

1. Auxins
2. Gibberellins
3. Cytokinins
4. Auxins and Gibberellins

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

44 1324

Given below are two statements:

Statement (I): Long-short day plants flower only if a certain number of short days are preceded by a number of long days.

Statement (II): Ambi-photoperiodic plants can flower in short days or long days but never in intermediate daylengths.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

45 1325

Which seed layer is differentiated into palisade cells?

1. Epidermal layer
2. Cell wall layer
3. Subepidermal layer
4. Pigmented layer

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

46 1326

Which of the following restriction endonuclease pairs are isochizomers?

1. EcoRI and HindIII
2. HpaII and MspI
3. HpaI and MspII
4. EcoRI and EcoRII

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

47 1327

Which of the following genes are genetically engineered in biofortified GOLDEN RICE?

1. ACC synthase and ACC oxidase
2. ACC synthase and ACP desaturase
3. Phytoene synthase and Phytoene Desaturase
4. ACC synthase and Phytoene Desaturase

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

48 1328

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

List-I	List-II
(Strategy)	(Mode of Action)
(A). Ribozyme/RNaseP	(I). Interferes with replication
(B). Coat Protein	(II). Binds to RNA preventing function
(C). cDNA of RNA satellite	(III). Interferes with uncoating
(D). Antisense RNA	(IV). Cleavage of RNA genome

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

49 1329

The genome edited GABA tomato is enriched in

1. Gibberlin aniline butyric acid
2. Gamma amino butyric acid
3. Glycine Alanine butyric acid
4. Gammone Butyric acid

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

50 1330

Which of the following are multi-parent population designs in plants?

1. RIL and NIL
2. BC and TC
3. NAM and MAGIC
4. SNP and KASP

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

51 1331

Which of the following is not a diazotroph?

1. Pseudomonas
2. Xanthosomonas
3. Nitrospira
4. Escherichia

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

52 1332

Which of the following pollen types respond best during anther culture?

1. S-grains
2. R-grains
3. T-grains
4. A-grains

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

53 1333

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

Assertion (A): Hybrid Embryo rescue is important for the development of interspecific hybrids.

Reason (R) : Embryo fails to develop due to endosperm degeneration in interspecific hybrids.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

54 1334

How many sister chromatids are in the rice (*Oryza sativa*) plant cell entering the first meiotic division?

1. 24
2. 12
3. 48
4. 6

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

55 1335

The hammerhead ribozyme is one of the most commonly used ribozymes in technology. Which of the following statements is true about its function and structure?

1. It has a simple structure consisting of only two stem-loop structures.
2. It cleaves RNA sequences using a water molecule in a mechanism similar to protein enzymes.
3. It can cleave any RNA sequence without needing a specific target sequence.
4. It requires a protein cofactor to function.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

56 1336

Given below are two statements:

Statement (I): Diethylpyrocarbonate (DEPC) is used to inactivate RNases in buffers and on glassware.

Statement (II): Diethylpyrocarbonate (DEPC) is a transition state analog that binds to active sites of RNases.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

57 1337

Repressor molecules bind to

1. Operator
2. Promoter
3. Enhancer
4. Hormone response element

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

58 1338

Which of the following are features of Ti-plasmid?

- (A). They contain one (or more) T-DNA region.
- (B). They contain a region enabling antibiotic resistance.
- (C). They contain a *vir* region.
- (D). They contain a region enabling conjugative transfer.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

59 1339

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

List-I	List-II
(Genes)	(Functions)
(A). <i>nif K</i>	(I). FeMo cofactor biosynthesis
(B). <i>nif A</i>	(II). β -subunit of MoFe protein of nitrogenase
(C). <i>nif S</i>	(III). Fe protein of nitrogenase
(D). <i>nif B</i>	(IV). Positive regulator of <i>nif</i> and <i>fix</i> genes
(E). <i>nif H</i>	(V). Cysteine desulfurase

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

60 1340

Match List-I with List-II

List-I	List-II
(Organism)	(Toxin produced)
(A). <i>Clostridium botulinum</i>	(I). Patulin
(B). <i>Staphylococcus aureus</i>	(II). Aflatoxin
(C). <i>Aspergillus parasiticus</i>	(III). Enterotoxin
(D). <i>Aspergillus ostianus</i>	(IV). Neurotoxin
(E). <i>Penicillium expansum</i>	(V). Ochratoxin A

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

61 1341

Which one of the following is NOT an assumption of ANOVA?

