

PREVIEW QUESTION BANK

Module Name : SCPH15 Life Science - Life Sciences Group - I-V - ENG
Exam Date : 30-Oct-2023 Batch : 14:30-17:30

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negativ Marks
Objective Question				
1	981001	The genome of an organism has 3×10^9 base pairs of DNA. At what frequency will the EcoRI site (GAATTC) occur in the genome assuming that all bases occur randomly. 1. $1/6 \times 10^9$ 2. 1/4096 3. 1/10000 4. $1/5 \times 10^8$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
2	981002	Which output provides statistical estimate of the number of false positives from a BLAST search? 1. E values 2. Bit score 3. Percent identity 4. Percent positives A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
3	981003	The average electric field on the earth's atmosphere above the surface of the earth is about 150 N/C directed downwards. What is the surface density on the earth's surface? Consider that the earth is a conductor. ($\epsilon_0 = 8.85 \times 10^{-12} \text{ C}^2 / \text{N} \cdot \text{m}^2$) Choose the most appropriate answer from the options given below: 1. $20 \mu\text{C}/\text{m}^2$ 2. $8 \times 10^{-12} \text{ C}/\text{m}^2$ 3. $1.3 \times 10^{-9} \text{ C}/\text{m}^2$ 4. $6 \times 10^{-12} \text{ C}/\text{m}^2$ A1 : 1	4.0	0.00

		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

4	981004	An oil drop of radius 3 micrometers carries a charge of 3 electrons. What electric field is required to balance the drop so that it remains stationary? Consider the density of the oil drop is 920 kg/m^3. 1. $9 \times 10^6 \text{ N/C}$ 2. $2.7 \times 10^6 \text{ N/C}$ 3. $4.8 \times 10^6 \text{ N/C}$ 4. $1.6 \times 10^6 \text{ N/C}$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

5	981005	Maxwell speed distribution $P(v)$ for an ideal gas is defined as (where M = molar mass of gas, R = gas constant, T = gas temperature, v = molecular speed) - 1. $P(v) = 4\pi (M/2\pi RT)^{1/2} v^2 e^{-Mv^2/2RT}$ 2. $P(v) = 4\pi (M/2\pi RT)^{3/2} v^2 e^{-Mv^2/2RT}$ 3. $P(v) = 4\pi (M/\pi RT)^{3/2} v^2 e^{-Mv^2/2RT}$ 4. $P(v) = 4\pi (M/2\pi RT)^{3/2} v^2 e^{-Mv^2/RT}$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

6	981006	A pipe fills a water tank in 3 hours and a tap empties out in 4 hours. Both of them are opened when the tank was $2/3$rd empty. How much fraction of empty space will be there after one hour? 1. $1/4$ 2. $3/4$ 3. $7/12$ 4. $5/12$ A1 : 1 A2 : 2	4.0	0.00
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A3 : 3

A4 : 4

Objective Question

7	981007	The Kepler law of periods indicate that square of period T of any planet is proportional to the semi major axis of its orbit and defined as (where M=Mass of the sun, r=semi major axis, G=gravitational constant) A. $T^2 = (4\pi^2 / GM) r^3$ B. $T^2 = (4\pi / GM) r^3$ C. $T^2 = (GM / 4\pi^2) r^3$ D. $T^2 = (GM / \pi) r^3$ Choose the correct answer from the options given below: 1. B Only 2. C Only 3. D Only 4. A Only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

8	981008	Which of the following compound is/are optically inactive? $\begin{array}{c} \text{CHO} \\ \\ \text{H} - \text{C} - \text{OH} \\ \\ \text{HO} - \text{C} - \text{H} \\ \\ \text{CH}_2\text{OH} \end{array}$ A $\begin{array}{c} \text{CH}_2\text{OH} \\ \\ \text{H} - \text{C} - \text{OH} \\ \\ \text{H} - \text{C} - \text{OH} \\ \\ \text{CH}_2\text{OH} \end{array}$ B $\begin{array}{c} \text{COOH} \\ \\ \text{H} - \text{C} - \text{OH} \\ \\ \text{HO} - \text{C} - \text{H} \\ \\ \text{CH}_2\text{OH} \end{array}$ C $\begin{array}{c} \text{CHO} \\ \\ \text{H} - \text{C} - \text{OH} \\ \\ \text{HO} - \text{C} - \text{H} \\ \\ \text{COOH} \end{array}$ D 1. A Only 2. B Only 3. A and C Only 4. B and D Only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

9	981009		4.0	0.00
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Which of the following statements is/are correct

- A. Rotation about peptide bond is inhibited by resonance.
- B. Amide bond resonance involves both π electron and a lone pair.
- C. Amide bond resonance involves both σ electron and a lone pair.
- D. In peptides, the C-N bond length is shorter than the normal and the C-O bond length is longer than that in carbonyl.

Choose the correct answer from the options given below:

- 1. C Only
- 2. A and B Only
- 3. A, B and D Only
- 4. A and C Only

A1 : 1

A2 : 2

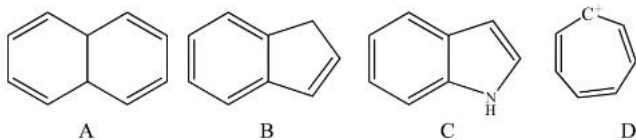
A3 : 3

A4 : 4

Objective Question

10 981010

which of the following compound(s) is/are not aromatic?



- 1. A Only
- 2. B Only
- 3. D Only
- 4. A and B Only

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

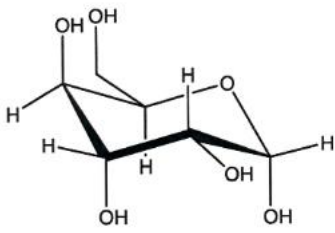
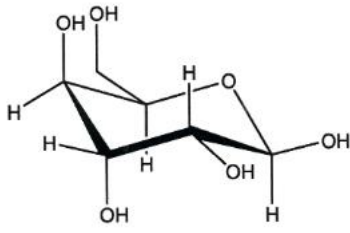
11 981011

Which of the following reagents can be used to differentiate between Glucose and Fructose?

