Entrance Exam

2024



QUESTION PAPER

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PREVIEW QUESTION BANK

Module Name : BET 2023-ENG
Exam Date : 13-May-2023 Batch : 15:00-18:00

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
1	22001	The term 'biotechnology' was coined by 1. Fredrick Sanger 2. Kary Mullis 3. Karl Ereky 4. James Watson A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
2	22002	In a class, the average weight of boys is 65 Kg and average weight of girls is 55 Kg. If average weight of all students of the class is 62 Kg, find the number of girls in the class if boys are 35 in number. 1. 14 2. 15 3. 12 4. 20 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
3	22003	Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R. **Assertion A:** The sum and difference of L.C.M and H.C.F of two numbers are 504 and 456. If the sum of the numbers is 216, then the numbers are 120 and 96. **Reason R:** Product of two numbers = Product of their L.C.M and H.C.F In the 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	3.0	1.00

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
4	22004	A large cube with surface area of 1536 sq. cm is melted and small cubes each with surface area of 24 sq. cm are obtained. Find the number of small cubes obtained 1. 512 2. 256 3. 128 4. 64 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
5	22005	Sita and Gita can do a piece of work together in 12 days. If Gita is three times more efficient than Sita, how long will Sita take to complete the work alone? 1. 16 days 2. 48 days 3. 24 days 4. 32 days A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
6	22006	The population of a village is 1,00,000. Every year, villagers move to cities in search of jobs and the population of the village decreases at a rate of 5% per annum. How many villagers will migrate in 2 years? 1. 9,750 2. 9,950 3. 9,500 4. 10,000	3.0	1.00

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
7	22007	Sam invested Rs. 30,000 at 5% per annum on simple interest for 4 years to Shyam. Sam also invested the same amount, for same duration and same rate of interest to Mohan on compound interest. What will be the difference of interest received by him in two cases? 1. Rs. 300 2. Rs. 150 3. Rs. 200 4. Rs. 175 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
8	22008	The ratio of present ages of Julie and Kamala is 3:8. Kamala is 8 years younger than her brother Ram, whose age after 6 years will become 70. What is the present age of Julie's mother who is 24 years older than Kamala? 1. 80 years 2. 64 years 3. 45 years 4. 48 years A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
9	22009	Vande-Bharat express runs at a speed of 120 km/h. It starts from a station 8 hours after a goods train leaves that station. Vande-Bharat overtakes the goods train after 4 hours. The speed of the goods train is: 1. 60 km/h 2. 40 km/h 3. 80 km/h 4. 20 km/h	3.0	1.00

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
10	22010	A reservoir has two pipes, A and B. Pipe A can fill the reservoir in 12 hours. Pipe B takes 15 hours to fill the reservoir. There is another waste pipe which can empty the reservoir. When all the pipes are opened, the reservoir is full in 20 hours. How long will the waste pipe take to empty the full reservoir? 1. 12 hours 2. 9 hours 3. 10 hours 4. 15 hours A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
11	22011	There are two numbers such that the sum of thrice the first number and twice the second number is 180 and the difference of the four times the first number and twice the second number is 100. Then the product of two numbers is 1. 1000 2. 1200 3. 1800 4. 2000 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
12	22012	If $(\sqrt{11} \times \sqrt{11})^{1/2} + (9)^{1/2} = (n)^3 + \sqrt{11} - 340$, find the value of n. 1. 3 2. 7 3. 11 4. 13	3.0	1.00

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
13	22013	The sum of the circumference of the circle and the perimeter of square is 184 cm. The diameter of the circle is 28 cm. What is the sum of the area of circle and square? 1. 784 cm^2 2. 576 cm^2 3. 616 cm^2 4. 1192 cm^2 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
14	22014	Imran runs at 10 miles/hour and completes a track in 151.2 minutes. His friend Nawaz completes the same track in 210 minutes. How fast was Imran running compared to his friend? 1. 2.7 miles/hour 2. 2.8 miles/hour 3. 2.6 miles/hour 4. 2.9 miles/hour A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
15	22015		3.0	1.00

Find the sum of the digits in the unit place of all 4 digit numbers formed using 3, 4, 5, and 6 without any repetition.

1. 54
2. 90
3. 108
4. 219

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

16 | 22016 | 3.0 | 1.00

Match List I with List II

LIST I		LIST II	
A.	Euchromatin	I.	Link sister chromatids together immediately after replication
B.	Condensin	II.	Partially decondensed region of chromatin with active genes regions
C.	Cohesin	III.	Highly condensed region of chromatin with inactive genes
D.	Heterochromatin	IV.	Help in chromosome condensation to further reduces mitotic chromosomes to compact bodies.

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

17 | 22017 | 3.0 | 1.00

Which of the following enzymes is NOT a part of the DNA replication machinery?

1. DNA helicase
2. Primase
3. DNA polymerase
4. DNA endonuclease

A1 : 1

A2 : 2

		A3 : 3 A4 : 4		
Objective Question				
18	22018	Which of the following molecules are involved in the formation of ATP by substrate level phosphorylation during glycolysis? A. 1,3-bisphosphoglycerate B. Glucose 6- phosphate C. Phosphoenolpyruvate D. Fructose 1,6-bisphosphate 1. A,C 2. C, D 3. A, D 4. B, C A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
19	22019	What is the product formed upon decarboxylation of oxalic acid with release of one molecule of CO_2? 1. Acetic acid 2. Aspartic acid 3. Formic acid 4. Butyric acid A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
20	22020	What will be the molecular weight of the peptide with sequence ELTTEK following its backbone cyclization to cyclic-(ELTTEK)?[Molecular weights- E: 147, L: 131, T: 119, K: 146] 1. 699 2. 700 3. 701 4. 800 A1 : 1	3.0	1.00

A2 : 2

A3 : 3

A4 : 4

Objective Question

21 | 22021 | 3.0 | 1.00

How much Albumin (Mol.Wt.67,000 Da) must be taken to couple it with 1.8 mg Aspirin (Mol. Wt. 180 Da) in a 1:1 (mole/ mole) reaction between the two?

1. 67 mg
2. 670 mg
3. 670 µg
4. 670 ng

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

22 | 22022 | 3.0 | 1.00

How much is 10^{-23} liter equal to?

1. 10^{-17} ml
2. 10^{-20} µl
3. 10^{-14} nl
4. 10^{-18} pl

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

23 | 22023 | 3.0 | 1.00

Match List I with List II

LIST I		LIST II	
A.	RCSB	I.	Nucleotide Sequence database
B.	OMIM	II.	Organism specific genome database
C.	DDBJ	III.	Mutation database
D.	Fly base	IV.	Protein Structure Database

Which of the following is the correct match?

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

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
24	22024	The common metabolic precursor of amino acids such as Proline and Glutamine is 1. Oxaloacetate 2. Ribose-5-Phosphate 3. Pyruvate 4. α-Ketoglutarate A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
25	22025	Which of the following plant organs is NOT a potential explant for tissue culture? 1. Seed 2. Flower 3. Root 4. Shoot tip A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
26	22026	The common precursor of neurotransmitters dopamine, epinephrine and norepinephrine is 1. Glutamic acid 2. Threonine 3. Tyrosine 4. Methionine A1 : 1 A2 : 2	3.0	1.00

A3 : 3

A4 : 4

Objective Question

27 | 22027 | 3.0 | 1.00

What is the molar concentration of Dinitrophenol (DNP) in a solution made by dissolving 184.107 mg DNP in one liter of water? [Molar mass: 184.107 g/mole]

1. 1000 μM
2. 1000 mM
3. 1000 nM
4. 1000 pM

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

28 | 22028 | 3.0 | 1.00

Which of the following dyes CANNOT be used as a fluorescent probe for microscopy?

1. DAPI
2. Trypan blue
3. Fluorescein
4. Rhodamine

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

29 | 22029 | 3.0 | 1.00

Match List I with List II

LIST I		LIST II	
A.	A tumor arising from endodermal tissue.	I.	Lymphoma
B.	A tumor arising from mesodermal connective tissue.	II.	Leukemia
C.	A tumor arising from lymphoid cells.	III.	Carcinoma
D.	Cancer cells arising from hematopoietic cells that do not grow as a solid tumor.	IV.	Sarcoma

Choose the correct answer from the options given below:

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

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
30	22030	Which of the following statements correctly depicts the Beer-Lambert law? 1. Absorbance is directly proportional to path length and concentration. 2. Absorbance is directly proportional to molar absorptivity, and inversely proportional to path length and concentration. 3. Absorbance is directly proportional to molar absorptivity and path length and inversely proportional to concentration. 4. Absorbance is directly proportional to concentration and inversely proportional to path length. A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
31	22031	Assuming 100% reaction efficiency, how many copies of dsDNA containing the amplicon will be present in the polymerase chain reaction mixture after 25 cycles? 1. 2^{25} 2. 25^2 3. 25×2 4. 25^{25} A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
32	22032	Which of the following is a marker enzyme for the Lysosome? 1. Acid phosphatase 2. Signal peptidase 3. Succinate dehydrogenase 4. Lactate dehydrogenase	3.0	1.00

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
33	22033	Which of these organelle sets are generally equipped with their own genomes? 1. Endoplasmic reticulum, Nucleus, Golgi apparatus 2. Mitochondria, Nucleus, Centriole 3. Nucleus, Mitochondria, Chloroplast 4. Centriole, Nucleus, Peroxisome A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
34	22034	In affinity chromatography, the protein bound to the column can be eluted using a buffer containing 1. 0.1 mM NaCl 2. Acetonitrile 3. immobilized ligand 4. free ligand A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
35	22035	Which of the following gene is not a constituent of T-DNA in *Agrobacterium tumefaciens*? 1. Octopine synthase 2. Isopentyl transferase 3. Virulence Gene G 4. Indoleacetamide hydrolase A1 : 1 A2 : 2	3.0	1.00

		A3 : 3 A4 : 4		
Objective Question				
36	22036	Which of the following enzymes is NOT involved in protein folding? 1. GroEL/GroES 2. Protein disulphide isomerase 3. Peptidyl prolyl cis-trans isomerase 4. Peptidoglycan transpeptidase A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
37	22037	Regarding thermal denaturation, the Tm of a protein denotes 1. Midpoint of temperature range over which denaturation occurs 2. Temperature at which protein starts denaturing 3. Temperature at which protein denaturation is completed 4. Minimum temperature at which protein does not denature A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
38	22038	Which of the following methods CANNOT be used for *ab initio* determination of the three dimensional structure of proteins? 1. X-ray crystallography 2. Nuclear magnetic resonance 3. Cryo electron Microscopy 4. Conventional Mass spectrometry A1 : 1 A2 : 2 A3 : 3	3.0	1.00

		A4 : 4		
Objective Question				
39	22039	Rehan made a single stranded DNA with the following sequence 5'GGATCT3'. With which of the following single strands will it form the weakest duplex? 1. 3'CCTAGA5' 2. 5'AGATCC3' 3. 5'AGAATT3' 4. 3'CCAAGA5' A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
40	22040	EcoRI enzyme recognizes the sequence GAATTC. A stretch of linear DNA with six GAATTC sites, upon digestion with EcoRI, will give rise to 1. 8 fragments 2. 7 fragments 3. 6 fragments 4. 5 fragments A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
41	22041	As per Section 4 of Patents Act 1970, which of the following is NOT patentable in India? 1. Discovery of a scientific principle 2. Discovery of a living thing 3. Invention related to atomic energy 4. A computer program A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question				
42	22042	The tenure of a registered trade mark in India is generally 1. 1 year 2. 5 year 3. 10 year 4. 15 year A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
43	22043	What is meant by "Trophophase"? 1. Production of waste materials 2. Production of topical products 3. Production of primary metabolites 4. Production of secondary metabolites A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
44	22044	Codon optimization is essential to 1. Maximize protein yield in heterologous host 2. Clone genes in heterologous host 3. Suppress protein toxicity 4. Increase cloning efficiency A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
45	22045		3.0	1.00

		D-Alanine and L-Alanine are: 1. Anomers 2. Enantiomers 3. Epimers 4. Diastereomers A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
46	22046	Electrons from excited chlorophyll molecules of photosystem II are accepted first by 1. Ferredoxin 2. Cytochrome-b 3. Cytochrome-f 4. Plastoquinone A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
47	22047	Lichen is an example of symbiotic relationship between 1. Bacteria and algae 2. Plant and bacteria 3. Algae and fungi 4. Plant and algae A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
48	22048		3.0	1.00

Acid rain is caused by

1. Carbon dioxide
2. Hydrogen
3. Biomethane
4. Nitrogen dioxide

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

49 | 22049 | 3.0 | 1.00

Match List I with List II

LIST I (Indian Environmentalists)		LIST II (environmental impact awareness)	
A.	Sh. Sunderlal Bahuguna	I.	Tehri Bachao Andola
B.	Sh. Rajender Singh	II.	Conservation of Indian Birds
C.	Sh. Salim Ali	III.	Water conservation
D.	Mrs. Maneka Gandhi	IV.	Animal Welfare

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

50 | 22050 | 3.0 | 1.00

Which of the following amino acids has two chiral centres?

1. Valine
2. Glycine
3. Isoleucine
4. Methionine

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question				
51	22051	Which of the following is NOT true for microalgae? 1. Microalgae can perform photosynthesis only if the light source is available 2. Respiration by the microalgae continues throughout light and dark period 3. Photosynthesis by microalgae is an oxidation reaction 4. Microalgae can take both CO_2 and bicarbonate as source of carbon A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
52	22052	Which of the following pigment makes some archaea to appear purple? 1. Carotenoid 2. Phycocyanin 3. Sphaeroidene 4. Bacteriorhodopsin A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
53	22053	The *E. coli* strain BL21(DE3) is used for expressing recombinant proteins whose genes are cloned in the pET series vectors. The primary reason for this is: 1. BL21(DE3) lacks proteases that degrade polymerases required for the expression of genes in pET vectors. 2. BL21(DE3) encodes proteases that specifically process the expressed protein. 3. BL21(DE3) harbors a polymerase that is required for expressing the genes in pET vectors. 4. BL21(DE3) has more efficient protein translation system than cloning strains of *E. coli.* A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

54 | 22054 | Formation of the pre-replicative complexes (pre-RC) renders the cell competent for replication, an event called as:

1. Proof reading
2. Nick translation
3. Licensing
4. Polymerization

A1 : 1

A2 : 2

A3 : 3

A4 : 4

3.0 | 1.00

Objective Question

55 | 22055 | Match List I with List II

LIST I (Protein)		LIST II (Function)	
A.	DnaA	I.	Recognizes ori sequence; opens duplex at specific sites in origin
B.	DnaB	II.	Unwinds DNA
C.	DnaG	III.	Synthesizes RNA primers
D.	DNA gyrase	IV.	Relieves torsional strain generated by DNA unwinding

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

3.0 | 1.00

Objective Question

56 | 22056 | A duplex DNA sequence that reads identically on both strands is known as

1. Holliday junction
2. Palindrome
3. Inverted Repeat
4. Direct Repeat

A1 : 1

A2 : 2

A3 : 3

3.0 | 1.00

		A4 : 4		
Objective Question				
57	22057	Siderophores are generally 1. Produced by bacteria only during sporulation 2. Pore forming toxins 3. Structurally diverse iron-chelating molecules 4. Cytokines that kill bacteria A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
58	22058	Among the following, the feature that does NOT contribute to host tropism in bacterial pathogenesis is 1. Genomic information of pathogen 2. Genomic information of host 3. Body temperature of the host 4. Adhesins and pilins of pathogen A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
59	22059	Which among the following techniques does NOT depend on nucleic acid hybridization? 1. DNA microarray 2. Chromatin Immunoprecipitation 3. Chromosome painting 4. Southern blotting A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question				
60	22060	Which of the following statements about Forster Resonance Energy Transfer (FRET) is incorrect? 1. The energy of the excited molecule (the donor) passes directly to a nearby molecule (the acceptor) 2. The energy transfer is possible only when donor and acceptor are close to each other (within 50 Å) 3. The efficiency of FRET is inversely proportional to the sixth power of the distance between donor and acceptor 4. The efficiency of FRET is directly proportional to the sixth power of the distance between donor and acceptor A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
61	22061	Many bacteria produce an extracellular capsule composed of a network of polysaccharides and/or proteins that are loosely attached to the cell wall. Which of the following statement is INCORRECT about the capsule? 1. It is a virulence factor 2. May potentially inhibit binding of host complement proteins 3. Helps the bacteria to evade the host immune system 4. It prevents the pathogen from acquiring nutrients A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
62	22062	Given below are two statements: one is labelled as **Assertion A** and the other is labelled as **Reason R** **Assertion A:** Heat and extremes of pH cause denaturation, or melting, of double-helical DNA **Reason R:** Breaking of covalent bonds of DNA causes unwinding of the double helix In the 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	3.0	1.00

A2 : 2

A3 : 3

A4 : 4

Objective Question

63 | 22063 | 3.0 | 1.00

The following feature about A-DNA is INCORRECT

1. The DNA is arranged in a left handed double helix
2. The base pairs in A-DNA are not perfectly perpendicular to the helix axis
3. The DNA is arranged in a right handed double helix
4. Number of base pairs per helical turn is 11

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

64 | 22064 | 3.0 | 1.00

Match List I with List II

LIST I		LIST II	
A.	S-Phase of cell division	I.	Quiescent phase
B.	G2 Phase	II.	DNA of parent cell is replicated
C.	M Phase	III.	New proteins are synthesized and the cell approximately doubles in size
D.	G0 Phase	IV.	Two daughter cells are produced.

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

65 | 22065 | 3.0 | 1.00

		Given below are two statements: one is labelled as **Assertion A** and the other is labelled as **Reason R** **Assertion A:** The strand separation of DNA occurs *in vivo* during processes such as DNA replication and transcription **Reason R:** The sites where these processes are initiated are often rich in C/G base pairs In the 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		
Objective Question				
66	22066	Given below are two statements: **Statement I:** CpG islands are sequences present in eukaryotic DNA. **Statement II:**Promoter regions of many expressed genes in eukaryotes are generally enriched in CpG islands. In the light of the above statements, choose the correct 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 correct but Statement II is false 4. Statement I is incorrect but Statement II is true A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
67	22067	Given below are two statements: **Statement I:** Palindromic sequences are DNA sequences that are the same when each strand of DNA is read in the same direction. **Statement II:** Palindromic sequences serve as recognition sites for many type II restriction endonucleases. In the light of the above statements, choose the **correct** 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 correct but Statement II is false 4. Statement I is incorrect but Statement II is true	3.0	1.00

		A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
68	22068	Given below are two statements: one is labelled as **Assertion A** and the other is labelled as **Reason R** **Assertion A:** A base substitution in DNA does not always result in mutant phenotype. **Reason R:** Some base substitutions in codons do not change the encoded amino acid. In the 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				
69	22069	Given below are two statements: one is labelled as **Assertion A** and the other is labelled as **Reason R** **Assertion A:** A Shuttle vector can be used in two different host organisms. **Reason R:** A Shuttle vector contains only one origin of replication. In the 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	3.0	1.00
Objective Question				
70	22070		3.0	1.00

		Given below are two statements: one is labelled as **Assertion A** and the other is labelled as **Reason R** **Assertion A:** Termination of DNA synthesis occurs upon incorporation of a nucleotide lacking hydroxyl group on the 3' carbon of the pentose sugar into the growing DNA chain. **Reason R:** The hydroxyl group on the 3' carbon of the pentose sugar is involved in phosphodiester bond formation. In the 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				
71	22071	Which of the following cloning vectors will you use to clone a 200 kb gene? 1. Plasmid 2. Cosmid 3. Bacterial Artificial Chromosome 4. Bacteriophage lambda based vectors A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
72	22072	Which of the following enzymes adds an extra Adenine at the 3' end of a DNA strand? 1. Klenow DNA polymerase 2. Taq DNA polymerase 3. Reverse transcriptase 4. Topoisomerase A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question				
73	22073	A 'co-integrate vector' is used to transfer cloned genes into which one of the following? 1. Yeast 2. Plants 3. Animals 4. Parasites A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
74	22074	Which of the following fragments/regions of an antibody molecule will you use to identify the presence of a specific epitope in a biological sample? 1. Fv 2. Fc 3. CH 4. DL A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
75	22075	CRISPR – Cas9 technology is typically used for 1. Genomic Sequencing 2. Gene editing 3. DNA replication 4. Gene Mapping A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
76	22076		3.0	1.00

Metagenomics refers togenomesequencing of a collection of

1. Flowering Plants
2. Microorganisms
3. Mitochondria
4. Metabolites

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

77 | 22077 | 3.0 | 1.00

The concentration and absolute partial pressure of CO_2 in the flue gas at various power plants are as follows:

Plant	CO_2 concentration (%)	Absolute Partial Pressure (atm)
Plant A	42	1
Plant B	10	40
Plant C	40	60
Plant D	20	3

At which plant(s) will it be easiest to capture the CO_2?