1. The data are normally distributed
2. Blocks
3. Same variance
4. The data are independent

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

62 1342

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

List-I	List-II
(Enzymes produced industrially)	(Microbial source)
(A). Diastase	(I). <i>Saccharomyces cerevisiae</i>
(B). Invertase	(II). <i>Trichoderma konigi</i>
(C). Collagenase	(III). <i>Rhizopus</i> sp.
(D). Lipase	(IV). <i>Clostridium histolyticum</i>
(E). Cellulase	(V). <i>Aspergillus oryzae</i>

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

63 1343

Match List-I with List-II

List-I	List-II
(Generation of DNA sequencing)	(Method)
(A). First generation	(I). HeliScope single molecule sequencer
(B). Second generation	(II). Sanger method
(C). Third generation	(III). Oxford Nanopore method
(D). Fourth generation	(IV). Illumina sequencing

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

64 1344

Read the following statements regarding bioremediation

(A). Aerobic biodegradation of PCBs is mainly carried out by the white rot fungus, *Phanerochaete* and by *Acinetobacter* and *Alcaligenes*.

(B). *Methylococcus capsulatus* can convert chloro- and bromo methane to formaldehyde, dichloro- and trichloro methane to CO₂ while growing on methane.

(C). In most cases, pesticides that are cometabolized are completely degraded, hence cometabolism of a pesticide is always good from an environmental standpoint.

(D). *Burkholderia* dechlorinates the pesticide 2, 4, 5-T aerobically by using oxygenase enzymes and release chloride ion (Cl⁻).

(E). Reductive dechlorination is less important than oxidative dechlorination from ecological standpoint.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

65 1345

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

Assertion (A) : β -lactam antibiotics are given in combination with clavulanic acid.

Reason (R) : Clavulanic acid binds with β -lactamase with a high affinity, inhibits it and prevents it to act on the β -lactam antibiotics.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

66 1346

Which of the following technique is most frequently used for culture preservation in microbial culture collection centers?

1. Mineral oil layering
2. Soil stocks
3. Lyophilization
4. Paraffin method

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

67 1347

Given below are two statements:

Statement (I): During feedback inhibition of enzyme, the activity of an enzyme already present in the cell and it is inhibited by the end product of the reaction.

Statement (II): During repression of enzyme, the synthesis of an enzyme is inhibited by the end product of the reaction.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

68 1348

Read the following statements regarding inhibition of oxidative phosphorylation :

- (A). Cyanide binds tightly with cytochromes and prevents their functioning.
- (B). The antibiotic antimycin A inhibits electron transport chain (ETC) by competing with coenzyme Q.
- (C). The antibiotic piericidin blocks ETC between cytochrome b and c.
- (D). Carbon monoxide binds tightly with cytochromes and prevents their functioning.
- (E). The uncouplers prevent ATP synthesis without affecting ETC itself.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

69 1349

Microorganisms transform mercury (Hg) by the process of methylation yielding methylmercury (CH_3Hg^+). Which of the following is correct regarding toxicity of methylmercury?

1. Less toxic over Hg
2. Extremely toxic over Hg
3. Equal toxic to Hg
4. Non-toxic over Hg

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

70 1350

The use of computers to store and analyze the sequences and structures of nucleic acids and proteins, is referred as

1. Metagenomics
2. Metatranscriptomics
3. Bioinformatics
4. Biostatistics

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

71 1000501

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

Assertion (A) : Pores are formed in the cell walls wherever plasmodesmata are present.

Reason (R) : Primary cell wall is not deposited in the vicinity of plasmodesmata.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

72 1000502

Who proposed the two ways of radial movement of water?

