

PREVIEW QUESTION BANK

Module Name : Microbiology-ENG
Exam Date : 14-Jul-2023 Batch : 14:30-16:30

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
1	2001	Choose the incorrect statement regarding the composition of election commission. 1. Appointment of the chief election commissioner and other election commissioners shall be made by the president. 2. President can also appoint regional commissioners after consultation with the election commission. 3. Conditions of service and tenure of office of the election commissioners and regional commissioners shall not be determined by the president. 4. Article 324 under constitution of India is dealing with the composition of election commission. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
2	2002	Which one of the following amendment acts is referred to as the 'mini constitution'? 1. 42nd 2. 44th 3. 46th 4. 48th A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
3	2003		4.0	1.00

With regard to the jurisdiction and powers of high court, disputes relating to the election of members of parliament and state legislatures, comes under the ambit of which one of the following jurisdictions?

1. Original
2. Writ
3. Appellate
4. Supervisory

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

4 2004

Which of the following is formed when the moisture is deposited in the form of water droplets on cooler surfaces of solid objects?

1. Frost
2. Fog
3. Mist
4. Dew

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

5 2005

Which of the following is the correct reason for the occurrence of best fishing grounds in the mixing zones (the mixing of warm and cold currents)?

1. It has the moderate temperature
2. It has the slowest sea waves
3. It has the high growth of planktons.
4. It has the sunrays perpendicular to the sea level.

A1 : 1

A2 : 2

4.0 1.00

A3 : 3

A4 : 4

Objective Question

6	2006	Eisenhower Cup is associated with which among the following sports? 1. Tennis 2. Chess 3. Football 4. Golf A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

7	2007	Who was the first woman President of the Indian National Congress? 1. Kasturba Gandhi 2. Sarojini Naidu 3. Annie Besant 4. Aruna Ali A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

8	2008	The dockyard was found in which of the following sites in Indus Valley Civilization? 1. Chanhudaro 2. Lothal 3. Kalibangan 4. Banawali A1 : 1	4.0	1.00
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		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

9	2009	Who built the famous Charminar of Hyderabad?	4.0	1.00
		1. Krishndev Rai		
		2. Muhammad Quli Qutb Shah		
		3. Nadir Shah		
		4. Aurangzeb		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

10	2010	Who discovered the right triangle?	4.0	1.00
		1. Pythagoras		
		2. Ancient Egyptians		
		3. Archimedes		
		4. Michelangelo		
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

11	2011	Citrus canker is caused by	4.0	1.00
		1. Virus		
		2. Viriod		
		3. Bacteria		
		4. Fungus		

		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		
Objective Question				
12	2012	DBM is a specific insect of 1. Brinjal 2. Tomato 3. Cabbage 4. Bottle gourd A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
13	2013	What is the scientific name of mulberry silkworm? 1. Bombyx mori 2. Antherea paphia 3. Antheraea assama 4. Attacus Ricinii A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
14	2014		4.0	1.00

Subject matter of economics are want, effort and

1. Wealth
2. Growth
3. Satisfaction
4. Income

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

15 2015

The National Bureau of Animal Genetic Resources (NBAGR) is located in

1. Karnal
2. Bengaluru
3. Hisar
4. Jind

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

16 2016

The oldest known agroforestry systems is

1. Alley cropping
2. Taungya systems
3. Home Gardening
4. Shifting cultivation

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

17	2017	The effect or requirement of the relative length of day and night on flowering is called 1. Photomechanics 2. Transpiration 3. Photoperiodism 4. Phytoperiodism A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

18	2018	Which of the following statements are true? (A) Small pores in epidermis of leaves is called stomata. (B) Guard cells present in the stomata are helpful in exchange of gases with atmosphere (C) Transpiration takes place through stomata Choose the correct answer from the options given below: 1. (A) and (B) only. 2. (B) and (C) only. 3. (A) and (C) only. 4. (A), (B) and (C). A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

19	2019		4.0	1.00
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Water holding capacity is highest in which of the following soils?

1. Silt soil
2. Clayey soil
3. Chalk soil
4. Peat soil

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

20 2020

Certified seed is the progeny of

1. Nucleus seed
2. Foundation seed
3. Breeder's seed
4. Registered seed

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

21 31001

Which of the following sugar is also known as cane sugar?

1. Fructose
2. Sucrose
3. Maltose
4. Glucose

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

22 31002

4.0 1.00

Read the following statements:

- (A) The DNA is a right-handed double helix consisting of two antiparallel strands twisted around each other on a common axis.
- (B) The N⁹ of a pyrimidine ring binds with the C₁ of a pentose sugar.
- (C) The two strands are held together by hydrogen bonds formed by complementary base pairs.
- (D) The double-stranded DNA has an equal number of purine and pyrimidines in the structure.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

23 31003

4.0 1.00

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

List-I	List-II
(Cell organelle)	(Marker enzyme)
(A) Plasma membrane	(I) Galactosyl transferase
(B) Golgi apparatus	(II) Adenylyl cyclase
(C) Lysosome	(III) Catalase
(D) Peroxisome	(IV) Acid phosphatase

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

24 31004

4.0 1.00

Given below are two statements:

Statement (I) : The type I topoisomerases break one of the two DNA strands and change the linking number (*Lk*) in increments of 2.

Statement (II) : The type II topoisomerases break both DNA strands and change the linking number (*Lk*) in increments of 1.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

25 31005

4.0 1.00

Which vitamin deficiency can cause burning food syndrome?

1. Niacin
2. Thiamine
3. Folic acid
4. Pantothenic acid

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

26	31006	Given below are two statements: Statement (I) : Immunoglobulin A (IgA) is primarily found in the body's secretions. Statement (II) : Immunoglobulin G (IgG) is the first line of host defense against infections. 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

27	31007	Given below are two statements: Statement (I) : Plants and many bacteria can readily reduce nitrate and nitrite through the action of nitrate and nitrite reductases Statement (II) : The soil bacteria use NO_3^- rather than O_2 as the ultimate electron acceptor in a series of reactions that generates a transmembrane proton gradient, which is used to synthesize ATP In the light of the above statements, choose the <i>most appropriate</i> answer from the options given below: - Both Statement (I) and Statement (II) are correct - Both Statement (I) and Statement (II) are incorrect. Statement (I) is correct but Statement (II) is incorrect. Statement (I) is incorrect but Statement (II) is correct. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

28	31008	Given below are two statements: Statement (I) : Membrane is composed of lipid bilayer and phospholipids are arranged in bilayers with a hydrophobic core. Statement (II) : Cholesterol is a lipid with a structure quite similar to that of phospholipids. 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 correct. - Both Statement (I) and Statement (II) are incorrect. Statement (I) is correct but Statement (II) is incorrect. Statement (I) is incorrect but Statement (II) is correct. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

29	31009	Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R). Assertion (A) : Alpha carboxyl group of one amino acid reacts with alpha amino group of another amino acid to form a peptide bond or CO-NH bridge Reason (R) : All peptides bonds in proteins are trans in nature 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

30	31010	The net gain of ATP during the conversion of glucose to pyruvate is ? 1. ATP 2. 2 ATP 3. 1 ATP +1 GTP 4. 4 ATP A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

31	31011	Which enzyme containing selenium ? 1. Superoxide dismutase 2. Glutathione peroxidase 3. Cytochrome oxidase 4. Xanthine oxidase A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

32	31012		4.0	1.00
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Given below are two statements:

Statement (I) : In water molecule, each hydrogen atom shares an electron pair with the oxygen atom.

Statement (II) : The H—O—H bond angle is 109.5° and hydrogen nucleus attracts electrons more strongly than does the oxygen.

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

33 31013

4.0 1.00

Given below are two statements:

Statement (I) : The biogenesis of peroxisomes occurs through fission.

Statement (II) : Glyoxysomes are rich in enzymes *catalase* and *isocitrase*.

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 31014

4.0 1.00

What is the wavelength range (in nm) of photosynthetic pigments to absorb light energy by plants?

1. 200 - 450
2. 250 - 400
3. 400 - 700
4. 650 - 800

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

35 31015

4.0 1.00

Consider the following statements:

- (A) Stomata lose their function and may die under severe drought condition.
- (B) Starch disappears from wilted leaves following decrease in soil moisture and sugar simultaneously.
- (C) CO₂ diffusion get effected due to reduction in stomata opening.
- (D) Osmotic pressure of plant cells increase under drought stress.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

36 31016

4.0 1.00

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

Assertion (A) : Auxins help in the synthesis of the cell wall material.

Reason (R) : Auxin application increases activities of the enzyme *cellulose synthetase*.

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

37 31017

4.0 1.00

Match List-I with List-II

List-I	List-II
(Element)	(Disease due to Deficiency)
(A) Potassium	(I) Grey spec
(B) Magnesium	(II) Rosette
(C) Manganese	(III) Sand-drown
(D) Copper	(IV) Exanthema

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

38 31018

4.0 1.00

Given below are two statements:

Statement (I) : Scarification is the process of rupturing or weakening the seed coats by mechanical or other means.

Statement (II) : Stratification is the process to overcome seed dormancy by treating the seeds at low temperature (5-10 °C).

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

39 31019

4.0 1.00

Which is an example of long-short-day plant?

1. *Cestrum nocturnum*
2. *Nicotiana tabacum*
3. *Gossypium hirsutum*
4. *Ricinus communis*

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

40 31020

4.0 1.00

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

List-I	List-II
(Models proposed for plasma membrane)	(Scientist)
(A) Sandwich model	(I) Hallier and Hofmann
(B) Unit membrane	(II) Daniellis and Davson
(C) Micellar model	(III) S. Jonathan Singer and G. L. Nicolson
(D) Fluid Mosaic model	(IV) Robertson

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

41 31021

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

Assertion (A) : Photorespiration is not reported in C_4 plant.

Reason (R) : In C_4 plants, CO_2 compensation point is low.

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

4.0 1.00

A3 : 3

A4 : 4

Objective Question

42 31022

4.0 1.00

Given below are two statements:

Statement (I) : Zeatin is naturally occurring cytokinins.

Statement (II) : Kinetin is synthetic cytokinins.

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

43 31023

4.0 1.00

Given below are two statements:

Statement (I) : Carbon, hydrogen and oxygen are called frame work elements because they take part in carbohydrate synthesis, which constitutes major part of cell wall and protoplasm.

Statement (II) : Sulphur, phosphorus and nitrogen are called protoplasmic elements because they take part in protein synthesis.

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

1. Both **Statement (I)** and **Statement (II)** are 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

44 31024

4.0 1.00

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

Assertion (A) : Exogenous ABA inhibits germination of most non-dormant seeds.

Reason (R) : ABA is specific antagonist of GA and inhibits synthesis of protease and amylase enzymes.

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

45 31025

4.0 1.00

Who coined the term photoperiodism?

1. Michaels and Amasino
2. Coen and Meyerowitz
3. Garner and Allard
4. Blazquez

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

46 31026

4.0 1.00

Which of the following facilitates rapid transport of water across plasma membrane?

1. Pumps
2. Carriers
3. Aquaporins
4. Ion Channels

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

47 31027

4.0 1.00

Given below are two statements:

Statement (I) : The electron transfer chain couples oxidation of reducing equivalents to formation of a proton electrochemical gradient.

Statement (II) : The F_0F_1 -ATP synthase complex couples dissipation of the proton electrochemical gradient with ATP formation.

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

48 31028

4.0 1.00

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

List-I	List-II
Enzyme Class	Reactions catalyze
(A) Isomerases	(I) Transfer of electrons (hydride ions)
(B) Hydrolases	(II) Addition of groups to double bonds
(C) Lyases	(III) Transfer of groups within molecules to yield isomeric forms
(D) Oxidoreductases	(IV) Transfer of functional groups to water (hydrolysis)

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

49 31029

4.0 1.00

Given below are two statements:

Statement (I) : A processed pseudogene arise by inactivation mutation of a functional gene.

Statement (II) : A processed pseudogene arise by reverse transcription of the RNA transcript of a functional gene.

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

- Both **Statement (I)** and **Statement (II)** are correct.
- Both **Statement (I)** and **Statement (II)** are incorrect.
- Statement (I)** is correct but **Statement (II)** is incorrect.
- Statement (I)** is incorrect but **Statement (II)** is correct.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

50 31030

4.0 1.00

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

List-I	List-II
Transcriptional Specific	Associated with
(A) GU-AG Intron	(I) Rho-dependent
(B) Group III Intron	(II) Nuclear pre mRNA
(C) RNA Polymerase II termination	(III) Polyadenylation signal
(D) Bacterial transcription termination	(IV) Organeller RNA

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

51 31031

4.0 1.00

Given below are two statements:

Statement (I) : Sanger Sequencing employs enzymatic synthesis of complementary polynucleotide chain.

Statement (II) : Sequence is determined by treatment with chemicals that cut DNA molecule at specific nucleotide position.

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

52 31032

Which of the following is an AI system developed by DeepMind to predict 3-D structure of protein?