1. Plant A and Plant D
2. Plant C only
3. Plant B only
4. Plant C and Plant D

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

78 | 22078 | 3.0 | 1.00

Which one of the following is not considered as a secondary messenger?

1. cAMP
2. ATP
3. Ca^{2+}
4. IP_3

A1 : 1

A2 : 2

A3 : 3

		A4 : 4		
Objective Question				
79	22079	Which of the following processes turn-on and turn-off the alpha subunit of a heterotrimeric G-protein? 1. Binding to GDP; exchange of bound GDP with GTP 2. Binding to GTP; exchange of bound GTP with GDP 3. Binding to GTP; hydrolysis of bound GTP 4. Binding to GDP; phosphorylation of bound GDP A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
80	22080	Which of the following will generally NOT occur if the function of myosin I and myosin II is blocked? 1. Apoptosis 2. Cell crawling 3. Phagocytosis 4. Vesicle transport A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
81	22081	Which of the following proteins will have a signal peptide? 1. Hemoglobin 2. Myoglobin 3. Immunoglobulin 4. Leghemoglobin A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question				
82	22082	An integral plasma membrane protein is glycosylated. Scientists can trace the journey of this protein from the time of its initial translation to its translocation to the plasma membrane in its mature form. Which of the following changes in its molecular weight can be expected to take place during its maturation? 1. A gradual decrease after translation 2. An initial decrease followed by an increase 3. An initial increase followed by a decrease 4. There will be no change in the molecular weight A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
83	22083	Which stage of mitosis is blocked by colchicine? 1. Prophase 2. Telophase 3. Anaphase 4. Metaphase A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
84	22084	Cholesterol is transported in blood in the form of low-density lipoprotein (LDL) particles that contain Apolipoprotein, cholesterol, cholesteryl esters with long fatty acid chains and phospholipids. Where do you think the phospholipids are located in LDL particles? 1. Buried in the core 2. On the surface 3. In the lipid bilayer 4. Interacting with hydrophilic regions of Apolipoprotein A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

85 | 22085 | 3.0 | 1.00

Match List I with List II

	LIST I		LIST II
A.	A lipid anchor for proteins attached with the membrane	I.	SRP
B.	Ribonucleoprotein complex to bind to the signal peptide	II.	PDI
C.	Formation of correct disulphide bonds in proteins	III.	BiP
D.	Chaperone in the ER lumen	IV.	GPI

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

86 | 22086 | 3.0 | 1.00

Which gene is generally inserted in an adenoviral vector to treat cancer by suicide gene therapy?

1. HSV-TK
2. IL-2
3. GM-CSF
4. VSV-G

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

87 | 22087 | 3.0 | 1.00

Which one of the following is a neurodegerative disease?

1. Hepatitis
2. Huntington
3. Osteoporosis
4. Sarcoma

A1 : 1

A2 : 2

A3 : 3

		A4 : 4		
Objective Question				
88	22088	The binding site on an antibody is known as 1. Paratope 2. Epitope 3. Elbow region 4. Hinge region A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
89	22089	Which one of the following genetic processes involves sex pili? 1. Conjugation 2. Transformation 3. Transduction 4. Transposition A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
90	22090	The intrinsic apoptotic pathway is primarily regulated by 1. Lysosome 2. Endoplasmic Reticulum 3. Mitochondria 4. Golgi bodies A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
91	22091		3.0	1.00

		What are proto-oncogenes? 1. They are a type of tumor suppressor genes 2. They stall cancer progression 3. They can become oncogenes 4. They have no relation with cancer progression A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
92	22092	Which one of the following is not a type of G-protein coupled receptors? 1. Gq 2. Gi 3. Gs 4. Gp A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
93	22093	The telomerase enzyme has the following activity 1. DNA – dependent DNA Polymerase 2. RNA – dependent DNA Polymerase 3. DNA – dependent RNA Polymerase 4. RNA – dependent RNA Polymerase A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
94	22094		3.0	1.00

		Which one of the following is NOT a type of Intellectual property rights? 1. Patent 2. Articraft 3. Industrial Design 4. Geographical Indicator A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
95	22095	The RecA protein is involved in 1. Transposition 2. Recombination 3. Replication 4. Transcription A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
96	22096	"TORCH" test is utilized in pregnant females to detect Antibodies against 1. Toxoplasma gondii only 2. Toxoplasma sp., Rubella virus and Cytomegalo virus 3. Rubella and Cytomegalo virus 4. Rubella virus only A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
97	22097		3.0	1.00

		Megakaryocytes are the major source of 1. Erythrocytes 2. Monocytes 3. Macrophages 4. Platelets A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
98	22098	Which of the following autoimmune disorders involve an attack on intestinal tissues that leads to destruction of gut epithelia and poor absorption of food? 1. Rheumatoid Arthritis 2. Graves' Disease 3. Crohns Disease 4. Lupus Erythematosus A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
99	22099	The transfer of tissue between genetically identical individuals (like twins) is called 1. autograft 2. xenograft 3. allograft 4. syngenic graft A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
100	22100		3.0	1.00

		Cells primarily produce energy through mitochondrial oxidative phosphorylation. However, most cancer cells predominantly produce their energy through a high rate of glycolysis followed by lactic acid fermentation even in the presence of abundant oxygen. This phenomenon is known as: 1. Anapleorotic effect 2. Warburg effect 3. Cantley effect 4. Crabtree Effect A1 : 1 A2 : 2 A3 : 3 A4 : 4		

PREVIEW QUESTION BANK

Module Name : BET 2023-ENG
Exam Date : 13-May-2023 Batch : 15:00-18:00

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negative Marks
Objective Question				
101	22101	SELEX (systematic evolution of ligands by exponential enrichment) is a useful technique for identifying a ligand-specific oligonucleotide which can be utilized for diagnosis and treatment. The molecule is termed as 1. miRNA 2. shRNA 3. Aptamer 4. Primer A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
102	22102	Which one of the following is a nucleic acid hybridization-based test for diagnosis of Tuberculosis? 1. TrueNat 2. TORCH 3. WIDAL 4. Tubercullin test A1 : 1 A2 : 2	3.0	1.00

		A3 : 3 A4 : 4		
Objective Question				
103	22103	Hemolytic disease of the newborn develops when maternal IgG antibodies specific for fetal blood-group antigens cross the placenta and destroy fetal red blood cells. The disease is called 1. Erythroblastosis fetalis 2. Haemolytic Anaemia 3. Systemic lupus erythematosus 4. Hemophillia A A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
104	22104	An antimalarial drug such as primaquine is believed to act by causing oxidative stress to the parasite. This drug is not suitable for treatment in individuals having deficiency in 1. Hexokinase 2. Glucose 6-phosphate dehydrogenase 3. Phosphofructokinase 4. Haemoglobin A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
105	22105	The antigen – binding site on antibodies is formed primarily by: 1. The hypervariable regions of both H and L chains 2. The hypervariable region of H chains only 3. The hypervariable region of L chains only 4. The constant region of H chains A1 : 1 A2 : 2 A3 : 3	3.0	1.00

		A4 : 4		
Objective Question				
106	22106	Which one of the following organisms is most likely to be the cause of pneumonia in an immunocompetent infant? 1. *Nocardia asteroids* 2. *Serratia marcescens* 3. *Mycoplasma pneumonia* 4. *Legionella pneumophila* A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
107	22107	Which one of the following laboratory tests would be the best to determine the number of CD4-positive cells in the blood of a patient infected with HIV? 1. Agglutination 2. Complement fixation 3. Flow cytometry 4. ELISPOT A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
108	22108	Which one of the following is the drug of choice for sexually transmitted disease caused by *Chlamydia trachomatis*? 1. Ampicillin 2. Azithromycin 3. Ciprofloxacin 4. Metronidazole A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question				
109	22109	Which of the following statements is most appropriate with regards to the primary and secondary antibody responses? 1. The IgM made in the primary response is made primarily by memory B cells. 2. The lag phase is shorter in the primary response than in the secondary response 3. In the primary response, memory B-cells are produced, but memory T-cells are not 4. The amount of IgG made in the secondary response is greater than the amount made in the primary response. A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
110	22110	Which one of the following terms is used to describe the protection of the unimmunized individual based on immunization of a sufficient number of other members of the population? 1. Active immunity 2. Passive immunity 3. Herd immunity 4. Post-exposure immunity A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
111	22111	Myesthenia Gravis is primarily caused due to 1. degeneration of muscles. 2. defects in adrenergic receptor system. 3. defects in the cholinergic receptors system. 4. kidney failure. A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question				
112	22112	Given below are two statements: **Statement I :** In a neuron at standard resting state of -70 mV, treatment with a chemical (X) induced intracellular potential -50 mV, while when treated with another chemical (Y), it showed -90 mV. Given such a condition, we can say (X) induced depolarization, while (Y) induced hyperpolarization. **Statement II**: In a neuron at standard resting state of -70 mV, treatment with a chemical (X) induced intracellular potential -50 mV, while when treated with another chemical (Y), it showed -90 mV. Given such a condition, we can say (Y) induced depolarization, while (X) induced hyperpolarization. In the 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	3.0	1.00
Objective Question				
113	22113	Signal propagation at a chemical synapse is characterized by A. delay and bidirectional signal propagation. B. delay and unidirectional signal propagation. C. efflux of Ca^{++} ions leading to release of neurotransmitter at the pre-synaptic terminal. D. significant influx of Ca^{++} ions at the post-synaptic neuron leading to neurotransmitter release and generation of action potential. Choose the correct answer from the options given below: 1. A and C only 2. B only 3. B and C Only 4. D Only A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
114	22114		3.0	1.00

		Given below are two statements: **Statement I :** Glial cells form myelin around the axons of neurons **Statement II :** Myelin enables the rapid transmission of action potentials down an axon In the 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				
115	22115	Which of the following diseases is characterized by predominant motor dysfunction that results from the progressive degeneration of the nigrostriatal dopamine pathway? 1. Parkinson's Disease 2. Alzheimer's Disease 3. Schizophrenia 4. Huntington's Disease A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
116	22116	Peppers in spicy food are "hot" because the capsaicin usually activates 1. Proprioceptors 2. Thermal nociceptors 3. Photopigments 4. Auditory receptors A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question				
117	22117	The expression of, which one of the following types of cyclins in plants is modulated by growth factors, such as cytokinins, auxins, brassinosteroids, sucrose and gibberelins? 1. A- Type 2. B- Type 3. D- Type 4. H- Type A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
118	22118	An alternate form of starch biosynthesis machinery in cereal endosperm involves 1. Plastidic ADP-glucose pyrophosphorylase 2. Cytosolic ADP-glucose pyrophosphorylase 3. Plastidic UDP-glucose pyrophosphorylase 4. Cytosolic UDP-glucose pyrophosphorylase A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
119	22119	Which one of the following cells is involved in translocation of microRNA in plants? 1. Companion cells 2. Parenchyma cells 3. Phloem sieve elements 4. Sclereids A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				

120	22120	The technique commonly used to resolve large sized DNA fragments (>20 kb) following digestion with restriction enzymes is 1. Polyacrylamide gel-electrophoresis 2. Capillary electrophoresis 3. Pulse field gel-electrophoresis 4. Preparative HPLC A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
121	22121	Genetically male sterile plants can be developed by overexpressing 1. *CRY* 2. *BAR* 3. *BARNASE* 4. *BARSTAR* A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
122	22122	Which of the following structures is NOT seen in cells of angiosperms? 1. Centrioles 2. Peroxisome 3. Mitochondria 4. Golgi Complex A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
123	22123		3.0	1.00

Match List I with List II

LIST I		LIST II	
A.	Gibberelins	I.	Phytoene
B.	Cytokinins	II.	Squalene
C.	Abscisic	III.	Isopentenyl diphosphate
D.	Brassinosteroids	IV.	Geranylgeranyl diphosphate

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

124	22124	Which one of the following is NOT true regarding phosphoenolpyruvate carboxykinase type of C4 photosynthesis? 1. Aspartate is transported from mesophyll cell to bundle sheath cell 2. Alanine is transported from bundle sheath cell to mesophyll cell 3. Oxaloacetate is formed both in mesophyll cell to bundle sheath cell 4. Malate is transported from mesophyll cell to bundle sheath cell A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

125	22125	Which of the following wavelengths of light are perceived by zeitlupe photoreceptor? 1. Only UV-B 2. Only Blue light 3. UV-A and Blue light 4. Red and Far-red light A1 : 1 A2 : 2 A3 : 3	3.0	1.00

A4 : 4

Objective Question

126 | 22126 | 3.0 | 1.00

Match photosynthetic proteins (List I) with the respective encoding genes (List II)

LIST I		LIST II	
A.	D1	I.	*psbB*
B.	D2	II.	*psbD*
C.	CP47	III.	*psbC*
D.	CP43	IV.	*psbA*

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

127 | 22127 | 3.0 | 1.00

Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R

Assertion A : Mitogen-activated protein kinases (MAPK) are activated by upstream mitogen-activated protein kinase kinases (MAPKK).

Reason R : The activated MAPK are inactivated by mitogen-activated protein kinase phosphatase.

