

## Unit - III

### Chapter 11 Biomolecules-1

#### IMPORTANT POINTS

The Substances which are formed due to bond formation between C and H are called organic substances.  
 A carbohydrate molecule contains Carbon, Hydrogen, and Oxygen. The ratio of H and O is generally 2 : 1 as water (H<sub>2</sub>O)

- Carbohydrates have the general formula of C<sub>n</sub>(H<sub>2</sub>O)<sub>m</sub>.
- Carbohydrates can be divided into three main types. These are,
  - Monosaccharides (single sugar unit)
  - Disaccharides (two sugar unit)
  - Polysaccharide (many sugar unit)
- Different monosaccharides contain different numbers of carbon atoms.  
 Trioses contain three, Pentoses contain five, and Hexoses six.
- Carbohydrates have many different functions and come in many different forms.
- Ribose and Deoxy ribose are both pentose monosaccharide and are found in RNA and DNA.
- Lipids are of three types,
  - i Simple lipids
  - ii Complex lipids
  - iii Steroids.
- Lipids are the food stuffs of highest Calorific value and they are stored in the body as a reserve food.

1. Match the terms in columns – I with suitable terms in column – II :

Column – I	Column – II
P, Glucose	i (C <sub>6</sub> H <sub>10</sub> O <sub>5</sub> ) <sub>n</sub>
Q, Maltose	ii R-COOH
R, Glycogen	iii (CH <sub>2</sub> O) <sub>n=m</sub>
S, Fatty acids	iv C <sub>n</sub> (H <sub>2</sub> O) <sub>n-1</sub>

- a) P iv Q i R iii S ii  
 b) P iv Q iii R i S ii  
 c) P iii Q iv R ii S i  
 d) P iii Q iii R i S ii

2. Match the terms in column-I with suitable terms in column-II

Column – I	Column – II
P C <sub>6</sub> H <sub>10</sub> O <sub>5</sub>	i Glyceraldehyde
Q C <sub>3</sub> H <sub>6</sub> O <sub>3</sub>	ii Galactose
R C <sub>5</sub> H <sub>10</sub> O <sub>4</sub>	iii Ribulose
S C <sub>6</sub> H <sub>12</sub> O <sub>6</sub>	iv Deoxy ribose sugar

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- a) P i Q iii R ii S iv  
 b) P iv Q iii R ii S i  
 c) P iii Q i R iv S ii  
 d) P i Q iii R ii S iv
3. Match the terms in column-I with suitable terms in column-II.
- |                   |                                       |
|-------------------|---------------------------------------|
| <b>Column – I</b> | <b>Column – II</b>                    |
| P Butyric acid    | i Long chain Unsaturated fatty acid   |
| Q Stearic acid    | ii Short chain Unsaturated fatty acid |
| R Oleic acid      | iii Short chain Saturated fatty acid  |
| S Crotonic acid   | iv Long chain Saturated fatty acid    |
- a) P iii Q iv R i S ii  
 b) P iii Q i R iv S ii  
 c) P iv Q iii R i S ii  
 d) P iv Q iii R ii S I
4. Match the terms in column-I with suitable terms in column-II.
- |                   |                                    |
|-------------------|------------------------------------|
| <b>Column – I</b> | <b>Column – II</b>                 |
| P Glucose         | i Stored food in plants            |
| Q cellulose       | ii Reserve food in animals         |
| R Starch          | iii The plant cell wall            |
| S Glycogen        | iv Most widely used in respiration |
- a) P iv Q iii R ii S i  
 b) P iv Q iii R i S ii  
 c) P iii Q i R iv S ii  
 d) P iii Q iv R ii S i
5. Match the terms in column-I with suitable terms in column-II.
- |                       |                    |
|-----------------------|--------------------|
| <b>Column – I</b>     | <b>Column – II</b> |
| P Glycosidic bond     | i Triglycerides    |
| Q Ester bond          | ii Dinucleotide    |
| R Peptide bond        | iii Disaccharide   |
| S Phosphodiester bond | iv Dipeptide       |
- a) P i Q iii R ii S iv  
 b) P iii Q iv R i S ii  
 c) P iii Q i R iv S ii  
 d) P ii Q iv R iv S iii

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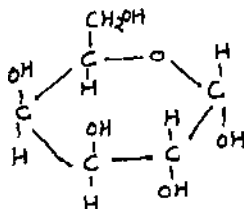
6. Match the terms in column-I with suitable terms in column-II
- | Column – I     | Column – II                                    |
|----------------|--|
| P PGAL         | i The plant cell wall                          |
| Q Oleic acid   | ii Plasma membrane and membrane of organelles. |
| R Glycerol     | iii Unsaturated fatty acid                     |
| S Phospholipid | iv Phosphate aldotriose sugar                  |
| T Cellulose    | v Trihydroxy alcohol                           |
- a) P v Q iv R i S ii T iii  
 b) P iv Q v R ii S i T iii  
 c) P iii Q iv R ii S v T i  
 d) P iv Q iii R v S ii T i
7. Which the following is the word regarding steroids is not correct?  
 a) Cortisone    b) Progesterone  
 b) Glycolipid    d) Ergosterol
8. Which of the following statement regarding to properties of starch is not correct?  
 a) Present of amylose and amylopectin chains.  
 b) Stored food in plants.  
 c) Soluble in water.  
 d) Not sweet.
9. Which one of the following pairs is not correctly matched?  
 a) Triose sugar → Glyceraldehyde → Aldo sugar.  
 b) Pentose sugar → Ribulose → Keto sugar.  
 c) Hexoses sugar → Fructose → Aldo sugar.  
 d) Triose sugar → Dihydroxy acetose → Keto sugar.
10. Which the following pair regarding to biological importance of carbohydrates is not correctly matched?  
 a) Cellulose → Forms the plant cell wall.  
 b) Glycogen → Reserve food in animals.  
 c) Ribose sugar → Structural components of ATP.  
 d) Galactose → The most widely used in respiration.
11. Which the following regarding to examples of Keto sugar is not correctly?  
 a) Fructose    b) Ribulose    b) Ribose sugar    d) Dihydroxy acetose.
12. Which of the following pairs is not correctly matched?  
 a) Butter – Glycerol + 3 Fatty acids.  
 b) Waxes – Monohydroxy alcohol + 1 Fatty acid.  
 c) Cortisone – Present of –COOH or >C=O group.  
 d) Glycolipid – Glycerol + Lipid.

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13. Which of the following option is not correctly for this molecule?  
a) It is Keto hexoses sugar.      b) Hydrolysis of a molecule of maltose  
c) It can pass through the cell membrane      d) Found in the juice of fruits.
14. Which one of the following pairs is not correctly matched?  
a) Galactose – Lactose  
b) Fructose – Glucose  
c) Fructose – Galactose  
d) Ribose – Deoxyribose.
15. Which one of the following pairs is not correctly matched?  
a) Triose sugar – DHAP.  
b) Starch – amylase and amylopectin.  
c) Phospholipid – plasma membrane.  
d) Cortisone – sterols.
16. Which one of the following pairs is correctly matched?  
a) Fats → Long saturated Fatty acids chain.  
b) Derivatives of Lipid → Vitamins A, D, E.  
c) Deoxyribose → RNA.  
d) Glycogen → Forms the plant cell wall.
17. Lipids are relatively insoluble in...  
a) Chloroform      b) Water  
b) Benzene      d) Ether.
18. Which of the following statement regarding the Fatty acid is not correct?  
a) Unsaturated fatty acids are two successive carbon atoms at certain places therein are linked by a double bond.  
b) Saturated fatty acids are capable of accepting hydrogen or halogen atoms.  
c) Butyric acid and palmitic acids are Saturated fatty acids  
d) Crotonic acid and oleic acid are Unsaturated fatty acids.
19. Which of the following statement regarding to Lipid is not correct?  
a) Lipids are of three types i Simple ii Complex iii Steroids  
b) The lipids are a heterogenous group of compounds related to Fatty acids.  
c) Lipids are the important constituents of the diet because of their high energy value.  
d) Lipids are formed of C, H and O atoms, The number of H atom is less than ahat of O.
20. Which of the following statement regarding to Amylase is not correct?  
a) Unbranched polysaccharide chains made up of glucose units.  
b) Amylase occur in the constitution of glycogen.  
c) Amylase occur in more amount in starch.  
d) None of these.