1. Strasburger (1891)
2. Overton (1911)
3. Stephan Hales (1727)
4. Sutcliffe (1969)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

73 1000503

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

List-I	List-II
(Scientist)	(Coined/ Theory/ Concept)
(A). Godlewski (1884)	(I). Pulsation theory of ascent of sap.
(B). Sir J.C. Bose (1923)	(II). A pressure developing in the tracheary elements of the xylem as a result of metabolic activities of the roots.
(C). Stephan Hales (1727)	(III). Clambering theory.
(D). Stocking (1956)	(IV). Coined the term root pressure.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

74	1000504	Given below are two statements: Statement (I): The nucleus is surrounded by a double membrane called the nuclear envelope which is a subdomain of the golgi complex. Statement (II): Nuclear pores form selective channels across both membranes, connecting the nucleoplasm with the cytoplasm. In light of the above statements, choose the <i>most appropriate</i> 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. A1 : 1 A2 : 2 A3 : 3 A4 : 4
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Objective Question

75	1000505	What is denitrification? 1. Bacterial conversion of nitrate to nitrous oxide and molecular nitrogen. 2. Bacterial and fungal catabolism of soil organic matter to mineral nitrogen through ammonification or nitrification. 3. Plant absorption and assimilation of ammonium or nitrate. 4. Bacterial (<i>Nitrosomonas</i> sp.) oxidation of ammonium to nitrite and subsequent bacterial (<i>Nitrobacter</i> sp.) oxidation of nitrite to nitrate. A1 : 1 A2 : 2 A3 : 3 A4 : 4
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Objective Question

76	1000506	
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Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R).

Assertion (A) : Biological nitrogen fixation is carried out by the nitrogenase complex which consists of reductase and nitrogenase.

Reason (R) : Reductase provides electrons with high reducing power, and a nitrogenase uses these electrons to reduce N_2 to NH_3 .

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

77 1000507

Given below are two statements:

Statement (I): Xylem vessels translocate both solute and solvent, and they have high turgor pressure.

Statement (II): Phloem sieve tubes translocate only solute, and they have low turgor pressure.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

78 1000508

Given below are two statements:

Statement (I): Leaf area index indicates the proportion of ground area covered by leaves.

Statement (II): Relative growth rate indicates the proportionate growth of plant independent of their size.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

79 1000509

Which group of xylem cells contain proton pumps, aquaporins, and a variety of ion channels and carriers specialized for influx or efflux in their plasma membrane?

1. Xylem fibre cells
2. Xylem parenchyma cells
3. Xylem tracheid cells
4. Xylem vessel cells

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

80 1000510

What is the unit of net assimilation rate (NAR) of plant?

1. g day^{-1}
2. $\text{g cm}^{-2} \text{ day}^{-1}$
3. $\text{cm}^2 \text{ g}^{-1}$
4. $\text{cm}^2 \text{ day}$

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

81 1000511

What is Leaf Area Duration (LAD)?

1. Product of leaf area and the plant dry weight
2. Product of leaf area and leaf weight
3. Product of leaf area and the time period which leaf area is maintained
4. Product of leaf weight and the leaf area

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

82 1000512

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

Assertion (A) : Partitioning determines the patterns of growth, and growth must be balanced between shoot growth and root growth.

Reason (R) : It secures a supply of carbon and mineral nutrients appropriate to the needs of the plant.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

83 1000513

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

Assertion (A) : Physiological adjustment to abiotic stress involves trade-offs between vegetative and reproductive development.

Reason (R) : When genetic changes in an entire plant population have been fixed over many generations by selective environmental pressure, those changes are referred to as adaptation.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

84 1000514

Given below are two statements:

Statement (I): ROS can trigger an autocatalytic process of membrane oxidation that can result in the degradation of organelles and the plasma membrane, and cell death.

Statement (II): Salt-tolerant plants genetically adapted to salinity are termed halophytes, while less salt-tolerant plants that are not adapted to salinity are termed glycophytes.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

85 1000515

Given below are two statements:

Statement (I): The primary effect of high temperature stress condition to plants results into membrane and protein destabilization.

Statement (II): The primary effect of cold stress condition to plants results into disturbed cofactor binding to proteins and DNA, and also enhances ROS production.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

86 1000516

Which of the following categories are considered as ephemerales in xerophytic plants?

1. Drought escapers
2. Drought evaders
3. Drought endurers
4. Drought resistant

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

87 1000517

Given below are two statements:

Statement (I): Brassinosteroids are synthesized from the plant sterol campesterol, which is similar in structure to cholesterol.

Statement (II): Strigolactones are transported out of sites of synthesis via plasma membrane ABC transporters and have been shown to move in the shoot from shoot to root.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

88 1000518

Which hormone is responsible for increasing chlorophyllase activity in plants?

1. Absciscic acid
2. Ethylene
3. Auxins
4. Cytokinins

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

89 1000519

Given below are two statements:

Statement (I): Compatible solutes are organic compounds that are osmotically active in the cell but do not destabilize the membrane or interfere with enzyme function at high concentrations.

Statement (II): Plant cells can tolerate high concentrations of compatible solutes without detrimental effects on metabolism.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

90 1000520

Which of the following characteristic is NOT of gibberellins?

1. Prevention of genetic and physiological dwarfism
2. Increase of amylase activity
3. Substitute for chilling effect
4. Induction of flowering in short day plant

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

91 1000521

Given below are two statements:

Statement (I): Calcium deficiency appears in the young leaves and near the growing points of stem and roots.

Statement (II): Magnesium deficiency symptoms develop on the older leaves and proceed systematically towards the younger leaves.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

92 1000522

Match List-I with List-II

List-I	List-II
(Mineral Nutrient)	(Function)
(A). Copper	(I). Constituent of nitrogenase, nitrate reductase, and xanthine dehydrogenase.
(B). Nickel	(II). Involved with many cation-activated enzymes and photosynthetic oxygen evolution.
(C). Molybdenum	(III). Component of ascorbic acid oxidase, tyrosinase, monoamine oxidase.
(D). Manganese	(IV). In nitrogen fixing bacteria, constituent of hydrogenases.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

93 1000523

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

Assertion (A) : Companion cells are sources of ATP and perhaps other compounds. In some species, they serve as transfer cells or intermediary cells.

Reason (R) : Sieve areas are differentiated sometimes into sieve plates, and individual sieve tube elements are joined together into a sieve tube.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

94 1000524

Given below are two statements:

Statement (I): There is no bidirectional transport in single sieve elements, and solutes and water move at the same velocity.

Statement (II): The energy requirement for transport through the phloem pathway is small in herbaceous 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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

95 1000525

Who proposed the activated diffusion hypothesis?

1. Bonner and Went
2. K.C. Clark
3. K.M. Dixon
4. Mason and Phillis

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

96 1000526

Leaves that maximize light interception by solar tracking are referred as

1. Photoheliotropic
2. Polyheliotropic
3. Diaheliotropic
4. Monoheliotropic

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

97 1000527

Given below are two statements:

Statement (I): The hypodermal layer of cells is typically transparent to visible light, and the individual cells are often convex.

Statement (II): The hypodermal cells act as lenses and focus light so that the amount reaching some of the chloroplasts can be many times greater than the amount of ambient light.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

98 1000528

Which of the following sequence is correct in heat dissipation under xanthophyll cycle?

1. Zeaxanthin → Antheraxanthin → Violaxanthin
2. Antheraxanthin → Violaxanthin → Antheraxanthin
3. Violaxanthin → Antheraxanthin → Violaxanthin
4. Violaxanthin → Antheraxanthin → Zeaxanthin

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

99 1000529

Given below are two statements:

Statement (I): Auxin is the only plant hormone that is polarly transported from cell to cell in an energy dependent manner.

Statement (II): Plant polarity is maintained by polar auxin streams.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

100 | 1000530

Which of the following is located directly below (distal to) the quiescent center?

1. Cortical–endodermal initials
2. Epidermal–lateral root cap initials
3. Stele initials
4. Columella initials

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

101 | 1000531

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

Assertion (A) : The ratio of abscisic acid and cytokinins is the primary determinant of seed dormancy.

Reason (R) : Hormonal sensitivity is a function of the hormonal signaling pathways in the target tissues.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

102 1000532

Given below are two statements:

Statement (I): The mesocotyl forms the interface between the embryo and the starchy endosperm tissue.