1. ExPASy
2. AlphaFold
3. STRING
4. 3DP

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

53 31033

4.0 1.00

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

List-I	List-II
Technique	Primary application
(A) Polymerase Chain Reaction (PCR)	(I) Separation of DNA fragments based on size
(B) Gel Electrophoresis	(II) Amplification of specific DNA sequence
(C) Southern Blotting	(III) Detection of specific DNA sequence in a sample
(D) Restriction Fragment Length Polymorphism (RFLP)	(IV) Identification of genetic variation

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

54 31034

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

Assertion (A) : The lac operon is an example of an inducible operon.

Reason (R) : In the lac operon, transcription is usually off until induced by a molecule such as lactose.

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.

4.0 1.00

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

Objective Question

55	31035	What type of cloning vector is used to clone large fragments of DNA? 1. Plasmid 2. Cosmid 3. Bacterial artificial chromosome (BAC) 4. Phagemid A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

56	31036	Given below are two statements: Statement (I) : Apical meristems are responsible for the primary growth of the plant, increasing its length. Statement (II) : In plants, the hormone auxin inhibits cell elongation and division. 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

57	31037		4.0	1.00
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Which of the following statements about the citric acid cycle is correct?

1. The citric acid cycle is a series of reactions that synthesize glucose molecules.
2. The citric acid cycle produces most of the ATP during cellular respiration.
3. The citric acid cycle is a catabolic pathway that breaks down proteins.
4. The citric acid cycle involves the transfer of electrons to NAD⁺ and FAD, producing NADH and FADH₂.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

58 31038

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 can cleave any RNA sequence without the need for a specific target sequence.
3. It cleaves RNA sequences using a water molecule in a mechanism similar to protein enzymes.
4. It requires a protein cofactor to function.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

59 31039

4.0 1.00

Given below are two statements:

Statement (I) : Many prokaryotic organisms have the capsules or the slime outside the cell wall which are very much essential for the growth and survival of bacterial cells.

Statement (II) : The flagellar apparatus is composed of three distinct parts namely the filament, the hook and the basal granule.

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

60 31040

What is the mode of action of silver nitrate when used as antimicrobial purpose?

1. Solubilization of lipids
2. Denaturation of proteins and enzymes
3. Protein inactivation by iodination
4. Oxidation of proteins

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

61 31041

4.0 1.00

Read the following statements-

- (A) The most common pathway of glucose catabolism is the Embden-Meyerhof Pathway (EMP) of glycolysis occurs only in microorganisms.
- (B) The Pentose Phosphate Pathway (PPP) of glucose catabolism exists in both prokaryotic and eukaryotic cells.
- (C) Entner-Duodorouff Pathway (EDP) of glucose catabolism found in both aerobic and anaerobic prokaryotes but not in eukaryotes.
- (D) The tricarboxylic acid (TCA) cycle is a sequence of reactions that generate energy in the form of ATP and reduced coenzyme molecules (NADH_2 and FADH_2).

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

62 31042

4.0 1.00

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

Assertion (A) : Soil microorganisms serve as biogeochemical agents.

Reason (R) : Soil microorganisms convert complex organic compounds into simple inorganic compounds or into their constituent elements.

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

63 31043

4.0 1.00

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

List-I	List-II
(Bacteria)	(Classification)
(A) <i>Gloeotrichia</i> spp.	(I) Chemotrophic bacteria
(B) <i>Rhodospirillum rubrum</i>	(II) Phototrophic bacteria
(C) <i>Beijerinckia indica</i>	(III) Denitrifying bacteria
(D) <i>Chromobacterium</i>	(IV) Cyanobacteria

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

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

64 31044

4.0 1.00

Given below are two statements:

Statement (I) : In generalized transduction, certain temperate phage strains can transfer only a few restricted genes of the bacterial chromosome.

Statement (II) : In specialized transduction, viral enzymes hydrolyze the bacterial chromosome into many small pieces of DNA.

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

65 31045

4.0 1.00

Given below are two statements:

Statement (I) : Penicillins do not affect halophiles because their cell walls lack peptidoglycan.

Statement (II) : Novobiocin antibiotic kills halophiles by inhibiting isoprenoid biosynthesis.

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

66 31046

4.0 1.00

Method of sterilization that performed at 100 °C temperature for three consecutive days with incubation in between is known as_____.

1. Tyndallization
2. Pasteurization
3. Homogenization
4. Immobilization

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

67 31047

4.0 1.00

Which of the following phage possess single stranded RNA (ssRNA) as genetic material?

1. MS2
2. Lambda
3. Mu
4. ØX174

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

68 31048

4.0 1.00

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

List-I	List-II
(Step of nitrogen cycle)	(Bacteria involved)
(A) Nitrogen fixation	(I) <i>Nitrobacter winogradskyi</i>
(B) Oxidation of ammonia to nitrite	(II) <i>Micrococcus denitrificans</i>
(C) Oxidation of nitrite to nitrate	(III) <i>Azotobacter chroococcum</i>
(D) Denitrification	(IV) <i>Nitrosomonas europaea</i>

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

69	31049	Mycorrhiza is the symbiotic association between fungi and _____. 1. Algae 2. Plant root 3. Bacteria 4. Plant leaf A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

70	31050	Given below are two statements: Statement (I) : Biochemical oxygen demand (BOD) indicates total amount of oxygen dissolved in the water. Statement (II) : Higher BOD value indicates that the water is of good quality and potable. 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

71	1000601	Which of the following scientists are associated with one gene-one enzyme hypothesis? 1. Luria & Delbruck 2. Bordet & Gengou 3. Beadle & Tatum 4. Bawden & Pirie	4.0	1.00
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A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

72 1000602

4.0 1.00

Match List-I with List-II

List-I	List-II
(Growth factor)	(Function)
(A) <i>p</i> -Aminobenzoic acid	(I) Precursor of NAD ⁺ and NADP ⁺
(B) Niacin	(II) Precursor of FAD
(C) Pyridoxine	(III) Precursor of folic acid
(D) Riboflavin	(IV) Amino acid synthesis

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

73 1000603

4.0 1.00

Which of the followings are true for Archaeal cell wall?

- (A) Pseudomurein composed of alternating repeats of N-acetylglucosamine and N-acetylglucosaminuronic acid.
- (B) Pseudomurein possess β -1,4 glycosidic bonds between the sugar derivatives.
- (C) *Methanosarcina* have thick polysaccharide walls composed of polymers of galactose, galacturonic acid, and aconitic acid.
- (D) The sulfate–sodium complex helps stabilize the *Halococcus* cell wall in strongly ionic environments.
- (E) The S-layers consist of interlocking molecules of protein or glycoprotein.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

74 1000604

4.0 1.00

Given below are two statements:

Statement (I): Oomycotans possess cellulose in cell walls and ergosterol in their membranes.

Statement (II): Their flagella include a posterior whiplash flagellum and an anterior tinsel flagellum.

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

75 1000605

4.0 1.00

1/10,000,000,000 of a meter equals to_____.

1. 100 nm
2. 1 Å
3. 10 Å
4. 1 nm

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

76 1000606

4.0 1.00

Read following statements regarding halogen as disinfecting agents.

- (A) Sodium hypochlorite oxidises sulphydryl (–SH) and disulphide (S–S) bonds in proteins.
- (B) Hypochlorite remains most active when mixed with organic material.
- (C) Chloramines are more stable than hypochlorite or free chlorine.
- (D) Chloramines are less toxic than hypochlorite.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

77 1000607

4.0 1.00

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

Assertion (A) : Though the liquid enrichment culture technique is powerful, there exists a bias in the outcome.

Reason (R) : This bias most profound when the most rapidly growing organism(s) for the chosen set of conditions dominate over desired population.

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

78 1000608

4.0 1.00

Match List-I with List-II

List-I	List-II
(Metabolic process)	(Target gene to for PCR detection)
(A) Denitrification	(I) <i>amoA</i>
(B) Nitrification	(II) <i>mcrA</i>
(C) Methane oxidation	(III) <i>narG</i>
(D) Sulfate reduction	(IV) <i>pmoA</i>
(E). Methane production	(V). <i>apsA</i>

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

79 1000609

4.0 1.00

Read following statements regarding photosynthetic proteobacteria-

- (A) Purple sulphur bacteria can carry out oxygenic photosynthesis.
- (B) Purple non-sulphur bacteria are anoxygenic photosynthetic bacteria.
- (C) Photosynthesis carried out by purple sulphur bacteria is quite different to the photosynthesis process of cyanobacteria.
- (D) Bacteriochlorophyll *a* has similar absorptive properties to chlorophyll *a*.
- (E) Bacteriochlorophyll *b* has distinct absorptive properties to chlorophyll *b*.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

80 1000610

4.0 1.00

Biotin and Tetrahydrofolate are coenzyme of _____ and _____ enzymes, respectively.

- 1. Nitrate reductase and Urease
- 2. Glutathione peroxidase and Cytochrome oxidase
- 3. Pyruvate carboxylase and Thymidylate synthase
- 4. Methylmalonyl mutase and Glycogen phosphorylase

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

81	1000611	In which of the following electronic device, bacterial cells are passed through small orifice and numbers are counted by measuring resistance or conductivity through electrodes? 1. Quebec colony counter 2. Petroff-Hausser counting chamber 3. Coulter counter 4. Fluorescent microscope A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

82	1000612	Given below are two statements: Statement (I) : Chemiosmotic hypothesis gives insight to photophosphorylation but no information related to oxidative phosphorylation. Statement (II) : It also dispartate the energy transduction as active transport and the rotation of bacterial flagella. 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

83	1000613		4.0	1.00
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The “alternative” nitrogenases can be produced by nitrogen fixing bacteria when molybdenum is absent in the environment. The enzyme use _____ as cofactors.

1. Magnesium plus iron or only magnesium
2. Zinc plus iron or only iron
3. Manganese plus iron or only iron
4. Vanadium plus iron or only iron

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

84 1000614

In DNA damage tolerance during SOS repair, DNA lesions remain in the DNA, but are bypassed by specialized DNA polymerases that can move past DNA damage, a process known _____.

1. Translational synthesis
2. Replication pause
3. Translesion synthesis
4. Transversion synthesis

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

85 1000615

4.0 1.00

Given below are two statements:

Statement (I) : Halobacteria contain fertility plasmid similar to Gram negative bacteria for conjugation.

Statement (II) : *Sulfolobus solfataricus* perform novel mode of conjugation where no fertility plasmids are required.

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

86 1000616

4.0 1.00

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

List-I	List-II
(Genes involved in DNA replication)	(Function)
(A) <i>dnaA</i>	(I) DNA Pol III holoenzyme, elongation
(B) <i>dnaB</i>	(II) Initiation, binds <i>oriC</i>
(C) <i>dnaC</i>	(III) Helicase (hexamer), prepriming
(D) <i>dnaE</i>	(IV) Priming, RNA primer synthesis
(E) <i>dnaG</i>	(V) Loading factor for DnaB

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

87 1000617

4.0 1.00

Read following statements regarding cis/trans complementation test?

- (A) Used to know whether mutation reside in a single gene or in different genes of an operon.
- (B) Gives an idea related to mutation within a structural gene only and not within a promoter/operator region an operon.
- (C) Two different mutations are considered to lie in the same gene if their presence on duplicate genes in a merodiploid (one mutation on plasmid, second on chromosome) fails to restore the wild phenotype.
- (D) If the mutations lie in two different genes, then they should complement each other in trans.
- (E) Two different mutations in a gene whose product functions as a multimeric enzyme (homodimer or tetramer) can sometimes complement each other in trans.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

88 1000618

4.0 1.00

The formate dehydrogenase (FdhF) contains a modified form of cysteine called _____.

1. Procysteine
2. Selenocysteine
3. Tyrocysteine
4. Thriocysteine

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

89	1000619	Which of the following is a stem nodulating bacterium in the <i>Sesbania</i>? 1. <i>Rhizobium leguminosarum</i> 2. <i>Mesorhizobium loti</i> 3. <i>Sinorhizobium arboris</i> 4. <i>Azorhizobium caulinodans</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

90	1000620	Which of the following are true for mercury bio-transformation? (A) Mercuric ion readily adsorbs to particulate matter and can be metabolized by microbes from there. (B) Sulfate-reducing bacteria transform mercury and produce mercuric sulfide. (C) Methanogens can transform mercury to methyl mercury. (D) Methylmercury can be further methylated by microorganisms to yield the volatile dimethylmercury compound. (E) Methylmercury and dimethylmercury are completely harmless for animals and humans. Choose the correct answer from the options given below: 1. (A), (B) and (D) only. 2. (A), (B) and (E) only. 3. (A), (C), (D) and (E) only. 4. (B), (C) and (E) only. A1 : 1 A2 : 2	4.0	1.00
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A3 : 3

A4 : 4

Objective Question

91 1000621

4.0 1.00

Which of the following fatty acid is used as a marker for phospholipid fraction analysis of *Clostridia*?

1. Cy 15:1
2. 16:1 ω 13t
3. 18:1 ω 7
4. 8:12 ω 6

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

92 1000622

4.0 1.00

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

Assertion (A) : *E. coli* has three systems: Trk, Kdp, and Kup to deal with osmotic upshock.

Reason (R) : These systems increase intake of Na^+ to reduce osmolarity of the cell.

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

93 1000623

4.0 1.00

Given below are two statements:

Statement (I) : The *Alnus* spp. is able to grow in nitrogen poor soil due to its association with the nitrogen-fixing actinomycete *Frankia*.

