PREVIEW QUESTION BANK

Module Name : BET 2024-ENG
Exam Date : 20-Apr-2024 Batch : 15:00-18:00

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
1	12001	Match items in List I with items in List II List I / List II (A) Mitochondria — (I) Hydrogen Peroxide generation (B) Endoplasmic Reticulum — (II) TCA cycle (C) Peroxisome — (III) Degradation of proteins (D) Lysosomes — (IV) Protein trafficking and export Choose the correct answer from the options given below : (1) (A)-(IV), (B)-(II), (C)-(I), (D)-(III) (2) (A)-(I), (B)-(III), (C)-(IV), (D)-(II) (3) (A)-(II), (B)-(IV), (C)-(I), (D)-(III) (4) (A)-(III), (B)-(IV), (C)-(II), (D)-(I) A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
2	12002	Match items in List I with items in List II: List I / List II (A) pH of a solution — (I) Fredrick Sanger (B) Base composition of DNA — (II) Henderson-Hasselbalch equation (C) Molar absorption coefficient — (III) Lambert-Beer law (D) Dideoxy sequencing — (IV) Chargaff's principle Choose the correct answer from the options given below : (1) (A)-(IV), (B)-(III), (C)-(I), (D)-(II) (2) (A)-(I), (B)-(II), (C)-(IV), (D)-(III) (3) (A)-(II), (B)-(IV), (C)-(III), (D)-(I) (4) (A)-(III), (B)-(I), (C)-(II), (D)-(IV) A1 : 1 A2 : 2 A3 : 3	3.0	1.00

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A4 : 4

Objective Question

3	12003	Identify the INCORRECT statement about mitochondria (1) Its number increases by fission (2) Defective mitochondria are removed by a process called mitophagy (3) In actively respiring mitochondria, the matrix is more acidic than the inter-membrane space (4) Many of the mitochondrial proteins are encoded by the nuclear genome A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

4	12004	Which one of the following statements regarding miRNA is INCORRECT? (1) Generated from large precursor RNAs (2) Inhibits translation by binding to the 3′-UTR of mRNAs (3) Biogenesis involves RNAse H (4) Present in higher eukaryotes including nematodes, fruit flies, plants, and mammals A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

5	12005	Match items in List I with items in List II : List I / List II (A) Sulphur containing amino acid — (I) Aspartic acid (B) Optically inactive amino acid — (II) Methionine (C) Acidic amino acid — (III) Lysine (D) Basic amino acid — (IV) Glycine Choose the correct answer from the options given below : (1) (A)-(IV), (B)-(I), (C)-(II), (D)-(III) (2) (A)-(II), (B)-(IV), (C)-(I), (D)-(III) (3) (A)-(I), (B)-(III), (C)-(II), (D)-(IV) (4) (A)-(III), (B)-(II), (C)-(I), (D)-(IV)	3.0	1.00

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

6 | 12006 | 3.0 | 1.00

The rate constant of a first order reaction has the unit

(1) s^{-1} (2) $mol\ L^{-1}\ s^{-1}$

(3) $mol\ L^{-1}\ s$ (4) $mol^{-1}\ L\ s^{-1}$

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

7 | 12007 | 3.0 | 1.00

How many grams of NaOH is required to make 100 ml of 0.2 M solution of NaOH?

(1) 2 (2) 40

(3) 8 (4) 0.8

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

8 | 12008 | 3.0 | 1.00

Match items in List I with items in List II

	List I		List II
(A)	Sucrose	(I)	Monosaccharide
(B)	Maltose	(II)	Glucose + Galactose
(C)	Fructose	(III)	Glucose + Fructose
(D)	Lactose	(IV)	Glucose + Glucose

Choose the correct answer from the options given below

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

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

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

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

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
9	12009	How many oxygen atoms, in terms of Avogadro's number (N_A), are present in 9.0 g of H_2O? (1) N_A (2) $2N_A$ (3) $N_A/2$ (4) $N_A/4$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
10	12010	Polymerisation of isoprene gives (1) Natural rubber (2) Polyester (3) Buna-N (4) Neoprene A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
11	12011	How many pi-bonds are present in cyano-benzene? (1) 6 (2) 5 (3) 4 (4) 3 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

12	12012	Given below are two statements : Statement I : Penicillin is an antibiotic derived from fungus. Statement II : Antibiotics are compounds obtained from micro-organisms and are used as pain killers. In light of the above statements, choose the correct 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	3.0	1.00

Objective Question

13	12013	In which of the following collisions, the total linear momentum of two colliding bodies is completely conserved? (1) Elastic collision (2) Completely inelastic collision (3) Partially elastic collision (4) Any type of collision i.e. elastic, completely inelastic, or partially elastic A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

14	12014		3.0	1.00

Arrange the following in the ascending order of their frequencies

(A) Ultraviolet Rays

(B) Microwaves

(C) X-rays

(D) Sound waves

(E) Infrared waves

Choose the correct answer from the options given below :

(1) (D), (E), (B), (A), (C)

(2) (E), (B), (A), (D), (C)

(3) (C), (A), (B), (E), (D)

(4) (B), (E), (D), (A), (C)

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

15 | 12015 | 3.0 | 1.00

The value of acceleration due to gravity on the surface of earth is g. If diameter of earth becomes 4 times its present value and mass remains unchanged, the new value of g on the surface of earth will be

(1) 4 g (2) 16 g

(3) g/4 (4) g/16

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

16 | 12016 | 3.0 | 1.00

A ball is thrown vertically upwards in the air with a certain velocity (v). Its acceleration and velocity at the highest point, respectively, will be

(1) –g , 0 (2) 0, v

(3) g, 0 (4) 0, 0

A1 : 1

A2 : 2

A3 : 3

		A4 : 4		
Objective Question				
17	12017	The velocity of light in vacuum is 3×10^8 m/s. If the refractive index of glass is 1.5, what will be the velocity of light in glass? (1) 4.5×10^8 m/s (2) 2×10^8 m/s (3) 3×10^8 m/s (4) 0 m/s A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
18	12018	Sunita is looking for her father. She went 90 m east before turning to her right. She went 20 m, took a right turn and walked for 30 m to look for her father at her uncle's place. Not finding him there, she went 100 m to the North before meeting her father in a street. How far is Sunita from her starting point? (1) 80 m (2) 100 m (3) 140 m (4) 260 m A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
19	12019	If sales tax is reduced from $3\frac{1}{2}\%$ to $3\frac{1}{3}\%$, then what will be the reduction in the net price of an article with a marked value of ₹ 8,400? (1) ₹ 23 (2) ₹ 32 (3) ₹ 14 (4) ₹ 45 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
20	12020		3.0	1.00

		15 men, working 9 h a day, can reap a field in 16 days. In how many days will 18 men reap the same field, working 8 h a day? (1) 14 days (2) 15 days (3) 13 days (4) 16 days A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
21	12021	A 150 m long train is running with a speed of 68 km/h. How long will it take for the train to pass a man who is running at 8 km/h in the same direction as the train? (1) 12 s (2) 11 s (3) 9 s (4) 10 s A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
22	12022	What is the value of 'a' in the equation given below? $\frac{9}{7}\times\frac{9}{7}-\frac{a}{7}\times\frac{9}{7}+\frac{16}{7}\times\frac{16}{7}=1$ (1) 1 (2) 7 (3) 4.57 (4) 32 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
23	12023	380 bananas are distributed among 85 students. Each boy student gets four bananas and each girl student gets five. The number of boys is (1) 15 (2) 38 (3) 40 (4) 45	3.0	1.00

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
24	12024	In a certain code language, '134' means 'good and tasty'; '478' means 'see good pictures' and '729' means 'pictures are faint'. Which of the following digits stands for 'see'? (1) 9 (2) 2 (3) 1 (4) 8 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
25	12025	In a row of boys, A who is 10^{th} from the left and B who is 9^{th} from the right interchange their positions. A now becomes 15^{th} from the left. How many boys are there in the row? (1) 23 (2) 31 (3) 27 (4) 28 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
26	12026	Find the next number in the series 84, 83, 79, 70, 54 (1) 20 (2) 39 (3) 29 (4) 23 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

27	12027	10 workers working for 9 hours a day complete a piece of work in 20 days. In how many days will 15 workers working for 12 hours complete the same piece of work? (1) 10 days (2) 12 days (3) 9 days (4) 15 days A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

28	12028	A, B and C started a business and invested capital in the ratio of 3 : 2 : 1. The ratio of months for which they invested is 3 : 5 : 4. If A's profit share is ₹ 1000/- more than C's, then B's share in the profit in Rs will be (1) 1,200 (2) 2,500 (3) 1,500 (4) 2,000 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

29	12029	Ram invested Rs. 75,000 in a business. After few months, Shyam also joined him with an investment of Rs. 50,000/-. At the end of the year the total profit was divided between them in 3 : 1 ratio. After how many months did Shyam join the business? (1) 4 (2) 6 (3) 8 (4) 2 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

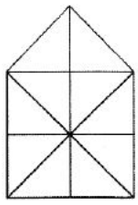
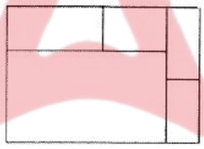
Objective Question

30	12030		3.0	1.00

		Fill the missing number in the given series 4, 6, 10, 18, ———— 66,130 (1) 30 (2) 38 (3) 34 (4) 42 A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
31	12031	From a point, Ram started walking towards east and walked 30 meter. He then turned right and walked 20 meter. Then, he again turned right and walked 42 meter. Finally, he again turned right and walked 15 meter to reach his destination. What is the aerial distance between his destination and the starting point? (1) 13 meter (2) 7 meter (3) 30 meter (4) 5 meter A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
32	12032	A man is facing east. He turns 60 degrees in the clockwise direction and then another 180 degrees in the same direction. He then turns 210 degrees in the anticlockwise direction. Which direction is he facing now? (1) South East (2) South West (3) West (4) South A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
33	12033		3.0	1.00

		In School A and School B, 20% and 25% of the students participate in sports, respectively. If School B has 60% more students than School A, then the number of students participating in sports in School A is (1) $\frac{1}{4}$ the number participating in sports in School B (2) $\frac{1}{2}$ the number participating in sports in School B (3) $\frac{1}{16}$ the number participating in sports in School B (4) $\frac{1}{8}$ the number participating in sports in School B A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
34	12034	Which one of the following is the lowest integer that is divisible by each of the integers 1 through 8, both inclusive? (1) 210 (2) 420 (3) 840 (4) 2520 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
35	12035	A tap X fills a tank in 5 hours. Another tap Y fills the same tank in 3 hours. If X starts filling the empty tank and tap Y joins after 1 hour, then how much time will it take for the tank to be completely filled starting from the time when the tap X started filling it? (1) 90 minutes (2) 120 minutes (3) 100 minutes (4) 150 minutes A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				

36	12036	If day 1 of a leap year is a Sunday, the last day of that year will be (1) Monday (2) Tuesday (3) Sunday (4) Saturday A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
37	12037	A glass jar contains 1 red, 3 green, 2 blue and 4 yellow marbles. If a single marble is chosen at random from the jar, what is the probability that it is yellow or green? (1) 3/10 (2) 4/10 (3) 7/10 (4) 1/10 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
38	12038	The product of two numbers is 24 times the difference of these two numbers. If the sum of these numbers is 14, then the larger number is (1) 6 (2) 8 (3) 7 (4) 9 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
39	12039		3.0	1.00

		Identify the number of triangles in the following figure  (1) 20 (2) 21 (3) 22 (4) 25 A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
40	12040	Identify the total number of rectangles in the given figure  (1) 6 (2) 8 (3) 10 (4) 9 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
41	12041	Find the odd one out of the following (1) Bat-Wings (2) Cat-Paws (3) Mouse-Teeth (4) Fish-Fin A1 : 1 A2 : 2 A3 : 3	3.0	1.00

		A4 : 4		
Objective Question				
42	12042	Identify the next number in the following series 8, 3, 16, 9, 32, 27, 64,... (1) 45 (2) 81 (3) 72 (4) 50 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
43	12043	If the length of the sides of an equilateral triangle is doubled then its area increases by (1) 100 percent (2) 200 percent (3) 300 percent (4) 400 percent A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
44	12044	In a class of 60 students, 30 students have taken Physics; 30 Chemistry and 30 Biology. There are 10 students each who have taken a combo of 2 subjects i.e. Phy-Chem, Phy-Bio and Chem-Bio. The number of students who have taken all 3 subjects is (1) Zero (2) 10 (3) 5 (4) 2 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
45	12045		3.0	1.00

		How many unique 15-mer peptides are possible using 20 natural amino acids? (1) 15 (2) 20×15 (3) 15^{20} (4) 20^{15} A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
46	12046	The sum of 10 consecutive natural numbers is 605. What will be the value of the smallest of these numbers? (1) 54 (2) 55 (3) 56 (4) 57 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
47	12047	A trader allows successive discounts of 30% and 15% on selling price of an article. If he gets Rs. 476 for the article, its marked price is (1) Rs. 700 (2) Rs. 800 (3) Rs. 900 (4) Rs. 1000 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
48	12048	A cylindrical vessel of diameters 8 cm is partially filled with water. What will be the rise in the level of water in the cylindrical vessel when a solid ball of radius 3cm is completely immersed in water? (1) 2/9 cm (2) 4/9 cm (3) 9/4 cm (4) 9/2 cm A1 : 1	3.0	1.00

		A2 : 2 A3 : 3 A4 : 4		
Objective Question				
49	12049	How many lead shots of diameter 2 cm can be made out of lead cube with edge of 22 cm? (1) 1347 (2) 2541 (3) 2662 (4) 5324 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
50	12050	From a pack of 52 cards, one card is drawn at random. What is the probability that the card drawn is a four or a club? (1) 1/4 (2) 4/13 (3) 1/13 (4) 1/26 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
51	12051	What is the relationship between doubling time and specific growth rate of a microbial culture? (1) Doubling time is directly proportional to the specific growth rate (2) Doubling time is inversely proportional to the specific growth rate (3) Doubling time is equal to the specific growth rate (4) Doubling time has no relationship with specific growth rate A1 : 1 A2 : 2 A3 : 3	3.0	1.00

		A4 : 4		
Objective Question				
52	12052	Given below are two statements: One is labelled as Assertion A and other is labelled as Reason R. Assertion (A) : All expression vectors are also cloning vectors. Reason (R) : Expression vectors contain the features of the cloning vectors. In light of the above statements, choose the correct answer from the options given below (1) Both (A) and (R) are correct and (R) is the correct explanation of (A) (2) Both (A) and (R) are correct but (R) is NOT the correct explanation of (A) (3) (A) is correct but (R) is not correct (4) (A) is not correct but (R) is correct A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
53	12053	An athlete participating in an early morning marathon before breakfast is likely to derive most of the energy for muscles from (1) Glucose (2) Fats (3) Ketone bodies (4) Proteins A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
54	12054	Which one of the following techniques will you use to resolve proteins ONLY on the basis of their molecular weight? (1) Native-PAGE (2) SDS-PAGE (3) Agarose Gel electrophoresis (4) 2D-Gel electrophoresis A1 : 1 A2 : 2 A3 : 3	3.0	1.00

		A4 : 4		
Objective Question				
55	12055	Given below are two statements: One is labelled as Assertion (A) and other is labelled as Reason (R) Assertion (A) : Spectrophotometry is a technique used for quantitative estimation of biomolecules in a solution. Reason (R) : Spectrophotometry is based on the Bragg's Law. In light of the above statements, choose the correct answer from the options given below : (1) Both (A) and (R) are correct and (R) is the correct explanation of (A) (2) Both (A) and (R) are correct but (R) is NOT the correct explanation of (A) (3) (A) is correct but (R) is not correct (4) (A) is not correct but (R) is correct A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
56	12056	Which one of the following techniques is used for detecting protein-protein interactions *in vivo*? (1) Surface Plasmon Resonance (2) ELISA (3) Yeast Two Hybrid Assay (4) Yeast One Hybrid Assay A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
57	12057		3.0	1.00

What is the purpose of using quantitative real time PCR (qRT-PCR)?

(1) Quantify gene expression levels based on DNA content

(2) Quantify gene expression levels based on RNA transcripts

(3) Identification of transcription start site

(4) Sequence DNA fragments to determine their identity

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

58	12058	Which one of the following methods is based on the binding of Coomassie Brilliant Blue to proteins to determine the protein concentration? (1) Lowry method (2) BCA method (3) Bradford method (4) Kjeldahl method A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

59	12059	Match the items in List I with items in List II : List I / List II (A) Surface Plasmon Resonance — (I) Conformation difference of DNA (B) Iso-electric Focusing — (II) Melting temperature of DNA strands (C) Single-strand Conformation Polymorphism — (III) Resolving protein mixtures (D) Denaturing Gradient Gel Electrophoresis — (IV) Protein-protein interaction Choose the correct answer from the options given below : (1) (A)-(IV), (B)-(III), (C)-(I), (D)-(II) (2) (A)-(I), (B)-(III), (C)-(II), (D)-(IV) (3) (A)-(IV), (B)-(II), (C)-(III), (D)-(I) (4) (A)-(II), (B)-(III), (C)-(I), (D)-(IV) A1 : 1 A2 : 2	3.0	1.00

		A3 : 3 A4 : 4		
Objective Question				
60	12060	How much calcium chloride is required to make 40 mL of 0.02 M solution? Assume molecular weight of calcium chloride is 219. (1) 17.52 gm (2) 1.752 mg (3) 0.1752 gm (4) 0.1752 mg A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
61	12061	Given below are two statements : Statement I : The Michaelis constant (K_m) characterizes the affinity of an enzyme to its substrate. Statement II : Higher the value of the Michaelis constant (K_m), stronger is the binding of the enzyme to the substrate. In light of the above statements, choose the correct 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	3.0	1.00
Objective Question				
62	12062		3.0	1.00

		In a Chemostat, which one of the following would increase the exit cell concentration? (1) Increase in dilution rate (2) Increase in inlet substrate concentration (3) Increase in inoculum dilution (4) Increase in impeller size A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
63	12063	Which one of the following uses a photocell to measure the cell density of a culture to regulate the flow of culture media? (1) Chemostat (2) Turbidostat (3) Hemostat (4) Cryostat A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
64	12064	In a bioprocess mainly producing cell biomass, if the microbial cell yield has halved, what would be the rate of substrate consumption to maintain the same rate of cell mass production? (1) It would be doubled (2) It would also be halved (3) It would remain unchanged (4) It would increase four fold A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
65	12065		3.0	1.00

		The first commercially produced plant secondary metabolite using plant suspension culture in bioreactor was (1) Shikonin (2) Colchicine (3) Riboflavin (4) Cytokinin A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
66	12066	Two proteins have approximately the same molecular weight and isoelectric point. The best way to resolve them would be using (1) Reverse phase chromatography (2) Thin layer chromatography (3) Gel filtration (4) Isoelectric focusing A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
67	12067	Sugarcane molasses containing 50% sucrose, 1% invert sugars, 18% water and 31% other solids is mixed with corn steep liquor containing 2.5% invert sugars, 50% water and 47.5% other solids to produce a diluted sugar mixture containing 2% invert sugars. 125 kg corn steep liquor and 45 kg molasses are fed into the mixing tank. How much water should be added to the mixing tank to produce the desired diluted sugar mixture? (1) 6.25 kg (2) 10.05 kg (3) 7.20 kg (4) 8.75 kg A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
68	12068		3.0	1.00

		A bacterial culture, with the molecular formula - $C_{4.4}\ H_{7.3}\ O_{1.2}\ N_{0.86}$ is cultivated under aerobic conditions with hexadecane ($C_{16}H_{34}$) as substrate. The growth can be described by equation: $C_{16}H_{34} + 16.28O_2 + 1.42NH_3 \rightarrow 1.65C_{4.4}H_{7.3}O_{1.2}N_{0.86} + 8.74CO_2 + 13.11H_2O$. Assuming 100% conversion, the yield of cell mass from hexadecane will be (1) 0.45 $g.g^{-1}$ (2) 0.66 $g.g^{-1}$ (3) 0.55 $g.g^{-1}$ (4) 0.50 $g.g^{-1}$ A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
69	12069	For an enzyme following Michaelis-Menten kinetics, the catalytic efficiency of the enzyme is measured by (1) k_{cat}/K_m (2) V_{max} (3) K_m (4) k_{cat} A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
70	12070	An airlift bioreactor uses (1) an impeller for mixing the contents (2) air bubbles for mixing the contents (3) a sparger for mixing the contents (4) differential densities for mixing purposes A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
71	12071		3.0	1.00

		In alcoholic fermentation, CO_2 is evolved during (1) decarboxylation of pyruvic acid only (2) formation of acetaldehyde only (3) both decarboxylation of pyruvic acid and formation of acetaldehyde (4) oxidation of acetaldehyde A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
72	12072	During the life cycle of microbes, at which stage do they produce primary metabolites? (1) Lag Phase (2) Exponential Phase (3) Stationary Phase (4) Death Phase A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
73	12073	Under high concentration of glucose, ethanol production by yeast cells, instead of increasing cell mass via TCA cycle is described as (1) Warburg effect (2) Simpson's effect (3) Crabtree effect (4) Raman effect A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
74	12074		3.0	1.00

A strain of *E. coli* is cultured in a 15 m^3 mechanically stirred bioreactor. Under the operating conditions, the value of k_La is 0.17 s^{-1}. Oxygen solubility in the broth is 8×10^{-3} kgm^{-3}. If the specific rate of O_2 uptake is 12.5 mmoles.$g^{-1}.h^{-1}$, what is the maximum possible cell concentration?

(1) 12 $g.l^{-1}$ (2) 15 $g.l^{-1}$

(3) 8.5 $g.l^{-1}$ (4) 6.8 $g.l^{-1}$

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

75	12075	A bioreactor of volume 1 m^3 is operated continuously under steady state with inlet substrate concentration of 10 $Kg.m^3$. The organism being cultivated has μ_m = 0.30 h^{-1} and saturation constant (K_s) = 0.5 $g.l^{-1}$. The feed flow rate required to achieve 90% conversion of the substrate will be (1) 0.2 $m^3.h^{-1}$ (2) 2.0 $m.h^{-1}$ (3) 1.0 $m^3.h^{-1}$ (4) 0.3 $m^3.h^{-1}$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

76	12076	Which one of the following statements is correct? (1) The genome size and the number of genes are directly proportional for all species (2) The genome size and the number of genes are directly proportional only among eukaryotes (3) The genome size and the number of genes are directly proportional only among prokaryotes (4) The genome size is not directly proportional to the number of genes across species A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

