

PREVIEW QUESTION BANK

Module Name : SCPH19 Molecular Medicine - ENG
Exam Date : 30-Oct-2023 Batch : 09:30-12:30

Sr. No.	Client Question ID	Question Body and Alternatives	Marks	Negativ Marks
Objective Question				
1	985001	Molarity is defined as 1. Moles per litre of solvent 2. Moles per deciliter of solvent 3. Moles per kilogram of solvent 4. Molecules per gram of solvent A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
2	985002	The term virulence of an infectious agent refers to 1. Its ability to invade a host 2. Its ability to sustain in the environment 3. Its ability to cause death 4. Its ability to survive intracellularly A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
3	985003	A single B cell produces antibodies against HIV. This B cell divides and grows in culture to give rise to many B cells. The antibodies from these cells may be described as 1. IgB because they are produced by B cells in culture. 2. Polyclonal antibodies since there is no hybridoma involved and each daughter cell is a discrete clone. 3. Monoclonal antibodies since all B cells are the same clone. 4. Chimeric antibodies A1 : 1 A2 : 2 A3 : 3	4.0	0.00

		A4 : 4		
Objective Question				
4	985004	Antigenic variation/switching in a pathogen may lead to the following except 1. Immune evasion from the host only 2. Difficulties in vaccine development against pathogen 3. Longer retention in the host if untreated 4. Change in mode of infection A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
5	985005	Proteins that are encoded by the nuclear genome and transported to the organelle like mitochondria should contain the following sequences except 1. A sequence for targeting 2. A transit peptide for crossing the membrane 3. Protease site to get rid of the signal peptide 4. Cotranslational targeting to the mitochondria A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
6	985006	Actins and Tubulins are subunits of actin filaments and microtubules, respectively. They bind and hydrolyze which of the following nucleoside triphosphates for their activity? 1. Actins binds GTP and tubulin binds only ATP 2. Actin binds both ATP and GTP while tubulin binds only ATP 3. Actin binds UTP and tubulin binds GTP 4. Actin binds ATP and tublin binds GTP A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				

7	985007	A solution contains two proteins with same mass. The pI of one protein is 6.5. The protein can be purified at the physiological pH using which of the following techniques ? 1. Anion exchange chromatography 2. Thin layer chromatography 3. Cation exchange chromatography 4. Gel filtration chromatography A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

8	985008	<i>Cry</i> gene is isolated from a Gram - positive, soil dwelling bacterium and is commonly used as a biological pesticide. Identify the genus of the bacterium from which this gene is derived ? 1. <i>Bordetella pertussis</i> 2. <i>Salmonella typhimurium</i> 3. <i>Streptococcus aureus</i> 4. <i>Bacillus thuringiensis</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

9	985009	In an effort to amplify a 1.5 kb region from mouse genomic DNA using specific forward and reverse primers, following PCR one always gets four bands corresponding to 0.5 kb, 1.0 kb respectively. This event can best be explained as follows; 1. The forward primer binds randomly to the template 2. The reverse primer binds randomly to the template 3. A contaminant endonuclease cuts the product at three different places 4. The 1.5 kb region contains repetitive sequence A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

10	985010		4.0	0.00
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		Deuterium and tungsten lamps are used as a light source in one of the following techniques. 1. Nuclear magnetic resonance spectrophotometers 2. X-rays diffractometers 3. Gas chromatography 4. UV/Visible spectrophotometers A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

11	985011	Order sucrose, glycerol, Ca^{2+}, and steroid hormones according to their ability to diffuse through a lipid bilayer, beginning with the one that crosses the bilayer most readily A. Glycerol B. Sucrose C. Ca^{2+} D. steroid hormones Choose the correct answer from the options given below: 1. B, A, D, C 2. A, B, D, C 3. D, A, B, C 4. C, B, A, D A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

12	985012	To demonstrate F-actin polymerization in cytoskeletal network, filaments can be observed by confocal microscopy using which of the following agents? 1. Taxol 2. Phalloidin 3. Alexa Fluor 4. Fura-2AM A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

