Biomolecules

SET Self Evaluation Test - 31

1. Which does not show mutarotation

(a) Sucrose (b) Maltose

(c) Glucose (d) Fructose

2. Artificial silk is

(a) Polyamides (b) Polyesters

(c) Polyacids (d) Polysaccharides

3. Which of the following is a protein

(a) Pepsin (b) Adrenaline

(c) ATP (d) Glutamin

4. Glucose gives many reactions of aldehyde, because **[CPMT 1977]**

(a) It is hydrolysed to acetaldehyde

(b) It is a polyhydroxy ketone

(c) It is a cyclic aldehyde

(d) It is a hemiacetal in equilibrium with its aldehyde form in solution

5. Glucose in blood can be quantitatively determined with **[JIPMER 2002]**

(a) Tollen's reagent

(b) Benedict's solution

(c) Alkaline iodine solution

(d) Bromine water

6. Which of the following ions can cause coagulation of proteins **[Kerala (Med.) 1999]**

(a) Na^+ (b) Ag^+

(c) Ca^{++} (d) Mg^{++}

7. Glucose reacts with methyl alcohol to give **[CPMT 1985]**

(a) α – methyl glucoside

(b) β – methyl glucoside

(c) Both (a) and (b)

(d) None of these

8. Molisch's test is done for the detection of **[BHU 1987]**

(a) Alkyl halide (b) Carbohydrate

(c) Alkaloid (d) Fat

9. Which of the following is not an amino acid **[MP PET/PMT 1998]**

(a) Glycine (b) Alanine

(c) Histidine (d) Benzidine

10. A substance forms zwitter ion. It can have functional groups **[DCE 2002]**

(a) $-NH_2, -COOH$ (b) $-NH_2, -SO_3H$

(c) Both **[PB. CET 2003]** (d) None of these

11. Which functional group participates in disulphide bond formation in proteins

(a) Thiolactone (b) Thiol

(c) Thioether (d) Thioester

12. Schweitzer's reagent used for dissolving cellulose in the manufacture of artificial silk is **[Roorkee 1999]**

(a) $CuSO_4 . 5H_2O$

(b) CuI

(c) $[Cu(NH_3)_4]SO_4$

(d) $Cu(CH_3COO)_2 . Cu(OH)_2$

13. Which one of the following statements is true for protein synthesis (translation) **[AIIMS 2005]**

(a) Amino acid are directly recognized by *m*-RNA

(b) The third base of the codon is less specific

(c) Only one codon codes for an amino acid

(d) Every *t*-RNA molecule has more than one amino acid attachment site.

14. In both DNA and RNA, heterocyclic base and phosphate ester linkages are at **[AIEEE 2005]**

(a) C_5' and C_2' respectively of the sugar molecule

(b) C_2' and C_5' respectively of the sugar molecule

(c) C_1' and C_5' respectively of the sugar molecule

(d) C_5' and C_1' respectively of the sugar molecule

15. Which of the following biomolecules contain non-transition metal ion **[KCET 2005]**

(a) Vitamin B_{12} (b) Chlorophyll

(c) Haemoglobin (d) Insulin

16. An example of a sulphur containing amino acid is **[KCET 2005]**

(a) Lysine (b) Serine

(c) Cysteine (d) Tyrosine

17. Which of the following is not present in a nucleotide

[KCET 2005]

(a) Cytosine (b) Guanine (c) Adenine (d) Tyrosine

Answers and Solutions

(SET -31)

1. (a) Sucrose does not show mutarotation due to non reducing nature.

2. (d) It is a polysaccharide.

3. (a) Pepsin is a protein.

4. (d) It is a hemiacetal in equilibrium with its aldehyde form in solution.

5. (a) In glucose aldehydic group is present and Tollen's reagent is the test for aldehydes.

6. (b) Ag^+ can cause coagulation of proteins.

7. (c) