

PREVIEW QUESTION BANK

Module Name : Biochemistry - 08-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	4.0	1.00
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	4.0	1.00
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	4.0	1.00

		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	4.0	1.00
Objective Question				
5	205	Chlorpyrifos methyl is effective against stored product insects except 1. <i>Rhizopertha dominica</i> 2. <i>Tribolium castaneum</i> 3. <i>Caryedon serratus</i> 4. <i>Oryzaephilus surinamensis</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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	4.0	1.00

A3 : 3

A4 : 4

Objective Question

7 207

4.0 1.00

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

4.0 1.00

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

4.0 1.00

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

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

4.0 1.00

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	4.0	1.00
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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	4.0	1.00
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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	4.0	1.00
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		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	4.0	1.00
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	4.0	1.00
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	4.0	1.00

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	4.0	1.00
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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	4.0	1.00
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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	4.0	1.00
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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	4.0	1.00
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Objective Question

221302

4.01.00

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		4.0	1.00
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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	4.0	1.00
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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	4.0	1.00
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		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 <i>correct</i> 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	4.0	1.00
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 <i>most appropriate</i> answer from the options given below. - Both Statement (I) and Statement (II) are true. - Both Statement (I) and Statement (II) are false. - Statement (I) is true but Statement (II) is false. - Statement (I) is false but Statement (II) is true. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
28	1308		4.0	1.00

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 I309

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

4.0

1.00

Objective Question

30 I310

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

4.0

1.00

A2 : 2

A3 : 3

A4 : 4

Objective Question

31 1311

4.0

1.00

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

4.0

1.00

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	I313	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 <i>most appropriate</i> answer from the options given below. - Both Statement (I) and Statement (II) are true. - Both Statement (I) and Statement (II) are false. - Statement (I) is true but Statement (II) is false. - Statement (I) is false but Statement (II) is true. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

34	I314	Who proposed the term isozyme? - Euler (1953) - Market and Moller (1959) - Mayrback (1952) - Thompson (1962) A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

35	I315	Which one of the following is NOT the characteristic of ephimerales? - They are short lived plants. - They are drought escaping plants. - They pass dry period in the form of seeds. - They accumulate large quantity of water and use it slowly during dry periods. A1 : 1 A2 : 2	4.0	1.00
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A3 : 3

A4 : 4

Objective Question

36 1316

4.0 1.00

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

4.0 1.00

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	4.0	1.00
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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	4.0	1.00
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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	4.0	1.00
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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 <i>most appropriate</i> answer from the options given below. - Both Statement (I) and Statement (II) are true. - Both Statement (I) and Statement (II) are false. - Statement (I) is true but Statement (II) is false. - Statement (I) is false but Statement (II) is true. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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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 <i>most appropriate</i> answer from the options given below. - Both Statement (I) and Statement (II) are true. - Both Statement (I) and Statement (II) are false. - Statement (I) is true but Statement (II) is false. - Statement (I) is false but Statement (II) is true. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

43	1323		4.0	1.00
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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

4.0 1.00

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

4.0 1.00

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	4.0	1.00
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	4.0	1.00
Objective Question				
48	1328		4.0	1.00

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

4.0 1.00

Objective Question

50 1330

4.0 1.00

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

4.0 1.00

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

4.0 1.00

Objective Question

53 1333

4.0 1.00

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 (<i>Oryza sativa</i>) plant cell entering the first meiotic division?	4.0	1.00
		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?	4.0	1.00
		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 <i>most appropriate</i> answer from the options given below. - Both Statement (I) and Statement (II) are true. - Both Statement (I) and Statement (II) are false. - Statement (I) is true but Statement (II) is false. - Statement (I) is false but Statement (II) is true. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
57	1337	Repressor molecules bind to - Operator - Promoter - Enhancer - Hormone response element A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
58	1338		4.0	1.00

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

4.0 1.00

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

4.0 1.00

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:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

61 1341

4.0 1.00

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

- The data are normally distributed
- Blocks
- Same variance
- The data are independent

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

62 1342

4.0

1.00

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:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

63 1343

4.0

1.00

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

4.0 1.00

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 <i>correct</i> 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	4.0	1.00
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Objective Question

