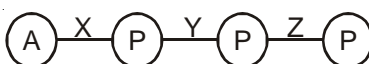


## Exercise – 1


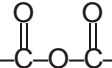
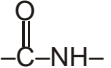
---

- Q.1** Which of the following bonds determines the secondary structure of proteins ?  
[1] Electrovalent bond [2] Covalent bond [3] Hydrogen bond [4] Coordinate bond
- Q.2** Which of the following is called the power house of the living cell ?  
[1] Golgi bodies [2] Nucleus [3] Mitochondria [4] Lysosome
- Q.3** Which of the following part of the cell is the centre of protein synthesis?  
[1] Plasma membrane [2] Golgi bodies [3] Ribosome [4] Lysosome
- Q.4** Which of the following bonds is responsible for the coiled structure of proteins ?  
[1] Dipeptide bond [2] Peptide bond [3] Hydrogen bond [4] Ionic bond
- Q.5** Which of the following diseases is due to the deficiency of vitamin A ?  
[1] Scurvy [2] Nightblindness [3] Beri-beri [4] Anemia
- Q.6** Which of the following compounds is not the component of a balanced diet ?  
[1] Vitamin [2] Hormone [3] Carbohydrate [4] Fat
- Q.7** Insulin belongs to which of the following families ?  
[1] Antiseptic [2] Vitamin [3] Hormone [4] Enzyme
- Q.8** Which of the following acts as a biocatalyst ?  
[1] Enzyme [2] Amino acid [3] Nitrogen molecule [4] Carbohydrate
- Q.9** Which of the following enzymes convert starch to maltose ?  
[1] Invertase [2] Zymase [3] Maltase [4] Diastase
- Q.10** Which of the following is an example of an aldohexose ?  
[1] Fructose [2] Glucose [3] Sucrose [4] Ribose
- Q.11** Glucose and fructose are ..... of each other  
[1] homologues [2] functional group isomers  
[3] mirror image isomers [4] nonisomers
- Q.12** Which of the following disaccharides is found in the milk?  
[1] Sucrose [2] Galactose [3] Lactose [4] Maltose
- Q.13** Which of the following is invert sugar ?  
[1] Mixture of glucose and galactose [2] Mixture of glucose and fructose in equimolar ratio  
[3] A type of cane sugar [4] Optically inactive form of sugar
- Q.14** Which of the following factors is not a denaturant of enzymes ?  
[1] Heat [2] Mechanical energy [3] High salt concentration [4] pH 7
- Q.15** Which of the following is an example of a pentose sugar?  
[1] Fructose [2] Arabinose [3] Glucose [4] Galactose
- Q.16** Which of the following bases is found in RNA and not in DNA ?  
[1] Adenine [2] Guanine [3] Thymine [4] Uracil
- Q.17** In DNA, hydrogen bonds are formed between :  
[1] Adenine and thymine [2] Thymine and uracil  
[3] Guanine and thymine [4] Cytosine and thymine
- Q.18** Adenosine is the compound belonging to which of the following families ?  
[1] Purine [2] Pyrimidine base [3] Nucleotide [4] Nucleoside
- Q.19** Protein is not present in :  
[1] Nail [2] Hair [3] Wool [4] DNA
- Q.20** Nitrogen is invariably present in which of the following compounds ?  
[1] Carbohydrates [2] Fats [3] Proteins [4] Starches