- 1. Tollens' reagent
- 2. Bromine water
- 3. Fehling's solution
- 4. Benedict's reagent

A1 : 1

A2 : 2

		A3 : 3		
		A4 : 4		
Objective Question				
12	981012	The relationship between the following two structures are  I  II 1. Enantiomers 2. Same compound 3. Anomers 4. Positional isomers	4.0	0.00
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		
Objective Question				
13	981013	The m^{th} and n^{th} terms of an arithmetic progression are $\frac{1}{n}$ and $\frac{1}{m}$ respectively. What is the sum of the first mn terms of the same series? 1. $\frac{1}{2}(1+mn)$ 2. $\frac{1}{2}(1-mn)$ 3. $\frac{1}{2}(m-n)$ 4. mn	4.0	0.00
		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		
Objective Question				
14	981014		4.0	0.00

How many numbers are there between 100 and 1000 such that at least one of three digits is '3'?

1. 202
2. 504
3. 252
4. 455

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

15	981015	It $x-2y-4=0$ and $-3x+5y+7=0$, what are the value of x & y respectively? 1. 6, 1 2. -6, -5 3. 2, 3 4. 4, -5 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

16	981016	Match List I (type of vector normally used) with List II (Insert size for cloning)	4.0	0.00																				
<table><tr><th colspan="2">LIST I</th><th colspan="2">LIST II</th></tr><tr><td>A.</td><td>Plasmid</td><td>I.</td><td>45 Kb</td></tr><tr><td>B.</td><td>Phage λ</td><td>II.</td><td>25 Kb</td></tr><tr><td>C.</td><td>Cosmid</td><td>III.</td><td>4 Kb</td></tr><tr><td>D.</td><td>Bacterial Artificial Chromosome</td><td>IV.</td><td>300 Kb</td></tr></table>					LIST I		LIST II		A.	Plasmid	I.	45 Kb	B.	Phage λ	II.	25 Kb	C.	Cosmid	III.	4 Kb	D.	Bacterial Artificial Chromosome	IV.	300 Kb
LIST I		LIST II																						
A.	Plasmid	I.	45 Kb																					
B.	Phage λ	II.	25 Kb																					
C.	Cosmid	III.	4 Kb																					
D.	Bacterial Artificial Chromosome	IV.	300 Kb																					
1. A-III, B-I, C-IV, D-II 2. A-III, B-II, C-I, D-IV 3. A-I, B-IV, C-II, D-III 4. A-IV, B-III, C-II, D-I																								
A1 : 1																								
A2 : 2																								
A3 : 3																								
A4 : 4																								

Objective Question

17	981017		4.0	0.00
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		Aneuploidy disrupts gene dosage and often has severe phenotypic effects. Given that a diploid organism has $2n=36$ chromosomes, how many chromosomes will be found in a trisomic member of this species? 18 35 37 54 A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

18	981018	Electroencephalographic recording is associated with diagnosis of which of the following neurodegenerative disease? - Huntington chorea - Epilepsy - Amylotropic lateral Sclerosis (ALS) - Alzheimer's disease A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

19	981019	Four independent transgenic rice plants have been developed using Agrobacterium-mediated transformation method for overexpressing DREB gene under the control of CaMV 35S promoter. Which of the following would be appropriate for determining the expression level of the transgene ? - DNA isolation followed by Southern blotting. - RNA isolation followed by northern blotting. - RNA isolation followed by quantitative RT-PCR - Isolation of protein and western blot analysis. Choose the correct answer from the options given below: - A, B, C Only - B, C, D Only - A, C , D Only - A, B, C and D all correct A1 : 1 A2 : 2 A3 : 3	4.0	0.00
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		A4 : 4		
Objective Question				
20	981020	Which of the following is NOT true for confocal microscopy? 1. It provides a two dimensional perspective. 2. It detects florescence only from within the plane of focus. 3. Confocal microscopy makes it possible to see details inside the thick sections of tissue. 4. Light emitted from the plane is assembled by a computer into a composite image. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
21	981021	Which one of the following is used to make a very thin section of a sample to be viewed in transmission electron microscopy? 1. Ultramicrotome 2. Cryomicrotome 3. Rotary microtome 4. Sledge microtome A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
22	981022	Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R Assertion A : Treatment of congestive heart failure is aimed at improving cardiac contractility, treating the symptoms and decreasing the load of the heart. Reason R : Currently the most effective treatment is blockade of angiotensin converting enzyme (ACE) at angiotensin receptor to increase the levels of circulating aldosterone. 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	4.0	0.00

		A4 : 4		
Objective Question				
23	981023	There are two enantiomeric helical peptides. Their chirality can be studied by one of the following methods 1. UV Spectroscopy 2. CD Spectroscopy 3. Fluorescence Spectroscopy 4. Mass Spectroscopy A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
24	981024	The two processes mentioned below are related to nitrogen assimilation. Process 1: Biological conversion of N_2 to NH_4^+ in symbiotic nodule. Process 2: Conversion of NO_3^- to NH_4^+ and its incorporation into glutamine by GS-GOGAT cycle. Choose the correct answer associated with the energy requirement in these two processes. 1. Process 1 will require more energy than process 2 2. Process 2 will require more energy than process 1 3. Both the processes will require same amount of energy 4. Both the processes generate energy A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
25	981025	What would be the pH of a mixture having 0.01M acetic acid and 0.1M sodium acetate? (pKa of acetic acid is 4.76) 1. 5.03 2. 5.76 3. 4.76 4. 4.03 A1 : 1 A2 : 2 A3 : 3	4.0	0.00

		A4 : 4		
Objective Question				
26	981026	Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R Assertion A: NH_4^+ toxicity can diminish pH gradient across membrane. Reason R: At high pH side, NH_4^+ converts to NH_3, which diffuses across the membrane along concentration gradient to low pH side and convert back to NH_4^+ In the light of the above statements, choose the <i>most appropriate answer</i> from the options given below1. - Both A and R are correct and R is the correct explanation of A - Both A and R are correct but R is NOT the correct explanation of A - A is correct but R is not correct - A is not correct but R is correct A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
27	981027	A purified PCR product was cut by two restriction enzymes (RE1 & RE2). The following results were obtained. A. Sample cut with RE1 : 3.5 Kb and 1.5 Kb bands B. Sample cut with RE2 : 4.0 Kb and 1.0 Kb bands C. Sample cut with RE1 and RE2 : 3.5 Kb and 1.0 Kb and 0.5 Kb bands Choose the correct answer from the options given below, regarding number of restriction sites present of these two enzymes in the PCR product . 2 Sites for RE1 and 2 for RE2 1 Sites for RE1 and 2 for RE2 1 Sites each for RE1 and RE2 3 Sites for RE1 and 2 site for RE2 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
28	981028	The most efficient method of determining post-translational modifications of proteins is _____ - Gas chromatography. - NMR. - Mass spectrometry. - Surface plasmon resonance.	4.0	0.00

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

Objective Question

29	981029	Which of the following methods use a combination of restriction digestion and PCR to detect DNA polymorphism between individuals? 1. Amplified fragment length polymorphism 2. Random amplified polymorphic DNA 3. Simple sequence length polymorphism 4. Restriction fragment length polymorphism A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

30	981030	Comparative genomics between salt tolerant and sensitive rice varieties have identified a gene as a negative regulator salt of tolerance. Which of the following methods can be used to down-regulate the expression of this gene? A. CRISPR/Cas9-based editing (of nucleotide) of gene. B. Overexpression of gene under the control of a constitutive promoter. C. Chemical (e.g. EMS) mutagenesis D. RNAi (RNA-interference) technology. Choose the correct answer from the options given below: 1. A only 2. A and C only 3. A and D only 4. B and C only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

31	981031		4.0	0.00
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		Indicate which of the following is a correct sequence of experiments required for generating transgenics plant? 1. Isolation & cloning of gene of interest → molecular verification of transgenics → preparation of plant material and DNA transfer → regeneration and selection of transgenic plants. 2. Isolation & cloning of gene of interest → regeneration and selection of transgenic plants → preparation of plant material and DNA transfer → molecular verification of transgenics 3. Isolation & cloning of gene of interest → preparation of plant material and DNA transfer → molecular verification of transgenics → regeneration and selection of transgenic plants. 4. Isolation & cloning of gene of interest → preparation of plant material and DNA transfer → regeneration and selection of transgenic plants → molecular verification of transgenics A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

32	981032	Consider the following three peptides. Peptide 1: ATKNRASCLVPKHGALMFWRHKQLVSDPILQKRQH Peptide 2: GPYFGDEPLDVHDEPEEG Peptide 3: PHLLSAWKGMGVGKSQSFAALIVILA Which of the following statements are correct? A. Peptide 3 will elute first, followed by peptide 2 and peptide 1 on gel filtration chromatography. B. Peptide 2 can be separated from peptide 1 & 2 using anion exchange chromatography. C. Peptide 1 will elute first followed by peptide 2 and 3 on gel filtration chromatography D. Peptide 1 will elute first followed by peptide 3 and 2 on gel filtration chromatography. E. Peptide 1 can be separated using cation exchange chromatography. Choose the correct answer from the options given below: 1. A, B & C Only 2. B, D & E Only 3. B, C & D Only 4. C, D & E Only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

33	981033		4.0	0.00
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A researcher intends to determine the R_f value of a compound after performing a thin layer chromatography (TLC) experiment which one of the following formulas he/she will use to calculate the R_f value of the compound?

1. $R_f = \frac{\text{distance travelled by solvent}}{\text{distance travelled by compound}}$
2. $R_f = \frac{\text{distance travelled by compound} \times \text{Time of the Run}}{\text{distance travelled by solvent}}$
3. $R_f = \frac{\text{distance travelled by solvent}}{\text{distance travelled by compound} \times \text{Time of the Run}}$
4. $R_f = \frac{\text{distance travelled by compound}}{\text{distance travelled by solvent}}$

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

34	981034	How many moles of NaCl are present in 50ml of a 0.15M solution?	4.0	0.00
1. 0.075 mol 2. 0.00015 mol 3. 0.0015 mol 4. 0.0075 mol				
A1 : 1 A2 : 2 A3 : 3 A4 : 4				

Objective Question

35	981035	Given below are the 4 steps of neutrophil extravasation at inflammatory site A. Activation by chemokine B. Diapedesis C. Tethering and rolling D. Tight adhesion or arrest Choose the correct order of occurrence from the options given below: 1. A, B, D, C 2. A, C, B, D 3. B, C, A, D 4. C, A, D, B	4.0	0.00
A1 : 1 A2 : 2				

		A3 : 3		
		A4 : 4		

Objective Question

36	981036	A vitamin B₁₂ auxotroph strain was seeded in minimal salt medium supplemented with all vitamin except B₁₂. A vitamin B₁₂ disc was kept at the center and incubated for 48 hours. Which of the following observations is expected? 1. Inhibitory zone in the surrounding of disc 2. Zone of exhibition around the disc 3. Growth everywhere on the plate 4. No growth either in the surrounding of disc or elsewhere on the plate. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

37	981037	Which of the following uses peptides as autoinducers in quorum sensing? A. <i>Pseudomonas aeruginosa</i> B. <i>Vibrio cholerae</i> C. <i>Bacillus cereus</i> D. <i>Helicobacter pylori</i> Choose the correct answer from the options given below: 1. B & D Only 2. D Only 3. C Only 4. A Only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

38	981038	Amantadine acts as an antiviral agent because it _____ 1. Inhibits viral RNA Polymerase 2. blocks viral uncoating 3. Inhibits activity of viral protease 4. Inhibits activity of viral DNA polymerase A1 : 1	4.0	0.00
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A2 : 2