66	1346	Which of the following technique is most frequently used for culture preservation in microbial culture collection centers? - Mineral oil layering - Soil stocks - Lyophilization - Paraffin method A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

67	1347		4.0	1.00
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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

4.0 1.00

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

4.0 1.00

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	4.0	1.00
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Objective Question

71	1000451	Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R). Assertion (A) : Large number of weak interactions between macromolecules in supramolecular complexes stabilizes them, producing their unique structure. Reason (R) : In supramolecular complexes, macromolecules are held together by covalent interactions. In light of the above statements, choose the <i>correct</i> 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	4.0	1.00
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A3 : 3

A4 : 4

Objective Question

72	1000452	Read the following statements- (A). Molecular conformation is defined as the spatial arrangement of atoms or the substituents groups. (B). Molecular conformation can be changed without breaking any bond. (C). A hydrocarbon, ethane has many interconvertible molecular conformations. (D). All the conformations of ethane and other hydrocarbons can be easily isolated. (E). Of all, eclipsed conformation is the most stable and staggered is the least stable conformation. Choose the correct answer from the options given below: 1. (A), (B), (C). 2. (A), (C), (E). 3. (B), (C), (E). 4. (A), (B), (D). A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

73	1000453	Given below are two statements: Statement (I): The amino acid residues in protein molecule are exclusively L-stereoisomers. Statement (II): All the L-amino acids are levorotatory <i>i.e.</i>, rotating light to the left. 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	4.0	1.00
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Objective Question

741000454

4.01.00

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

List-I	List-II
(Class of conjugated protein)	(Example)
(A). Phosphoprotein	(I). Succinate dehydrogenase
(B). Glycoprotein	(II). Alcohol dehydrogenase
(C). Flavoprotein	(III). Casein
(D). Metalloprotein	(IV). Immunoglobulin G

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

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

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

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

75	1000455	Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R). Assertion (A) : Lipid-rich foods, exposed too long to the air become rancid. Reason (R) : The double bonds in the unsaturated fatty acid in lipids undergo oxidative cleavage to produce compounds of higher volatility. In light of the above statements, choose the <i>correct</i> 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	4.0	1.00
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A4 : 4

Objective Question

761000456

4.01.00

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

List-I	List-II
(Fatty Acid)	(Melting point)
(A). Lauric acid	(I). 69.6 °C
(B). Palmitic acid	(II). 53.9 °C
(C). Myristic acid	(III). 44.2 °C
(D). Stearic acid	(IV). 63.1 °C

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

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

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

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

77	1000457	Given below are two statements: Statement (I): The non-polar hydrocarbon chain of fatty acids accounts for their poor solubility in organic solvents. Statement (II): The longer the fatty acyl chain and fewer the double bonds; the lower the solubility in water. In light of the above statements, choose the <i>most appropriate</i> answer from the options given below. - Both Statement (I) and Statement (II) are true. - Both Statement (I) and Statement (II) are false. - Statement (I) is true but Statement (II) is false. - Statement (I) is false but Statement (II) is true. A1 : 1 A2 : 2 A3 : 3	4.0	1.00
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		A4 : 4		
Objective Question				
78	1000458	Co-enzyme Q is also known as 1. Phylloquinone 2. Plastoquinone 3. Ubiquinone 4. Menaquinone A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
79	1000459	Read the following statements- (A). Acetyl Co-A is the positive allosteric modulator of Pyruvate decarboxylase. (B). Thiamine pyrophosphate is an essential co-factor of pyruvate decarboxylase. (C). Pyruvate decarboxylase is universally present in plants and animals. (D). Pyruvate decarboxylase converts pyruvate to acetaldehyde and CO₂. (E). The decarboxylation reaction by pyruvate decarboxylase is an irreversible reaction. Choose the correct answer from the options given below: 1. (A), (B), (C). 2. (A), (C), (E). 3. (B), (D), (E). 4. (B), (C), (D). A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
80	1000460		4.0	1.00

The partitioning of isocitrate between the citric acid cycle and glyoxylate cycle is controlled by regulation of which of the following enzyme?