13	985013	0.1 ml of a bacterial culture is diluted into 9.9 ml of buffer; 0.1 ml of this dilution is again diluted in 9.9 ml of fresh buffer. Plating 0.1 ml from the second dilution tube yields an average of 72 colonies per plate on 4 plates. What is the cell density of the culture? 1. 7.2×10^6 cells per ml 2. 7.2×10^8 cells per ml 3. 7.2×10^5 cells per ml 4. 7.2×10^7 cells per ml A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

14	985014	The therapeutic index of sulphonamides is high because 1. Bacteria manufacture their own folate and humans do not synthesize folate 2. Humans synthesize folate at a very high rate 3. Dihydrofolate reductase is not active in bacteria 4. Pteridine Synthetase is more efficient in humans A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

15	985015	How does a non-competitive inhibitor affect enzyme kinetics as measured by Michaelis-Menten equation? 1. $V_{\max}$ is lowered and K_m is increased 2. $V_{\max}$ is lowered and K_m is lowered 3. $V_{\max}$ is the same and K_m is increased 4. $V_{\max}$ is lowered and K_m remains same A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

16	985016		4.0	0.00
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		What is the turnover rate of 10^{-6}M solution of carbonic anhydrase that catalyze $0.6\text{M H}_2\text{CO}_3$ per sec? 6×10^5 per sec 1.6×10^5 per sec 6×10^4 per sec 1.6×10^4 A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

17	985017	How are the binding affinities of endocrine signaling molecules vary compared to synaptic signaling molecules with receptor proteins present on the cell membrane? K_m high for endocrine receptors and low for synaptic receptors K_m low for endocrine receptors and high for synaptic receptors K_m high for synaptic as well as endocrine receptors K_m low for synaptic as well as endocrine receptors A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

18	985018	What would be the recombinant product of cross between $\text{Hfrleu}^+ \times \text{F}^-\text{leu}^-$? F^+leu^+ F^-leu^+ - Partial diploid R becomes F^+leu^+ Hfrleu^+ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

19	985019		4.0	0.00
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		What will be the elution profile of a mixture of compounds containing nitrite, nitrate, glutarate and azide on anion exchange chromatography? A. Nitrite B. Nitrate C. Glutarate D. Azide Choose the correct answer from the options given below: 1. A, D, C, B 2. B, A, C, D 3. A, C, D, B 4. C, A, B, D A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

20	985020	A virus carrying a nonsense mutation can be grown on a 1. wild type host 2. host carrying suppressor mutation 3. host carrying null mutation 4. host carrying conditional lethal mutation A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

21	985021	By which of the chromatographic techniques, you can separate and determine the oligomeric forms of a protein? 1. Affinity Chromatography 2. Gel filtration Chromatography 3. Anion Exchange chromatography 4. Gas Chromatography A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question				
22	985022	How can you experimentally validate the role of an amino acid at the catalytic site of the enzyme? 1. Proteolytic cleavage 2. Altering the codon coding for same amino acid 3. Site Directed Mutagenesis 4. Altering the pH of the catalytic site A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
23	985023	Which of the following inhibitors are the most potent for inhibiting the enzyme activity? 1. Competitive Inhibitors 2. Non-Competitive Inhibitors 3. Transition State Analogs 4. Affinity labels or reactive substrate analogs A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
24	985024	Mutation in a glycoprotein does not affect its enzyme activity <i>in vitro</i>. Still the mutation results in loss of enzyme function and causes disease <i>in vivo</i>. How will you experimentally demonstrate the probable cause? 1. Determine the amino acid sequence of the glycoprotein by Mass Spectroscopy 2. Study the oligomerization of glycoprotein by Native PAGE 3. Study localization of the glycoprotein by confocal microscopy 4. Study the levels of glycoprotein expression by Immunoblotting A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
25	985025		4.0	0.00

		How will you design an assay to identify most potent Phosphodiesterase inhibitor to treat the disorder ? 1. Measuring phosphorylation levels of Protein Kinase A 2. Measuring the activity of Phosphodiesterase 3. Measuring the activity of Adenyl Cyclase 4. Reporter Gene Assay with cAMP Response Element in the promoter region A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