A3 : 3

A4 : 4

Objective Question

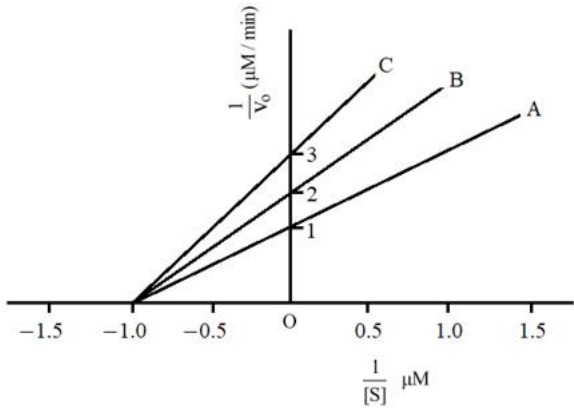
39	981039	A signal transduction pathway is the molecular route by which a ligand-receptor interaction is transmitted into a biochemical change within the affected cell. Which of the following is NOT a commonly used strategy used in most of the signaling pathways? 1. Ligand binding can induce conformational changes in or clustering of receptor. 2. Tyrosine phosphorylation is an early step in many signaling pathways. 3. Adapter proteins gather members of signaling pathways. 4. Signal-induced PIP₂ breakdown causes a decrease in cytoplasmic calcium ion concentration. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

40	981040	Given below are two statements: Statement I: IP₃-gated Ca²⁺ channels on endoplasmic reticulum cause release of Ca²⁺ ions. Statement II: Ca²⁺ ions released through IP₃-gated channels from endoplasmic reticulum activates protein kinase C In the light of above statements, choose the <i>correct</i> answer from the options given below 1. Both Statement I and Statement II are true 2. Both Statement I and Statement II are false 3. Statement I is true but Statement II is false 4. Statement I is false but Statement II is true A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

41	981041		4.0	0.00
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Considering the above double reciprocal plot for an enzyme activity. What would be the $V_{\max}$ and K_m value for the curve B?

- 1. 0.5 $\mu\text{M}/\text{min}$; 1 μM
- 2. 1.0 $\mu\text{M}/\text{min}$; 0.5 μM
- 3. 2 $\mu\text{M}/\text{min}$; 1 μM
- 4. 2 $\mu\text{M}/\text{min}$; 0.5 μM

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

42	981042	UV photons when strike DNA strands, mostly results in _____ 1. covalent bond formation between two adjacent purines in the same strand of DNA 2. covalent bond formation between a pyrimidine and a purine in the same strand of DNA 3. covalent bond formation between 2 purines of different strands of DNA 4. covalent bond formation between two adjacent pyrimidines in the same strand of DNA A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

43	981043		4.0	0.00
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Match the microorganism of List I with vectors that transmit in List -II

LIST I		LIST II	
A.	Borrelia	I.	Tick
B.	Plasmodium	II.	Sand fly
C.	Leishmania	III.	Mosquito
D.	Trypanosoma	IV.	Tsetse fly

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

44 981044

A lactose non-fermenting *E. coli* mutant strain was spread on minimal agar with lactose as the sole carbon source. No colonies were seen within 48 h incubation in any of the ten independent experiments. As expected wild type produced visible colonies within 36 to 48 h. Upon longer incubation, two of the ten cultures showed 2 and 5 colonies after 96 h incubation, while another five cultures showed a few colonies after 120 h incubation. Which of the following would explain this observations?

1. Random mutation
2. Adaptive mutation (post-plating event)
3. Spontaneous mutation (pre-plating event)
4. Contamination

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

45 981045

Why is it important to use an isotype control in an immunophenotyping experiment by flowcytometry?

- A. To detect auto-fluorescence or background staining innate to the cells of interest.
- B. To confirm the specificity of primary antibody binding.
- C. To rule out non-specific Fc receptor binding or other cellular protein interactions.

Choose the correct answer from the options given below:

1. A and C Only
2. A and B Only
3. B and C Only
4. A only

A1 : 1

		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

46	981046	Dimethyl sulphoxide (DMSO) is added to freeze down stocks of mammalian cells as it _____ 1. prevents the formation of ice crystals. 2. prevents contamination. 3. provides nutrient rich environment to the stressed cells during freezing. 4. facilitates encapsulation to prevent stress related damage of the cells. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

47	981047	A sample was provided to two researchers to detect activated T cells in the cell sample. Researcher 1 performed a WESTERN BLOT with antibody for a T cell activation marker. Researcher 2 performed a SOUTHERN BLOT for detection of T cell expressed genes. Which of the two strategies will provide more conclusive results? 1. Strategy of Researcher 1 2. Strategy of Researcher 2 3. Both the strategies 4. Both are incorrect A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

48	981048		4.0	0.00
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In order to determine genomic nature (polarity and strandedness) of SARS-COV2 virus, the following experiments were conducted.

- A. Treating viral genome with RNAse H
- B. Infectivity assay of genomic nucleic acid in a susceptible cell line
- C. Treating viral genome with RNAse A
- D. Treating viral genome with DNAse

Which of the above are correct experiments?