77	12077	What is the mutation rate per generation for humans? (1) 1.3×10^{-36} per base pair (2) 1.3×10^{-4} per million base pair (3) 1.3×10^{-8} per base pair (4) 1.3×10^{-6} per base pair A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
78	12078	In nature, 20 different amino acids can be coded by 4 different nucleotides (A, T, G & C). Suppose the number of available nucleotides increases to 6 (A, T, G , C, X & Y), for the genetic code to be made up of codons having equal number of nucleotides, what would be the minimum number of nucleotides required for each codon? (1) Three (2) Five (3) Two (4) Four A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
79	12079	Match the items in List I with the items in List II List I (Database) / List II (Description) (A) 1000 Genomes — (I) Genes and Disease (Phenotype) database (B) GenBank — (II) Catalogue of genomic variants (C) OMIM — (III) Biomedical resource with genetic, environmental and clinical data (D) UK Biobank — (IV) Nucleic Acid sequence database Choose the correct answer from the options given below: (1) (A)-(I), (B)-(II), (C)-(III), (D)-(IV) (2) (A)-(II), (B)-(IV), (C)-(I), (D)-(III) (3) (A)-(III), (B)-(I), (C)-(II), (D)-(IV) (4) (A)-(IV), (B)-(II), (C)-(I), (D)-(III) A1 : 1	3.0	1.00

		A2 : 2 A3 : 3 A4 : 4		
Objective Question				
80	12080	The following sequence of DNA seems to form a structure. 5′ ATCCGTGAATTACGGAT 3′ When the third base is changed from C to G the DNA loses its structure. However if in the background of this change, the 15th base (which is the 3rd last one) is changed from G to C, the DNA regains back its structure. The most plausible reason for these observations is (1) The 3rd base and 15th base are paired in a stem like structure (2) The 3rd and the 15th base are part of a loop like structure (3) The 3rd and 15th bases have steric clashes. (4) The 3rd base pairs with the 5th base and the 15th base pairs with the 13th one A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
81	12081	Given below are two statements : Statement I : Unfolded protein response occurs when cells are stressed. Statement II : Unfolded protein response is a hallmark response by the nucleus to protect the genome. In light of the above statements, choose the correct 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	3.0	1.00
Objective Question				

82	12082	While analyzing a multiple sequence alignment of homologous protease sequences, the following was observed: The 14th position was variable but always encoded by a hydrophobic amino acid. The 17th position was conserved and was Serine in all the sequences. The 29th position was variable but always encoded by an Aspartate or a Glutamate. The 50th position was conserved and always encoded by a Phenylalanine. Which statements do you think are consistent with the above observations? (A) Residue 14th is a buried amino acid. (B) 17th position may be part of the active site of the protein. (C) 29th residue is a buried amino acid. (D) 50th position is an exposed amino acid. Choose the correct answer from the options given below: (1) (A) and (B) only (2) (B) and (C) only (3) (A) and (D) only (4) (B) and (D) only A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
83	12083	The ΔG of unfolding reaction of a monomeric protein Folded ↔ Unfolded Varies with the concentration of Guanidine Hydrochloride [GdnHCl] with the following relationship ΔG = m x [GdnHCl] + 10kCal/mol Where, m = –2 $kCalMol^{-1}M^{-1}$. What is the [GdnHCl] at which half of the protein is unfolded? (1) 0 M (2) 2 M (3) 5 M (4) 10 M A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
84	12084		3.0	1.00

A protein X forms dimer.

$$X - X \leftrightarrow X + X$$

The K_D of the reaction is 1 μM.

At 1 μM concentration of the monomer X, what is the concentration of dimer of X.

(1) 0.5 μM (2) 1 μM

(3) 0.25 μM (4) 0.75 μM

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

85	12085	Sometimes phi and psi angles can be used to construct the 3D structure of a protein. Which one of the following statements are true with respect to this process? (A) The omega angle is required to model the final 3D structure. (B) phi and psi are not sufficient to model the 3D positions of the side chain atoms. (C) The allowed regions of Ramachandran Map is sufficient to model the 3D structure *ab initio* (D) phi and psi are sufficient to fix all main chain atoms except for Glycine which is achiral. Choose the correct answer from the options given below : (1) (A) and (B) only (2) (B) and (C) only (3) (B) and (D) only (4) (C) and (D) only A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

86	12086	Which one of the following forward primer(s) will you use to amplify the DNA sequence given below? 5′ ATGCAATCGATGCCGATC 3′ 3′ TACGTTAGCTACGGCTAG 5′ (1) 5′ATGCA 3′ (2) 5′ TACGT 3′ (3) 5′ ACTAGC 3′ (4) 5′ GATCG 3′	3.0	1.00

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
87	12087	Approximately how many helical turns are generally present in a 4800 bp long, non-supercoiled B-DNA? (1) 48 (2) 480 (3) 4800 (4) 400 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
88	12088	Which one of the following is formed when the cytosine base is deaminated? (1) Uracil (2) Guanine (3) Adenine (4) Thymidine A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
89	12089		3.0	1.00

After solving a protein structure by X-ray crystallography you found that a few residues are in the disallowed region of the Ramachandran Map. Which one of the following are plausible explanations for this observation?

(A) There may be errors in the structure of these residues

(B) There may be side-chain interactions in those residues that off-set the disallowed cost

(C) The protein may have a lot of Proline residues

(D) The protein may not be in a proper folded state when it was crystallized

Choose the correct answer from the options given below:

(1) (A) and (B) Only

(2) (B) and (C) Only

(3) (A) and (D) Only

(4) (C) and (D) Only

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question				
90	12090	Real time PCR was done with the two patient samples, A and B, to detect SARS-CoV-2 virus. The Ct value obtained in patient sample A was higher than that obtained in patient sample B. The inference to be drawn from this observation is that the (1) patient A has a higher viral load than patient B (2) patient B has higher viral load than patient A (3) strain infecting Patient A is more virulent than that in Patient B (4) viral load cannot be determined by the Ct value A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
91	12091	RNAi was discovered in (1) *Drosophila melanogaster* (2) *Caenorhabditis elegans* (3) *Escherichia coli* (4) *Saccharomyces cerevisiae* A1 : 1 A2 : 2	3.0	1.00

		A3 : 3 A4 : 4		
Objective Question				
92	12092	Which one of the following statements about neutrophils is INCORRECT? (1) They are the most abundant circulating leukocytes (2) They differentiate in the bone marrow and move into circulation (3) They differentiate only during bacterial infection (4) They are recruited to the site of infection in response to chemokines A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
93	12093	Generation of a DNA probe using random primer technique uses a combination of oligonucleotides 6 bp in length. How many number of distinct oligonucleotides are possible if all four nucleotides are randomly incorporated? (1) 4096 (2) 1296 (3) 1024 (4) 24576 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
94	12094	Which one of the following is likely to happen when a double-stranded DNA solution is heated? (1) The absorbance of DNA at 260 nm increases (2) The absorbance of DNA at 260 nm decreases (3) The absorbance of DNA at 260 nm remains the same (4) The absorbance of DNA at 260 nm first decreases and then increases A1 : 1 A2 : 2 A3 : 3	3.0	1.00

		A4 : 4		
Objective Question				
95	12095	Which one of the following is NOT primarily a microtubule-based structure? (1) Centriole (2) Centrosome (3) Basal Body (4) Filopodia A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
96	12096	There are twenty amino acids. How many different polypeptide chains of 'N' number of amino acids are possible? (1) N^4 (2) 4^N (3) N^{20} (4) 20^N A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
97	12097	Which one of the following organisms requires a Biosafety level 3 facility for culture and manipulation as per extant biosafety regulations? (1) *Leishmania donovani* (2) *Streptococcus pneumoniae* (3) *Plasmodium falciparum* (4) *Candida albicans* A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
98	12098		3.0	1.00

		The process by which the genetic material can be transferred from one bacterium to another by a virus is known as (1) Transformation (2) Conjugation (3) Transduction (4) Transfection A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
99	12099	In a newly discovered type of genetic material (with similar properties to our own DNA) there were four nucleotides, L, M, N and O. L and M were complementary and paired with one hydrogen bond between them and N and O were complementary and paired with 2 hydrogen bonds between them. Given this, which one of following sequences would have the highest melting temperature in their double-stranded form? (1) LMMLLLMLON (2) LLLMMMMLML (3) ONONNMLMLL (4) NNOONONOML A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
100	12100	DNA polymerase 1 from *Escherichia coli* lacks which one of the following enzyme activities? (1) 5′ to 3′ exonuclease activity (2) 3′ to 5′ exonuclease activity (3) 5′ to 3′ DNA-dependent DNA polymerase activity (4) 5′ to 3′ RNA-dependent DNA polymerase activity A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
101	12101		3.0	1.00

		Transmission of organisms from mother to fetus or new born child is known as Vertical transmission of infection. Which one of the following is most likely to transmit vertically? (1) *Clostridium tetani* (2) *Chlamydia trachomatis* (3) *Shigella dysenteriae* (4) *Streptococcus pneumoniae* A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
102	12102	Which one of the following combinations of the drugs acts to inhibit the same metabolic pathway? (1) Sulfonamide and Trimethoprim (2) Amphotericin and Flucytosine (3) Isoniazid and Rifampicin (4) Penicillin G and Gentamicin A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
103	12103	Which one of the following statements is NOT correct about human immunodeficiency virus (HIV)? (1) HIV is an enveloped RNA virus (2) Acyclovir inhibits HIV replication (3) A DNA copy of the HIV genome may integrate into host cell DNA (4) The virion contains an RNA-dependent DNA polymerase A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
104	12104		3.0	1.00

		India has major burden of tuberculosis (TB) which is caused by *Mycobacterium tuberculosis*. Efforts are on to eliminate TB by 2025 and effective prophylaxis against the disease can be achieved with the BCG vaccine, which has been developed from (1) *Mycobacterium tuberculosis* (2) *Mycobacterium avium* (3) *Mycobacterium bovis* (4) *Mycobacterium smegmatis* A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
105	12105	Flow cytometry is an analytical technique that quantifies the frequencies of cells binding to fluorescent antibodies and scattering light in characteristic ways. When a flow cytometer is used to sort cell subpopulations on the basis of florescence and light scattering it is referred to as Fluorescence Activated Cell Sorting (FACS). Which one of the following statement is NOT correct regarding FACS? (1) Every time a cell passes in front of the laser beam, light is scattered, and this scattering of the laser signal is recorded (2) The more forward light scatter, the larger the cell, and so the amount of light scattered in the forward direction can be used as a rough measure of the range of sizes of the cells in the stream (3) The amount of side scattered light offers an indication of the extent of size of the scattering cells (4) Cells in suspension are hydrodynamically focused into a narrow stream by being introduced inside a rapidly moving column of sheath fluid A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
106	12106	While running in the 200 meter race in National Games, the required ATP generation in the athlete is primarily facilitated by: (1) Contraction of Actin and myosin proteins (2) Hydrolysis of stored ATP polymer (3) Creatine phosphate in the muscle (4) Ketone bodies in the muscles A1 : 1 A2 : 2	3.0	1.00

		A3 : 3 A4 : 4		
Objective Question				
107	12107	A slide of macrophages was stained by immunofluorescence using a monoclonal antibody for the TAP1/TAP2 complex. Which one of the following intracellular compartments would exhibit positive staining with this antibody? (1) Mitochondria (2) Endoplasmic Reticulum (3) Golgi apparatus (4) Nucleus A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
108	12108	Given below are two statements : Statement I : Agglutination is a simple. inexpensive, rapid and highly specific immunological test that is widely performed in diagnostic laboratories. For example, it is often used for human blood typing based on the presence of specific antigens on the surface of red blood cells, which vary among individuals. Statement II : Agglutination is routinely used in clinical laboratories for determining HIV-infected $CD4^+$ cells. In light of the above statements, choose the correct 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	3.0	1.00
Objective Question				
109	12109		3.0	1.00

		The vaccine for cervical cancer is composed of (1) Human Papilloma Virus-like-particles (VLPs) (2) Inactivated Human Papilloma Virus (3) Live attenuated Human Papilloma Virus (4) Recombinant adenovirus A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
110	12110	Match the items in List I with the items in List II : List I / List II (A) Cystic Fibrosis — (I) Hypoxanthine-guanine phosphoribosyl transferase (B) Lesch-Nyhan syndrome — (II) CFTR (C) Severe combined immunodeficiency — (III) SMN1/2 (D) Spinal muscle atrophy — (IV) Adenosine Deaminase Choose the correct answer from the options given below : (1) (A)-(IV), (B)-(I), (C)-(III), (D)-(II) (2) (A)-(II), (B)-(III), (C)-(I), (D)-(IV) (3) (A)-(IV), (B)-(III), (C)-(I), (D)-(II) (4) (A)-(II), (B)-(I), (C)-(IV), (D)-(III) A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
111	12111	Which one of the following antibiotic specifically inhibits RNA synthesis? (1) Isoniazid (2) Penicillin (3) Rifampicin (4) Streptomycin A1 : 1 A2 : 2 A3 : 3	3.0	1.00

		A4 : 4		
Objective Question				
112	12112	Given below are two statements : Statement I : If one parent carries the defective Huntington disease gene, his or her offspring have a 100% chance of inheriting the disease Statement II : Huntington disease is an autosomal dominant genetic disorder In light of the above statements, choose the correct 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	3.0	1.00
Objective Question				
113	12113	Functional magnetic resonance imaging (fMRI) is one of the most powerful methods for examining brain function. This method is based on the changes in the magnetic properties of (1) neurotransmitters (2) neurons (3) myelin (4) hemoglobin A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
114	12114	Which one of the following diseases is due to severe deficiency of proteins in diet? (1) Kwashiorkor (2) Tay-Sach's disease (3) Scurvy (4) Myasthenia gravis A1 : 1	3.0	1.00

		A2 : 2 A3 : 3 A4 : 4		
Objective Question				
115	12115	Given below are two statements : One is labelled as Assertion (A) and the other is labelled as Reason (R). Assertion (A) : Mycoplasma stains negative in Gram staining. Reason (R) : Mycoplasma's cell wall is devoid of teichoic acid. In light of the above statements, choose the correct answer from the options given below : (1) Both (A) and (R) are correct and (R) is the correct explanation of (A) (2) Both (A) and (R) are correct but (R) is NOT the correct explanation of (A) (3) (A) is correct but (R) is not correct (4) (A) is not correct but (R) is correct A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
116	12116	Which one of the following is responsible for development of myelin sheath in the central nervous system? (1) Astrocytes (2) Oligodendrocytes (3) Microglia (4) Dendritic cells A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
117	12117	Which one of the following brain regions are NOT involved in eye movement control? (1) Premotor cortex (2) Parietal cortex (3) Inferior temporal gyrus (4) Frontal eye field	3.0	1.00

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
118	12118	Which one of the following disorders leads to hallucinations? (1) Anxiety (2) Schizophrenia (3) Alzheimer's (4) Epilepsy A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
119	12119	In absolute refractory period of neurons (1) Na^+ channels are open (2) Na^+ channels are closed (3) K^+ channels are open (4) K^+ channels are closed A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
120	12120	Phagocytosis in the central nervous system involves (1) recovering excess Ca^{2+} from synapse (2) specialized ability of some neurons to divide (3) bridging the blood brain barrier (4) clearing of dead cells A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question				
121	12121	What attribute do DREB transcription factors impart to higher plants? (1) Insect resistance (2) Pathogen resistance (3) Drought resistance (4) Virus resistance A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
122	12122	Quantitative Trait Loci (QTL) can be mapped using (1) Transgenic approach (2) SSR markers (3) Gene editing (4) Tissue culture A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
123	12123	Given below are two statements : Statement I : Heterologous expression of prokaryotic genes in plants can be used to render resistance against insects. Statement II : Expression of *BtCry1Ac* gene in cotton improves resistance against aphids. In light of the above statements, choose the correct 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	3.0	1.00