26	985026	What could be the associated problem with the drugs that despite desired affinity and specificity, they are still not suitable for treatment? 1. Therapeutic Index 2. Bioavailability 3. Drug Potency 4. Drug Design A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

27	985027	In order to study the effect of IGF-1 on proliferation of a mammalian cell, which of the following response study will be planned? 1. Fast IGF1R signaling response for 5 min, 10 min, 15 min study 2. Slow response involving gene expression changes for 48 h or 72 h study 3. Measure cell response in G phase after 8 h 4. Measure response in S phase after 4 h A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

28	985028		4.0	0.00
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		During the restriction digestion of DNA, multiple fragments of non-specific bands were observed in the experiment. Why? 1. Addition of Magnesium was missed from the reaction mix 2. Star Activity of the enzyme 3. Restriction enzyme was degraded 4. DNA was degraded A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

29	985029	While screening for antibiotic resistant recombinants on LB agar plates, a lawn of colonies was observed in the experimental plate. What could be the possible reason? 1. The host strain is resistant to antibiotic 2. Antibiotic resistance gene did not express 3. Heat shock during transformation was done for a long time 4. Plating was done while spreader was very hot A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

30	985030	Which internal control is used in RT-PCR gene expression analysis to compare the levels ? 1. Expression of similar function gene 2. Expression of house keeping genes 3. Expression of gene regulatory protein 4. Expression of Histones A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

31	985031		4.0	0.00
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What are adverse drug reactions (ADRs) on human body?

1. Unintended alternative physiological responses caused by the drug that cause harm to the patient.
2. The synergistic effects that are seen when some drugs are administered concurrently.
3. Responses to increased drug doses required to achieve the same physiological outcome.
4. Harmful chemical interactions between two drugs that are used to treat the same clinical symptoms.

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

32 985032

Match List I with List II

LIST I		LIST II	
Names		Function	
A.	Ferritin	I.	Electron transport
B.	Vitamin B12	II.	Ionophore
C.	Cytochromes	III.	Organometallic Enzymes
D.	Valinomycin	IV.	Iron Storage

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

33 985033

Identifying the palindromic sequence from the following

1. 5' ACGTAC3'
3' CATGCA5'
2. 5' CGTAGC3'
3' GCATCG5'
3. 5' AGCTAA3'
3' CGTAGT5'
4. 5' GCATCA3'
3' CGTAGT5'

A1 : 1

A2 : 2

A3 : 3

		A4 : 4		
Objective Question				
34	985034	A mixture of DNA fragments a, b, c and d, with molecular weights of $a + b = c$, $a > b$, and $d > c$ was subjected to agarose gel electrophoresis. The position of these fragments from cathode to anode sides of the gel would be 1. b, a, c, d 2. d, c, a, b 3. c, b, a, d 4. d, b, c, a A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
35	985035	Silica gel contains CoCl_4^{2-} as indicator. When activated silica gel becomes dark blue while upon absorption of moisture, its colour changes to pale pink. This is because, 1. Co(II) changes its coordination from tetrahedral to octahedral 2. Co(II) changes its oxidation state to Co(III) 3. Tetrahedral crystal field splitting is not equal to octahedral crystal field splitting 4. Co(II) forms kinetically labile while Co(III) forms kinetically inert complexes. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
36	985036	Fasting glucose level of diabetes type 2 patients is a measure of 1. defect of glucose uptake in skeletal muscle cell 2. uncontrolled hepatic glucose output 3. uncontrolled glucose output of skeletal muscle cells 4. defect of glucose uptake in hepatic cells A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
37	985037	Which of the following statement is correct about different chromatographic techniques? 1. In ion exchange chromatography, the bound proteins are eluted using NaCl solution 2. The separation in gel filtration chromatography is based on size, shape and net charge of the protein 3. In affinity chromatography, lectins are used to purify a glycoprotein 4. In affinity chromatography, the binding of a protein to a ligand is by specific non-covalent interactions A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
38	985038	In HeLa cell cytosol, protein A interacts with protein B and C. Protein D interacts with protein A and C. Protein E interacts with protein B only. You have done immunoprecipitation using anti -protein D antibodies and resolved by SDS-PAGE. The number of bands that you will see in a gel is/are : 1. One band 2. Five bands 3. Seven bands 4. Three bands A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
39	985039	The molarity of a solution that has 1.5 moles added to 675 ml of solvent will be 1. 1.0 2. 1.1 3. 2.0 4. 2.2 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
40	985040		4.0	0.00

The activation energy of a reaction at a given temperature is found to be $2.303 RT \text{ J mol}^{-1}$. The ratio of rate constant to the Arrhenius factor is

1. 0.1
2. 0.01
3. 0.001
4. 0.02

A1 : 1

A2 : 2

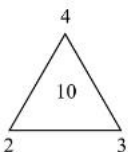
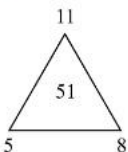
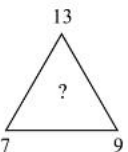
A3 : 3

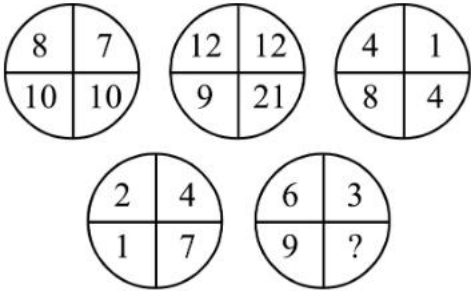
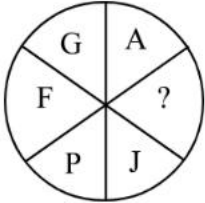
A4 : 4

Objective Question

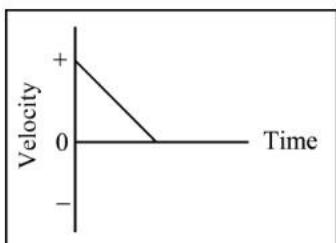
41	985041	A man bought a bicycle for Rs.1400 and sells it at a loss of 15% after 2 years. What is the selling price of the bicycle? 1. 1090 2. 1160 3. 1190 4. 1202 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

42	985042	What is the missing number in the triangle below? 4  11  13  1. 56 2. 66 3. 76 4. 86 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question				
43	985043	Insert the missing number in the figure below:  1. 1 2. 2 3. 3 4. 4 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
44	985044	What will be the value of "?" in the figure below?  1. I 2. K 3. N 4. R A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
45	985045		4.0	0.00

In the figure below, the slope of the velocity-time graph represents:



1. Distance
2. Time
3. Speed
4. Acceleration

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

46	985046	How is cancerous cell different from a normal cell?	4.0	0.00
1. Cancer cell expresses proto-oncogenes but normal cell does not 2. Cancer cell has lost the property of contact inhibition but normal cell exhibits 3. Cancer cell migrates but normal cell does not 4. Cancer cells are more susceptible to carcinogens as opposed to normal cells				
A1 : 1				
A2 : 2				
A3 : 3				
A4 : 4				

Objective Question

47	985047	A protein is post-translationally modified but it is not altered by lambda phosphatase treatment. The stability of the protein does not change in the absence or presence of proteasome inhibitor. Neither it is required for cell attachment to the extracellular matrix. The following modification may have occurred in the protein	4.0	0.00
1. Phosphorylation 2. Poly ubiquitination 3. Sumoylation 4. Glycosylation				
A1 : 1				
A2 : 2				
A3 : 3				

