Sr No.	MSc Biochemistry and Molecular Biology
1	Find the missing term in the following series: 3,10,29,66,127…?
Alt1	164
Alt2	187
Alt3	216
Alt4	218

2	Choose word from the given options which bears the same relationship to the third word, as the first two bears: Flower : Butterfly :: Dirt :?
Alt1	Rats
Alt2	Fly
Alt3	Bugs
Alt4	Sweeper

3	Tiff is to Battle as Frugal is to …….?.....
Alt1	Sprint
Alt2	Vague
Alt3	Miserly
Alt4	Vital

4	Select the lettered pair that has the same relationship as the original pair of words: Expend: Replenish
Alt1	Exhort: Encourage
Alt2	Formant: Rebellion
Alt3	Defect: Rejoin
Alt4	Encroachment: Occupy

5	Choose the set that has the same relationship as in the original: Bone : Skeleton : Nerve
Alt1	House: Door: Window
Alt2	Spoke: Wheel: Handle
Alt3	Retina: Eye: Pupil
Alt4	Snow: Cloud: Ice

6	Spot the defective segment from the following:
Alt1	Only with your help
Alt2	I passed the test
Alt3	though you helped me
Alt4	at the last minute

7	The government proposes to ------- hanging.
Alt1	cancel
Alt2	nullify
Alt3	invalidate

Alt4	abolish

8	The burglar was hit ---------.
Alt1	on head
Alt2	on his head
Alt3	on the head
Alt4	in the head

9	Choose the option closest in meaning to the given word: COGENT
Alt1	consistent
Alt2	acceptable
Alt3	convincing
Alt4	weak

10	Choose the antonymous option you consider the best: PROVIDENT
Alt1	careful
Alt2	worldly
Alt3	prodigal
Alt4	frugal

11	Ravi's brother is 3 years senior to him. His father was 28 years of age when his sister was born while his mother was 26 years of age when he was born. If his sister was 4 years of age when his brother was born, what was the age of Ravi's father and mother respectively when his brother was born ?
Alt1	32 years, 23 years
Alt2	32 years, 29 years
Alt3	35 years, 29 years
Alt4	35 years, 33 years

12	In each of the following questions some statements are followed by two conclusions (i) and (ii). Read the statements carefully and then decide which of the conclsions follow beyond a reasonable doubt. Mark your answer as Statement: All my films are copies. I am happy to inform of the source when I copy – a producer Conclusions: (i) The producer does not make even a single film based on his own idea (ii) The producer copies domestic and foreign films
Alt1	If only conclusion (i) follows
Alt2	If only conclusion (ii) follows
Alt3	If neither conclusion (i) nor (ii) follows
Alt4	If both the conclusions follow

13	3. What value should come in place of question mark (?) in the following number series? 14, 28, 46, ?, 94, 124
Alt1	64
Alt2	68
Alt3	72
Alt4	76

14	In a certain code ADVENTURES is written as TDRESAUVEN. How is SURPRISINGwritten in that code ?
Alt1	IUIPGSRSNR
Alt2	IUINGSSRRP
Alt3	IUIPGSSRNR
Alt4	IRIPGSSNRR

15	Wax is related to Grease in the same way as Milk is related to
Alt1	Drink
Alt2	Ghee
Alt3	Curd
Alt4	Protein

16	The following information is given: Six persons A, B, C, D, E and F are sitting in two rows, three in each. E is not at the end of any row. D is second to the left of F. C, the neighbour of E, is sitting diagonally opposite to D. B is the neighbour of F. After interchanging seat with E, who will be the neighbours of D in the new position ?
Alt1	C and A
Alt2	F and B
Alt3	Only B
Alt4	Only A

17	If 30 students occupy 2/3 of the seats in a classroom, how many students would occupy 4/5 of the seats in the classroom?
Alt1	36
Alt2	32
Alt3	40
Alt4	48

18	Mean of the first 10 odd numbers is
Alt1	10
Alt2	13
Alt3	15
Alt4	9

19	Two numbers are in the ratio 2:3, If 4 be subtracted from each, they are in the ratio 3:5, Find the numbers.

Alt1	16,24
Alt2	20,30
Alt3	0.341666667
Alt4	None

20	It takes 30 seconds to cut the woodlock into 3 pieces.How much time does it takes to cut the same block into 4 pieces?
Alt1	40secs
Alt2	45secs
Alt3	50secs
Alt4	60secs

21	In enzyme kinetics Vmax reflects:-
Alt1	Enzyme substrate complex
Alt2	Substrate concentration
Alt3	Half the substrate concentration
Alt4	The amount of an active enzyme