- 1. A and B Only
- 2. B and C Only
- 3. B and D Only
- 4. A, B and C Only

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

49	981049	Which of the following factors govern separation of proteins during SDS-PAGE? 1. Degree of secondary structure 2. Number of subunits 3. Charge 4. Size A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

50

981050

Match List I with List II

LIST I (Events)		LIST II (Phenotypic Ratio)	
A.	Independent Assortment	I.	12:3:1
B.	Recessive Epistasis	II.	9:7
C.	Dominant Epistasis	III.	9:3:3:1
D.	Duplicate recessive Epistasis	IV.	9:3:4

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-III, B-I, C-IV, D-II

A1 : 1

4.0

0.00

A2 : 2

A3 : 3

A4 : 4

Objective Question

51	981051	Match List I with List II	4.0	0.00																				
<table><tr><th colspan="2">LIST I (Diseases)</th><th colspan="2">LIST II (Mutation)</th></tr><tr><td>A.</td><td>Angelman syndrome</td><td>I.</td><td>Recessive mutation</td></tr><tr><td>B.</td><td>Klinefelter syndrome</td><td>II.</td><td>Genomic imprinting</td></tr><tr><td>C.</td><td>Cystic fibrosis</td><td>III.</td><td>X- chromosome non - disjunction</td></tr><tr><td>D.</td><td>Edward syndrome</td><td>IV.</td><td>Trisomy 18</td></tr></table>					LIST I (Diseases)		LIST II (Mutation)		A.	Angelman syndrome	I.	Recessive mutation	B.	Klinefelter syndrome	II.	Genomic imprinting	C.	Cystic fibrosis	III.	X- chromosome non - disjunction	D.	Edward syndrome	IV.	Trisomy 18
LIST I (Diseases)		LIST II (Mutation)																						
A.	Angelman syndrome	I.	Recessive mutation																					
B.	Klinefelter syndrome	II.	Genomic imprinting																					
C.	Cystic fibrosis	III.	X- chromosome non - disjunction																					
D.	Edward syndrome	IV.	Trisomy 18																					
Choose the correct answer from the options given below:																								
1. A-I, B-IV, C-III, D-II																								
2. A-II, B-III, C-I, D-IV																								
3. A-III, B-II, C-IV, D-I																								
4. A-IV, B-I, C-III, D-II																								
A1 : 1																								
A2 : 2																								
A3 : 3																								
A4 : 4																								

Objective Question

52	981052	Given below are two statements: Statement I: H locus in human encodes for glycosyl transferase and is dominant over h. Statement II: A woman with $h h I^A I^B$ will have AB blood group In the light of 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. Both Statement I and Statement II are incorrect 4. Statement I is incorrect but Statement II is correct A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

53	981053		4.0	0.00
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Given below are two statements: one is labelled as **Assertion A** and the other is labelled as **Reason R**

Assertion A: *cdc25* mutants have larger cell size as compared to wild type cells.

Reason R: CDC2 protein is constitutively phosphorylated in *cdc25* mutants, leading to cell cycle arrest.

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

54	981054	Paralogs are defined as homologous sequences _____ 1. in different species that share an ancestral gene 2. that share little amino acid identity but share great structural similarity 3. in the same species that arose through gene duplication 4. in different species which have similar and often redundant functions A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

55	981055	During chick development, Tbx5 induces the forelimb, whereas Tbx4 induces hindlimb activity. Following experiments and probable outcomes are given below: A. When Tbx4 is expressed through out the flank tissue, limbs induced in the anterior region of the flank often become legs instead of wings. B. Loss of Tbx4 function in the hindlimb field inhibits leg initiation. C. Loss of Tbx4 function in the hindlimb field inhibits formation of both forelimb and hindlimb. D. Loss of Tbx5 gene results in complete failure of both forelimb and hindlimb Choose the correct answer from the options given below: 1. A and C 2. B and D 3. C and D 4. A and B A1 : 1 A2 : 2	4.0	0.00
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		A3 : 3		
		A4 : 4		

Objective Question

56	981056	Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R Assertion A: When an amphibian egg is divided along the plane of first cleavage into two blastomeres and experimentally separated, each blastomere resulted in a complete normal embryo Reason R: There is asymmetry in the amphibian egg due to the presence of the gray crescent In the light of the above statements, choose the <i>correct answer</i> from the options given below - Both A and R are true and R is the correct explanation of A - Both A and R are true but R is NOT the correct explanation of A - A is true but R is false - A is false but R is true A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

57	981057	Discontinuous replication is because of which of the following properties of DNA? - Complementarity of bases - Presence of charged phosphate group - Antiparallel nucleotide strands - Presence of five-carbon sugar A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

58	981058	Place the following components of the DNA replication machinery in the order of their first involvement during replication. - Helicase, Single-strand binding protein, DNA gyrase, Initiator protein - Initiator protein, Helicase, Single-strand binding protein, DNA gyrase - Initiator protein, Single-strand binding protein, Helicase, DNA gyrase - DNA gyrase, Initiator protein, Single-strand binding protein, Helicase A1 : 1 A2 : 2	4.0	0.00
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A3 : 3

A4 : 4

Objective Question

59

981059

Match List I with List II

LIST I		LIST II	
A.	rRNA	I.	Forms basic component of ribosomes and catalyzes protein synthesis
B.	tRNA	II.	Reduces gene expression by degradation of mRNA
C.	siRNA	III.	Non coding RNA that causes X chromosome inactivation
D.	lncRNA	IV.	Helps selecting amino acids and holds them in place on a ribosome

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0

0.00

Objective Question

60	981060	An in vitro transcription reaction was set up with the following components - nucleosomal template, reaction buffers, rNPTs, acetyl CoA, HeLa nuclear extract, and with or without a transcriptional activator protein (activator), in the presence or absence of a histone acetyl transferase (HAT) enzyme as given in the table below. The following is the fold-change of transcription (mRNA) data (illustrative only; not absolute) obtained in the experiment. <table><tr><th>Reaction</th><th>Transcription (Fold change)</th></tr><tr><td>No Activator, No HAT</td><td>1</td></tr><tr><td>No Activator, with HAT</td><td>1</td></tr><tr><td>With Activator, No HAT</td><td>1.5</td></tr><tr><td>With HAT and Activator</td><td>10</td></tr></table> Consider the following statements based on the experimental data presented above. A. Transcription was highly stimulated by the addition of the activator. B. The activator protein and the HAT enzyme together strongly stimulated transcription. C. The HAT enzyme can stimulate transcription only in the presence of the activator. Choose the correct answer from the options given below: 1. Only statement B is true 2. Only statements A, and C are true 3. Statements A, B and C are true 4. Only statements B and C are true A1 : 1	Reaction	Transcription (Fold change)	No Activator, No HAT	1	No Activator, with HAT	1	With Activator, No HAT	1.5	With HAT and Activator	10	4.0	0.00
Reaction	Transcription (Fold change)													
No Activator, No HAT	1													
No Activator, with HAT	1													
With Activator, No HAT	1.5													
With HAT and Activator	10													