		A4 : 4		
Objective Question				
48	985048	Beta oxidation of long chain fatty acid having odd number of carbon atoms will finally yield 1. Acetoacetyl coA 2. Malonyl CoA 3. Propionyl CoA 4. Acetyl CoA A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
49	985049	Gene function studies are often facilitated with the availability of temperature sensitive mutants. A researcher found a temperature sensitive mutant of gene <i>X</i> in <i>E. coli</i> following MMS (alkylating agent) mutagenesis technique. The mutant <i>E. coli</i> cells grew at 37⁰C but failed to grow at 42⁰C. It can be explained as followed 1. The gene <i>X</i> is not transcribed at the restrictive temperature 42⁰C 2. The protein X is expressed but not properly folded at the restrictive temperature 42⁰C 3. The protein X is poorly expressed at the restrictive temperature 42⁰C 4. There is a mutation in the gene that is created at the restrictive temperature 42⁰C A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
50	985050	While performing FACS analysis of unsynchronized mammalian cells, a researcher can get distinct peaks from the following cell cycle stages 1. G1 and G2/M 2. G1 and S 3. S and G2/M 4. G1, S and G2/M A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question

51

985051

Match List I with List II
Mentioned below is a list of autoimmune diseases and the target antigens. Match them correctly from the options given below:

LIST I Disease		LIST II Target	
A.	Type 1 diabetes	I.	Myosin
B.	Experimental autoimmune myocarditis	II.	Islet cells
C.	Multiple sclerosis	III.	Joint synovium
D.	Rheumatoid arthritis	IV.	Myelin basic protein

Choose the correct answer from the options given below:

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

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

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

4.0

0.00

Objective Question

52	985052	A molecule of secretory IgA can optimally bind to 1. One antigenic epitope 2. Two antigenic epitopes 3. Four antigenic epitopes 4. No antigenic epitope A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

53	985053	The J-chain is present in 1. IgM and IgA 2. IgM and IgG 3. IgG and IgA 4. IgE and IgD A1 : 1 A2 : 2	4.0	0.00
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		A3 : 3		
		A4 : 4		

Objective Question

54	985054	Class switching in B-cells enables the switch in production of IgG from IgM. Which of the following statement is correct in the process? 1. Two antibodies are coded by altogether different genes 2. The specificity of the two antibodies are different 3. The molecular weight of the two antibodies are same 4. The specificity of the two antibodies are same A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

55	985055	Which of the following statement is wrong about T cell receptors? 1. It can bind to antigen along with MHC molecules 2. It can bind to an antigen and transmit activating signals 3. It is composed of two different polypeptide chains 4. It plays a role in antibody production A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

56	985056	The generation of antigenic peptides required for presentation by MHC-1 pathway takes place in 1. Endoplasmic reticulum 2. Phagolysosome 3. Endosome 4. Cytosol A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

57	985057	How do enzymes increase rate of chemical reaction several fold? 1. Enzyme alter the equilibrium state of the reaction 2. Enzyme reduce activation energy required for conversion of substrate to product 3. Enzyme increase the activation energy required for product formation by stabilizing transition state 4. Enzyme bind the substrate and release product in a specific ordered manner A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

58	985058	Immunization of Balb/c with LPS results essentially in 1. The production of high affinity IgG 2. Effective memory response to the antigen 3. Activation of T-helper cells in the mouse 4. The production of IgM A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

59	985059	A population is in equilibrium and the proportion of individuals showing a dominant trait at a given locus having two alleles is 84%. What will be the frequency of the recessive allele in the population? 1. 0.4% 2. 0.2% 3. 0.6% 4. 0.16% A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

60	985060		4.0	0.00
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		Hardy-Weinberg law describes 1. How sexual reproduction changes the relative gene frequencies in a population 2. How mutations occur and balance each other 3. The genotype frequencies of a population in absence of evolutionary forces 4. The genotype frequencies of a population when evolutionary forces act on a population A1 : 1 A2 : 2 A3 : 3 A4 : 4		
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Objective Question

61	985061	Nonsense mutations are essentially different from deletion mutations in that 1. Nonsense mutations can be suppressed 2. Nonsense mutations can be reversed 3. Transcription ceases when nonsense mutations happen 4. The termination of protein chain does not take place in nonsense mutation A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

62	985062	Calvin Cycle is the light dependent phase of photosynthesis. The final product of this cycle is 1. Pyruvate 2. Ribulose biphosphate 3. Glyceraldehyde -3- phosphate 4. Phosphoglycerate A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

63	985063		4.0	0.00
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Choose the mismatch

Inhibitor	Function
A. Malonate	I. Prevents oxidation of succinate
B. Rotenone	II. Inhibits CoQH ₂ -cyt C oxidoreductase
C. Cyanide	III. Inhibits cytochrome oxidase
D. Oligomycin	IV. Inhibits ATP synthase

1. A

2. B

3. D

4. C

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

64	985064	The Lineweaver-Burk plot helps in determining K_m and V_{max} of an enzyme which follows the Michaelis-Menten kinetics. When V is the reaction velocity at substrate concentration S, the Y axis data in the plot is expressed as 1. V 2. $1/V$ 3. $1/S$ 4. S A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

65	985065	The development of <i>Drosophila melanogaster</i> is a sequential event which follows a hierarchy of events. Select the correct sequence of events from those mentioned below 1. Homeotic genes 2. Maternal effect genes 3. Gap genes 4. Pair rule genes 5. Segment polarity genes 1. 2,3,4,5,1 2. 1,2,3,4,5 3. 2,3,4,1,5 4. 1,2,4,3,5 A1 : 1	4.0	0.00
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		A2 : 2		
		A3 : 3		
		A4 : 4		

Objective Question

66	985066	Below are statements on the function of p53. Choose the statement that correctly describes p53 1. Cell division stops until p53 binds to and repairs DNA damage 2. Activation of p53 inhibits S-phase of cyclin-CDK complex 3. p53 is an oncogene responsible for causing uncontrolled cell division 4. It is a membrane receptor for growth hormones A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

67	985067	Ribozyme was first reported in 1. A nuclear gene for a DNA replicating enzyme 2. An intron within a pre-rRNA molecule 3. A mitochondrial gene for respiratory enzyme 4. A mRNA for mitochondrial enzyme A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

68	985068	The oxygen binding function of hemoglobin is NOT known to be modulated by 1. O₂ 2. NO 3. CO₂ 4. H₂S A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

69	985069	In the mammalian cells, the β-oxidation of fatty acid occurs 1. In the peroxisome and the mitochondria 2. In the peroxisome only 3. In the mitochondria only 4. In the lysosomes A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

70	985070	The secondary structure that is NOT commonly found in the DNA binding proteins 1. Helix-Turn-Helix motif 2. Helix-Loop-Helix motif 3. Zn Finger 4. EF-Hand domain A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

71	985071	Which of the following peptides is likely to be found in the transmembrane domain of a channel protein? 1. Asp-Glu-His-Lys-Gln-Asp 2. Leu-Val-Ileu-Gly-Leu-Val 3. Tyr-Ser-Thr-Ser-Asp 4. Gly-Pro-Glu-Cys-Cys A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

72	985072		4.0	0.00
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Match List I with List II

LIST I		LIST II	
A.	GPCR	I.	Ca^{++}
B.	ERK	II.	<i>Src</i>
C.	Calmodulin	III.	PKA
D.	Tyrosine kinase	IV.	Ser-Thr

Choose the correct answer from the options given below

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

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

73 985073

Which among the following statements is NOT true for mammalian promoters?

1. Transcription can start from multiple nucleotides spread over hundreds of bases.
2. Transcription and transcript processing is concurrent
3. Always need an enhancer
4. Transcription can occur bidirectionally

A1 : 1

A2 : 2

A3 : 3

A4 : 4

4.0

0.00

Objective Question

74 985074

Match List I with List II

LIST I		LIST II	
A.	RNA Polymerase I	I.	tRNA genes
B.	RNA polymerase II	II.	mRNA/miRNA genes
C.	RNA Polymerase III	III.	rRNA genes

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

4.0

0.00

A3 : 3

A4 : 4

Objective Question

75	985075	Given below are two statements marked A and B Statement A: RNA polymerase II transcribes protein coding genes in the nucleus and the mitochondria Statement B: RNA polymerase II can also transcribe enhancer regions and produce enhancer RNAs In the light of the above statements, choose the <i>correct answer</i> from the options given below - Both A and B are true - Both A and B are false. - A is true but B is false - A is false but B is true A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

76	985076	Pseudouridine is frequently found in - Ribosomal RNA - Messenger RNA - Micro RNA - Long non-coding RNA A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

77	985077	Cajal bodies are sub-cellular structures found in the - Nucleus - Mitochondria - Endoplasmic reticulum - Cytoplasm A1 : 1 A2 : 2	4.0	0.00
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A3 : 3

A4 : 4

Objective Question

78	985078	Following are four statements regarding the synthesis of NADH and NADPH, identify the correct one 1. NADH is produced by the Pentose phosphate pathway and NADPH is produced by the TCA cycle. 2. NADH is produced by the TCA cycle and NADPH is produced by the Pentose phosphate pathway 3. Both NADH and NADPH are produced by the TAC cycle 4. Both NADH and NADPH are produced by the Pentose phosphate pathway. A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

79	985079	A protein has eight cysteine residues. How many unique disulfide bonds they can form among themselves. Presume that all disulfide bonds are thermodynamically feasible. 1. 28 2. 36 3. 32 4. 44 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

80	985080	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>miRNA</td><td>I.</td><td>Clover leaf</td></tr><tr><td>B.</td><td>mRNA</td><td>II.</td><td>Spliceosome</td></tr><tr><td>C.</td><td>tRNA</td><td>III.</td><td>Capping</td></tr><tr><td>D.</td><td>5S RNA</td><td>IV.</td><td>DICER</td></tr></table>					LIST I		LIST II		A.	miRNA	I.	Clover leaf	B.	mRNA	II.	Spliceosome	C.	tRNA	III.	Capping	D.	5S RNA	IV.	DICER
LIST I		LIST II																						
A.	miRNA	I.	Clover leaf																					
B.	mRNA	II.	Spliceosome																					
C.	tRNA	III.	Capping																					
D.	5S RNA	IV.	DICER																					
Choose the correct answer from the options given below:																								
1. A-II ,B-III ,C-IV ,D-I																								
2. A-IV ,B-III ,C-I ,D-II																								
3. A- II, B-I ,C-III ,D-IV																								
4. A-I,B-IV ,C-II ,D-III																								
A1 : 1																								
A2 : 2																								

A3 : 3

A4 : 4

Objective Question

81	985081	You are studying a protein that has a serine residue at position 51. Your study suggests that the phosphorylation of this serine is necessary for its function. If you want to prove it by developing a constitutive mutant using site directed mutagenesis, serine would be replaced by: 1. Ala 2. Asp 3. Thr 4. Gly A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

82	985082	The transcription factor related to stemness is 1. NFkB 2. MyoD 3. Myc 4. Sox-2 A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

83	985083	Macrophages kill the invading pathogens by oxidative burst in which the primary constituents are all of the following, except 1. Hydrogen peroxide 2. Peroxynitrite 3. Hypochlorous acid 4. Carbon monoxide A1 : 1 A2 : 2 A3 : 3	4.0	0.00
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		A4 : 4		
Objective Question				
84	985084	In the helical structure of collagen, the bending of the polypeptide chains are mainly due to the presence of 1. Gly 2. Asp 3. Trp 4. Pro A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
Objective Question				
85	985085	Given below are two statements: Statement I: All monoclonal antibodies generated against a particular protein are monospecific. Statement II: All polyclonal antibodies generated against a particular protein are monospecific. 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
Objective Question				
86	985086	Given below are two statements: Statement I: The molarity of phosphate buffer when a ratio of 50 mM NaH_2PO_4 and 50 mM Na_2HPO_4 are added for pH 7.4 is 100 mM. Statement II: The molarity of phosphate buffer when a ratio of 50 mM NaH_2PO_4 and 50 mM Na_2HPO_4 are added for pH 7.4 is 50 mM. 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	4.0	0.00

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

Objective Question

87	985087	A 5.5 M solution of NaCl (molecular weight of NaCl = 58.44) is approximately equivalent to which one of the following?? A. 32% (w/v) B. 5.5% (w/v) C. 58.44% (w/v) D. 15.5% (w/v) Choose the most appropriate answer from the options given below: 1. (A) 2. (B) 3. (C) 4. (D) A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

88	985088	Given below are two statements: Statement I: The farther an electron is from the nucleus, the greater is its energy. Statement II: Electrons fills up the orbitals at successively from higher to lower energy levels. 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

89	985089		4.0	0.00
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Which one of the following is the unit for heat capacity?