1. Isocitrate lyase
2. Isocitrate dehydrogenase
3. Citrate synthase
4. Aconitase

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

81	1000461	Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R). Assertion (A) : The most effective drugs; neither too lipophilic nor too hydrophilic, are designed in a way that they can readily assume both their ionized and unionized forms at physiological pH. Reason (R) : The pK values of these drugs range between 6.0 to 8.0. In light of the above statements, choose the <i>correct</i> 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	4.0	1.00
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Objective Question

82	1000462	Which of the following Vitamin contains the 'Corrin ring system'? 1. Vitamin B₆ 2. Vitamin B₉ 3. Vitamin B₂ 4. Vitamin B₁₂ A1 : 1 A2 : 2 A3 : 3	4.0	1.00
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A4 : 4

Objective Question

83	1000463	Given below are two statements: Statement (I): Competitive enzyme inhibition is a type of irreversible inhibition. Statement (II): In the presence of competitive inhibitor, the apparent V_{max} of the enzyme increases by the factor α. In light of the above statements, choose the <i>most appropriate</i> answer from the options given below. - Both Statement (I) and Statement (II) are true. - Both Statement (I) and Statement (II) are false. - Statement (I) is true but Statement (II) is false. - Statement (I) is false but Statement (II) is true. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

84	1000464	Chymotrypsin belongs to which of the following type of proteases? - Cysteine Proteases - Serine Proteases - Threonine Proteases - Tyrosine Proteases A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

85	1000465		4.0	1.00
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Given below are two statements:

Statement (I): The kinetics of allosteric enzymes differ from Michaelis-Menten kinetics.

Statement (II): Allosteric enzymes function through reversible, covalent binding of allosteric modulators or effectors.

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	1000466	Which of following antibiotic, regulating eukaryotic translation, is extracted from castor beans? 1. Chloramphenicol 2. Ricin 3. Puromycin 4. Tetracycline A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

87	1000467	Given below are two statements: Statement (I): DNA usually absorbs maximum at 260 nm, entirely due to its aromatic bases. Statement (II): On denaturation, DNA's ultraviolet absorbance decreases by nearly 40%, though the absorbance maximum wavelength remains the same. 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	4.0	1.00
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A2 : 2

A3 : 3

A4 : 4

Objective Question

88	1000468	Which of following is NOT true about Genetic Code? 1. Genetic code is non-random. 2. Genetic code is highly degenerate 3. Genetic code is non-overlapping 4. Genetic code has internal punctuations to indicate the particular reading frame A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

89	1000469	Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R). Assertion (A) : Euchromatin is less condensed DNA than heterochromatin DNA. Reason (R) : Euchromatin is transcriptionally active DNA thus needs to provide the access to transcription machinery. In light of the above statements, choose the <i>correct</i> 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	4.0	1.00
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Objective Question

90	1000470		4.0	1.00
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Given below are two statements:

Statement (I): α -amanitin disrupts m-RNA formation in animal cells by blocking pol II.

Statement (II): RNA Polymerase I and bacterial RNA polymerase, both are insensitive to α -amanitin.

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

91	1000471	Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R). Assertion (A) : Difference gel electrophoresis (DIGE) allows the comparison of protein components of two samples by running only one 2-D gel. Reason (R) : Different samples are treated with two different yet structurally similar, fluorescent dyes and then mixed to be run on 2-D gel. In light of the above statements, choose the <i>correct</i> 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	4.0	1.00
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Objective Question

92	1000472		4.0	1.00
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Given below are two statements:

Statement (I): In MALDI-TOF, MALDI produces gas phase protonated ions of sample molecules through LASER.

Statement (II): MALDI is superior to other ionization methods as it produces large mass ions with high sensitivity.