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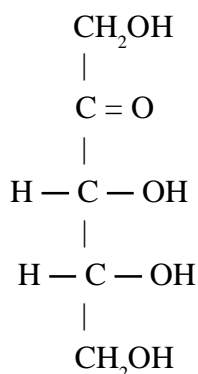
21. Which of the following statements are true?  
 P: Those which have molecular weights 596 Dalton are called micromolecules.  
 Q: Those which have molecular weights 1288 Dalton are called macromolecules.  
 R: Lipids have molecular weight more than ten thousand Dalton and above.  
 S: Biomolecules are of three types (i) micromolecules (ii) simply biomolecules and (iii) macromolecules.
- a) P and Q                      b) P, Q and R  
 c) R and S                      d) Q and S.
22. Which of the following options suggest number of carbons in descending order?  
 P Fructose Q Palmitic acid. R Ribulose S Oleic acid.
- a) R → Q → P → S  
 b) R → P → Q → S  
 c) S → Q → P → R  
 d) S → P → Q → R
23. In the formation of triglyceride, glycerol get linked with any Fatty acids by...  
 a)  $-\text{NH}_2$     b)  $-\text{COOH}$     c)  $-\text{CHO}$     d)  $>\text{C}=\text{O}$
- Which of the following the correct option for statement P and statement Q.
- (A) If both 'A' and 'R' true and 'R' is a correct explanation of 'A'  
 (B) If both 'A' and 'R' true and 'R' is not a correct explanation of 'A'  
 (C) If A is true the R is false  
 (D) If A is false the R is true
24. P: Steroids do not contain Fatty acids.  
 Q: In the structure of wax an alcohol molecule is one monohydroxy alcohol
25. P: The presence of lipid is inevitable for the activity of glucose phosphatase.  
 Q: Copper is co-factor for the activation of enzymes like phosphatase.
26. P: Cortisone molecules which contain only Carboxyl ( $-\text{COOH}$ )  
 or keto  $\text{C}=\text{O}$  group.  
 Q: Cortisone do not contain Fatty acids.
27. P: In animal the food is stored as glycogen  
 Q: Amylase and amylopectin are occurring in the constitution of glycogen.
28. Which of the following structure shows the molecules?



- a) Glucose  
 b) Fructose  
 c) Galactose  
 d) None of these

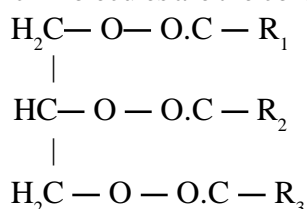
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29. Which of the following structure show the types of sugar?



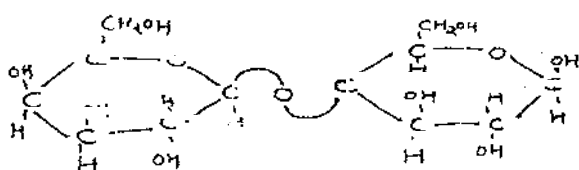
- a) Aldo triose sugar
- b) Aldo pentose sugar
- c) Keto triose sugar
- d) Keto pentose sugar

30) Which molecules are the consist of a following molecule structure?



- a) 3 glycerol + 1 fatty acid
- b) 1 glycerol + 3 fatty acid
- c) 3 glycerol + 3 fatty acid
- d) glycerol + fatty acid

31) Which of the following the general formula of Carbohydrate?



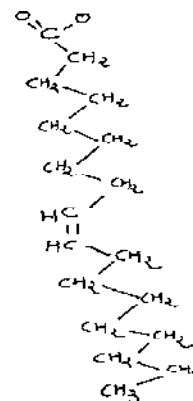
- a)  $\text{C}_n(\text{H}_2\text{O})_m$
- b)  $\text{C}_n(\text{H}_2\text{O})_{n-1}$
- c)  $(\text{C}_6\text{H}_{10}\text{O}_5)_n$
- d) None of these.

32) Which sentence is suitable for the following structure?

- a) Short chain saturated Fatty acid
- b) Short chain unsaturated Fatty acid
- c) Long chain unsaturated Fatty acid
- d) Long chain saturated Fatty acid

33) Specify the name of the fatty acids of the following structure in a given figure?

- a) Butyric acid
- b) Palmitic acid
- c) Stearic acid
- d) Oleic acid



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**Read the assertion and reason carefully to mark the correct option out of the options given below:**

- a) If both the assertion and the reason are true and the reason is a correct explanation of the assertion.
- b) If both the assertion and the reason are true and the reason is not a correct explanation of the assertion.
- c) Assertion is true but the reason is false.
- d) Assertion is false but the reason is True
- 34) A: Cholesterol do not contain Fatty acids.  
R: Cholesterol do not contain Carboxyl (- COOH) or Keto (>C=O) group.  
(a) (b) (c) (d)
35. A: Palmitic acids are long chain unsaturated fatty acid.  
R: Two successive carbon atoms at certain places there in are linked by double bond.  
(a) (b) (c) (d).
36. A: Amylopectin chains occur in the constitution of glycogen.  
R: In animal the food is stored as glycogen.  
(a) (b) (c) (d)
37. A: Lipids are insoluble in water.  
R: In structure of lipid the number of H atoms is much more than that of O.  
(a) (b) (c) (d)
38. A: Vitamins A, D and E are fat soluble  
R: Vitamins D and E are synthesized from the derivatives of lipids  
(a) (b) (c) (d)
39. A: Hydrolysis of a molecule of sucrose yields glucose + fructose.  
R: Hydrolysis of disaccharide yields two molecules of monosaccharide.  
(a) (b) (c) (d)
40. A: DHAP is an example of the phosphate of ketotriose sugar.  
R: DHAP formed during respiration.  
(a) (b) (c) (d)
41. A: Polysaccharide, Proteins compounds have molecular weights in the range of ten thousand Daltons and above.  
R: The exception of Lipids, have molecular weights in the range of ten thousand Daltons and above.  
(a) (b) (c) (d)
42. A: The myelin sheath around the nerve fibre contain lipid.  
R: That prevents the passage of nerve impulses in the adjacent nerve fibres.  
(a) (b) (c) (d)

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43. A : In acts as a solvent for fat soluble vitamins .  
R : Vitamins A, B, C, E are fat soluble.  
(a) (b) (c) (d)
44. A : Complex lipid which contain a non lipid constituent in addition ti alcohol and fatty acids.  
R : Phospholipid and Glycolipid are example of complex lipid  
(a) (b) (c) (d)
45. A : The general formula of disaccharide is  $C_n(H_2O)_{n-1}$   
R : The formula of sucrose is  $C_{12}H_{22}O_{11}$ .  
(a) (b) (c) (d)
46. A : Oleic acid contain 18 carbon atoms and two successive carbon atoms at certain places therein are linked by double bond.  
R : Oleic acid are long chain unsaturated fatty acid.  
(a) (b) (c) (d)
47. A : In the structure of wax one molecule of monohydroxy alcohol.  
R : Lipids such as wax form a protective layer on the outer surface of the aerial plant organs.  
(a) (b) (c) (d)
48. A: In the structure of oils, a molecules of three fatty acids and one glycerol.  
R : In the structure of oils only one Glycosidic bond.  
(a) (b) (c) (d)
49. A: The subcutaneous fat layer under the skin, which maintains body temperature.  
R : Lipid form an insulating layer.  
(a) (b) (c) (d)
50. A: In plants food is stored as starch.  
R : Starch is made up of amylase and amylopectin.  
(a) (b) (c) (d)
51. A: In fish liver oil, glycerol is present as alcohol.  
R : Glycerol are monohydroxy alcohol.  
(a) (b) (c) (d)
52. Which of the following group is not organic group? [AIPMT 2010]  
a) Fats, Proteins , Enzymes, Hormones.  
b) Co-factors, Hormones, Water, Minerals.  
c) Proteins, Carbohydrates, Nucleic acid, Hormones.  
d) Proteins, Carbohydrates, Fats, Enzymes.
53. The middle Lamella is made up of..... [CBSE AIPMT 2009]  
a) Muramic acid                      b) Calcium pectate  
c) Phosphoglycerol                  d) Hemicellulose.



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54. The chemical formula of starch is..... [RPMT 2002]  
 a)  $(C_6H_{10}O_5)_n$                       b)  $(C_6H_{12}O_6)_n$   
 c)  $C_{12}H_{22}O_{11}$                       d)  $CH_3COOH$
55. Find out the wrongly matched pair [Kerala PMT 010]  
 a) Primary metabolite - Ribose.  
 b) Secondary metabolite - Insulin.  
 c) Protein - Insulin.  
 d) Cellulose - Heteropolymer.
- 56) Chitin is a..... [WB JEE 2010]  
 a) Polysaccharide  
 b) Nitrogenous polysaccharide  
 c) Lipoprotein  
 d) Protein
57. In a polysaccharide, the individual monosaccharides are linked by a..... [AMU (Med) 2011, Kerala PMT 2011]  
 a) Glycosidic bond  
 b) Peptide bond  
 c) Ester bond  
 d) Phosphodiester bond
59. Carbohydrates are commonly found as starch in plant storage organs which of the following five properties of starch make it useful as a storage material? [CBSE PMT 2008]  
 P. Easily transported.  
 Q. Chemically non reactive.  
 R. Easily digested by animals.  
 S. Osmotically inactive.  
 T. Synthesized during photosynthesis.  
 a) P, R and T                      b) P and T  
 c) Q and R                      d) Q and S
59. Match the items in column-I with items in column-II and the correct answer. [Kerala PMT 2006]
- | Column – I       | Column – II                            |
|------------------|--|
| P Triglyceride   | Animal hormones                        |
| Q Membrane lipid | ii Feathers and leaves                 |
| R Steroid        | iii Phospholipids                      |
| S Wax            | iv Fat stored in the form of droplets. |
- a) P iv Q iii R i S ii  
 b) P iv Q i R iii S ii  
 c) P iii Q iv R i S ii  
 d) P iv Q i R ii S iii

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60. Find out the correct combination .... [GSEB 2011]  
 i) Triose sugar – Ribose.  
 ii) Starch – amylase and amylopectin  
 iii) Plasma membrane – phospholipid  
 iv) Melanin – sterols  
 v) Pituitary hormones – peptide.  
 a) Only ii, iii and iv  
 b) Only I, ii and iii  
 c) Only I and iii  
 d) Only ii, iii and v
61. Generally protein and carbohydrate components are found in cow milk... [KCET 2005]  
 a) Albumin, Lactose  
 b) Globulin, Casein  
 c) Casein, Lactose  
 d) Casein, Fructose
62. Starch and Cellulose are the compounds made up to many units of..... [CPMT 1988, 89, 93, 2009]  
 a) Simple sugar  
 b) Fatty acid  
 c) Glycerol  
 d) Amino acid
63. Which of the following is the characteristic of plants... [MP PMT 2003]  
 a) Glucose and Cellulose  
 b) Pyruvic acid and Glucose  
 c) Cellulose and Starch  
 d) Starch and Pyruvic acid
64. Most common monomer of Carbohydrate is..... [Orissa JEE 2008]  
 a) Glucose                      b) Fructose  
 c) Sucrose                      d) Maltose
65. Lipids are insoluble in water because lipid molecules are..... [CBSE PMT 2002]  
 a) Neutral                      b) Zwitter ions  
 c) Hydrophobic                d) Hydrophilic
66. Given below is the chemical formula is..... [Kerala PMT 2007]  

$$\begin{array}{c} \text{O} \\ || \\ \text{CH}_3(\text{CH}_2)_{14} - \text{C} - \text{OH} \end{array}$$
 a) Palmitic acid                b) Stearic acid  
 c) Glycerol                      d) Galactose

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67. Given below chemical formula is..... [H PMT 2002]  
 $\text{CH}_3(\text{CH}_2)\text{CH} = \text{CH}(\text{CH}_2)_7\text{COOH}$   
 a)  $\alpha$  - ketoglutarate      b) Oxalosuccinet  
 b) Oleic acid                      d) Linolic acid.
68. Which of the following is not a disaccharide? [D PMT 2007]  
 a) Maltose    b)Starch    c) Sucrose    d)Lactose
69. The repeating unit of Glycogen is..... [WB JEE 209]  
 a) Fructose    b) Mannose    c) Glucose    d) Galactose
70. Maltose are insoluble in..... [PMT 2000]  
 a) Water      b) Alcohol    c) Acid      d) Basic
71. Which is an organic component found in most cells? [DPMT 2009]  
 a) Glucose    b) Lignin    c) Sodium chloride    Oxygen

**ANSWER KEY**

1 D	16 A	31 B	46 A	61 C
2 C	17 B	32 C	47 B	62 A
3 A	18 B	33 D	48 C	63 C
4 B	19 D	34 B	49 A	64 A
5 C	20 B	35 C	50 B	65 B
6 D	21 B	36 B	51 C	66A
7 C	22 C	37 B	52 B	67 C
8 C	23 B	38 B	53 B	68 B
9 C	24 A	39 A	54 A	69 B
10 D	25 C	40 B	55 D	70 C
11 C	26 A	41 B	56 B	71 A
12 D	27 C	42 A	57 A	
13 B	28 A	43 C	58 D	
14 A	29 D	44 B	59 A	
15 D	30 B	45 A	60 D	



## Unit - III

### Chapter-12 Biomolecules - II

#### IMPORTANT POINTS

Proteins are important compound of cytoplasm. They consist of C, H, O, N and S. Proteins are soluble in water but keratin is insoluble in any solvent. The structural unit of protein is amino acid. They are linked with the help of peptide bond. There are 20 types of amino acids in living organisms. They possess an-NH<sub>2</sub> group, a-COOH group, an 'H' and a 'R' group. They differ from each other in the composition of their 'R' group. It is amphoteric in nature. Structurally proteins are classified into four types. All enzymes are made up of protein. When protein becomes associated with some materials other than amino acids they are known as conjugated proteins.

Nucleic acids consist of C, H, O, N and P. Each nucleotides is made up of a pentose sugar, nitrogen base and phosphoric acid. DNA & RNA are example of nucleic acids. Uracil is not in DNA and thymine is not in RNA. There are three types of RNS.

Specific chemicals which act as biological catalyts are called enzymes. Chemically enzymes are protein. Sometimes an enzyme is also poses a non protein part. In such type of enzyme protein part is known as apoenzyme and non protein part is called cofactor. Prosthetic group tightly bound with them and coenzyme are loosely bound with them. Enzymes are classified in to six categories on the basis of biochemical reactions catalyzed by them.

- (1) Which of the following cell organelle is stored the information of synthesize Proteins?  
(a) Mitochondria (b) Nucleus (c) Chloroplast (d) Cell membrane
- (2) Which of following elements are stored the information of Proteins?  
(a) Lipid (b) Polysaccharide (c) Amino acid (d) Nucleic acid
- (3) Find out the Miss matched pairs:  
(a) Protein – important compounds of nucleus  
(b) Nucleic acid – major components of chromosomes  
(c) Amino acid – an amphoteric compound  
(d) Enzymes – Colloidal catalyts
- (4) Which of the following are linked together to form Proteins ?  
(a) Phosphate (b) Nitrogen base (c) Sugar (d) Amino acids
- (5) Which one of the following is incorrect for Protein:  
(a) They transport some nutrients across cell membrane  
(b) They are heteropolymer of amino acids

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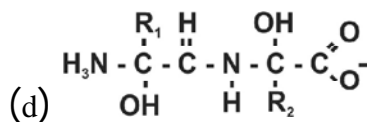
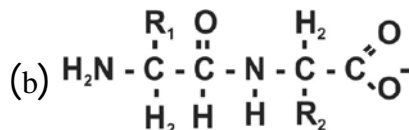
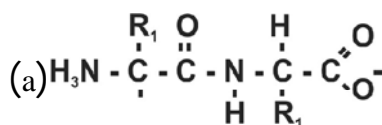
- (c) They possess C, H, O, N and P in their constitution  
 (d) They are very important compounds of cytoplasm
- (6) Total numbers of amino acids are involved in protein synthesis in Plants:  
 (a) 10 (b) 22 (c) 13 (d) 20
- (7) Which one is the most abundant protein in the animal world?  
 (a) Collagen (b) keratin (c) RUBISCO (d) Hemoglobin
- (8) Full form of RUBISCO is:  
 (a) Ribulose Bisulphate Carboxylase Oxygenare  
 (b) Ribuose Biphosphate Carboxylase Oxygenare  
 (c) Ribuose Bisulphate Carboxylase Oxygenare  
 (d) Ribulose Biphosphate Carboxylase Oxygenare
- (9) Match the items in column – I with appropriate items in column – II and pick up correct ans
- | Column – I     |    | Column – II                 |     |
|----------------|----|-----------------------------|-----|
| (P) RUBISCO    |    | (i) contractile protein     |     |
| (Q) Keratin    |    | (ii) insoluble protein      |     |
| (R) Hemoglobin |    | (iii) most abundant protein |     |
| (S) globular   |    | (iv) conjugated protein     |     |
| P              | Q  | R                           | S   |
| (a) iii        | ii | iv                          | i   |
| (b) iii        | iv | ii                          | i   |
| (c) iv         | I  | iii                         | ii  |
| (d) I          | ii | iv                          | iii |
- (10) Polypeptide chain of amino acid is:  
 (a) Nucleic acid (b) Glycogen (c) Protein (d) Cellulose
- (11) At high temperature proteins are:  
 (a) Destroyed (b) inactive (c) denatured (d) a or b
- (12) The structure of protein can be destroyed by which rays  
 (a) Ultra violet rays (b) Infra red rays (c) Radio waves (d) Micro waves
- (13) Amino acid is an amphoteric compound because:  
 (a) It contains an amino group and a carboxyl group  
 (b) It contains an amino group and a functional group  
 (c) It contains a functional group and a carboxyl group  
 (d) It contains one H and a-R group
- (14) The unique property of each amino acid is determined by its particular:  
 (a) –COOH group (b) –NH<sub>2</sub> group (c) –R group (d) peptide bond
- (15) Which of the following is the most widely classification method of amino acid:  
 (a) Whittaker method (b) Linnaeus method  
 (c) Ernest chain method (d) Lehninger method

Questionbank Biology
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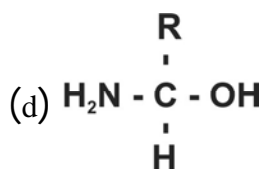
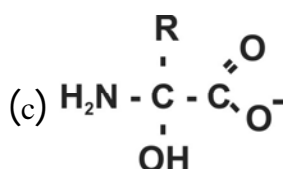
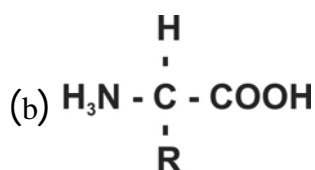
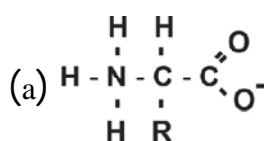
- (16) Which one is the correct group of amino acids with polar and negatively Charged –R group?  
 (a) Glutamate, Tyrosine (b) Arginine, Lysine  
 (c) Tryptophan, Proline (d) Glutamate, Aspartic acid
- (17) Find out the one group of amino acids which are related with each other:  
 (a) Valine, Histidine (b) Serine, Tyrosine  
 (c) Glutamate, Proline (d) Lysine, Laucine
- (18) Aspartic acid and lysine are linkage each other with which bond:  
 (a) Ester bond (b) Glycoside bond  
 (c) Phosphodiaster bond (d) Peptide bond
- (19) Match column – I and column –II and select the correct option:
- | Column – I        | column – II                                  |
|-------------------|--|
| (P) Arginine      | (i) polar and negatively changed ‘R’ group   |
| (Q) Glassine      | (ii) non polar ‘R’ group                     |
| (R) Methionine    | (iii) polar and positively changed ‘R’ group |
| (S) Aspartic acid | (iv) polar and ‘R’ group                     |
- |     | P   | Q  | R  | S   |
|-----|-----|----|----|-----|
| (a) | iii | iv | ii | i   |
| (b) | ii  | I  | iv | iii |
| (c) | I   | iv | ii | iii |
| (d) | iii | ii | iv | i   |
- (20) Amino acids are attached each other with which bond?  
 (a) Ester bonds (b) Hydrogen bonds  
 (c) Sulphur bonds (d) peptide bonds
- (21) Dipeptide means:  
 (a) Two similar amino acids attached by peptide bond  
 (b) Two dissimilar amino acids attached by peptide bond  
 (c) Two similar or dissimilar amino acids attached by peptide bond  
 (d) Two similar or dissimilar proteins attached by peptide bond
- (22) Which macromolecule is the most diverse in cell and controlling biochemical Properties?  
 (a) Polynucleotide (b) Polysaccharide  
 (c) Polypeptide (d) polysomes
- (23) The primary structure of proteins is due to  
 (a) Ionic bonds (b) Peptide bonds (c) Hydrogen bond (d) S-S Linkages
- (24) Proteins means  
 (a) Micromolecule (b) Macromolecule (c) Soluble (d) Colloidal
- (25) The structure of protein can be denatured by  
 (a) At high temperature (b) In dilute solution of acid  
 (c) In the presence of CO<sub>2</sub> (d) a, b, c all

## Questionbank Biology

(26) Which of the following is Dipeptide?



(27) Which of the following is an amino acid?



(28) Polypeptide means:

- (a) A polypeptide chain is formed by more than two nucleotides
- (b) A polypeptide chains is formed by more than two amino acids
- (c) A polypeptide chains is formed by many similar amino acids
- (d) A polypeptide chain is formed by many similar nucleotides

(29) Which biomolecule fights against infectious organisms?

- (a) Lipid
- (b) Nucleic acid
- (c) Protein
- (d) Enzyme

(30) Which one of the following is an amphoteric compound?

- (a) Fatty acid
- (b) Glutamic acid
- (c) Nucleic acid
- (d) Cellulose

(31) Proteins consist of which one of the following

- (a) One polypeptide
- (b) One polypeptide chain
- (c) One or more polypeptide chain
- (d) One  $\alpha$  and other  $\beta$ - chain

(32) Which one of the following statements about amino acid is incorrect?

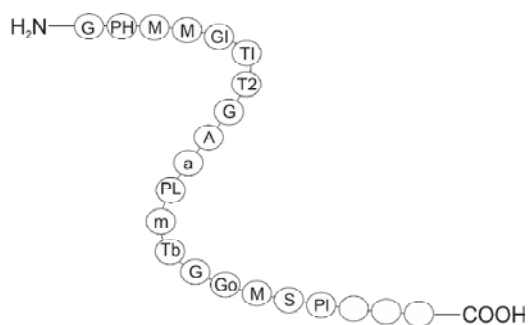
- (a) They are classified on the basis of the 'R' group
- (b) The structure of almost all amino acids are similar except their 'R' group
- (c) All protein molecules are a heteropolymer of amino acid
- (d) They are very important compounds of cytoplasm

(33) Which of the following process is formed by  $-\text{COOH}$  linked to  $-\text{NH}_2$  (peptide bond)

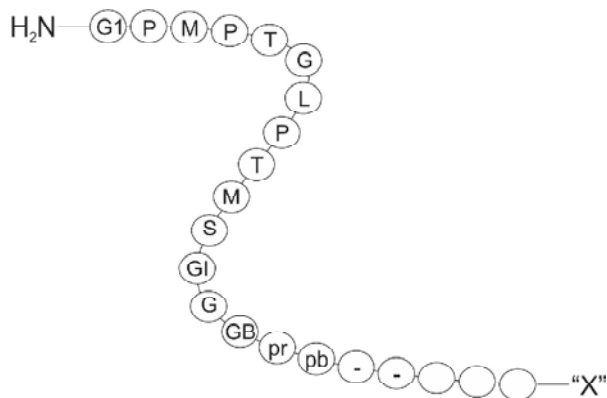
- (a) Hydrogenation
- (b) Dehydrogenation
- (c) Reduction
- (d) Oxidation

## Questionbank Biology

- (34) End of every polypeptide chain is known as:  
 (a) Template (b) Signal (c) Antenna (d) Terminal
- (35) Which are the terminals of polypeptide chain?  
 (a) 'R' and 'N' terminal (b) 'P' and 'R' terminal  
 (c) 'H' and 'N' terminal (d) 'N' and 'C' terminal
- (36) The secondary structure of protein means  
 (a) The flat and sheet like polypeptide chain  
 (b) The helically coiled like polypeptide chain  
 (c) The folding of polypeptide chain due to the presence of hydrogen bond  
 (d) a, b, c all
- (37) Which of the following is correct for the quaternary structure of protein?  
 (a) It represents a three dimensional form of whole protein  
 (b) It forms with interaction between different polypeptide Chain.  
 (c) a and b both  
 (d) It forms the three dimensional arrangement of the atoms within a single polypeptide chain
- (38) Which is the correct option for the following diagram?



- (a) Fibrous protein (b) Globular protein  
 (c) Polypeptide chain (d) Three dimensional form of protein
- (39) What –'X' indicates in the given figure?