Statement (II): The coleoptile covers and protects the first leaves while buried beneath the soil.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

103 1000533

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

List-I	List-II
(Seed)	Fruit (or type)
(A). Castor bean	(I). Cypsela
(B). Cabbage	(II). Nut
(C). Cotton	(III). Caryopsis
(D). Coffee bean	(IV). Samara

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

104 1000534

Given below are two statements:

Statement (I): The leaf is the site of perception of the photoperiodic signal.

Statement (II): Photoperiodic timekeeping during the night depends on a circadian clock.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

105 1000535

Which of the following plants is classified as an ambiphotoperiodic plant?

1. *Setaria verticillata*
2. *Coleus hybrida*
3. *Aloe bulbifera*
4. *Chenopodium album*

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

106 1000536

Which of the following plants promoted flowering by short photoperiods?

1. *Ricinus cummunis*
2. *Iberis durandii*
3. *Cosmos bipinnatus*
4. *Beta vulgaris*

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

107 1000537

Who proposed the theory of two-phase flowering?

1. Chailakhyan
2. Lobimenka and Scheglova
3. K.C. Knott
4. J.W. Wardlaw

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

108 1000538

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

Assertion (A) : The central cell in the middle of embryo sac is also regarded as a gamete.

Reason (R) : The central cell fuses with one of the sperm cells during double fertilization.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

109 1000539

Given below are two statements:

Statement (I): Two genes, *DEFECTIVE KERNEL1 (DEK1)* and *CRINKLY4 (CR4)*, have been implicated in aleurone layer differentiation.

Statement (II): The CR4 protein is a receptor-like kinase that also functions as a positive regulator of aleurone cell fate.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

110 1000540

Who proposed the pulsation theory of ascent of sap?

1. K.H. Stocking
2. M.M. Olins
3. J. C. Bose
4. C.S. Strasburger and B.H. Overton

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

111 1000541

Who proposed the protoplasmic streaming theory?

1. De Vries
2. Mittler
3. Thaine
4. Web and Gorham

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

112 1000542

Which of the following is classified as climacteric fruit?

1. Cashew
2. Guava
3. Lemon
4. Pepper

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

113 1000543

One of the first changes observed during leaf senescence is

1. A decline in ribosomes and rough endoplasmic reticulum
2. A decline in golgi complex
3. A decline in chloroplasts
4. A decline in ribosomes and free amino acids

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

114 1000544

Given below are two statements:

Statement (I): Bananas and tomatoes are classified as berries, in which the seeds are embedded in a fleshy mass.

Statement (II): Apples and pears are classified as drupes, in which the seed is enclosed in a stony endocarp.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

115 1000545

Given below are two statements:

Statement (I): In plants, the outer membrane of the autophagosome fuses with the vacuolar membrane, or tonoplast, and the autophagic body enters the vacuole is degraded.

Statement (II): The monomers (amino acids, sugars, nucleosides, etc.) generated by hydrolytic breakdown of the autophagic body are returned to the cytosol for reuse, either as an energy source or as building blocks for new cellular structures.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

116 1000546

Given below are two statements:

Statement (I): In most of the species, the stems of *in vitro* developed plants are hyperlignified.

Statement (II): In most of the species, *in vitro* developed leaves show poor mesophyll differentiation and weak vasculature.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

117 1000547

What is the gene encoded by the auxB gene of T-DNA?

1. Indole acetamidehydrolase
2. Tryptophan monooxygenase
3. Isopentenyl transferase
4. Aminoglycoside adenylyltransferase

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

118 1000548

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

Assertion (A) : Gene pyramiding involves stacking multiple resistance genes in a single plant variety.

Reason (R) : Gene fusion is a molecular technique that combines two or more genes to form a single hybrid gene.

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.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

119 1000549

Given below are two statements:

Statement (I): In the NIR region, radiation transmitted from upper-canopy leaves to lower leaves is subsequently reflected back to the upper part, and this helps to determine leaf and canopy architecture.

Statement (II): Hyperspectral high-spatial resolution satellite data provides effective data for empirical and physical analysis of canopy water content.

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.

		A1 : 1
		A2 : 2
		A3 : 3
		A4 : 4

Objective Question

120	1000550	Who coined the term phenomics? 1. Craig D. Jones 2. Greig M. Spanner 3. John S. Esau 4. Steven A. Garan A1 : 1 A2 : 2 A3 : 3 A4 : 4
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