		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

61	981061	Given below are two statements: Statement I: Genome sequence data and its annotation are critical to the design of microarrays for transcriptome analysis. Statement II: "Sequencing by Synthesis" is used in Next Generation Sequencing technology. In the light of above statements, choose the <i>correct</i> answer from the options given below - Both Statement I and Statement II are true - Both Statement I and Statement II are false - Statement I is true but Statement II is false - Statement I is false but Statement II is true A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

62	981062	Given below are two statements: Statement I: Peptide mass fingerprinting can be used for protein identification using MALDI-TOF Mass Spectrometry. Statement II: ESI-MS/MS Spectrometers generate <i>b</i> and <i>y</i> ions during sequencing of peptides. In the light of above statements, choose the <i>correct</i> answer from the options given below - Both Statement I and Statement II are true - Both Statement I and Statement II are false - Statement I is true but Statement II is false - Statement I is false but Statement II is true A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

63	981063		4.0	0.00
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Match List I with List II

LIST I		LIST II	
A.	Molecular Chaperone	I.	Ubiquitylated proteins as substrates
B.	Exosome	II.	Protein that helps other proteins fold correctly
C.	Ribozyme	III.	RNA exonuclease
D.	Proteasome	IV.	RNA with catalytic activity

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

64 981064

Although some aspects of the root system of monocotyledonous and dicotyledonous plants are similar, they also differ significantly. Which of the following statements are correct?

- A. Dicotyledonous Arabidopsis has tap root system.
- B. Monocot maize has fibrous root system.
- C. Monocot and dicotyledonous roots have similar vascular arrangements.
- D. Crown roots are post-embryonic nodal roots, normally present in monocot plants.
- E. Root meristem and stem cells are only present in dicot plants.

Choose the correct answer from the options given below:

1. B, C and E Only
2. A, B, and E Only
3. A, B, and D Only
4. B, C and D Only

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0

0.00

Objective Question

65 981065

4.0

0.00

In Arabidopsis, seed germination is a multistep process that involves dynamic changes in physiological and metabolic activities and some of these events are indicated below:
which of the following are correct regarding seed germination?

A. Absciscic acid (ABA) inhibits Gibberellins-induced enzyme production during seed germination process.
B. Following imbibition (water uptake), the metabolic activities (e.g. respiration) increase
C. Red light promotes, whereas, far-red light inhibits seed germination

Choose the correct answer from the options given below:

1. A, B and C all correct
2. A, C Only
3. B, C Only
4. A, B Only

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

66	981066	Given below are two statements: Statement I: The <i>OriC</i> in <i>E.coli</i> is methylated at adenine residues. Statement II: DNA methylase adds a methyl group to GATC sites. In the light of 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	4.0	0.00
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Objective Question

67	981067	Which of the following events takes place rapidly when stimulus is given on axonal membrane? A. Influx of K^+ ions only B. Efflux of Na^+ ions only C. Influx of Na^+ ions only D. Efflux of Na^+ and K^+ ions Choose the correct answer from the options given below: 1. A Only 2. C Only 3. D Only 4. B Only	4.0	0.00
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		A1 : 1		
		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

68	981068	Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R Assertion A: In <i>Arabidopsis clavata 3 (clv3)</i> mutant, shoot apical meristem (SAM) size is bigger than that in the wild type (WT) plants. Reason R: CLV3 negatively regulates WUSCHEL (WUS) expression and thereby limits the SAM size. In the light of the above statements, choose the most appropriate answer from the options given below - Both A and R are correct and R is the correct explanation of A - Both A and R are correct but R is NOT the correct explanation of A - A is correct but R is not correct - A is not correct but R is correct A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

69	981069	What are virioids? - Double-stranded DNA virus with coat proteins - Single-stranded DNA virus without coat protein - Single-stranded RNA virus without coat protein - Single-stranded RNA virus with coat proteins A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

70	981070	Which of the following statements about the cyclic photophosphorylation is NOT correct? - It does not lead to synthesis of NADPH. - It does not generate oxygen. - It leads to pumping of protons via cytochrome bf complex. - It uses electrons supplied by photosystem II A1 : 1	4.0	0.00
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		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

71	981071	Photooxidation of chlorophyll is primarily prevented by _____ 1. Carotenoid 2. Anthocyanin 3. Phycobillin 4. Fucoxanthin A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

72	981072	Which of the following statements, based on the reactions given below, is true for the mammalian system? Reaction #1 : $\text{CO}_2 + \text{H}_2\text{O} \rightleftharpoons \text{H}_2\text{CO}_3$ Reaction #2 : $\text{H}_2\text{CO}_3 \rightleftharpoons \text{H}^+ + \text{HCO}_3^-$ A. Reaction #2 is catalyzed by Carbonic anhydrase enzyme. B. Because of reaction # 2, the pH of blood declines during hyperventilation. C. Reaction # 1 occurs primarily in plasma. Choose the correct answer from the options given below: 1. A Only 2. B Only 3. C Only 4. A and B Only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

73	981073		4.0	0.00
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Following events are related to gibberellins (GA)-mediated signal transduction

- A. Polyubiquitination of DELLA
- B. Binding of GA with GID1
- C. Association of GID1 with DELLA
- D. Interaction of DELLA with SCF complex and degradation of DELLA

Identify the correct order of events in GA signalling.