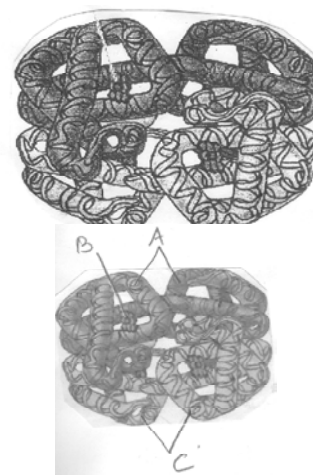


- (a) N-terminal (b) P-terminal  
 (c) C-terminal (d) H-terminal



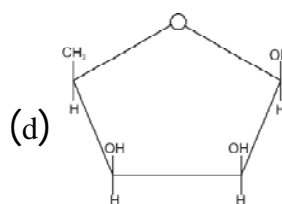
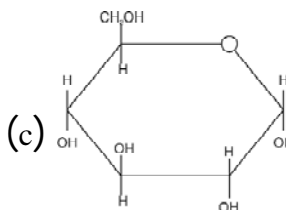
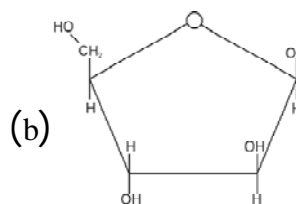
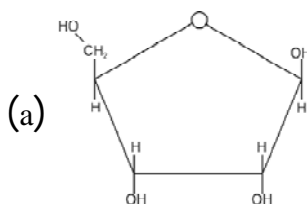
## Questionbank Biology

- (40) What is the shape of the three dimensional structure of protein?  
 (a) Flat sheet like      (b) Globular      (c) Fibrous      (d) b or c
- (41) Which of the following bond groups are involved in the formation of quaternary Protein?  
 (a) Peptide bond, covalent bond      (b) Disulphide bond, Ionic bond  
 (c) Ester bond, phosphodiester bond      (d) b and c both
- (42) Which one is not correct for hemoglobin?  
 (a) It is known as conjugated protein  
 (b) It is the combination of 2- $\alpha$  and 2- $\beta$  chain  
 (c) It is a protein which imparts color to the body  
 (d) It is molecule which contains four hame groups.
- (43) Find out the miss matched pair  
 (a) Melanin-imparts color to the body  
 (b) Hemoglobin – transport of oxygen  
 (c) Chlorophyll – must for photosynthesis  
 (d) Immunoglobulin- responsible for movements of body
- (44) Which of the following statement is incorrect about Immunoglobulin?  
 (a) It has the property of immunity  
 (b) It consist of more than one polypeptide chain  
 (c) It present in blood cell  
 (d) b and c both
- (45) What does the following diagram show?  
 (a) Quaternary structure of protein  
 (b) polypeptide chain  
 (c) Molecule structure of protein  
 (d) Secondary structure of protein
- (46) Give the correct names of A, B and C shown in the figure  
 (a) A= Haem group, B= $\alpha$  - chain C= $\beta$ -chain  
 (b) A= $\beta$  chain, B= Hame group C=  $\alpha$  -chain  
 (c) A= S-S bond, B=Haem group C= peptide chain  
 (d) A=  $\alpha$  - chain, B=S-S bonds C= $\beta$ -chain
- (47) The classification of the protein in two types depends on  
 (a) Structure and function      (b) Types of amino acid  
 (c) Numbers of amino acid      (d) none above
- (48) Which one molecule is finding a Weakly acidic substrate of unknown function in The nuclei of human WBC ?  
 (a) Nucleic acid      (b) nuclein      (c) Protein      (d) Chromosome
- (49) Nuclein separated in to which components?  
 (a) Protein + chromosome      (b) Protein + Nucleic acid  
 (c) Nucleic acid + nitrogen base      (d) Nuceicoside + Nucleotide

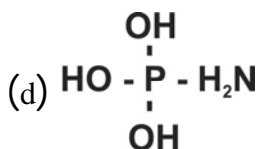
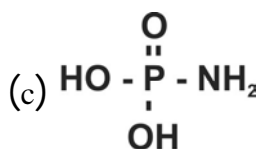
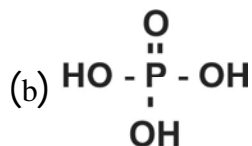
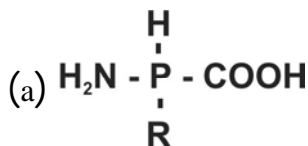


## Questionbank Biology

- (50) Which one of the following is the major component of chromosome?  
 (a) Nucleic acid      (b) Protein      (c) Nitrogen base      (d) Lipid
- (51) Nucleic acid contains which group of molecules in their constitution?  
 (a) C, H, N and S      (b) C, H, O, N and S  
 (c) C, H, N, O, and P      (d) C, H, N and O
- (52) Nucleic acids means  
 (a) A major components of chromosomes  
 (b) Polynucleotide of structural units known as nucleotides  
 (c) Small gene carrying bodies in the nuclei of complex cells  
 (d) Both a & b
- (53) Which are the structural units of DNA?  
 (a) Nitrogen base      (b) Pentose sugar  
 (c) nucleotide      (d) phosphoric acid
- (54) Which one group is the subunit of nucleotide?  
 (a) Pentose sugar, nitrogen  
 (b) Purina, pyrimidine, phosphorus  
 (c) Nitrogen base, sugar  
 (d) pentose sugar, Nitrogen base , phosphoric acid
- (55) Which of the following structure is correct for ribose sugar?

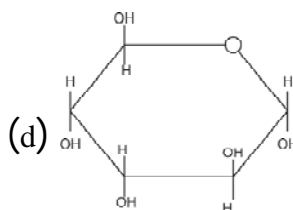
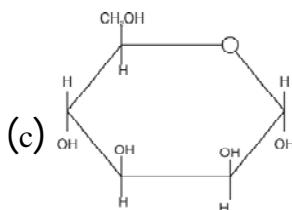
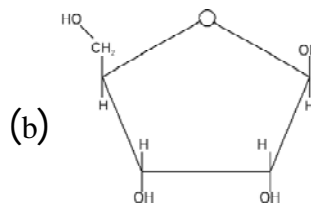
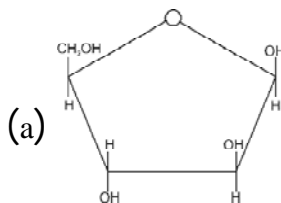


- (56) Which one is the correct structure of phosphoric acid?



## Questionbank Biology

(57) Which of the following is correct for deoxyribose sugar?



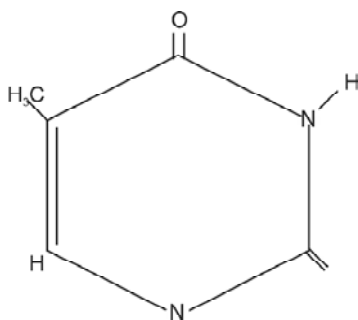
(58) Which of the following will be characteristically different in different living organism?

- (a) Protein            (b) Nucleic acid  
(c) Enzyme            (d) Carbohydrate

(59) Which one is not a polymer?

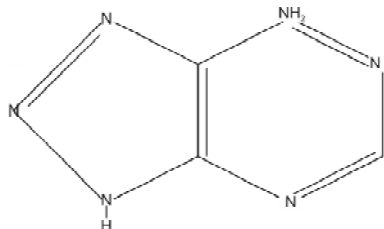
- (a) ATP                (b) Hemoglobin  
(c) Nucleotide        (d) Enzyme

(60) The illustration given below is which nitrogen base:



- (a) Uracil                (b) Cytosine  
(c) Thymine            (d) Ribose

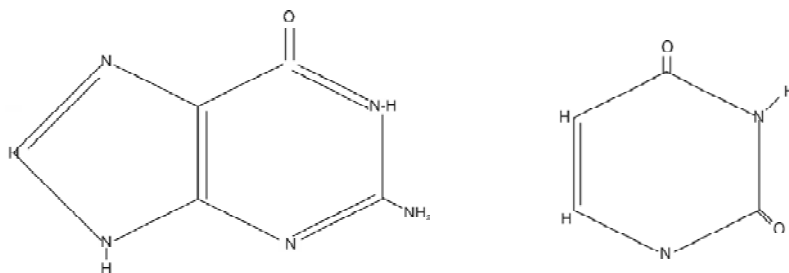
(61) The illustration given below is which nitrogen base:



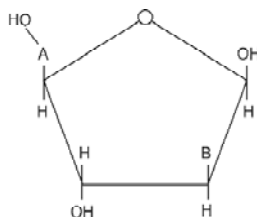
- (a) Guanine            (b) Cytosine            (c) Uracil                (d) Adenine

## Questionbank Biology

- (62) The following diagram represents the nitrogenous bases of nucleic acid Molecules Identify the correct combination:



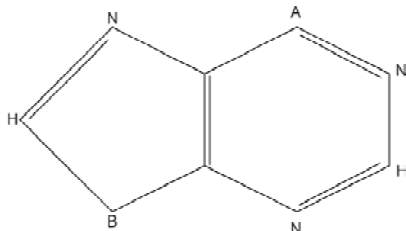
- (a) A= Guanine , B= Uracil  
 (b) A= Adenine , B= Thymine  
 (c) A= Cytosine , B= Adenine  
 (d) A= thymine , B= Guanine
- (63) What is Ribonucleoside?  
 (a) Ribose + Nucleic acid  
 (b) Ribose + Nitrogen base  
 (c) Ribose + Phosphate  
 (d) Ribose + Adenine
- (64) What 'A' and 'B' indicates in the given diagram?