22	The expression a2 + b2 is equivalent to:-
Alt1	(a - b)(a - b) + 2ab
Alt2	(a + b)(a + b)
Alt3	(a + b)(a - b) - 2ab
Alt4	(a + b)(a - b)

23	Which is true about gap junction?
Alt1	Allows the movement of large molecules across the cell
Alt2	Made up of two subunit of connexones
Alt3	Made up of connexin protein
Alt4	They are occurring inside the cell

24	Production of excessive amount of corticotropin (ACTH) occurs in:-
Alt1	Alport's syndrome
Alt2	Grieg's syndrome
Alt3	Grave's syndrome
Alt4	Cushing's syndrome

25	Which one of the following interaction plays a major role in stabilizing the B-form DNA?
Alt1	Van der Waals's interaction
Alt2	Hydrogen bond
Alt3	Hydrophobic interaction
Alt4	Ionic interaction

26	Megaloblastic anemia is caused by the deficiency of:-
Alt1	Riboflavin
Alt2	Deoxy adenosyl cobalamin
Alt3	Oxycholesterol
Alt4	Carboxy hemoglobin

27	The phenomenon of interchange of functions between related genes are called:-
Alt1	Genetic redundancy
Alt2	Complementation
Alt3	Non-redundancy
Alt4	Genetic interaction

28	he most commonly used molecular tool for phylogenetic analysis involves sequencing of:-
Alt1	Nuclear DNA
Alt2	Ribosomal RNA
Alt3	Mitochondrial RNA
Alt4	Mitochondrial DNA

29	Mullerian Inhibiting Substance (MIS):-
Alt1	inhibit Mullerian duct differentiation
Alt2	Wollfian duct degeneration
Alt3	inhibit mullerian duct and promote wollfian duct growth
Alt4	promote Wollfian duct growth

30	A ribozyme is:-
Alt1	a particle composed of RNA and protein that is involved in the synthesis of proteins.
Alt2	a class of RNA molecule that can catalyse chemical reactions.
Alt3	a protein enzyme that catalyses the synthesis of RNA.
Alt4	a monomeric subunit of RNA.

31	The distinct foci within the cytoplasm of the eukaryotic cells involved in mRNA turnover is called as:-
Alt1	Autophagic bodies
Alt2	Lysosome
Alt3	Multivesicular bodies
Alt4	Processing bodies

32	The pollutants released by the jet planes are:-
Alt1	Aerosols
Alt2	Fogs
Alt3	Smog
Alt4	Colloids

33	Oncogenes are the cancer causing genes in the cell but they do not express usually. This is because of the presence of:-
Alt1	Tumor suppressor gene
Alt2	Protooncogene
Alt3	Tumor promoter gene
Alt4	Jumping gene

34	Acrosome of sperm cell is a modified:-
Alt1	Lysosome

Alt2	Peroxisome
Alt3	Endosome
Alt4	Golgi

35	Synthesis of Glucose from amino acids is termed as:-
Alt1	Glycolysis
Alt2	Gluconeogenesis
Alt3	Lipogenesis
Alt4	Glycogenesis

36	Which one of the following statements concerning glucose metabolism is correct?
Alt1	Glucose enters most cells by a mechanism where Na+ and glucose are cotransported
Alt2	The conversion of Glucose to lactate occurs only in the R.B.C
Alt3	Pyruvate kinase catalyses an irreversible reaction
Alt4	Elevated level of insulin reduces level of fructose 2, 6-bisphosphate in hepatocyte

37	Choose the amino acid having maximum number of codons:-
Alt1	Alanine
Alt2	Leucine
Alt3	Tryptophan
Alt4	Valine

38	The genomic DNA sequences similar to normal genes but non-functional are called:-
Alt1	Introns
Alt2	Untranslated region
Alt3	Pseudogenes
Alt4	Transposons

39	The unfolding of regular secondary structure causes:-
Alt1	no change in the entropy of the protein.
Alt2	large increase in the entropy of the protein
Alt3	large decrease in the entropy of the protein
Alt4	little increase in the entropy of protein

40	Golden rice is very rich in:-
Alt1	Vitamin B12 & iron
Alt2	Vitamin B1 & copper
Alt3	Carotinoids & iron
Alt4	Vitamin B complex & vitamin C

41	Lipopolysaccharide in gram negative bacteria is found in:-
Alt1	Periplasmic space
Alt2	Cell wall
Alt3	Plasma membrane
Alt4	Outer membrane

42	Blood group type A antigen is a complex oligosaccharide which differs from H antigen present in type O individual by the presence of terminal:-
Alt1	glucose
Alt2	galactose
Alt3	N-acetylgalactosamine
Alt4	fucose