Choose the most appropriate answer from the options given below:

1. J/Kg.K
2. J/mol.K
3. J.ohm/sec.K
4. W/m.K

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

90 985090

Match List I with List II

LIST I		LIST II	
A.	Biotin	I.	Aldehyde transfer
B.	Thiamine pyrophosphate	II.	Acyl transfer
C.	Lipoic acid	III.	Carboxylation
D.	Tetrahydrofolate	IV.	One-carbon group transfer

Choose the correct answer from the options given below:

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

A1 : 1

A2 : 2

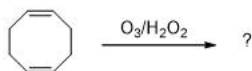
A3 : 3

A4 : 4

Objective Question

91 985091

In the given ozonolysis, the product is



1. Ascorbic Acid
2. Succinic Acid
3. Pyruvic Acid
4. Maleic Acid

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

92	985092	Order of the Electrophilic substitution in the given compounds will be A.  B.  C.  D.  Choose the correct answer from the options given below 1. $A > B > C > D$ 2. $C > B > A > D$ 3. $C > A > B > D$ 4. $D > C > B > A$ A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

93	985093	Which one of the following is the main mechanism of drug absorption in the GI tract? 1. Active transport 2. Filtration 3. Endocytosis 4. Passive diffusion A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

94	985094		4.0	0.00
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What is the percentage bioavailability of a drug injected via the intravenous route?

1. 80%
2. 10%
3. 100%
4. 50%

A1 : 1

A2 : 2

A3 : 3

A4 : 4

Objective Question

95	985095	In the process of <i>in silico</i> drug discovery, what does the abbreviation MD stand for? 1. Molecular Dynamics 2. Molecular Design 3. Molecular Discovery 4. Molecular Docking A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00
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Objective Question

96	985096	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>Trypsin</td><td>I.</td><td>C-terminal to Lysine and Arginine</td></tr><tr><td>B.</td><td>Endoproteinase GluC</td><td>II.</td><td>Variety of peptide bonds</td></tr><tr><td>C.</td><td>Endoproteinase AspN</td><td>III.</td><td>N-terminal to Aspartic acid</td></tr><tr><td>D.</td><td>Proteinase K</td><td>IV.</td><td>C-terminal to Glutamic acid</td></tr></table>					LIST I		LIST II		A.	Trypsin	I.	C-terminal to Lysine and Arginine	B.	Endoproteinase GluC	II.	Variety of peptide bonds	C.	Endoproteinase AspN	III.	N-terminal to Aspartic acid	D.	Proteinase K	IV.	C-terminal to Glutamic acid
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A1 : 1																								
A2 : 2																								
A3 : 3																								
A4 : 4																								

Objective Question				
97	985097	Which of the following is not a part of the adrenal cortex? 1. <i>Zona glomerulosa</i> 2. <i>Zona pellucida</i> 3. <i>Zona fasciculata</i> 4. <i>Zona reticularis</i> A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
98	985098	What is the degree Celsius temperature of a city that has an outside temperature of 110 degree Farenheit? 1. 110 degrees 2. 55 degrees 3. 28 degrees 4. 38 degrees A1 : 1 A2 : 2 A3 : 3 A4 : 4	4.0	0.00

Objective Question				
99	985099	Given below are two statements: Statement I: Insulin promotes muscle glycogen synthesis Statement II: Insulin causes increased transport of potassium into cells. 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

Objective Question				
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100	985100	Given below are two statements: Statement I: Bohr effect describes the displacement of O₂ from hemoglobin by an increase in the CO₂ levels in the blood. Statement II: Haldane effect describes the displacement of CO₂ from hemoglobin by an increase in the O₂ levels in the blood. 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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