		A3 : 3 A4 : 4		
Objective Question				
124	12124	Targeted gene disruption CANNOT be achieved by (1) Cre/Lox system (2) CRISPR system (3) Zinc-Finger nucleases (4) T-DNA integration A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
125	12125	Centimorgan (cM) is defined as the genetic distance between two loci with a statistically corrected recombination frequency of (1) 10% (2) 0.1% (3) 1% (4) 0.01% A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
126	12126	Upon entering the cells, Cauliflower Mosaic Virus (CaMV) accumulates in inclusion bodies in which part of the cells? (1) Nucleus (2) Chloroplast (3) Cytoplasm (4) Mitochondria A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
127	12127		3.0	1.00

		Which one of the following genes provide herbicide tolerance? (1) Neomycin phosphotransferase (2) Phosphinothricin acetyltransferase (3) Hygromycin phosphotransferase (4) Gentamycin acetyltransferase A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
128	12128	During cell cycle, genome replication occurs in (1) M Phase (2) G1 phase (3) G2 phase (4) S phase A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
129	12129	Plant transformation method that uses tungsten or gold particle coated with DNA accelerated at a high velocity is called: (1) Agrobacterium mediated particle delivery method (2) Particle bombardment method (3) High velocity gene delivery method (4) Accelerated gene delivery method A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
130	12130	Which one of the following chemicals enhances *vir* gene expression in Agrobacterium? (1) Dextran (2) Acetosyringone (3) Acetyl carboxylic acid (4) Acetyl salicylic acid A1 : 1	3.0	1.00

		A2 : 2 A3 : 3 A4 : 4		
Objective Question				
131	12131	In monocot seedlings the highest concentration of auxin is found in the (1) Stem (2) Bud (3) Coleoptile (4) Trichome A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
132	12132	In plants, which stage of somatic embryo development requires ABA in culture medium? (1) Formation of embryogenic cells (2) Globular embryogenesis (3) Torpedo stage (4) Maturing embryo A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
133	12133	A classical plant breeder wants to develop a disease resistant variety. What is the first step? (1) Development of Recombinant Inbred Lines (RILs) (2) Selection of a naturally resistant landrace (3) Hybridization of contrasting parents (4) Production of Near Isogenic Lines (NILs) A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question				
134	12134	Which class of enzymes catalyzes the formation of oxalo-acetic acid from phosphoenol pyruvic acid in the chloroplasts of mesophyll cells? (1) Dehydrogenases (2) Carboxylases (3) Decarboxylases (4) Isomerases A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
135	12135	Given below are two statements : One is labelled as Assertion A and the other is labelled as Reason R : Assertion (A) : The major factors influencing the water potential in plants are solute concentration, pressure and gravity. Reason (R) : Turgor pressure in xylem vessel is responsible for generating the water potential. In light of the above statements, choose the *most appropriate* answer from the options given below : (1) Both (A) and (R) are correct and (R) is the correct explanation of (A) (2) Both (A) and (R) are correct but (R) is NOT the correct explanation of (A) (3) (A) is correct but (R) is not correct (4) (A) is not correct but (R) is correct A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
136	12136	Which one of the following is the correct sequence of electron transfer in the thylakoid membrane during light cycle of photosynthesis? (1) P680 – Cytochrome b_6f – PC – PQ – P700 (2) P680 – PQ-Cytochrome b_6f – PC – P700 (3) P680 – Cytochrome b_6f – PQ – PC – P700 (4) P680 – PC – Cytochrome b_6f – PQ – P700	3.0	1.00

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
137	12137	Vinblastine and vincristine, the potent anticancer metabolites present in *Catharanthus roseus*, accumulate in which one of the following? (1) Middle Lamella (2) Primary cell walls (3) Schlerenchyma (4) Idioblasts A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
138	12138	Which one of the following is the immediate effect of ABA-dependent stomatal closure in plants? (1) Enhanced transpiration and enhanced photosynthesis (2) Reduced transpiration and enhanced photosynthesis (3) Enhanced transpiration and reduced photosynthesis (4) Reduced transpiration and reduced photosynthesis A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
139	12139	The ABC model of flower development determines organ arrangement in the sequence sepal, petal, stamen and carpel. Due to the loss of Class A gene functions, the observed phenotype will be (1) Sepal, Sepal, Carpel, Carpel (2) Stamen, Carpel, Carpel, Carpel (3) Sepal, Petal, Petal, Sepal (4) Carpel, Stamen, Stamen, Carpel A1 : 1 A2 : 2	3.0	1.00

A3 : 3

A4 : 4

Objective Question

140 | 12140 | 3.0 | 1.00

Which one of the following enzymes is administered to dissolve blood clots during heart attack treatment?

(1) Amylase (2) Laccase

(3) Streptokinase (4) Acylase

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

141 | 12141 | 3.0 | 1.00

Which one of the following anti-diabetic drugs is produced by coupling of GLP-1 peptide with IgG-Fc?

(1) Semaglutide (2) Liraglutide

(3) Dulaglutide (4) Insulin

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

142 | 12142 | 3.0 | 1.00

Match the enzymes in List I with their products items in List II :

	List I		List II
(A)	Penicillin Acylase	(I)	Bioactive peptides
(B)	Alkalase	(II)	6-APA
(C)	Thermolysin	(III)	Lactose free milk
(D)	β –galactosidase	(IV)	Aspartame

Choose the correct answer from the options given below :

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

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

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

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

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
143	12143	Given below are two statements : Statement I : Both aspirin and paracetamol belong to non-narcotic analgesics. Statement II : The synthesis of prostaglandins, which stimulate inflammation in the tissue causing pain, is inhibited by aspirin. In light of the above statements, choose the correct answer from the options 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	3.0	1.00
Objective Question				
144	12144	Given below are two statements : Statement I : The manufacturing process of SARS-CoV-2 mRNA vaccine requires synthesis of mRNA from DNA using *in vitro* transcription. Statement II : The naked mRNA is administered intramuscularly to the vaccine recipients to generate a protective immune response. In light of the above statements, choose the correct 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	3.0	1.00

A2 : 2

A3 : 3

A4 : 4

Objective Question

145	12145	*Saccharomyces cerevisiae* was grown in batch fermentation mode to produce ethanol. The rate of ethanol production in the exponential phase was 2 g/L/h, which decreased to 1 g/L/h after sometime. Which of these is least likely to be responsible for this? (1) Nutrient depletion (2) Mineral salt depletion (3) Oxygen depletion (4) Accumulation of waste A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

146	12146	The aspect ratio (based on height & diameter) of a tower reactor is (1) 6/1 – 10/1 (2) 2/1 – 3/1 (3) 2/1 – 4/1 (4) 1 –1/2 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

147	12147	The average molecular weight of a nucleotide base in oligonucleotides is 330. What would be the amount required to prepare 100 μL of 1 μM solution of a 20 bp long single-stranded DNA? (1) 660 μg (2) 66 μg (3) 6.6 μg (4) 0.66 μg A1 : 1 A2 : 2 A3 : 3	3.0	1.00