43	As one proceeds with the purification of an enzyme, with every subsequent step, the enzyme activity:-
Alt1	Decreases
Alt2	Changes randomly
Alt3	Increases
Alt4	Remains the same

44	The study of cancer is referred to as:-
Alt1	Herpetology
Alt2	Ornithology
Alt3	Dermatology
Alt4	Oncology

45	Mono-oxygenase important for the detoxification of many drugs is:-
Alt1	Lipoxygenase
Alt2	Cyclooxygenase
Alt3	Heme oxygenase
Alt4	Cytochromes P450

46	On the molar scale which of the following interactions in a non-polar environment provides highest contribution to the biomolecules
Alt1	hydrophobic interaction
Alt2	salt bridge.
Alt3	hydrogen bonding
Alt4	vander waals interaction

47	Mycobacterium is an intra-cellular parasite. It prefers to infect:-
Alt1	neutrophils
Alt2	B-cells
Alt3	macrophages
Alt4	T-cells

48	The amount of disorder in a system can be expressed as:-
Alt1	Thermodynamics
Alt2	Entropy
Alt3	Enthalpy
Alt4	Energy

49	Glycogenin is:-
Alt1	Uncoupler of oxidative phosphorylation

Alt2	Polymer of glycogen molecules
Alt3	Intermediate in glycogen breakdown
Alt4	Protein primer for glycogen synthesis

50	Which of the following aminoacid does not have optical isomers?
Alt1	glycine
Alt2	valine
Alt3	Leucine
Alt4	threonine

51	Cataract is a disease caused by
Alt1	Conjunctiva become thickened
Alt2	A clouding or loss of transparency of the eye lens due to tissue breakdown and protein clumping
Alt3	Nerves supplying the eyes getting weak
Alt4	Damage to Retinal pigments in the eye

52	Marasmus is characterized by:-
Alt1	moderate calorie deficit,
Alt2	severe protein deficit
Alt3	severe protein and calorie deficit
Alt4	infection

53	A pair of genes controlling a pair of contrasting characters is called:-
Alt1	Recessive
Alt2	Heterozygous
Alt3	Homozygous
Alt4	Allele

54	The allowed region in the Ramachandran Plot for three residues alanine, glycine and proline) decreases in the order:-
Alt1	Ala > Pro > Gly.
Alt2	Gly > Ala > Pro.
Alt3	Gly > Pro = Ala
Alt4	Pro > Gly > Ala.

55	Number of base pairs per complete turn in Z-DNA?
Alt1	10
Alt2	12
Alt3	9
Alt4	11

56	HMP shunt is unique in generating two important products:-
Alt1	pentoses& NADH
Alt2	hexoses& NADH
Alt3	Pentoses& NADPH
Alt4	Hexoses & NADPH

57	The microorganism that is mainly used is an indicator of fecal pollution in water is:
Alt1	Closteridium tetani
Alt2	Cyanobacteria
Alt3	Closteridium botulinum
Alt4	Escherichia coli

58	AIDS is not transmitted by:-
Alt1	mosquito bite
Alt2	sharing unsterilized needles
Alt3	unprotected sex
Alt4	transfusion of infected blood

59	An antihemorrhagic agent is a substance that promotes hemostasis or stops bleeding. Which of the following vitamin can be considered as an agent:-
Alt1	vitamin C.
Alt2	vitamin K.
Alt3	vitamin D.
Alt4	vitamin A.

60	The plant hormone auxin causes:-
Alt1	Splitting of internode
Alt2	Cell expansion
Alt3	Shoot growth and shoot initiation
Alt4	Internodal elongation

61	Ethanol decreases gluconeogenesis by:-
Alt1	Inhibiting glucose-6-phosphatase
Alt2	Converting NAD+ into NADH and decreasing the availability of pyruvate
Alt3	Converting NAD+ into NADH and decreasing the availability of lactate
Alt4	Inhibiting PEP carboxykinase

62	Cyclic AMP is formed from ATP by the enzyme adenylate cyclase which is activated by the hormone:-
Alt1	Epinephrine
Alt2	Progesterone
Alt3	Testosterone
Alt4	Insulin

63	Most common type of phospholipids in the cell membrane of nerve cells is:-
Alt1	phosphatidylinositol
Alt2	phosphatidylcholine
Alt3	phosphatidylserine
Alt4	sphingomyelin

64	Sucrose consists of:-
Alt1	Glucose + fructose
Alt2	Glucose + galactose

Alt3	Glucose + mannose
Alt4	Glucose + glucose

65	Fatty acid biosynthesis requires _____ for the transport of acetyl co A from the mitochondria.
Alt1	Alpha keto glutarate
Alt2	Arginine
Alt3	Citrate
Alt4	Ornithine

66	The chemical, typically released by the body in an allergic response is:-
Alt1	histamine
Alt2	perforins
Alt3	allergens
Alt4	antihistamines

67	Mosquitoes act as vector for the disorder:-
Alt1	Leishmaniasis
Alt2	African trypanosomiasis
Alt3	Bancroftian filariasis
Alt4	Onchocerciasis

68	The technique for purification of proteins that can be made specific for a given protein is:-
Alt1	Gel filtration chromatography
Alt2	Electrophoresis
Alt3	Affinity chromatography
Alt4	Ion exchange chromatography

69	Carcinomas are tumors arising from:-
Alt1	Epithelial tissue
Alt2	Muscle
Alt3	Connective tissue
Alt4	Bone

70	Bacteria protect themselves from viruses that infect them by fragmenting viral DNA with the help of:-
Alt1	Restriction Endonucleases
Alt2	Exonucleases
Alt3	DNAses
Alt4	RNAses

71	Liquid food drinking is:-
Alt1	pinocytosis
Alt2	diffusion
Alt3	imbibition
Alt4	phagocytosis

72	All of the following statements about the enzymic complex that carries out the synthesis of ATP during oxidative phosphorylation are correct except:-
Alt1	It is inhibited by oligomycin
Alt2	It is located on the matrix side of the inner mitochondrial membrane
Alt3	It can exhibit ATPase activity
Alt4	It can bind molecular O2

73	Mammalian promoter sequence is located:-
Alt1	At about 20 bp upstream of translational start site
Alt2	Within coding sequence
Alt3	At about 20 bp upstream of transcriptional start site
Alt4	Downstream of coding sequence

74	Nitrification is conversion of :-
Alt1	NO3- into N2
Alt2	N2 to NH3
Alt3	Organic nitrogen into NH4+
Alt4	NH4+ into NO3-

75	Phosphatidyl serine an important component of biological membrane is located in:-
Alt1	both leaflets
Alt2	the outer leaflet but flipflops into inner leaflet under specific conditions
Alt3	the inner leaflet but flipflops to outer leaflet under specific conditions
Alt4	the middle of the bilayer

76	Which one of the following would be expected in pyruvate kinase deficiency?
Alt1	Increased levels of lactate in the R.B.C
Alt2	Hemolytic anemia
Alt3	Increased phosphorylation of Glucose to Glucose-6-phosphate
Alt4	Decreased ratio of ADP to ATP in R.B.C

77	In fluid mosaic model :-
Alt1	proteins are embedded at places in phospholipid bilayer
Alt2	phospholipid monolayer is present on the top of a protein layer
Alt3	phospholipid monolayer is sandwiched between two protein layers
Alt4	phospholipid bilayer if present on the top of a protein layer

78	One of the following statements is correct:-
Alt1	Insulin converts glycogen synthase b to a
Alt2	Glycogen synthase 'a' is the phosphorylated
Alt3	UDP glucose molecules interact and grow into a Glycogen tree
Alt4	CAMP converts glycogen synthase b to 'a'

79	The size of red blood cells (RBC) in venous blood is greater than that of arterial blood. This increased size of red blood cell in the venous blood is due to:-
Alt1	the dissociation of cytoskeletal proteins in RBC
Alt2	the increased osmotic pressure in plasma

Alt3	the increased permeability of red blood cell (RBC) membrane
Alt4	the decreased osmotic pressure in plasma

80	Which eukaryotic cellular organelles are believed to have from symbiotic bacteria?
Alt1	endoplasmic reticulum and the Golgi apparatus.
Alt2	peroxisomes
Alt3	mitochondria and chloroplasts
Alt4	lysosome

81	What is the advantage of having two lipid bilayers around mitochondria?
Alt1	They prevent the entry of chemicals into mitochondria.
Alt2	They act as a store of phospholipids.
Alt3	They maintain a proton gradient
Alt4	They protect the cell from free radicals

82	The KDEL sequence, found on luminal proteins of the ER, is responsible for:-
Alt1	quality control in the ER.
Alt2	insertion of proteins into the membrane of the ER.
Alt3	retrieval of ER luminal proteins from the Golgi
Alt4	translocation of proteins into the ER lumen.