Statement (II) : The nitrogenases protected from oxygen by forming thick-walled compartment “heterocyst” during nitrogen fixation in *Frankia*.

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

94 1000624

4.0 1.00

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

List-I	List-II
(<i>nif</i> gene)	(Gene product/Function)
(A) <i>nifA</i>	(I) Negative regulatory protein
(B) <i>nifL</i>	(II) Nitrogenase protein α subunit of dinitrogenase
(C) <i>nifB</i>	(III) Positive regulatory protein
(D) <i>nifK</i>	(IV) FeMo cofactor precursor biosynthesis
(E) <i>nifD</i>	(V) MoFe protein β subunit of dinitrogenase

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

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

A1 : 1

		A2 : 2		
		A3 : 3		
		A4 : 4		
Objective Question				
95	1000625	The grass <i>Stipa robusta</i> form beneficial association with _____ fungi to prevent herbivory mediated by alkaloid. 1. <i>Penicillium</i> 2. <i>Acremonium</i> 3. <i>Aspergillus</i> 4. <i>Fusarium</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
96	1000626	Who coined the term “Rhizosphere”? 1. Jakoba Ruinen 2. Lorenz Hiltner 3. T. O. Diener 4. Joseph Kloepper A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
97	1000627		4.0	1.00

A food prepared from soybeans and wheat fermented with *Aspergillus oryzae* is known as _____.

1. Izushi
2. Natto
3. Chorizo
4. Miso

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

98 1000628

4.0 1.00

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

Assertion (A) : Arbuscular mycorrhiza (AM) fungi are unable to colonize plant root segments parasitized by endoparasitic nematodes.

Reason (R) : These nematodes antagonize AM fungi and prevent their colonization in gall 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

99 1000629

4.0 1.00

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

List-I	List-II
(Nod genes of <i>Rhizobium leguminosarum</i> biovar <i>viciae</i>)	(Gene product/function)
(A) <i>nodABC</i>	(I) Transcription control of other <i>nod</i> genes
(B) <i>nodD</i>	(II) Exporting nod factors from the cell
(C) <i>nodE</i>	(III) Synthesis of nod factors
(D) <i>nodI</i>	(IV) Determination of host range

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

100 1000630

4.0 1.00

Which of the followings are true for Hazard analysis and critical control points (HACCP)?

- (A) Developed first time by Food Safety Standards Authority of India (FSSAI).
- (B) Main objective of the HACCP system is to provide a high degree of assurance that a food ready to be consumed will be free of pathogenic microorganisms or their toxins.
- (C) It involves hazard analysis in ready to consume food only.
- (D) Aim to identify critical control points to control food related hazards.
- (E) HACCP is most useful to prepare food for astronauts during space program when close to 100% assurance of food safety is required.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

101 1000631

4.0 1.00

Given below are two statements:

Statement (I) : Mozzarella cheese is an example of unripened cheese.

Statement (II) : Cottage cheese is an example of ripened cheese.

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				
102	1000632	Excessive growth of photosynthetic microorganisms in water, especially the microalgae, due to presence of inorganic material such as nitrogen and phosphorus is known as _____. 1. Exteriphication 2. Eutrophication 3. Petrification 4. Putrification A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
Objective Question				
103	1000633	Given below are two statements, one is labelled as Assertion (A) and other one labelled as Reason (R). Assertion (A) : Lactose intolerance symptoms can be reduced by ingesting lactic acid bacteria. Reason (R) : These probiotics bacteria supply lactase in small intestine and reduce lactose level. 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	4.0	1.00
Objective Question				
104	1000634		4.0	1.00

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

List-I	List-II
(Antibiotic)	(Producer organism)
(A) Actinomycin D	(I) <i>Streptomyces noursei</i>
(B) Nystatin	(II) <i>Streptomyces mediterranei</i>
(C) Tetracycline	(III) <i>Streptomyces parvulus</i>
(D) Gentamicin	(IV) <i>Streptomyces rimosus</i>
(E) Rifamycin	(V) <i>Micromonospora purpurea</i>

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

105 1000635

Sublimation is associated with_____.

- Freeze drying
- Rotary drying
- Drum drying
- Plate drying

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

106 1000636

4.0 1.00

Given below are two statements:

Statement (I) : Hard waters containing high CaSO_4 concentrations are better for the darker beers such as stouts.

Statement (II) : Hard waters with high carbonate content are better for the English Burton bitter beers.