		A4 : 4		
Objective Question				
148	12148	Yeast are facultative anaerobes – they can grow anaerobically during alcoholic fermentation and aerobically using oxygen for cellular respiration. Interestingly, wild type yeast cannot live anaerobically using glycerol as their only fuel source. Which one of the following is the correct explanation? (1) Glycerol inactivates alcohol dehydrogenase in yeast (2) Yeast lacks functional glycerol transporter (3) Yeast cannot regenerate NAD^+ in the presence of glycerol (4) Yeast is unable to catabolize glycerol A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
149	12149	The pelleting of microsomal fraction from liver homogenate sample was performed using a centrifuge operated at 15000 rpm. What is the angular velocity of centrifuge in rad/s? (1) 785 (2) 1570 (3) 3140 (4) 6280 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
150	12150	Which one among the following CANNOT induce cell flocculation? (1) Neutralization of anionic charges on the surface of microbial cells (2) Reduction in surface hydrophobicity (3) Use of high molecular weight polymer bridges (4) Alteration of pH A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question				
151	12151	Which one of the following is the Del factor value for sterilizing a culture medium containing 10^{11} viable bacterial cells? (1) 14.1 (2) 4.2 (3) 32.2 (4) 16.1 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
152	12152	Exponential growth of a bacterial culture in batch mode is usually defined by the equation $dX/dt = \mu X$, where μ is (1) Exponential fermentation rate (2) Specific growth rate (3) Specific batch rate (4) Relative growth rate A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
153	12153	During a fermentation process, the feed is sterilized using wet-heat sterilization method. What will happen to D-value, if the solute concentration in the feed increases by four-fold? (1) Increases (2) Decreases (3) Remains constant (4) First decreases and then increases A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
154	12154		3.0	1.00

		You have mixed 100 ml of 0.5 M solution of glucose and 200 ml of 0.5 M solution of glucose. The resultant solution will contain (1) 0.25 M glucose (2) 0.5 M glucose (3) 0.33 M glucose (4) 0.25 M maltose A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
155	12155	The penicillin extraction process involves the following steps: A. Extraction from the organic solvent into an aqueous buffer B. Extraction from the aqueous buffer into an organic solvent C. Extraction of penicillin from the filtered broth into organic solvent D. Extraction of solvent to obtain penicillin salt Choose the correct sequence of steps from the options given below : (1) B → A → C → D (2) C → A → B → D (3) D → A → B → C (4) A → B → C → D A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
156	12156	Suppose that an obligate anaerobe suffered a mutation that resulted in the loss of triose phosphate isomerase activity. What will be the net ATP yield under anaerobic condition? (1) 0 (2) 1 (3) 2 (4) 4 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
157	12157		3.0	1.00

		Which of the following processes can be utilized for sterilization of medium with heat-sensitive components? (1) Short sterilization (2) Batch sterilization (3) Dry sterilization (4) Microfiltration A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
158	12158	*Bacillus polymyxa* strain was cultivated under anaerobic condition in a media containing 10 g/L glucose as the sole carbon source. The glucose was completely utilized in 10 h producing 2, 3-Butanediol with productivity of 5 g/L/h. What is the yield of 2, 3-Butanediol produced per gram of glucose consumed (g/g)? (1) 5 (2) 10 (3) 50 (4) 100 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
159	12159	If the partitioning coefficient (K) of a solute is 20 when it is extracted by an organic solvent from culture medium, what is the amount of solvent required per litre of culture medium to extract 90% of the solute in a single equilibrium stage? (1) 0.45 litre (2) 4.5 litre (3) 0.045 litre (4) 45 litre A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
160	12160		3.0	1.00

		With respect to Good Manufacturing Practices and Process Safety, HACCP stands for (1) Help and Awareness in Critical Care Processes (2) Human Awareness in Commercial Critical Processes (3) Hazard Analysis and Critical Care Point (4) Hazard Analysis and Critical Control Point A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
161	12161	Which of the following ISO standards is designed for Food Safety Management? (1) ISO 9000 series (2) ISO 14000 series (3) ISO 18000 series (4) ISO 22000 series A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
162	12162	Which of the following methods is used for rapid and accurate detection of toxic organisms in food? (1) Staining (2) ATP estimation (3) PCR (4) MPN counting A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
163	12163		3.0	1.00

		An investigation of an outbreak of food poisoning following consumption of cultivated mussels showed the presence of a glutamate antagonist known as domoic acid in the body of the affected persons. What is the source of the domoic acid? (1) *Escherichia coli* contamination (2) *Gambierdiscus toxicus* contamination (3) *Nitzschia pungens* contamination (4) *Salmonella* species contamination A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
164	12164	Which among the following bacteria is the most heat tolerant? (1) *Clostridium botulinum* type E (2) *Bacillus coagulans* (3) *Clostridium pasteurianum* (4) *Bacillus polymyza* A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
165	12165	The recent advancements in computing that has exponentially enhanced computing power for bioinformatics include (1) Logical and High Performance Computing (2) BIT and Graphic Processing Units aided Computing (3) Graphic Processing Units and High Performance Computing (4) High Performance Serial Computing A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
166	12166		3.0	1.00

		The researchers are looking for a possible DNA-binding groove in a protein structure. It is most likely to be a (1) Negatively charged region (2) Positively charged region (3) Hydropbhobic region (4) Unstructured region A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
167	12167	Which one of the following CANNOT be used to determine the atomic structure of proteins? (1) Cryo Electron Microscopy (2) Nuclear Magnetic Resonance Spectroscopy (3) X-ray Crystallography (4) Atomic Absorption Spectroscopy A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
168	12168	Which one of the following represents the structure of silk protein fibroin? (1) Antiparallel β-sheets (2) α- helical filament (3) Mixture of α-helices and β-sheets (4) Parallel β-sheets A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
169	12169	Which one of the following amino acid residue pairs can disrupt α-helices? (1) Glutamine and Proline (2) Lysine and Arginine (3) Glycine and Proline (4) Alanine and Leucine	3.0	1.00

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
170	12170	Organic solvent acetone denatures proteins by (1) Disrupting hydrophobic core (2) Altering net charge of protein (3) Breaking covalent bonds (4) Disrupting inherent symmetry A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
171	12171	The Levinthal paradox is related to (1) Enzyme kinetics (2) Metabolic pathways (3) Protein folding (4) Protein transport A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
172	12172	Which one of the following does NOT assist protein folding? (1) GroEL/GroES (2) DnaJ/DnaK (3) Protein disulfide Isomerase (4) Topoisomerase A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				

173	12173	. The amino acid glycine is always present in (1) Type 1 β-turn (2) Type 2 β-turn (3) α-helix (4) Random coil A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
174	12174	In α-helices, hydrogen bonds are formed in the polypeptide backbone between the –C=O group of the first amino acid and the (1) –NH group of the fifth amino acid (2) –NH group of the fourth amino acid (3) –C=O group of the fifth amino acid (4) –C=O group of the fourth amino acid A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
175	12175	The number of base pairs present per helical turn in B-DNA is (1) 12 (2) 14.8 (3) 10.5 (4) 16 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
176	12176	Molecular Dynamics does NOT involve calculations of (1) Interatomic charges (2) Force constants for bonded atoms (3) Quantum mechanics (4) Lennard-Jones potential A1 : 1 A2 : 2	3.0	1.00

		A3 : 3 A4 : 4		
Objective Question				
177	12177	Alphafold is a protein folding algorithm based on (1) *ab initio* methods (2) statistical linear regression (3) threading (4) machine learning A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
178	12178	For phylogenetic analysis, which of the following is correct? (1) BLAST alignments are necessary for performing phylogenetic analysis (2) The multiple sequence alignments should ideally be trimmed to edit out the non-aligning regions before phylogenetic analysis (3) Phylogenetic analysis is not effective for highly similar protein sequences (4) Phylogenetic analysis can only be done for proteins from organisms within the same phyla A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
179	12179	The following BLAST statistic does NOT change for same pair-wise alignments with different query databases; (1) E-value (2) BIT-score (3) E-value and BIT-score (4) E-value and identity A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question				
180	12180	Which one of the following statements is correct? (1) T-COFFEE is a multiple sequence alignment tool (2) In a multiple sequence alignment, single columns in the alignments can be insertions (3) Phylogenetic algorithms do not need multiple sequence alignments before drawing phylogeny (4) BLAST is the most accurate multiple sequence alignment algorithm A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
181	12181	Which one of the following is an example of a global alignment algorithm? (1) Smith-Waterman (2) Needleman-Wunsch (3) BLAST (4) PSI-BLAST A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
182	12182	Which one of the following statements is correct? (1) Artificial Intelligence is a type of Machine Learning (2) Machine Learning is a type of Deep Learning (3) Neural Networks are a type of Machine Learning (4) Machine Learning is a type of Artificial Neural Networks A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				