83	The immunoglobulins are classified on the basis of:-
Alt1	Carbohydrate content
Alt2	Light chains
Alt3	Electrophoretic mobility
Alt4	Heavy chains

84	In the immune system the mononuclear phagocyte system comprises of :-
Alt1	Endothelial cells and Erythrocytes
Alt2	Mast cells and Eosinophils
Alt3	Neutrophils and Basophils
Alt4	Blood monocytes, Liver Kupffer cells, Kidney mesangial cells etc

85	Reduced glutathione functions in R.B.Cs to:-
Alt1	Reduce methemoglobin to hemoglobin
Alt2	Produce NADH
Alt3	Reduce oxidizing agents such as H2O2
Alt4	Produce NADPH

86	Viruses that possess reverse transcriptase enzyme and capable of synthesizing DNA from RNA are termed as
Alt1	Riboviruses
Alt2	Rota viruses
Alt3	Retro viruses
Alt4	Rhabdoviruses

87	Which one of the following microbes is linked with Lyme disease?

Alt1	Heliobacter pylori
Alt2	Listeria monocytogenes
Alt3	Borellia burgdorferi
Alt4	Streptococcuc pyegenes

88	Which pathway is correct for catabolism of purines to form uric acid?
Alt1	guanylate→adenylate→xanthine→hypoxanthine→uric acid.
Alt2	adenylate→inosinate→xanthine→ hypoxanthine→Uric acid.
Alt3	adenylate→inosinate→hypoxanthine→ xanthine→uric acid.
Alt4	guanylate→inosinate→xanthine→hypoxanthine→uric acid.

89	In the dark, rods show a large inward 'dark' current which is suppressed by a flash of light. Which one of the following statements, explaining the effect of light, is true?
Alt1	sodium channel in the inner segment of rods are closed
Alt2	transducing dissociate from beta arrestin
Alt3	sodium channel in the outer segment of rods are closed
Alt4	cytoplasmic cGMP concentration increases

90	Which of the following best explains why the plasma membranes of all cells exhibit a negative resting potential?
Alt1	The membrane is mostly permeable to K+, and the Na+ gradient favors its diffusion out of the cell.
Alt2	The membrane is mostly permeable to K+, and the K+ gradient favors its diffusion into the cell.
Alt3	The membrane is mostly permeable to K+, and the K+ gradient favors its diffusion out of the cell.
Alt4	The membrane is mostly permeable to Cl-, and the Cl- gradient favors its diffusion out of the cell.

91	Which of the following replacement causes sickle cell anemia?
Alt1	Gln α6→Val
Alt2	Glu α6→Val
Alt3	Glu β6→Val
Alt4	Gln β6→Val

92	How many times longer is the DNA in a human chromosome than the length of the chromosome?
Alt1	10X
Alt2	100X
Alt3	10000X
Alt4	1000X

93	In contrast to eukaryotic mRNA, prokaryotic mRNA:-
Alt1	Has a poly A tail
Alt2	Can only be monocistronic
Alt3	Is synthesized with introns
Alt4	Can be polycistronic

94	In innate immunity, immune cells recognize invading pathogens based on their specific pathogen associated molecular patterns (PAMPs) through:-
Alt1	Glycoproteins
Alt2	LPS

Alt3	Clathrin like molecules.
Alt4	Pattern recognition receptors (PRR)

95	Degeneracy of genetic code implies that:-
Alt1	No anticodon on tRNA molecule
Alt2	Specific codon decodes many amino acids
Alt3	Codons do not code for specific amino acid
Alt4	Multiple codons must decode the same amino acids

96	Isoelectric point of lysozyme is 9.2. When the enzyme solution at this pH in water was titrated with HCl to give a pH of 5, it was observed that six ionized glutamic acid side chains got 9 protonateThe net charge on the enzyme at pH 6 would therefore be:-
Alt1	-5
Alt2	6
Alt3	5
Alt4	-6

97	Which of the following inhibitor uncouples electron transport and oxidative phosphorylation?
Alt1	Oligomycin
Alt2	Azide
Alt3	Dinitrophenol
Alt4	Rotenone

98	In contrast to chemical induced mutations, mutations induced by transposons are more likely to
Alt1	be dominant
Alt2	be stable
Alt3	revert to wild type
Alt4	be lethal

99	What is the natural function of restriction enzymes?
Alt1	Protecting bacteria by cleaving their own DNA
Alt2	Protecting bacteria by cleaving the DNA of infecting viruses.
Alt3	Protecting bacteria by methylating their own DNA.
Alt4	Protecting bacteria by methylating the DNA of infecting viruses.

100	"Bouquet stage" in meiosis is seen at:-
Alt1	Pachytene
Alt2	Zygotene
Alt3	Leptotene
Alt4	Diplotene