In the 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

128 | 22128 | 3.0 | 1.00

		Following are certain statements regarding Gibberellin (GA) signal transduction in Arabidopsis plants: A. DELLA is a negative regulator of growth. B. GA is not required for the interaction of DELLA with GID1 protein. C. GID is a receptor of GA. D. DELLA is ubiquitinated only after GDI1 perceives GA and binds to DELLA. E. Proteasomal degradation of DELLA is required for the growth of plant. Which of the following sets of statements is correct? 1. A, B, C and D 2. A, B, C and E 3. A, C, D and E 4. B, D and E A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
129	22129	Following are certain statements regarding FLOWERING LOCUS C (*FLC*) gene in Arabidopsis: A. *FLC* is a strong repressor of flowering. B. Higher expression of *FLC* induces early flowering. C. *FLC* is activated by FRIGIDA (*FRI*). D. Vernalization represses *FLC*. Which of the following sets of statements is correct? 1. A, B and C 2. A, B and D 3. B, C and D 4. A, C and D A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
130	22130		3.0	1.00

Match the phenolic compounds (List I) with their plant source (List II)

LIST I		LIST II	
A.	Podophyllotoxin	I.	May Apple
B.	Curcumin	II.	Star anise
C.	Methyleugonal	III.	Tumeric rhizome
D.	Anethole	IV.	Basil

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

131 | 22131 | 3.0 | 1.00

How many isoprene units are present in a Diterpene?

1. Two
2. Four
3. Five
4. Twenty

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

132 | 22132 | 3.0 | 1.00

Which one of the following does not directly account for water potential in plants?

1. Pressure
2. Temperature
3. Osmotic components
4. Gravitation

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question				
133	22133	Which one of the following combinations of cytokinins (CKs) represent only Isoprenoid CKs? 1. Trans-Zeatin and Benzyladenine 2. Ortho-Topolin and meta-Topolin 3. Cis-Zeatin and Dihydrozeatin 4. Trans-Zeatin and Benzyladenine A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
134	22134	Which of the following types of plastids is formed first when Etioplast types are exposed to light? 1. Gerontoplast 2. Amyloplast 3. Pregranal plastid 4. Mature Chloroplast A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
135	22135	Nitrogenase is a complex enzyme consisting of MoFe protein and Fe-protein. Which one of the following statements regarding Nitrogenase enzyme is NOT correct? 1. It comprises of Component I and Component II 2. MoFe proteins are dinitrogenase reductases 3. Fe proteins are homodimer 4. MoFe proteins are heterotetramer A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				

136	22136	The function of sieve tube in plants includes transmission of A. Chemical signals B. mRNAs C. electrical signals D. spheroplasts 1. b, c and d only 2. a, b and c only 3. a and b only 4. a and c only A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
137	22137	Chemically, what is milk of magnesia? 1. Calcium hydroxide 2. Magnesium carbonate 3. Magnesium hydroxide 4. Sodium bicarbonate A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
138	22138	Which is the most common side effect of beta-lactam antibiotics? 1. Allergic reaction 2. Yellowing of teeth 3. Headache 4. Hearing loss A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
139	22139		3.0	1.00

		Enzymes immobilized on porous beads are used for conversion of substrate to product in a reaction. When the bead diameter is halved the reaction rate is observed to increase. This implies that 1. Internal mass transfer is rate controlling 2. External mass transfer is rate controlling 3. Enzyme gets partially deactivated during the process of entrapment 4. Steric hindrance is reduced when bead diameter is reduced A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
140	22140	Mammalian cell cultures are difficult to scale up in conventional bio-reactors for the production of therapeutic proteins primarily because of 1. High oxygen demand 2. High shear sensitivity 3. Different process control due to the complexity of the cells 4. Complex media requirements A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
141	22141	Cells are successfully pelleted in a small rotor at 10,000 rpm for 5 minutes. If we now use a bigger rotor with twice the diameter to pellet the cells (having the same fixed angle) in 5 minutes, then the RPM required is, approximately: 1. 5,000 rpm 2. 6,000 rpm 3. 7,000 rpm 4. 10,000 rpm A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
142	22142		3.0	1.00

What happens to entropy if a crystalline substance such as NaCl dissolves?

1. Increases
2. Decreases
3. Remains the same
4. First decreases and then Increases

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

143 22143 3.0 1.00

Match List I with List II

LIST I		LIST II	
A.	Ajmalicine	I.	*Illicium verum*
B.	Anethole	II.	*Papaver somniferum*
C.	Codeine	III.	*Rauvolfia sepentina*
D.	Vincristine	IV.	*Catharanthus roseus*

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

144 22144 3.0 1.00

A student decided to perform liquid-liquid extraction of solute A and solute B separately. Based on the table below, indicate which of the following options is CORRECT about their partition coefficient (K)?

	Solute A	Solute B
Concentration of solute in extract (g/L)	50	1
Concentration of solute in raffinate (g/L)	1	50

1. $K_A=K_B$
2. $K_A>K_B$
3. $K_A<K_B$
4. K cannot be determined with the given information

A1 : 1

A2 : 2

		A3 : 3 A4 : 4		
Objective Question				
145	22145	The shear stress responsible for cell death in airlift fermentors CANNOT be reduced by 1. increasing the height to diameter ratio in the vessel 2. increasing the bubble size 3. increasing the gas flow rate 4. adding protective agents. A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
146	22146	1000 dm^3 of fermentation medium containing $1x10^4$ *Bacillus thuringenesis* cells per cm3 is sterilized to achieve probability of contamination of 1 in 1000. Calculate the Del factor. 1. 33.5 2. 29.9 3. 23.0 4. 13.8 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
147	22147	In a single stage continuous extraction system, solvent is added to cell-free culture filtrate containing the product. If the partition coefficient of the product is 5, then to extract 90% of the product, assuming ideal single stage, the flow rate of solvent should be_____ times the flow rate of the culture filtrate. 1. 1.5 times 2. 1.8 times 3. 2.1 times 4. 2.4 times A1 : 1 A2 : 2	3.0	1.00

		A3 : 3 A4 : 4		
Objective Question				
148	22148	At a constant power number, doubling the impelling diameter, while halving the stirring speed (RPM) will 1. keep power consumption the same 2. double the power consumption 3. halve the power consumption 4. quadruple the power consumption A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
149	22149	A batch reactor produces 25g/L of product. The fermentation time is 4 days and 1 day extra is required as downtime for cleaning, sterilization and setting up the reactor. If total number of working days is taken at 300 days/year. Then to produce 1 ton/year of product the reactor size has to be approximately 1. 6.67 L 2. 66.7 L 3. 667 L 4. 6667 L A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
150	22150	In a fungal fermentation where broth rheology is pseudoplastic, aeration is 1. better along the central axis 2. better along the sides of the reactor 3. better at the top compared to the bottom 4. uniform throughout A1 : 1 A2 : 2	3.0	1.00

A3 : 3

A4 : 4

Objective Question

151 | 22151 | 3.0 | 1.00

Humulones or alpha-acids are used in the making of which of the following alcoholic beverages?

1. Rum
2. Vodka
3. Beer
4. Wine

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

152 | 22152 | 3.0 | 1.00

Match List I with List II

LIST I (bacterial products)		LIST II (popular applications)	
A.	Nisin	I.	Antioxidants
B.	Superoxide dismutases	II.	Preservation of various foods
C.	Polysaccharides	III.	Lactose digestion, control of intestinal pathogens
D.	Probiotic cultures	IV.	Gums and thickeners, culture viscosity stabilizers

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

153 | 22153 | 3.0 | 1.00

Intake of total folic acid should not exceed _____ in the diet for adults.

1. 0.8 mg/day
2. 1.6 mg/day
3. 0.4 mg/day
4. 4.0 mg/day

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

154 | 22154 | 3.0 | 1.00

Which of the following have been implicated as a potential cause of red wine headaches?

1. Biogenic amines
2. Methanol
3. Ethanol
4. Red colorants

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

155 | 22155 | 3.0 | 1.00

Match List I with List II

LIST I (Precursor)		LIST II (Fermentation product)	
A.	Phenylacetic-acid related compounds	I.	Penicillin G
B.	Phenoxy acetic acid	II.	Penicillin V
C.	Cyanides	III.	Vitamin B 12
D.	L-Threonine	IV.	Cyclosporin C

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

156 | 22156 | 3.0 | 1.00

		Bootstrap value in a phylogenetic tree indicates 1. Evolutionary distance 2. Age of a branch 3. Robustness 4. Node length A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
157	22157	Which statistical test is used to calculate false discovery rate? 1. Benjamini-Hoschberg 2. Random forest 3. T-test 4. ANOVA A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
158	22158	Human genome contains approximately 25,000 genes, but the number of proteins in a human cell is estimated to be approximately 250,000. Which of the following can explain this difference? 1. Alternative splicing and protein folding 2. Post-transcriptional silencing 3. Multiple promoters 4. Alternative splicing and post-translational modifications A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
159	22159		3.0	1.00

		Which of the following can be used for discovery of unknown conserved motif/s in a given set of DNA/protein sequences? 1. BLAST 2. PHYLIP 3. CLUSTAL 4. MEME A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
160	22160	Clustering in a gene expression analysis via microarray experiment refers to 1. cluster of probes used to monitor gene expression 2. cluster of cDNAs printed on the array 3. genes clustered together in the genome 4. a set of genes that are likely to work together in a given biological context A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
161	22161	BLOSUM scoring matrix is used for 1. alignment of DNA sequences only 2. alignment of DNA and protein sequences only 3. alignment of protein sequences only 4. homology modeling A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
162	22162		3.0	1.00

		During genome assembly, which of the following sequence is generally followed to obtain a good chromosome-level assembly? 1. Reads-Contigs-Scaffolds-Chromosome 2. Reads – Scaffolds – Contigs - Chromosome 3. Contigs – Reads - Scaffolds - Chromosome 4. Reads – Contigs – Chromosome – Scaffolds A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
163	22163	A Phred score of 30 in a DNA sequencing output refers to the probability of incorrect base call as 1. 1 in 100000 2. 1 in 10000 3. 1 in 1000 4. 1 in 100 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
164	22164	After sequencing the genome of a new species you have obtained 2,500,000 reads each of 100-nt in length. Following assembly, the draft genome obtained is of 5 Mb size. What is the depth of coverage of the sequencing? 1. 200x 2. 125x 3. 50x 4. 150x A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
165	22165		3.0	1.00

		The annotation of a genome sequence is generally stored in which of the following file formats? 1. FASTA 2. GFF 3. FAST5 4. BAM A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
166	22166	Which of the following BLAST search program is used to find the putative function of a given nucleotide sequence to search a protein sequence database? 1. BLASTX 2. BLASTP 3. BLASTN 4. BLASTZ A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
167	22167	Two protein sequences can be aligned with the help of a BLOSUM matrix. The BLOSUM matrixes were developed by 1. Aligning sequences of closely related sequences 2. Aligning sequences of distantly related sequences 3. Taking into consideration the Smith-Waterman alignment of sequences 4. Taking into consideration the Needleman-Wunsch alignment of sequences A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
168	22168		3.0	1.00

		Which of the following is true about pair-wise alignment of protein sequences? 1. Local pair-wise alignments may be performed using Needleman-Wunsch algorithm 2. Local pair-wise alignments may be performed using Smith-Waterman algorithm 3. Local alignments search for local regions of similarities after performing global alignments. 4. Local pair-wise alignments cannot be obtained by dot-matrix plots. A1 : 1 A2 : 2 A3 : 3 A4 : 4		
Objective Question				
169	22169	Alpha fold is an artificial intelligence based method for 1. Prediction of protein functions based on folding 2. Perform *de-novo* protein folding 3. Perform protein folding based on a model trained on existing protein structures 4. Perform protein folding for alpha helices A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
170	22170	What is true about similarity and homology between protein sequences? 1. Similarity and homology mean the same 2. Similarity is a mathematical term 3. Homology is a mathematical term 4. Similarity and Homology are mathematical terms A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
171	22171		3.0	1.00

		Given below are two statements: one is labelled as **Assertion A** and the other is labelled as **Reason R** **Assertion A:** Threading is a *de novo* protein structure prediction method suitable for sequence with very low similarities. **Reason R:** The threading method is more efficient than homology modelling. In the 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 true 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		
Objective Question				
172	22172	Smith-Waterman's algorithm is: 1. An algorithm to perform global alignments 2. An algorithm to perform local alignments 3. An algorithm to perform homology modelling 4. An algorithm to perform threading based modelling of proteins A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
173	22173	Which of the following methods is used to determine the three-dimensional structure of a protein in solution? 1. X-ray crystallography 2. NMR Spectroscopy 3. Far-UV CD spectroscopy 4. Cryo-EM A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question				
174	22174	What contributes the most towards the hydrophobic effect when a protein is folding at room temperature? 1. Entropy of the water molecules 2. Entropy of the protein molecules 3. Entropy of the protein chain 4. Free energy of interaction between the protein residues A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
175	22175	Which of these is NOT a multiple sequence alignment program? 1. T-coffee 2. Clustal W 3. Clustal X 4. BLAST A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
176	22176	Why progesterone-only contraceptives are not recommended as emergency (post-coitus) contraceptives? 1. Progesterone-only contraceptives have high failure rates 2. Progesterone acts on the reproductive tract as a whole 3. Progesterone makes the reproductive tract inhospitable for sperm and any fertilized oocyte 4. Progesterone may not block follicular development or ovulation. A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
177	22177		3.0	1.00

Equine embryo collection is commonly performed on day 7 or 8 (day 0 = ovulation) because

1. the embryo has separated from placenta
2. the embryo has crossed all the developmental stages
3. recovery rates are high and the blastocysts can be easily recovered and handled
4. the lifespan of embryo is limited to 9 days