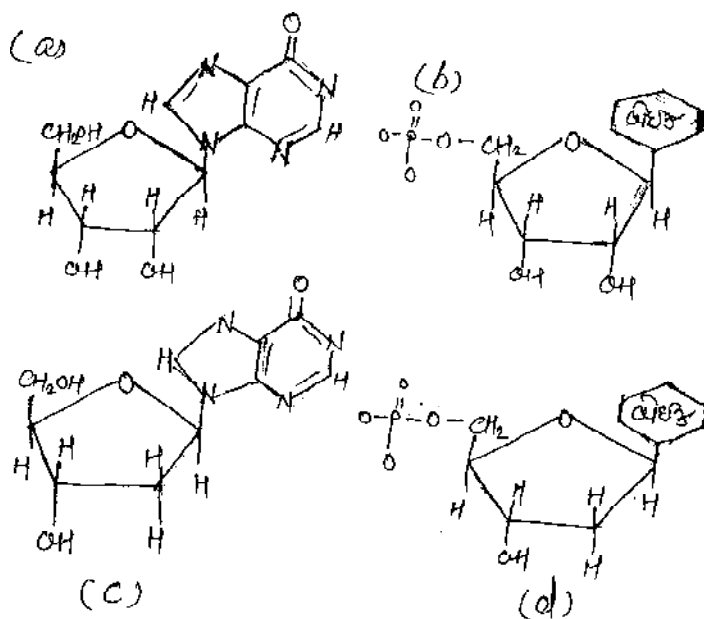
- (a) A=  $\text{CH}_2\text{OH}$ , B= OH  
 (b) A=  $\text{CH}_2\text{OH}$ , B= H  
 (c) A= CH, B= OH  
 (d)  $\text{CH}_2$ , B= H
- (65) Which two sequential carbon number of nucleotides join through phosphodiester bond?  
 (a) 3 and 5  
 (b) 1 and 4  
 (c) 1 and 6  
 (d) 2 and 5
- (66) What is Guanine?  
 (a) Purine  
 (b) Hormone  
 (c) Enzyme  
 (d) Pyrimidine
- (67) Ribonucleoside formed from ribonucleotide while:-  
 (a) It made from sugar  
 (b) It made from nitrogen base  
 (c) It made from phosphate  
 (d) a, b, c all above
- (68) DNA is localized in which cell organelle?  
 (a) Vacuoles  
 (b) Lysosomes  
 (c) Golgi apparatus  
 (d) Nucleus, mitochondria, chloroplast
- (69) A DNA stand is directly involved in the synthesis of all the following except –  
 (a) Another DNA Stand  
 (b) t- RNA  
 (c) m-RNA  
 (d) Protein
- (70) Nucleic acids were discovered by whom?  
 (a) Crick  
 (b) Wilkinson  
 (c) meischer  
 (d) Watson

## Questionbank Biology

- (71) Nucleic acids are related with which activity?  
 (a) Digestion (b) Respiration (c) Reproduction (d) Heredity
- (72) What 'A' and 'B' indicates in the given structure?



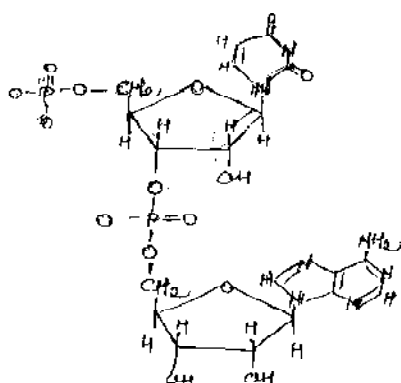
- (a) A =  $\text{CH}_2$ , B = N  
 (b) A =  $(>\text{C}=\text{O})$ , B = NH  
 (c) A = NH, B = NH  
 (d) A =  $\text{NH}_2$ , B = NH
- (73) Which of the following is deoxyriboside?



- (74) Chemically DNA differs from RNA by:  
 (a) Thymine and deoxyribose present in DNA and Uracil and ribose in RNA  
 (b) Uracil and deoxyribose in DNA and thymine and ribose in RNA  
 (c) Deoxyribose in DNA and ribose in RNA  
 (d) Two nucleotide in DNA and one nucleotide in RNA
- (75) Nucleic acids are polymers of which molecules?  
 (a) Nucleosides (b) Nucleotides (c) Polypeptides (d) polysomes
- (76) A molecule of ATP is structurally most similar to a molecule of?  
 (a) RNA (b) Protein (c) Lipid (d) Amino acid

## Questionbank Biology

- (77) Which is the site of protein synthesis?  
 (a) Chromosomes (b) DNA (c) Polysomes (d) Tonoplast
- (78) Select the specific base pairs of DNA:  
 (a) Adenine and Cytosine (b) Guanine and Adenine  
 (c) Adenine and Thymine (d) Guanine and Uracil
- (79) The DNA strands are antiparallel because of:  
 (a) Ester bond (b) Phosphodiester bond  
 (c) Disulphide bond (d) Hydrogen bond
- (80) The distance between two chains of DNA molecules is:  
 (a) 34 Å (b) 20 Å (c) 3.4 Å (d) 10 Å
- (81) The length of one complete spiral of DNA is:  
 (a) 34 Å (b) 3.4 Å (c) 20 Å (d) 340 Å
- (82) Which one of the following bases is found only in RNA and not in DNA?  
 (a) Guanine (b) Adenine (c) Uracil (d) Thymine
- (83) The scientists who discovered the structure of DNA molecule  
 (a) Miller and Mandel (b) Khorana and Nirenberg  
 (c) Calvin and Wilkinson (d) Watson and Crick
- (84) Mention the example of dinucleotide in the given structure.



- (a) RNA with UA  
 (b) RNA with CG  
 (c) DNA with TA  
 (d) DNA with CG
- (85) The structure of DNA like a spiral ladder because  
 (a) Purine and Pyrimidine are on the opposite side  
 (b) Purine and Pyrimidine linked with hydrogen bond  
 (c) All nucleotides join through a phosphodiester bond  
 (d) Two polynucleotide chains arranged parallel to each other and are spirally Twisted
- (86) The hydrogen bonds between adenine and guanine are  
 (a) 2 (b) 3 (c) 1 (d) 0

Questionbank Biology
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- (87) Which of the following is correct?  
 (a) A=T            (b) C=G            (c) G=A            (d) A=C
- (88) Nitrogen bases do not contain  
 (a) Phosphorus    (b) Nitrogen        (c) Hydrogen        (d) Carbon
- (89) Which one is two ringed nitrogenous base?  
 (a) Thymine        (b) Adenine        (c) Cytosine        (d) Uracil
- (90) Which of the following ratio is constant in the DNA of all the species?  
 (a) A+U / T+C    (b) A+G/ C+T    (c) A+C / T+G    (d) A+T / C+G
- (91) m-RNA is the polymer of  
 (a) Ribonucleotide                      (b) Ribonucleoside  
 (c) Deoxyribonucleotide                (d) Ribosome
- (92) Which of the following is incorrect?  
 (a) m-RNA is degraded after its function is over  
 (b) t-RNA are synthesized by m-RNA  
 (c) r-RNA is localized in the ribosome  
 (d) m-RNA carries genetic code in to cytoplasm
- (93) Which is longest of all RNA?  
 (a) m-RNA        (b) t-RNA        (c) r-RNA        (d) None above
- (94) The common instant source of energy of cellular activities is  
 (a) Mitochondria    (b) DNA            (c) RNA            (d) ATP
- (95) Which one is known as adapter molecule?  
 (a) DNA            (b) m-RNA        (c) t-RNA        (d) r-RNA
- (96) The RNA transporting amino acid to the protein synthesizing site known as  
 (a) t-RNA            (b) r-RNA            (c) m-RNA        (d) Any one of a, b, c
- (97) Match the column and find out the correct combination
- | <b>Column –I</b> | <b>Column –II</b>    |
|------------------|----------------------|
| (P) Keratin      | (i) co-enzyme        |
| (Q) ATP          | (ii) pyrimidine      |
| (R) Cytosine     | (iii) polynucleotide |
| (S) NAD          | (iv) Purine          |
| (T) Guanine      | (v) polypeptide      |
- (a) P-v, Q-iii, R-ii, S-i, T-iv                      (b) P-v, Q-iii, R-iv, S-I, T-ii  
 (c) P-iii, Q-v, R-i, S- ii, T-iv                      (d) P-v, Q-i, R-ii, S-iii, T-iv
- (98) Which is the special function of t-RNA?  
 (a) Pick up code for m-RNA and bring it to r-RNA  
 (b) Do protein synthesis  
 (c) Carries the coded genetic information in to the cytoplasm  
 (d) An adapter for attaching amino acid to m-RNA template during Protein synthesis

## Questionbank Biology

- (99) Which are proportionally more compounds in all RNA's?  
(a) m-RNA      (b) t-RNA      (c) r-RNA      (d) a, b, c all
- (100) Which is the part of DNA molecules that varies among DNA molecule  
(a) Pentose sugar   (b) nitrogen base   (c) phosphate      (d) a & b both
- (101) which kind of arrangement lies in the two polynucleotide chain of DNA?  
(a) Antiparallel and complementary      (b) parallel and complementary  
(c) Independent      (d) None above
- (102) If the one base chain sequence of DNA is ACGTTGG then what will be the base Sequence of opposite chain  
(a) TGCAACC      (b) GTAGGAA  
(c) CATGGTT      (d) TAGCCGG
- (103) What is ATP?  
(a) Pentose sugar + adenine + 3 molecule phosphate  
(b) Hexose sugar + adenine + 3 molecule phosphate  
(c) Amino acid + adenine + 3 molecule phosphate  
(d) a or b both
- (104) What is enzyme?  
(a) All proteins which are in all living cell  
(b) Chemicals which act as biological catalysts  
(c) All amino acid which are in polypeptide chain  
(d) All above
- (105) Which of the following is not true for enzyme  
(a) Water soluble and colloidal in nature  
(b) Lowers the activation energy level  
(c) Used up in the biochemical reaction  
(d) Affected by the change in temperature
- (106) What is Ribozymes?  
(a) Only nucleic acids  
(b) ony protein  
(c) Some nucleic acids that behave like enzyme  
(d) More than one Ribosome
- (107) Enzymes are present in which parts of plant?  
(a) Only in leaves      (b) Only in fruits  
(c) In apical meristem of root and shoot      (d) in all the living cell of plant body
- (108) What is an apoenzyme?  
(a) Protein      (b) Amino acid      (c) metallic ions      (d) Carbohydrates
- (109) What is co – enzyme?  
(a) Always a protein      (b) always a amino acid  
(c) Often a vitamin      (d) Often a protein

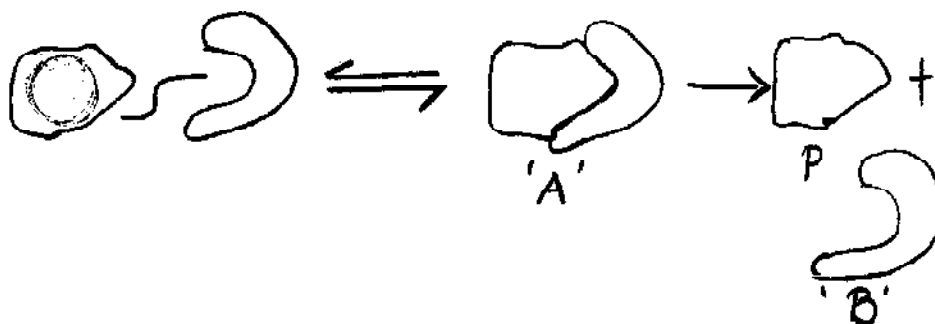


## Questionbank Biology

- (110) Find out the correct function of co-enzyme?
- (a) In association with apoenzyme and make it effective
  - (b) Independently of the apoenzyme
  - (c) In association with any protein and make it effective
  - (d) None above
- (111) Which one property is not true for enzyme?
- (a) It effective for one reaction is not useful in another reaction
  - (b) It is amphoteric in nature
  - (c) All enzymes are bidirectional
  - (d) They are not destroyed
- (112) The rate of most of enzyme catalyzed reaction changes with PH as the PH Increases this rate?
- (a) Reaches a maximum
  - (b) Reaches a minimum
  - (c) Decreases
  - (d) Increases
- (113) Near freezing point an enzyme is
- (a) Slightly activated
  - (b) Inactivated
  - (c) Denatured
  - (d) Destroyed
- (114) A temperature change from 30° C to 50° C the rate of enzyme actively will:
- (a) Increase
  - (b) Decrease
  - (c) First increase and then decrease
  - (d) First decrease and then increase
- (115) An enzyme brings about
- (a) Activation energy level
  - (b) Increase in reaction time
  - (c) Decrease in activation energy level
  - (d) all above
- (116) Enzymes are polymers of:
- (a) Fatty acid
  - (b) Phosphate
  - (c) Amino acid
  - (d) Nucleotides
- (117) Which one is not correct for enzyme?
- (a) They all are biocatalysts
  - (b) They all are colloidal
  - (c) They all are proteins
  - (d) All proteins are enzymes
- (118) Inorganic catalyst recognized what when it attached an enzyme?
- (a) Activator
  - (b) Co- enzyme
  - (c) Inhibitor
  - (d) Apoenzyme
- (119) At which place the substrate combines with the enzymes:
- (a) Active site
  - (b) inactive site
  - (c) Common site
  - (d) Gap site
- (120) Fill it  $E + S \rightarrow$  \_\_\_\_\_
- (a) E-S
  - (b) E-S complex
  - (c) product
  - (d) enzyme
- (121) Enzyme and substrate complementary each other such as
- (a) Pencil & eraser
  - (b) Pen & Paper
  - (c) Lock & key
  - (d) all above
- (122) Which one of the following chemical is classified as an enzyme?
- (a) Try glyceride
  - (b) Cellulose
  - (c) Galactose
  - (d) Sucrase
- (123) In the cell digestive enzymes are mostly in which cell organells?
- (a) Ribosome
  - (b) vacuoles
  - (c) Lysosomes
  - (d) Mitochondria

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- (124) Enzymes are named after their substrate adding suffix –  
 (a) — In (b) — ase (c) — ose (d) — on
- (125) The enzyme which removes hydrogen from the substrate is known as:  
 (a) Oxido-reductase (b) Dehydrogenase  
 (c) Hydrogenase (d) Hydrolyses
- (126) The product is realized from which site of the enzyme?  
 (a) Simple site (b) active site (c) Complex site (d) Inactive site
- (127) What 'A' and 'B' indicates in the given figure (reaction)?



- (a) A= ES complex B=S (b) A=S B=E  
 (c) A= ES complex B=E (d) A= EP complex, B=E
- (128) which of the following enzyme would correct glucose in to glucose-6-phosphate  
 (a) Hydrolyses (b) Lyases (c) Isomerases (d) Trans ferase
- (129)  $\text{Glucose} + \text{ATP} \rightarrow \text{glucose} - 6\text{-phosphate} + \text{ADP}$  which enzyme occur this reaction?  
 (a) Glucose isomerase (b) Glucose oxidase  
 (c) Glucose dehydrogenase (d) Hexokinase
- (130) which enzyme would change glucose – 6 phosphate to fructose – 6 phosphate?  
 (a) Transferase (b) Isomerase (c) Lyases (d) glucose phosphatase
- (131) which enzyme involved in hydrolysis of maltose to glucose?  
 (a) Synthetase (b) maltase (c) Galactose (d) Lyases
- (132) the enzyme which also known as scissor?  
 (a) Lyases (b) Ligarer (c) Isomerases (d) Trans ferases
- (133) which enzyme involved in conversion of a molecular in to an isomer?  
 (a) Lyases (b) Synthetase (c) Isomerase (d) Transferase
- (134) The enzyme which break up fructose 1, 6 biphosphate in to fructose phosphates known?  
 (a) Aldolase (b) Phosphatase  
 (c) Fructose phosphase (d) Fructose
- (135) Which enzyme is needed to digest food reserve in pea seeds?  
 (a) Lipase (b) Nuclease (c) Proteases (d) Amylase
- (136) The best example of extra cellular enzyme is?  
 (a) Nuclease (b) Digestive enzyme (c) Dehydrogenase (d) Lipase

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- (137) A non-protein component of enzyme is called?  
(a) Co-factor                      (b) Activator                      (c) Co-enzyme                      (d) Inhibitor
- (138) Which is an enzyme that joins acetic acid to Co A with the help of energy?  
(a) Acetic acid co. A Synthetase                      (b) Ligases  
(c) Acetyl co. A Synthetase                      (d) No one
- (139) Carbonic anhydrase is activated in the presence of which elements?  
(a) Mb                      (b) Mn                      (c) Ca                      (d) Zn
- (140) Vanadium is necessary for the activation of which enzyme?  
(a) Kinase                      (b) Maltase                      (c) Nitrogenase                      (d) Enolase
- (141) Find out the correct group of co. factor which is activated enolase?  
(a) Mg, Co, Ca                      (b) Mg, Mn, Zn                      (c) Co, Ca, V                      (d) Mn, Zn, V
- (142) Which one is not a co. Enzyme?  
(a) NAD                      (b) NADP                      (c) FAD                      (d) ADP
- (143) Find out the correct group of enzyme which is activated by calcium?  
(a) Nitric oxide Synthetase, protein phosphatase , adenykinase  
(b) Acetyl co. A Synthetase, fructose isomerase protein phosphatase  
(c) Succinic dehydrogenase, Cytochrome oxidase, Aldolase  
(d) All above
- (144) Which of the following sets is not co enzyme?  
(a) NAD, FAD, ATP                      (b) NAD, NHDP, FMN  
(c) Fe, Cu, Zn                      (d) V, Ca, Mg
- (145) Co enzyme differs from prosthetic group because:-  
(a) They deactivates the enzymes  
(b) They do not attached with apoenzyme  
(c) They attached apoenzyme with loosely bound  
(d) They activates the enzymes
- (146) Maltose is composed in which form  
(a) Glucose + galactoge                      (b) Glucose + fructose  
(b) Glucose + Glucose                      (d) Glucose + Ribose
- (147) S: protein carry out many functions in living organisms  
A: all enzymes are made up of proteins  
R: they are responsible for maintenance of proper rates of biochemical reaction in cell  
(A) S&A are true but R is false  
(B) S, A&R are true and R&A are the correct explanation of S

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(C) S is true but A&R both are false

(D) S, A&R are true but R&A are not the correct explanation of S

**The following options are given for question no 148 to 152.**

(a) Both A&R are true and R is the correct explanation of A

(b) Both A&R are true but R is not the correct explanation of A

(c) A true R false

(d) both A & R are false

(a) (b) (c) (d)

(148) A: peptide bond is formed between the

–COOH group of one amino acid and

–NH<sub>2</sub> group of another amino acid molecule

R: a molecule of H<sub>2</sub>O is added in this process.

(a) (b) (c) (d)

(149) A: some protein transport nutrients across all membrane

R: the variation in the different species of living organisms is due to the variation in their bimolecular

(a) (b) (c) (d)

(150) A: Dipeptide is formed through the union of two similar or dissimilar amino acid molecule

R: Dipeptide bond is formed between the

–COOH group of one amino acid and

–NH<sub>2</sub> group of another amino acid molecule

(a) (b) (c) (d)

(151) A: Conjugated protein are responsible for movements

R: Protein become associated with other than amino acids are known as Conjugated protein

(a) (b) (c) (d)

(152) A: Each enzyme has an effect on a particular reaction

R: Glucose and galactose is the product of hydrolysis of lactose in presence of The lactase

(a) (b) (c) (d)

(153) Protein conjugated to carbohydrate is [CBSE 2000]

(a) Lecithoprotein (b) Glycoprotein (c) Lipoprotein (d) Metalloprotein

(154) DNA nucleotides are attached with [A.F.M.C.2001]

(a) Hydrogen bonds (b) covalent bonds

(c) Vander Waal's force (d) Electrovalent bonds

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- (155) Most abundant organic compound on earth is [C.B.S.E.2001]  
[karnataka- 2000]  
(a) Protein (b) Cellulose (c) Lipid (d) Steroid
- (156) Which one is a simple protein? [Kerala 2004]  
(a) Albumin (b) Nucleoprotein (c) Lipoprotein (d) Glycoprotein
- (157) Bond formed between the first phosphate group and adenosine in ATP is  
(a) Nitrophosphate bond (b) Adenophosphate bond  
(c) Phosphoanhydride bond (d) Phosphoester bond
- (158) Nucleotides are building blocks of nucleic acids each nucleotide is a composite Molecule formed by [C.B.S.C. 2005]  
(a) (base-sugar-phosphate)<sub>n</sub> (b) base-sugar-OH  
(c) base-sugar-phosphate (d) sugar-phosphate
- (159) Which one is not a nucleotide? [AFMC 1998]  
(a) Adenine (b) Guanine (c) Thymine (d) Lysine
- (160) Which one is a molecule of ATP? [C.B.S.C. PMT 2000]  
(a) Nucleosome (b) Nucleoside (c) nucleotide (d) deoxyribose
- (161) t-RNA is a polymer of: [MP PMT 1997]  
(a) Deoxyribonucleoside (b) ribonucleoside  
(c) Ribonucleotide (d) deoxyribotide
- (162) Which one is Purine base of RNA? [C.B.S.E. PMT 1996]  
(a) Guanine (b) Thymine (c) Uracil (d) Cytosine
- (163) Enzymes are formed by conjunction of which molecule? [AFMC 1994]  
(a) Fatty acid (b) glucose (c) amino acid (d) carbon
- (164) Co-enzyme means [B.H.U. 1997]  
(a) Metal (b) Vitamin (c) Inorganic compound (d) a & c both
- (165) Enzymes in boiling water [CPMT1995]  
(a) Destroyed (b) Denatured  
(c) Uneffective (d) Inactive
- (166) Which one is the contractile protein [CBSE.PMT 1998]  
(a) Collagen (b) globular  
(c) tropomyosin (d) keratin
- (167) How many nucleotide present in DNA molecule which consist pair of 2000 N<sub>2</sub> base? [MP.PMT 1994]  
(a) 2,000 (b) 5,000 (c) 10,000 (d) 40,000

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- (168) Which one is not gain by the hydrolysis of nucleoside? [DPMT 1996]  
(a) Purine (b) Pentose sugar  
(c) Phosphoric acid (d) Pyrimidine
- (169) Enzyme by natured: [CET chd 1998]  
(a) vitamin (b) carbohydrate (c) polypeptide (d) Fatty acid
- (170) The pair of nitrogen base in DNA is conjugated with [PB PMT 1997]  
(a) Disulphide bond (b) Hydrogen bond  
(c) Peptide bond (d) Glycosidic bond
- (171) The prosthetic group which is in the structure of enzyme [Manipal PMT 1997]  
(a) Loosely combining  
(b) tightly binding  
(c) It contain organic or inorganic structure  
(d) only inorganic
- (172) Enzyme speed up rate of reaction by [C.B.S.E. 2000]  
(a) Combining with product (b) Forming reaction product complex  
(c) Changing equilibrium of reaction (d) Covering activation energy
- (173) The catalytic efficiency of two different enzymes can be compared by the  
(a) The  $K_m$  value (b) The PH optimum value  
(c) Formation of the product (d) Molecular size of the enzyme
- (174) Which of the following cell organelles is rich in catabolic enzyme [PMT 2007]  
(a) Ribosome (b) chloroplast (c) Mitochondria (d) Golgi complex
- (175) Enzyme which help in electron transfer are: [B.H.U. 1998]  
(a) Cytochrome (b) Isomerase (c) Protease (d) All of above
- (176) The enzyme which fixes  $CO_2$  in  $C_4$  plant is [C.B.S.E. 2000]  
(a) Hydrogenase (b) PEP carboxylase  
(c) Reductase (d) RuBp carboxylase
- (177) Enzyme involved in hydrolysis of starch to maltose is called: [PMT 1999]  
(a) Sucrase (b) Amylase (c) Lactase (d) Maltase

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**ANSWER KEY**

1	b	37	c	73	c	109	c	145	c
2	d	38	c	74	a	110	a	146	c
3	a	39	c	75	b	111	c	147	b
4	d	40	d	76	a	112	a	148	c
5	c	41	b	77	c	113	b	149	b
6	d	42	c	78	c	114	c	150	c
7	a	43	d	79	b	115	c	151	d
8	d	44	c	80	b	116	c	152	a
9	a	45	b	81	a	117	d	153	b
10	c	46	b	82	c	118	a	154	b
11	d	47	a	83	d	119	a	155	a
12	a	48	a	84	a	120	b	156	a
13	a	49	b	85	d	121	c	157	d
14	c	50	a	86	d	122	d	158	c
15	d	51	c	87	a	123	c	159	d
16	d	52	d	88	a	124	b	160	c
17	b	53	c	89	b	125	b	161	c
18	d	54	d	90	d	126	b	162	a
19	a	55	a	91	a	127	c	163	c
20	d	56	b	92	b	128	d	164	b
21	c	57	a	93	a	129	d	165	b
22	c	58	b	94	d	130	b	166	d
23	b	59	c	95	c	131	b	167	c
24	b	60	c	96	a	132	a	168	c
25	a	61	d	97	a	133	c	169	c
26	a	62	a	98	d	134	a	170	b
27	a	63	b	99	c	135	c	171	c
28	b	64	d	100	b	136	b	172	d
29	c	65	a	101	a	137	a	173	a
30	b	66	a	102	a	138	c	174	c
31	c	67	c	103	a	139	d	175	a
32	d	68	d	104	b	140	c	176	b
33	b	69	d	105	c	141	b	177	b
34	d	70	c	106	c	142	d		
35	d	71	d	107	d	143	a		
36	d	72	d	108	a	144	a		