1. $A \rightarrow B \rightarrow C \rightarrow D$

2. $C \rightarrow A \rightarrow B \rightarrow D$

3. $B \rightarrow C \rightarrow A \rightarrow D$

4. $C \rightarrow B \rightarrow A \rightarrow D$

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

74	981074	The heart pumps blood through the arterial system and into the capillaries where the exchange of materials with the tissues takes place. The blood then returns to the heart via the venous system. Who among the following has discovered capillaries? 1. Marcello Malpighi 2. Gunter Wachtershauser 3. Stanley Miller 4. William Harvey A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

75	981075	Match List I with List II	4.0	0.00																				
<table><tr><th colspan="2">LIST I</th><th colspan="2">LIST II</th></tr><tr><td>A.</td><td>Nerve ring</td><td>I.</td><td>Cockroach</td></tr><tr><td>B.</td><td>Cecum</td><td>II.</td><td>Planktonic Larva</td></tr><tr><td>C.</td><td>Alary Muscle</td><td>III.</td><td>Earthworm</td></tr><tr><td>D.</td><td>Tornaria</td><td>IV.</td><td>Rabbit</td></tr></table>					LIST I		LIST II		A.	Nerve ring	I.	Cockroach	B.	Cecum	II.	Planktonic Larva	C.	Alary Muscle	III.	Earthworm	D.	Tornaria	IV.	Rabbit
LIST I		LIST II																						
A.	Nerve ring	I.	Cockroach																					
B.	Cecum	II.	Planktonic Larva																					
C.	Alary Muscle	III.	Earthworm																					
D.	Tornaria	IV.	Rabbit																					
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-IV, C-I, D-II																								
4. A-IV, B-II, C-III, D-I																								
A1 : 1																								
A2 : 2																								

		A3 : 3		
		A4 : 4		

Objective Question

76	981076	Ctenophore commonly known as "Sea Walnuts" is exclusively a _____. 1. freshwater bilaterally symmetrical and triploblastic organism. 2. marine, asymmetrical and diploblastic organism. 3. marine, radially symmetrical and diploblastic organism. 4. freshwater radially symmetrical and diploblastic organism. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

77	981077	The dogfish (Scoliodon) has to swim constantly to avoid sinking primarily because of the _____ 1. absence of air bladder. 2. presence of weberian ossicles. 3. well-streamlined Body. 4. absence of a specialized organ to avoid the effects of gravity. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

78	981078	Insulin enhances the entry of glucose in which of the following tissue? 1. Smooth muscles only 2. Renale proximal tubular tissue 3. Nervons tissues, skeletal muscles and neuronal cells 4. All skeletal muscles A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question				
79	981079	Short chain fatty acids (SCFAs) are formed by the action of gastro-intestinal bacteria on certain components of the dietary fiber. SCFAs help in combating gut inflammation and are adsorbed in part by exchange of hydrogen ion. SCFAs produced by bacteria are maximally absorbed in _____ 1. Duodenum 2. Colon 3. Jejunum 4. Ilium A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
80	981080	A prolonged plateau phase in action potential can be seen in _____. 1. Skeletal muscle. 2. Smooth - muscle. 3. Myocardial muscle. 4. Neuromuscular junction A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
81	981081	Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R Assertion A: Release of urine in human is accomplished by the simultaneous contraction of smooth muscle and relaxation of skeletal muscle. Reason R: Because smooth muscles are present in bladder wall and skeletal muscles are present around opening of bladder. In the light of the above statements, choose the <i>correct answer</i> from the options given below1. 1. Both A and R are true and R is the correct explanation of A 2. Both A and R are true but R is NOT the correct explanation of A 3. A is true but R is false 4. A is false but R is true A1 : 1 A2 : 2 A3 : 3	4.0	0.00

A4 : 4

Objective Question

82	981082	Match List I with List II	4.0	0.00																				
<table><tr><th colspan="2">LIST I</th><th colspan="2">LIST II</th></tr><tr><td>A.</td><td>Glaucoma</td><td>I.</td><td>Color blindness</td></tr><tr><td>B.</td><td>Xerophthalmia</td><td>II.</td><td>Misalignment of the eyes</td></tr><tr><td>C.</td><td>Strabismus</td><td>III.</td><td>Vitamin A deficiency</td></tr><tr><td>D.</td><td>Dichromacy</td><td>IV.</td><td>Increased intraocular pressure</td></tr></table>					LIST I		LIST II		A.	Glaucoma	I.	Color blindness	B.	Xerophthalmia	II.	Misalignment of the eyes	C.	Strabismus	III.	Vitamin A deficiency	D.	Dichromacy	IV.	Increased intraocular pressure
LIST I		LIST II																						
A.	Glaucoma	I.	Color blindness																					
B.	Xerophthalmia	II.	Misalignment of the eyes																					
C.	Strabismus	III.	Vitamin A deficiency																					
D.	Dichromacy	IV.	Increased intraocular pressure																					
Choose the correct answer from the options given below:																								
1. A-II, B-III, C-IV, D-I																								
2. A-III, B-I, C-II, D-IV																								
3. A-IV, B-I, C-II, D-III																								
4. A-IV, B-III, C-II, D-I																								
A1 : 1																								
A2 : 2																								
A3 : 3																								
A4 : 4																								

Objective Question

83	981083	Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R Assertion A: Hemoglobin-oxygen affinity is labile. It reduces due to binding of organic phosphate ligands as well as elevated temperature Reason R: Hemoglobin-oxygen affinity reduces due to elevated humidity and low ambient CO₂ In the light of the above statements, choose the <i>correct answer</i> 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 3. A is true but R is false 4. A is false but R is true A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

84	981084		4.0	0.00
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		Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R Assertion A: <i>In vivo</i> synthesis of protein involves multiple steps of which some are given below. Charging of the amino acid, formation of aminoacyl tRNA, binding of aminoacyl tRNA to the A site of the ribosome wherein the corresponding codon is available. Reason R: The above sequence of events is essential as the amino acid itself guides the tRNA to its codon. In the light of the above statements, choose the correct answer from the options given below - Both A and R are true and R is the correct explanation of A - Both A and R are true but R is NOT the correct explanation of A - A is true but R is false - A is false but R is true A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