183	12183	The researchers are interested in solving the structure of a given protein through X-ray diffraction crystallography. Which one of the following types of proteins is likely to be more difficult to crystallize? (1) Protein with positively charged residues on the surface (2) Protein with hydrophobic patches on the surface (3) Protein with intrinsically disordered regions (4) Protein with no post-translational modifications A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
184	12184	BLAST is popular tool to search for sequences similar to a given sequence (query) against a given database, and it often sorts resulting matches according to the e-value. Which one of the following statements is INCORRECT with respect to this e-value? (1) Its value depends on the length of the query sequence (2) Its value depends on the size of the database (3) It reduces exponentially as the pairwise alignment score increases (4) If the e-value approaches zero, the probability that the alignment occurred by chance is greater A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
185	12185	Johne's disease in ruminants is caused by (1) *Mycobacterium bovis* (2) *Mycobacterium tuberculosis* (3) *Mycobacterium avium paratuberculosis* (4) *Mycobacterium orygis* A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question				
186	12186	Prolactin, the hormone that controls milk production is secreted by (1) Anterior pituitary gland (2) Mammary gland (3) Thyroid (4) Ovary A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
187	12187	One health approach to address the challenge of Anti-microbial resistance involves addressing (1) one disease at a time (2) metabolic disorder (3) nosocomial infections (4) zoonotic infections A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
188	12188	. Somatic cell cloning involves transfer of (1) nucleus from ovum to somatic cell (2) nucleus from somatic cell to ovum (3) cytoplasm from somatic cell to ovum (4) mitochondria from somatic cell to ovum A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
189	12189		3.0	1.00

		. Sperm production is regulated by which one of the following cells of the seminiferous tubules (1) Basal lamina propria (2) Leydig cells (3) Beta cells (4) Sertoli cells A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
190	12190	Ozone depletion is caused by increase in the level of (1) H_2O Vapors (2) Oxygen (O_2) (3) Chlorofluorocarbon (CFC) (4) Carbon mono-oxide (CO) A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
191	12191	The efficiency of an organic sludge composting method can be improved by various physicochemical options. Which one of the following is NOT a recommended option for the same? (1) Mixing (2) Forcing air through the biomass (3) Shredding the material to enhance the surface area (4) Adding water to the biomass to increase the water activity (a_w) > 1 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
192	12192		3.0	1.00

		A bacterium useful in bioleaching of low-grade mineral ores is (1) *Bacillus megaterium* (2) *Thiobacillus ferrooxidans* (3) *Thermus aquaticus* (4) *Rhodopseudomonas capsulatus* A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
193	12193	Which of the following is NOT a ground water remediation technology? (1) Pump-and-Treat systems (2) Soil Vapour Extraction (3) Permeable Reactive Barriers (4) Sludge Treatment A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
194	12194	Find the theoretical oxygen demand to completely oxidize 1.67×10^{-3} M glucose solution ($C_6H_{12}0_6$) to CO_2 and H_2O. (1) 321 mg/L O_2 (2) 642 mg/L O_2 (3) 162 mg/L O_2 (4) 321 g/L O_2 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
195	12195	What mass of CO_2 would be produced if 100 gm of butane (C_4H_{10}) is completely oxidized to CO_2 and H_2O? (1) 606 gm (2) 303 mg (3) 303 gm (4) 303 kg A1 : 1	3.0	1.00

		A2 : 2 A3 : 3 A4 : 4		
Objective Question				
196	12196	In India, which one of the following parameter is NOT a part of day-to-day Air Quality Monitoring? (1) PM10 (2) SO_2 (3) Pollen grains (4) NO_2 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
197	12197	Which of the following is NOT a part of Integrated Solid Waste Management? (1) Source Reduction (2) Recycling (3) Disposal (4) Crop Stubble Burning A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
198	12198	Naupilus is a larval stage of (1) Shark (2) Fish (3) Shrimp (4) Tortoise A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
199	12199		3.0	1.00

		Collagen is a source of (1) Gelatin (2) Agar (3) Glucosamine (4) Carbohydrate A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
200	12200	Which of the following bioactive metabolites can be isolated from sea cucumbers? (1) Acrydine (2) Quinone (3) Saponine (4) Saffranin A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

NATIONAL TESTING AGENCY
BIOTECHNOLOGY ELIGIBILITY TEST (2024)

EXAM DATE 20.04.2024 **SHIFT** II

Question ID	Correct Answer	Question ID	Correct Answer	Question ID	Correct Answer
12001	3	12035	4	12069	1
12002	3	12036	1	12070	2,4
12003	3	12037	3	12071	3
12004	3	12038	2	12072	2
12005	2	12039	2	12073	3
12006	1	12040	4	12074	1
12007	4	12041	3	12075	1
12008	4	12042	2	12076	4
12009	3	12043	3	12077	3
12010	1	12044	1	12078	3
12011	2	12045	4	12079	2
12012	3	12046	3	12080	1
12013	1	12047	2	12081	3
12014	1	12048	3	12082	1
12015	4	12049	2	12083	3
12016	1	12050	2	12084	2,3
12017	2	12051	2	12085	1
12018	2	12052	1	12086	1
12019	3	12053	2	12087	2
12020	2	12054	2	12088	1
12021	3	12055	3	12089	1
12022	4	12056	3	12090	2
12023	4	12057	2	12091	2
12024	4	12058	3	12092	3
12025	1	12059	1	12093	1
12026	3	12060	3	12094	1
12027	1	12061	3	12095	4
12028	4	12062	2	12096	4
12029	2	12063	2	12097	2
12030	3	12064	1	12098	3
12031	1	12065	1	12099	4

12032	1	12066	1	12100	4
12033	2	12067	4	12101	2
12034	3	12068	2	12102	1

Question ID	Correct Answer	Question ID	Correct Answer	Question ID	Correct Answer
12103	2	12137	4	12171	3
12104	3	12138	4	12172	4
12105	3	12139	4	12173	2
12106	3	12140	3	12174	1
12107	2	12141	3	12175	3
12108	3	12142	4	12176	3
12109	1	12143	1	12177	4
12110	4	12144	3	12178	2
12111	3	12145	3	12179	2
12112	4	12146	1	12180	1
12113	4	12147	4	12181	2
12114	1	12148	3	12182	3
12115	2	12149	2	12183	3
12116	2	12150	2	12184	4
12117	3	12151	3	12185	3
12118	2	12152	2	12186	1
12119	1	12153	1	12187	4
12120	4	12154	2	12188	2
12121	3	12155	2	12189	4
12122	2	12156	1	12190	3
12123	3	12157	4	12191	4
12124	4	12158	1	12192	2
12125	3	12159	1	12193	4
12126	3	12160	4	12194	1
12127	2	12161	4	12195	3
12128	4	12162	3	12196	3
12129	2	12163	3	12197	4
12130	2	12164	2	12198	3
12131	3	12165	3	12199	1
12132	4	12166	2	12200	3
12133	2	12167	4		
12134	2	12168	1		

12135	3	12169	3
12136	2	12170	1