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

93	1000473	Which of the following method is used for detection of particular protein on the basis of its biological activity?	4.0	1.00
		1. SDS-PAGE 2. Native-PAGE 3. Iso-electric focussing 4. Two-Dimensional gel electrophoresis		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

94	1000474	The two intact bands of RNA visible on agarose gel define its integrity. These bands belong to which type of RNA?	4.0	1.00
		1. t-RNA 2. m-RNA 3. r-RNA 4. small interfering RNA		
		A1 : 1		
		A2 : 2		
		A3 : 3		

		A4 : 4		
Objective Question				
95	1000475	SIM mode acquisition has a particular application for on-line chromatography/mass spectrometry. SIM stands for 1. Sequential ion monitoring 2. Sequential ion measure 3. Selected ion monitoring 4. Selected ion measure A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
96	1000476	Which disaccharide has no free aldehyde or ketone group? 1. Maltose 2. Sucrose 3. Lactose 4. Cellobiose A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
97	1000477		4.0	1.00

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

List-I	List-II
(Food item)	(Glycemic index)
(A). Carrots	(I). 40-45
(B). Soybeans	(II). 60-70
(C). Oranges	(III). 90-95
(D). Banana	(IV). 15-20

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

98 1000478

4.0 1.00

Given below are two statements:

Statement (I): Green leafy vegetables are good sources of provitamin A, folic acid and calcium.

Statement (II): Cassava, sweet potato and carrots are types of green leafy vegetables.

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

99

1000479

4.0

1.00

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

List-I	List-II
(Amino Acid)	(Major role in food industry)
(A). L-Glutamate	(I). Food additive
(B). L-Aspartate	(II). Flavor enhancer
(C). L-Cysteine	(III). Pharmaceutical
(D). L-Arginine	(IV). Sweetener

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

100	1000480	Given below are two statements: Statement (I): The ratio of volume of CO₂ produced to the volume of O₂ utilized in the oxidation of foodstuffs is known as respiratory quotient. Statement (II): The respiratory quotient of carbohydrate is 0.7 and fat is 1. In light of the above statements, choose the <i>most appropriate</i> answer from the options given below. - Both Statement (I) and Statement (II) are true. - Both Statement (I) and Statement (II) are false. - Statement (I) is true but Statement (II) is false. - Statement (I) is false but Statement (II) is true. A1 : 1 A2 : 2 A3 : 3	4.0	1.00
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		A4 : 4		
Objective Question				
101	1000481	Read the following statements : (A). Rubisco is not absolutely specific for CO₂ as a substrate. (B). Rubisco catalyzes the condensation of O₂ with ribulose 1,5-bisphosphate to form 3-phosphoglycerate and 2-phosphoglycolate. (C). The K_m for CO₂ is about 9 μM, and that for O₂ is about 350 μM. (D). Photorespiration does not conserve energy and inhibit net biomass formation as much as 50%. Choose the correct answer from the options given below: 1. (A), (B) and (C) only. 2. (A), (B) and (D) only. 3. (A), (B), (C) and (D). 4. (B), (C) and (D) only. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
102	1000482	Which chemicals are the raw materials of photosynthesis? 1. Carbon dioxide and oxygen 2. Carbon dioxide and water 3. Glucose and oxygen 4. Carbon dioxide, ATP and oxygen A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
103	1000483		4.0	1.00

Given below are two statements:

Statement (I): Starch and sucrose are the major carbohydrates stored in plants.

Statement (II): Starch is synthesized and stored in mitochondria.

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

104	1000484		4.0	1.00
Given below are two statements: Statement (I): Calvin cycle consumes 3126 kJ (750 kcal) in the form of NADPH and ATP. Statement (II): Rubisco is activated when activator CO₂ reacts slowly with an uncharged ε-NH₂ group of lysine within the active site of the enzyme. 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				

Objective Question

105	1000485		4.0	1.00

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

Assertion (A) : A C_4 acid was first observed in $^{14}CO_2$ labeling studies of sugarcane by H. P. Kortschack and colleagues.

Reason (R) : Primary carboxylation in C_4 plants is catalyzed by rubisco, not by PEP carboxylase.

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

106	1000486	Given below are two statements: Statement (I): Denitrification is the conversion of nitrate to N_2 under anaerobic conditions. Statement (II): Soil bacteria use NO_3 rather than O_2 as the ultimate electron acceptor that generates a transmembrane proton gradient, which is used to synthesize ATP. 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	4.0	1.00
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Objective Question

107	1000487	Which poisonous gas is released by cyanogenic glycosides? 1. Hydrogen cyanide 2. Sulphur cyanide 3. Nitrogen cyanide 4. Carbon monoxide	4.0	1.00
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A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

108 1000488

4.0 1.00

Given below are two statements:

Statement (I): The timing of the cell cycle is controlled by a family of protein kinases.

Statement (II): The kinases are heterodimers with a regulatory subunit, cyclin, and a catalytic subunit, cyclin-dependent protein kinase (CDK).

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

109 1000489

4.0 1.00

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

List-I	List-II
(Host plant)	(N-fixing symbionts)
(A). Legumes	(I). Anabaena
(B). Gunnera	(II). Acetobacter
(C). Azolla	(III). Rhizobium
(D). Sugarcane	(IV). Nostoc

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

110	1000490	What is the main source of nitrogen for plants?	4.0	1.00
		- Ammonia and Nitrite - Amino acids - Ammonia and Nitrate - Amides		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

111	1000491		4.0	1.00
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Given below are two statements:

Statement (I): The ability of a genotype to dissipate the radiation energy and thereby avoid a rise in plant temperature to a stress level is called heat avoidance.

Statement (II): The ability of a genotype to perform better than others under high temperature is called heat tolerance.

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

112 1000492

4.0 1.00

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

Assertion (A) : The inability of plants to meet the evapotranspirational demand is known as moisture stress.

Reason (R) : The concentration of abscisic acid and expression of stress responsive genes decreases in response to water stress.

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

113 1000493

4.0 1.00

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

List-I	List-II
(Crop, Wild relative)	(Quality trait transferred)
(A). Cotton, <i>G. thurberi</i>	(I). Vitamin C content
(B). Tomato, <i>L. pimpinellifolium</i>	(II). Fibre strength
(C). Oats, <i>Avena sterilis</i>	(III). High protein content
(D). Pigeon pea, <i>Atylosia spp.</i>	(IV). High protein (27%)

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

114 1000494

4.0 1.00

Given below are two statements:

Statement (I): RAPD is a dominant PCR based marker.

Statement (II): RAPD was the first to become available and is most commonly and frequently used.

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

- Both Statement (I) and Statement (II) are true.
- Both Statement (I) and Statement (II) are false.
- Statement (I) is true but Statement (II) is false.
- Statement (I) is false but Statement (II) is true.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question				
115	1000495	Given below are two statements: Statement (I): Sorghum somaclonal variant line (R111) is resistant to drought stress. Statement (II): Polyethylene glycol is used as a selective agent to stimulate the effect of drought in tissue culture conditions. In light of the above statements, choose the <i>most appropriate</i> answer from the options given below. - Both Statement (I) and Statement (II) are true. - Both Statement (I) and Statement (II) are false. - Statement (I) is true but Statement (II) is false. - Statement (I) is false but Statement (II) is true. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
116	1000496	Which technique is used to detect specific DNA molecule ? - Southern blotting - Northern blotting - Dot blotting - Western blotting A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00

Objective Question				
117	1000497	Given below are two statements: Statement (I): The synthesis of new DNA strand is catalyzed by DNA polymerase II in 5' to 3' direction. Statement (II): DNA polymerase II also has a proof-reading activity. In light of the above statements, choose the <i>most appropriate</i> answer from the options given below. - Both Statement (I) and Statement (II) are true. - Both Statement (I) and Statement (II) are false. - Statement (I) is true but Statement (II) is false. - Statement (I) is false but Statement (II) is true.	4.0	1.00

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

118 1000498

4.0

1.00

Match List-I with List-II

List-I	List-II
(Transgenic plants, gene transferred)	(Insects controlled)
(A). Tomato, Bt	(I). European corn borer
(B). Maize, Bt cry II	(II). <i>Diatracea saccharis</i>
(C). Sugarcane, Bt cry I	(III). <i>Striped stem borer</i>
(D). Rice, Bt cryI gene	(IV). <i>Heliothis armigera</i>

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

119 1000499

4.0

1.00

Given below are two statements:

Statement (I): cDNA clones are generated from processed mRNA which lack introns and other sequences surrounding the gene.

Statement (II): cDNA libraries are used when the gene of interest is expressed in a particular tissue or cell type

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	1000500		4.0	1.00
		Cell suspension culture is used for the production of which of the following? 1. Secondary metabolites 2. Meristem 3. Embryo 4. Seeds A1 : 1 A2 : 2 A3 : 3 A4 : 4		