85	981085	The prosthetic group for transaminase is _____ - Flavin adenine dinucleotide - Pyridoxal phosphate - Thiamine pyrophosphate - Biotin A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

86	981086	Q-Cycle involves the transfer of electrons from _____ - NADPH to coenzyme Q and it occurs in NADPH ubiquinone oxidoreductase complex. - NADPH to coenzyme Q and it occurs in the succinate dehydrogenase complex. - Coenzyme Q to cytochrome C and it occurs in CoQH₂-cytochrome C reductase complex - cytochrome C to oxygen and it occurs in cytochrome C oxidase complex A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

87

981087

Match List I (enzyme) with List II (associated cofactor/prosthetic group)

4.0

0.00

LIST I		LIST II	
A.	Transaminase	I.	Coenzyme A
B.	Thymidylate synthetase	II.	Flavin mononucleotide (FMN)
C.	Fatty acid synthase	III.	Pyridoxal phosphate
D.	NADH: Coenzyme Q oxidoreductase	IV.	N ⁵ , N ¹⁰ - Methylene Tetrahydrofolate

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

88	981088	Ubiquitination primarily occurs on one of the following residues of the target proteins _____ 1. Leucine 2. Serine 3. Lysine 4. Tyrosine A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

89	981089	Given below are two statements: one is labelled as Assertion A and the other is labelled as Reason R Assertion A: For non-competitive inhibitors, the values of K_m remain constant while V_{max} values decrease. Reason R: For competitive inhibitors, the values of K_m are variable while V_{max} remain constant. In the light of the above statements, choose the <i>correct answer</i> 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	4.0	0.00
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A2 : 2

A3 : 3

A4 : 4

Objective Question

90	981090	The Vander Waal's interactions are contributed by some of the following combinations. A. Dispersion resulting in multi pole. B. Induction, where one atom / molecule induces polarization in another molecule. C. Attractive interactions between induced poles. D. Repulsive force between negative electron clouds. Choose the correct answer from the options given below: 1. A Only 2. A and B Only 3. A, B and C Only 4. A, B, C and D A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

91	981091	Given below are two statements: Statement I: DNA binding proteins generally contain EF hand motifs. Statement II: DNA binding proteins contain Leucine zippers and Zinc finger motifs. In the light of above statements, choose the <i>most appropriate</i> 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	4.0	0.00
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Objective Question

92	981092		4.0	0.00
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Following statements are made regarding 'canalization hypothesis' of vascular development.

- A. Cells between an auxin source and sink begin to transport auxin in the direction of auxin flux.
- B. Positive feedback between auxin transport and the capacity for auxin transport causes the channeling of auxin flux into narrow strands of increasingly polarized cells.
- C. When auxin concentration rises above a threshold, cells in such strands differentiate into vascular tissue

Which of the following option is/are correct?

- 1. A Only
- 2. A and B Only
- 3. B and C Only
- 4. A, B, and C all

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

93	981093	Given below are two statements: Statement I: Beta-barrel structures are generally formed by eight beta sheets. Statement II: Beta-barrel structures generally carry two Greek key motifs. In the light of above statements, choose the <i>most appropriate</i> 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	4.0	0.00
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Objective Question

94	981094	Which of the following is NOT a common reaction in fatty acid synthesis? 1. Dehydration 2. Hydrogenation 3. Isomerization 4. Aldol reaction A1 : 1 A2 : 2 A3 : 3	4.0	0.00
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A4 : 4

Objective Question

95	981095	Given below are two statements regarding plant immune response. Statement I: Pattern-triggered immunity is race-specific. Statement II: Effector-triggered immunity is stronger than pattern-triggered immunity. In the light of above statements, choose the most appropriate answer from the options given below - Both Statement I and Statement II are correct - Both Statement I and Statement II are incorrect - Statement I is correct but Statement II is incorrect - Statement I is incorrect but Statement II is correct A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

96	981096	Which of the following structures organelles are present in companion cell, but not in sieve elements? A. Vacuole B. Endoplasmic reticulum C. Nuclei D. Mitochondria Choose the correct answer from the options given below: - A and B Only - A and C Only - B and C Only - B and D Only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

97	981097		4.0	0.00
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Match List I (with disease) with List II (causal organism)

LIST I		LIST II	
A.	Sheath blight of rice	I.	<i>Xanthomonas campestris</i>
B.	Scab of potato	II.	<i>Rhizoctonia solani</i>
C.	Citrus canker	III.	<i>Streptomyces scabies</i>
D.	Wilt of tomato	IV.	<i>Fusarium oxysporum</i>

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

98	981098	Which characteristics of the human HLA locus ensure that diverse antigens can be presented to T cells in each individual and also in the population? A. Somatic hypermutation B. Polygeny C. Polymorphism D. Allelic exclusion E. Codominant expression Choose the correct answer from the options given below: 1. B and D Only 2. A, C and E Only 3. A and B Only 4. B, C and E Only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

99	981099	Which of the following condition would lead to T- cell anergy? A. A naive T-cell interaction with a dendritic cell in the presence fo CTLA-4lg. B. A naive T-cell interaction with antibodies that bind both the TCR and CD28. C. A naive T-cell interaction with antibodies that bind only the TCR . D. A naive T-cell interaction with antibodies that bind only CD28. Choose the correct answer from the options given below: 1. B and D Only 2. A, C and D Only 3. A and C Only 4. B and C Only	4.0	0.00
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A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

100	981100	Which of the following statements are FALSE for hematopoietic stem cells? A. Hematopoietic stem cells have extraordinary powers of regeneration B. Hematopoietic stem cells are one of the most abundant cell types in the bone marrow C. There are no Hematopoietic stem cells in blood D. Hematopoietic stem cells can be banked by cryopreservation E. As little as 10% of a donor's total volume of bone marrow can provide enough Hematopoietic stem cells to completely restore the recipient's Hematopoietic system Choose the correct answer from the options given below: 1. B and C Only 2. A, D and E Only 3. A, B, C Only 4. A, C and E Only A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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