- Q.21** Cellulose is completely digested in which of the following organs of human body ?  
 [1] Large intestine [2] Appendix [3] Stomach [4] Nowhere
- Q.22** Which of the following ions is associated with insulin ?  
 [1]  $Mg^{+2}$  [2]  $Fe^{+3}$  [3]  $Fe^{+2}$  [4]  $Zn^{+2}$
- Q.23** Glucose cannot be obtained by the hydrolysis of :  
 [1] starch [2] molasses [3] ribose [4] sucrose
- Q.24** Plant cell wall is made up of which of the following compounds ?  
 [1] sucrose [2] cellulose [3] starch [4] glycogen
- Q.25** Which of the following sugars is generally found in the fruits ?  
 [1] Galactose [2] Glucose [3] Fructose [4] Sucrose
- Q.26** Which of the following compounds is formed as intermediate in the conversion of starch to glucose ?  
 [1] Sucrose [2] Fructose [3] Lactose [4] Maltose
- Q.27** The name aminoacetic acid is given to which of the following compound ?  
 [1] Aniline [2] Pyridine [3] Toluene [4] Glycine
- Q.28** Which of the following proteins acts as a hormone ?  
 [1] Trypsin [2] Keratin [3] Oxytocin [4] Casein
- Q.29** What is the approximate percentage of the amount of water in a living cell ?  
 [1] 50% [2] 30% [3] 70% [4] 15%
- Q.30** In photosynthesis, a compound belonging to which of the following families is formed ?  
 [1] Protein [2] Fat [3] Carbohydrate [4] Vitamin
- Q.31** Which of the following is the formula of threose ?  
 [1]  $C_3H_6O_3$  [2]  $C_5H_{10}O_5$  [3]  $C_4H_8O_4$  [4]  $C_6H_{12}O_6$
- Q.32** Which of the following is not an appropriate source of starch ?  
 [1] Rice [2] Corn [3] Potato [4] Molasses
- Q.33** Which of the following proteins stores oxygen in the muscles ?  
 [1] Pepsin [2] Collagen [3] Myoglobin [4] Actin
- Q.34** What is the name of alanine ?  
 [1] Aminoacetic acid [2] Glycocol  
 [3]  $\alpha$ -Aminopropionic acid [4] Aminoethanoic acid
- Q.35** How many peptide bonds will be present in a tripeptide ?  
 [1] 3 [2] 2 [3] 1 [4] 4
- Q.36** Which of the following diseases is not virus infected ?  
 [1] Measles [2] Small pox [3] Influenza [4] Malaria
- Q.37** Which of the following are the examples of unsaturated fatty acids?  
 [A] Stearic acid [B] Linolenic acid [C] Oleic acid [D] Palmitic acid  
 [1] A and B [2] A and C [3] B and D [4] B and C
- Q.38** Which of the following belongs to the family of fats ?  
 [A] Tristearin [B] Tripalmitin [C] Triolein  
 [1] A and B [2] A, B and C [3] B and C [4] A and C
- Q.39** In the following formula of adenosine triphosphate molecule, which are the high energy phosphate bonds ?



- [1] X and Y [2] Y and Z [3] X and Z [4] X, Y and Z

- Q.40** Which of the following compounds contain a heme ring having an iron atom ?  
 [A] Insulin [b] Chlorophyll [C] Hemoglobin [D] Myoglobin  
 [1] A and C [2] A and D [3] C and D [4] Band C
- Q.41** Which of the following is not an example of a pyrimidine base ?  
 [1] Guaninc [2] Uracil [3] Cytosine [4] Thymine
- Q.42** Which of the following bonds is found in proteins and peptides ?  
 [1]  [2] -NH- [3]  [4] 
- Q.43** Which of the following bases is not present in RNA ?  
 [1] Uracil [2] Ribose [3] Phosphate [4] Thymine
- Q.44** In glucose  
 [1] Five -OH groups are present  
 [2] Four secondary and one primay alcoholic groups are present  
 [3] One -CHO group is present  
 [4] All the above statements are correct
- Q.45** Which of the following could be thc molecular formula of a disaccharide ?  
 [1]  $C_{18}H_{22}O_{11}$  [2]  $C_{12}H_{22}O_{11}$  [3]  $C_{10}H_{18}O_9$  [4]  $C_{10}H_{20}O_{10}$
- Q.46** Which of the following disaccharides is formed from two identical monosaccharide units ?  
 [1] Maltose [2] Lactose [3] Sucrose [4] Fructose
- Q.47** Which of the following complex compounds is found in red blood corpuscles whose main function is transportation of oxygen?  
 [1] Cyanine [2] Oxyhemoglobin [3] Hemoglobin [4] Carboxyhemoglobin
- Q.48** Which of the following is not present in thyroxine ?  
 [1] One COOH group [2] An amino group [3] Four iodine atoms [4] Four chlorine atoms
- Q.49** Vitamine  $B_1$  is :  
 [1] Riboflavin [2] Cobalamin [3] Thiamin [4] Pyridoxine
- Q.50** The bonds joining monoaccharide units in polysaccharides are called :  
 [1] Glycosidic bonds [2] Nucleosidic bonds [3] Glycogen bonds [4] Peptide bonds