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

107 1000637

4.0 1.00

Given below are two statements:

Statement (I) : All the methylotrophs can use methane as sole carbon source.

Statement (II) : Methanotrophs can only utilize methanol sole as carbon source.

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

108 1000638

4.0 1.00

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

List-I	List-II
(Recombinant protein)	(Application)
(A) Human growth hormone	(I) Treatment of wounds, burns
(B) Epidermal growth factor	(II) Synthesis cancer drug taxol
(C) Acyltransferase	(III) Antitumour agent
(D) Endostatin	(IV) Treatment of pituitary dwarfism

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

109 1000639

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

Assertion (A) : Acetylene reduction test can be employed to detect biological nitrogen fixation potential of bacteria.

Reason (R) : Nitrogenase enzyme transforms acetylene to oxalic acid, which can be easily measured by spectrophotometrically.

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

4.0 1.00

A3 : 3

A4 : 4

Objective Question

110	1000640	Degradation of several xenobiotic compounds like cyclohexane rarely provides energy and carbon to microbes. Degradation of such compound depends on metabolism of another substance for energy to degrade xenobiotic compounds. This is known as _____. 1. Gratuitous metabolism 2. Co-metabolism 3. Alternate metabolism 4. Bypass metabolism A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

111	1000641	Given below are two statements: Statement (I) : Reporter genes are used to report the presence or absence of a particular genetic element or DNA inserted within a vector. Statement (II) : The first reporter used was the <i>Escherichia coli</i> gene <i>lacZ</i>, which encodes the enzyme β-galactosidase. 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	4.0	1.00
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Objective Question

112	1000642	Which of the following biological treatment is used in waste water treatment for the oxidation of organic matter? 1. Lagoons 2. Flocculation 3. Sedimentation tank 4. Ozonization A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

113	1000643	Which of the followings are true for <i>Thiobacillus</i>? (A) The genus <i>Thiobacillus</i> are Gram positive in nature and belongs to Gamma-proteobacteria. (B) <i>Thiobacillus</i> are acidophilic in nature. (C) <i>Thiobacillus</i> reduce sulfuric acid into to hydrogen sulfide and elemental sulfur. (D) <i>Acidithiobacillus ferrooxidans</i> can grow chemolithotrophically by the oxidation of Fe^{2+}. Choose the correct answer from the options given below: 1. (A), (B) and (D) only. 2. (B), (C) and (D) only. 3. (B) and (D) only. 4. (A) and (D) only. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	1.00
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Objective Question

114	1000644		4.0	1.00
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Probing metagenomic libraries from various environments led to the discovery that uncultivated archaea Crenarchaeota contain gene sequences with homology to the ammonia monooxygenase genes of _____ bacteria.

1. Nitrogen fixing
2. Nitrifying
3. Denitrifying
4. Proteolytic

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

115 1000645

4.0 1.00

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

List-I	List-II
(Generation)	(Method of DNA sequencing)
(A) First generation	(I) Ion torrent
(B) Second generation	(II) HeliScope Single Molecule Sequencing
(C) Third generation	(III) Sanger dideoxy method
(D) Fourth generation	(IV) 454 Pyrosequencing

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

116 1000646

4.0 1.00

Analysis of pooled DNA or RNA from an environmental sample containing organisms that have not been isolated and identified is called_____.

1. Interactome
2. Translatome
3. Epigenome
4. Metagenomics

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

117 1000647

4.0 1.00

Given below are two statements:

Statement (I) : In Randomized Block Design, number of treatments and replications are same.

Statement (II) : Latin Square Design is found useful wherever two-way heterogeneity is present in the experimental material.

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

118 1000648

4.0 1.00

Which of the followings are true for Completely Randomized Design (CBD)?

- (A) Used when experimental material is homogenous.
- (B) Can also be used under field conditions by proper blocking of experimental materials.
- (C) Error degrees of freedom can be calculated by $(r-1)(t-1)$ formula
- (D) Analysis remains simple even if information of some units is missing.
- (E) Any number of treatments and replications can be used.

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

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

119 1000649

In statistics, difference between the total number of items and the total number of constraints is called _____.

- 1. Degree of freedom
- 2. Standard deviation
- 3. Standard error of mean
- 4. Coefficient of variance

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0 1.00

Objective Question

120 1000650

4.0 1.00

Given below are two statements:

Statement (I) : Two sample t test can be performed with assumption that populations are normal, samples drawn independently and at random.

Statement (II) : It is performed under several conditions such as σ is unknown and large sample 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