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

178 | 22178 | 3.0 | 1.00

_____ may survive without the need for immunosuppression.

1. Liver transplants
2. Corneal grafts
3. Heart transplants
4. Kidney grafts

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

179 | 22179 | 3.0 | 1.00

Match List I with List II

LIST I		LIST II	
A.	Interleukin-2 (IL-2)	I.	Activates NK cells and T cells; potently induces production of Interferons; shifts immune response to T_H1
B.	Interferon- γ (IFN-γ)	II.	Major mediator of inflammation; stimulate macrophages and cytokine production
C.	Tumor necrosis factor (TNF)	III.	Strong macrophage-activating factor; causes a variety of cells to express class II MHC molecules.
D.	Interleukin-12 (IL-12)	IV.	Major growth factor for T and B cells; enhances cytolytic activity of natural killer cells

Choose the correct answer from the options given below:

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

A1 : 1

		A2 : 2 A3 : 3 A4 : 4		
Objective Question				
180	22180	Which of these animals have a recurrence of estrous events during their breeding season (polyestrous)? 1. Dogs 2. Foxes 3. Bats 4. Squirrels A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
181	22181	Biological Oxygen demand refers to the amount of oxygen that bacteria consume during 1. Decomposition of inorganic matter in anaerobic condition 2. Decomposition of organic matter in anaerobic environment 3. Decomposition of organic matter in aerobic condition 4. Decomposition of organic matter in nitrogen environment A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
182	22182	To enhance biodegradation process efficiently it is required to vary the design and operation of activated sludge system. Which of the following variations in design and operation of this system is NOT correct? 1. Step aeration 2. Contact stabilization 3. Anaerobic fermentation 4. Tapered aeration A1 : 1	3.0	1.00

		A2 : 2 A3 : 3 A4 : 4		
Objective Question				
183	22183	Conversion of organic matter to biogas proceeds in four stages; hydrolysis, acidogenesis, acetogenesis and methanogenesis. Which one of the following microorganisms play key role in methanogenesis conversion stage? 1. Yeast 2. Phototrophic bacteria 3. Archaea 4. Aerobic bacteria A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
184	22184	Which of the following United Nations sustainable development goals (SDGs) is related to clean water and sanitation for all? 1. SDG2 2. SDG9 3. SDG6 4. SDG4 A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
185	22185	Polyhydroxyalkanoates produced by microorganisms have application as 1. Furfural 2. Bioplastic 3. Hydroxyl Methyl Furfural 4. Biodiesel A1 : 1 A2 : 2	3.0	1.00

		A3 : 3 A4 : 4		
Objective Question				
186	22186	The group of organism in marine systems that feed on dead biomass and waste material is called 1. decomposers 2. omnivores 3. detritivores 4. anaerobic bacteria A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
187	22187	Roll tube technique is used for isolation of 1. Aerobic bacteria 2. Cyanobacteria 3. Stringent anaerobic bacteria 4. Pathogenic fungi A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
188	22188	Which of the following marker proteins is NOT derived from cnidarians? 1. Green fluorescent protein 2. DsRED protein 3. Red fluorescent protein 4. Orange fluorescent protein A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

189 | 22189 | 3.0 | 1.00

Match List I with List II

LIST I (Marine algae)		LIST II (Type of algae)	
A.	Fucus serratus	I.	Brown algae
B.	Gelidium sp.	II.	Red algae
C.	Chlorella vulgaris	III.	Green algae
D.	Cyanophyceae	IV.	Blue green algae

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

190 | 22190 | 3.0 | 1.00

The induction of pain by a normal innocuous stimulus is usually referred to as

1. Chronic pain
2. Allodynia
3. Sensitivity
4. Inflammation

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

191 | 22191 | 3.0 | 1.00

Monod's model for the bacterial cell growth describes a relationship between

1. Cell growth rate vs time
2. Specific cell growth rate vs substrate concentration
3. Specific cell growth rate vs product concentration
4. Log cell concentration vs time

A1 : 1

A2 : 2

A3 : 3

		A4 : 4		
Objective Question				
192	22192	Which of the following statements is NOT true for penicillin production using *Penicillium notatum*? 1. Penicillin is a secondary metabolite 2. Penicillin is recovered from the fermented broth by solvent extraction. 3. The process is carried out in fed batch mode 4. The process follows growth associated product formation kinetics. A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
193	22193	For a chemostat culture operating under steady state, which of the following statements is NOT true? 1. At a dilution rate equal to maximum specific growth rate, the culture wash out takes place. 2. The dilution rate equals specific growth rate 3. The culture experiences balanced growth 4. The observed growth yield is same as the theoretical growth yield A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00
Objective Question				
194	22194	Which of the following is produced commercially by mammalian cell culture? 1. Insulin 2. Tissue plasminogen activator 3. Rennin 4. Shikonin A1 : 1 A2 : 2 A3 : 3 A4 : 4	3.0	1.00

Objective Question

195 | 22195 | Recombinant Interferon Gamma is commercially produced by cell culture of

1. T3 fibroblast cells
2. Chinese hamster ovary cells
3. Peripheral lymphocyte cells
4. Human leucocyte cells

A1 : 1

A2 : 2

A3 : 3

A4 : 4

| 3.0 | 1.00 |

Objective Question

196 | 22196 | A mechanically agitated bioreactor for an aerobic microbial process can be scaled up from pilot plant data to commercial plant on the basis of

1. equal impeller size
2. equal inoculum size
3. equal power/unit volume
4. equal air bubble size

A1 : 1

A2 : 2

A3 : 3

A4 : 4

| 3.0 | 1.00 |

Objective Question

197 | 22197 | Match the animal cell lines (List I) with their commercial applications (List II)

LIST I		LIST II	
A.	Baby hamster kidney cells	I.	Monoclonal antibodies
B.	Myeloma cell lines	II.	Urokinase
C.	Simian kidney epithelial cells	III.	Polio vaccine
D.	Porcine kidney cells	IV.	Foot and mouth vaccine

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

| 3.0 | 1.00 |

A4 : 4

Objective Question

198 | 22198 | 3.0 | 1.00

Match the plant source (List I) with the corresponding secondary metabolites (List II)

LIST I		LIST II	
A.	Belladona	I.	Menthol
B.	Foxglove	II.	Atropine
C.	Pacific yew	III.	Digitalin
D.	Eucalyptus	IV.	taxol

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

199 | 22199 | 3.0 | 1.00

Enzymatic production of aspartame (a low calorie sweetener) involves the use of

1. amino acylase
2. penicillin acylase
3. lipase
4. thermolysin

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

200 | 22200 | 3.0 | 1.00

Match the type of chromatographic technique (List I) with the protein property (List II)

LIST I		LIST II	
A.	Dye affinity	I.	Charge and isoelectric point
B.	Chromatofocussing	II.	Molecular size
C.	Covalent	III.	Structure and hydrophobicity
D.	Gel Filtration	IV.	Thiol groups

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

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