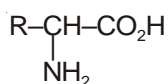
### Answer Key

Qus.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ans.	3	3	3	3	2	2	3	1	4	2	2	3	2	4	2	4	1	4	4	3
Qus.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Ans.	4	4	3	2	3	4	4	3	3	3	3	4	3	3	2	4	4	1	2	3
Qus.	41	42	43	44	45	46	47	48	49	50										
Ans.	1	4	4	4	2	1	3	4	3	1										

## Exercise – 2

- Q.1** The disaccharide present in milk is : **[CPMT 1982, 87, 91; MP PET 2001]**  
[1] Maltose [2] Lactose [3] Sucrose [4] Cellobiose
- Q.2** Insulin is : **[CBSE 1991]**  
[1] An amino acid [2] Protein [3] A carbohydrate [4] A lipid
- Q.3** Glucose when heated with  $\text{CH}_3\text{OH}$  in presence of dry  $\text{HCl}$  gas gives  $\alpha$  and  $\beta$ -methyl glucosides because it contains : **[CPMT 1981, 85]**  
[1] An aldehyde group [2]  $\text{A-CH}_2\text{OH}$  group [3] A ring structure [4] Five hydroxyl groups
- Q.4** The commonest disaccharide has the molecular formula : **[CPMT 1982; Manipal MEE 1995]**  
[1]  $\text{C}_{10}\text{H}_{18}\text{O}_9$  [2]  $\text{C}_{10}\text{H}_{20}\text{O}_{10}$  [3]  $\text{C}_{18}\text{H}_{22}\text{O}_{11}$  [4]  $\text{C}_{22}\text{H}_{22}\text{O}_{11}$
- Q.5** It is best to carry out reactions with sugars in neutral or acid medium and not in alkaline medium. This is because in alkaline medium sugars undergo one of the following changes : **[AIIMS 1982]**  
[1] Racemisation [2] Decomposition [3] Inversion [4] None of these
- Q.6** Proteins when heated with conc.  $\text{HNO}_3$  give a yellow colour. This is : **[CPMT 1989]**  
[1] Oxidising test [2] Xanthoprotic test [3] Hoppe's test [4] Acid-base test
- Q.7** Which of the following statements about ribose is incorrect : **[CPMT 1985]**  
[1] It is a polyhydroxy compound [2] It is an aldehyde sugar  
[3] It has six carbon atoms [4] It exhibits optical activity
- Q.8** Starch is a polymer of : **[DPMT 1982; CPMT 1975, 80; MP PMT 1994]**  
[1] Glucose [2] Fructose [3] Both [1] and [2] [4] None of the above
- Q.9** Which one of the following proteins transports oxygen in the blood stream : **[MP PMT 1993]**  
[1] Myoglobin [2] Insulin [3] Albumin [4] Haemoglobin
- Q.10** The most important food reserves of animals and plants are : **[MP PET 1993]**  
[1] Carbohydrates [2] Proteins [3] Vitamins [4] Fats
- Q.11** Which of the following statement about proteins is not true : **[MP PAT 1993; MP PET 2001]**  
[1] Amino acid residues join with formala protein molecule  
[2] Proteins are polymers with fromula  $(\text{C}_6\text{H}_{10}\text{O}_5)_n$   
[3] Eggs are rich in protein  
[4] Pulses are good source of proteins
- Q.12** The reagent which forms crystalline osazone derivative when reacted with glucose, is : **[CPMT 1990]**  
[1] Fehling solution [2] Phenylhydrazine [3] Benedict solution [4] Hydroxylamine
- Q.13** Which of the following gives maximum energy in metabolic processes : **[CPMT 1991; MP PET 1999]**  
[1] Proteins [2] Carbohydrates [3] Lipids [4] Vitamins
- Q.14** Which carbohydrate is used in silvering of mirrors : **[BHU 1973; CPMT 1991]**  
[1] sucrose [2] Starch [3] Glucose [4] Fructose
- Q.15** To become a carbohydrate a compound must contain at least : **[AFMC 1991]**  
[1] 2 carbons [2] 3 carbons [3] 4 carbons [4] 6 carbons
- Q.16** The substance that forms the plant cell walls is or Which carbohydrates is an essential constituents of plant cells **[KCET 1984; MP PET 1999; CPMT 2002]**  
[1] Cellulose [2] Sucrose [3] Vitamins [4] Starch
- Q.17** The base adenine occurs in : **[MP PMT 1995]**  
[1] DNA only [2] RNA only [3] DNA and RNA both [4] Protein
- Q.18** The protein which maintains blood sugar level in the human body : **[KCET 1993; MP PMT 1995]**  
[1] Haemoglobin [2] Oxytocin [3] Insulin [4] Ptyalin
- Q.19** Beri-beri is a disea se caused by the deficiency of vitamin : **[CPMT 1994]**  
[1] A [2] B [3] C [4] D

**Q.20** For  $\alpha$ -amino acids having the structure



Which of the following statements are true :

[A] Water solubility is maximum at a pH when concentrations of anions and cations are equal

[B] They give ninhydrin test

[C] On reacting with nitrous acid give off  $\text{N}_2$

[MP PET 1994]

[1] All

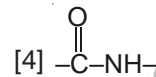
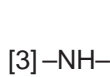
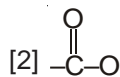
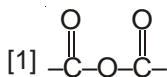
[2] B and C

[3] A and B

[4] A

**Q.21** The linkage present in proteins and peptides is :

[MP PET 1994; Bihar MEE 1997]



**Q.22**  $\alpha$ -D-glucose and  $\beta$ -D-glucose differ from each other due to difference in one of the carbons with respect to its

[CBSE 1995; AFMC 1999]

[1] Size of hemiacetal ring

[2] Number of OH groups

[3] Configuration

[4] Conformation

**Q.23** Secondary structure of a protein refers to :

[CBSE 1995]

[1] Mainly denatured proteins and structures of prosthetic groups

[2] Three dimensional structure, specially the bond between amino acid residue that are distant from each other in the polypeptide chain

[3] Linear sequence of amino acid residues in the polypeptide chain

[4] Regular folding patterns of continuous portions of the polypeptide chain

**Q.24** Of the following statement about enzymes which ones are true :

[CBSE 1995]

[i] Enzymes lack in nucleophilic groups

[ii] Enzymes are highly specific both in binding chiral substrates and in catalyzing their reactions

[iii] Enzymes catalyse chemical reactions by lowering the activation energy

[iv] Pepsin is a proteolytic enzyme

[1] [i] and [iv]

[2] [i] and [iii]

[3] [ii], [iii] and [iv]

[4] [i]

**Q.25** Oxidation of glucose is one of the most important reactions in a living cell. What is the number of ATP molecules generated in cells from one molecule of glucose :

[CBSE 1995]

[1] 38

[2] 12

[3] 18

[4] 28

**Q.26** Which of the following is sweetest sugar :

[Manipal MEE 1995; CPMT 1996; BHU 1997; MP PMT 1997; CBSE 1999; AIIMS 2000]

[1] Glucose

[2] Fructose

[3] Lactose

[4] Sucrose

**Q.27** Vitamin A is present in :

[MP PET 1995]

[1] Cod liver oil

[2] Carrot

[3] Milk

[4] In all the above

**Q.28** Maltose is made of :

[MP PET 1996]

[1] Two molecules of glucose

[2] Two molecules of fructose

[3] Glucose and fructose molecules

[4] Two molecules of sucrose

**Q.29** Which of the following is not a constituent of RNA :

[MP PET 1996]

[1] Ribose

[2] Phosphate

[3] Adenine

[4] Pyridine

**Q.30** The number of atoms in the cyclic structure of D-fructose is :

[MP PMT 1997]

[1] 5

[2] 6

[3] 4

[4] 7

**Q.31** Which substance is not present in nucleic acid :

[MP PET/PMT 1998]

[1] Cytosine

[2] Adenine

[3] Thymine

[4] Guanidine

- Q.32** Which of the following is not an amino acid : **[MP PET / PMT 1998]**  
 [1] Glycine [2] Alanine [3] Histidine [4] Benzidine
- Q.33** Enzymes in the living systems : **[CBSE 1997; MP PET 1999; CPMT 1999; AIIMS 2000]**  
 [1] Provide energy [2] Provide immunity [3] Transport oxygen [4] Catalyse biological processes
- Q.34** The deficiency of vitamin B<sub>1</sub> causes : **[MP PMT 1999; BHU 2000]**  
 [1] Beri-beri [2] Scurvy [3] Rickets [4] Anaemia
- Q.35** Amino acids are the building blocks of : **[CPMT 1999; CBSE 2001]**  
 [1] Carbohydrates [2] Vitamins [3] Fats [4] Proteins
- Q.36** Enzymes : **[AIIMS 1996]**  
 [1] Accelerate biochemical reactions [2] Have optimum activity at body temperature  
 [3] Consist of amino acids [4] Have all these properties
- Q.37** In nucleic acids, the sequence is : **[AIIMS 1998]**  
 [1] Base-phosphate-sugar [2] Phosphate-base-sugar  
 [3] Sugar-base-phosphate [4] Base-sugar-phosphate
- Q.38** Amino acids are produced on hydrolysis of : **[AIIMS 1996]**  
 [1] Nucleic acid [2] Carbohydrates [3] Fats [4] Proteins
- Q.39** Which of the following does not show any reducing test of aldehyde : **[CPMT 1996]**  
 [1] Sucrose [2] Fructose [3] Maltose [4] Lactose
- Q.40** Metal present in blood is : **[CPMT 1997]**  
 [1] Al [2] Mg [3] Cu [4] Fe
- Q.41** Vitamin B<sub>12</sub> contains metal : **[RPET 1999; CPMT 2003]**  
 [1] Ca(II) [2] Zn (II) [3] Fe (II) [4] Co (III)
- Q.42** Haemoglobin is : **[CBSE 1997]**  
 [1] An enzyme [2] A globular protein [3] A vitamin [4] A carbohydrate
- Q.43** In DNA, the complementary bases are : **[CBSE 1998]**  
 [1] Uracil and adenine; cytosin and guanine [2] Adenine and thymine; guanine and cytosin  
 [3] Adenine and thymine; guanine and uracil [4] Adenine and guanine; thymine and cytosin
- Q.44** The number of molecules of ATP produced in the lipid metablism of a molecule of palmitic acid is : **[CBSE 1998]**  
 [1] 130 [2] 36 [3] 56 [4] 86
- Q.45** Albumin proteins are most abundant in : **[BHU 1998]**  
 [1] Meat [2] Milk [3] Egg [4] Soyabean
- Q.46** Dialysis can separate : **[BHU 1998]**  
 [1] Glucose and fructose [2] Glucose and sucrose  
 [3] Glucose and NaCl [4] Glucose and proteins
- Q.47** Galactose is converted into glucose in : **[AFMC 1998]**  
 [1] Mouth [2] Stomach [3] Liver [4] Intestine
- Q.48** Which among the following is the simplest : **[CPMT 1999]**  
 [1] Glucose [2] Cellulose [3] Starch [4] None of these
- Q.49** Schweitzer's reagent used for dissolving cellulose in the manufacture of artificial silk is : **[Roorkee 1999]**  
 [1] CuSO<sub>4</sub>·5H<sub>2</sub>O [2] CuI [3] [Cu(NH<sub>3</sub>)<sub>4</sub>]SO<sub>4</sub> [4] Cu(CH<sub>3</sub>COO)<sub>2</sub>·Cu(OH)<sub>2</sub>
- Q.50** A gene is segment of a molecules of : **[AIIMS 1999]**  
 [1] DNA [2] m-RNA [3] t-RNA [4] Protein

- Q.51** Energy is stored in our body in the form of : **[CBSE 2001; Karnataka CET 2003]**  
 [1] ATP [2] ADP [3] Fats [4] Carbohydrates
- Q.52** The 10% energy transfer law of food chain was given by : **[BHU 2000]**  
 [1] Stanley [2] Weismann [3] Lindemann [4] Tansley
- Q.53** Which of the following is a conjugated protein : **[BHU 2000]**  
 [1] Glycoprotein [2] Phosphoprotein [3] Chromoprotein [4] All of these
- Q.54** Acquired immune deficiency syndroms (AIDS) is characterised : **[AIIMS 2000]**  
 [1] Killer T–cells [2] Reduction in number of helper T–cells  
 [3] An autoimmune disease [4] Inability of body to produce interferons
- Q.55** **Assertion (A)** : Insulin is a globular protein  
**Reason (R)** : Gum is polymer of more than one type of nonosaccharides : **[AIIMS 2000]**  
 [1] Both A and R are true and R is a correct explanation of A  
 [2] Both A and R are true but R is not a correct explanation of A  
 [3] A is true but R is false  
 [4] Both A and R are false
- Q.56** Scurvy is caused due to the deficiency of vitamin : **[CPMT 2000]**  
 [1] B<sub>1</sub> [2] C [3] K [4] D
- Q.57** An invert sugar is : **[AFMC 2000]**  
 [1] Isorotatory [2] Dextrorotatory [3] Laevorotatory [4] Optically inactive
- Q.58** Yeast cell derive their energy from glucose by : **[AIIMS 2001]**  
 [1] Glycolysis [2] Respiration formation  
 [3] Formation [4] None of these
- Q.59** Which  $\alpha$  amino acid can cross link peptide chains : **[AIIMS 2001]**  
 [1] Serine [2] Cysteine [3] Glutamine [4] Tyrosine
- Q.60** Which of the following protein destroys the antigen when it enters in body cell : **[AIIMS 2001]**  
 [1] Antibodies [2] Insulin [3] Chromoprotein [4] Phosphoprotein
- Q.61** Which of the following is not true about vitamins : **[AFMC 2001]**  
 [1] They are vital for life [2] They help in digestion  
 [3] They were named by "Funic" [4] Their deficiency causes diseases
- Q.62** Blood calcium level can be increased by the administration of : **[AFMC 2001]**  
 [1] Glucogon [2] Calcitonin [3] Thyroxine [4] Paratharmone
- Q.63** An antibiotic with a broad spectrum : **[AFMC 2001]**  
 [1] Kills the antibodies [2] Acts on a specific antigen  
 [3] Acts on different antigens [4] Acts on both the antigens and antibodies
- Q.64** Which of the following is correct statement : **[CBSE 2001]**  
 [1] Troleins are amino acid [2]  $\alpha$ -hydrogen is present in fructose  
 [3] Starch is polymer of  $\alpha$ -glucose [4] Amylose is compound of cellulose
- Q.65** Antibodies are : **[CBSE 2001]**  
 [1] Carbohydrate [2] Globular protein [3] Immunoglobulins [4] Cellulose compounds
- Q.66** Excess of Na<sup>+</sup> ions in our system causes : **[BHU 2001]**  
 [1] High B.P. [2] Low B.P. [3] Diabetes [4] Anaemia
- Q.67** The first hormone chemically synthesised in the laboratory is : **[BHU 2002]**  
 [1] Cortisone [2] Insuline [3] Adrenaline [4] Estrone

- Q.68** Enzymes are made up of : **[CBSE 2002]**  
 [1] Carbohydrates [2] Edible proteins  
 [3] Nitrogen containing carbohydrates [4] Protein with specific structure
- Q.69** RNA is different from DNA because RNA contains : **[AIEEE 2002]**  
 [1] Ribose sugar and thymine [2] Ribose sugar and uracil  
 [3] Deoxyribose sugar and thymine [4] Deoxyribose sugar and uracil
- Q.70** The functional group, which is found in amino acid is : **[AIEEE 2002]**  
 [1] –COOH group [2] –NH<sub>2</sub> group [3] –CH<sub>3</sub>, group [4] Both [1] and [2]
- Q.71** Chlorophyll contains : **[RPMT 2002]**  
 [1] Fe [2] Na [3] Mg [4] Zn
- Q.72** Proteins contains mainly : **[MP PMT 2002]**  
 [1] C, H and O [2] C, H, O and N [3] C, H and N [4] N, H and O
- Q.73** Deficiency of which vitamin causes rickets : **[MP PET 2002]**  
 [1] Vitamin–D [2] Vitamin–B [3] Vitamin–A [4] Vitamin–K
- Q.74** Subunits present in haemoglobin are : **[AIIMS 2003]**  
 [1] 2 [2] 3 [3] 4 [4] 5
- Q.75** Among the following, the achiral amino acid is : **[AIIMS 2003]**  
 [1] 2–Ethylalanine [2] 2–Methylglycine  
 [3] 2–Hydroxymethyl serine [4] Tryptophan
- Q.76** Phospholipids are esters of glycerol with : **[CBSE 2003]**  
 [1] Three phosphate groups  
 [2] Three carboxylic acid residues  
 [3] Two carboxylic acid residues and one phosphate group  
 [4] One carboxylic acid residue two phosphate groups
- Q.77** Glycolysis is : **[CBSE 2003]**  
 [1] Conversion of glucose to heam [2] Oxidation of glucose to glutamate  
 [3] Conversion of pyruvate to citrate [4] Oxidation of glucose to pyruvate
- Q.78** Chargaff's rule states that in an organisms : **[CBSE 2003]**  
 [1] Amounts of all bases are equal  
 [2] Amount of adenine (A) is equal to that of thymine (T) and the amount of guanine (G) is equal to that of cytosine (C)  
 [3] Amount of adenine (A) is equal to that of guanine (G) and the amount of thymine (T) is equal to that of cytosine (C)  
 [4] Amount of adenine (A) is equal to that of cytosine (C) and the amount of thymine (T) is equal to guanine (G)
- Q.79** Which of the following could act as a propellant of rockets : **[CBSE 2003]**  
 [1] Liquid hydrogen + Liquid nitrogen [2] Liquid oxygen + Liquid argon  
 [3] Liquid hydrogen + Liquid oxygen [4] Liquid nitrogen + Liquid oxygen
- Q.80** The reason for double helical structure of DNA is operation of : **[CBSE 2003]**  
 [1] Vander Waal's forces [2] Dipole–dipole interaction  
 [3] Hydrogen bonding [4] Electrostatic attractions
- Q.81** Rate of physisorption increases with : **[IIT Screening 2003]**  
 [1] Decreases in temperature [2] Increases in temperature  
 [3] Decrease in pressure [4] Decrease in surface area
- Q.82** Which amino acid has aromatic ring : **[CPMT 2003]**  
 [1] Alanine [2] Glycine [3] Tyrosine [4] Lysine
- Q.83** Oils and fats are jointly called : **[MP PET 2003]**  
 [1] Lipids [2] Soaps [3] Proteins [4] Polymer



- Q.84** The safest and the most common alternative of sugar is : **[MP PMT 2003]**  
 [1] Glucose [2] Aspartame [3] Saccharin [4] Cyclodextrin
- Q.85** The specific rotation of equilibrium mixture of  $\alpha$ -D-glucose and  $\beta$ -D-glucose is : **[MP PMT 2003]**  
 [1] + 19° [2] + 112° [3] + 52° [4] + 100°
- Q.86** Insulin production and its action in human body are responsible for the level of diabetes. This compound belongs to which of the following categories ? **[AIIEE 2004]**  
 [1] An antibiotic [2] A hormone [3] An enzyme [4] A co-enzyme
- Q.87** Which base is present in RNA but not in DNA ? **[AIIEE 2004]**  
 [1] Thymine [2] Cytosine [3] Guanine [4] Uracil
- Q.88** Coordination compounds have great importance in biological systems. In this context which of the following statements is incorrect ? **[AIIEE 2004]**  
 [1] Carboxypeptidase – A is an enzyme and contains zinc  
 [2] Haemoglobin is the red pigment of blood and contains iron  
 [3] Cyanocobalamin is B<sub>12</sub> and contains cobalt  
 [4] Chlorophylls are given pigments in plants and contain calcium
- Q.89** Identify the correct statement regarding enzymes : **[AIIEE 2004]**  
 [1] Enzymes are specific biological catalysts that possess well-defined active sites  
 [2] Enzymes are normally heterogeneous catalysts that are very specific in their action  
 [3] Enzymes are specific biological catalysts that cannot be poisoned  
 [4] Enzymes are specific biological catalysts that can normally function at very high temperature (T ~ 1000K)
- Q.90** In both DNA and RNA, heterocyclic base and phosphate ester linkages are at **[AIIEE 2005]**  
 [1] C'<sub>2</sub> and C'<sub>5</sub> respectively of the sugar molecule [2] C'<sub>5</sub> and C'<sub>2</sub> respectively of the sugar molecule  
 [3] C'<sub>5</sub> and C'<sub>1</sub> respectively of the sugar molecule [4] C'<sub>1</sub> and C'<sub>5</sub> respectively of the sugar molecule
- Q.91** The pyrimidine bases present in DNA are - **[AIIEE 2006]**  
 [1] cytosine and guanine [2] cytosine and thymine  
 [3] cytosine and uracil [4] cytosine and adenine
- Q.92** The term anomers of glucose refers to - **[AIIEE 2006]**  
 [1] a mixture of (D)-g glucose and (L)-glucose  
 [2] enantiomers of glucose  
 [3] isomers of glucose that differ in configuration at carbon one (C-1)  
 [4] isomers of glucose that differ in configurations at carbons one and four (C-1 and C-4)
- Q.93** The secondary structure of a protein refers to - **[AIIEE 2007]**  
 [1]  $\alpha$ -helical backbone [2] hydrophobic interactions  
 [3] sequence of  $\alpha$ -amino acids [4] fixed configuration of the polypeptide backbone

### Answer Key

Qus.	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Ans.	2	2	3	4	3	2	3	1	4	4	2	2	3	3	2	1	3	3	2	2
Qus.	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40
Ans.	4	3	4	3	1	2	4	1	4	1	4	4	4	1	4	4	4	4	1	4
Qus.	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60
Ans.	4	2	2	1	3	4	3	1	3	1	1	3	4	2	2	2	3	1	2	1
Qus.	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80
Ans.	2	4	3	3	3	1	1	3	4	2	4	3	4	3	3	4	3	4	2	3
Qus.	81	82	83	84	85	86	87	88	89	90	91	92	93							
Ans.	3	1	4	3	3	2	4	4	2	4	2	3	1							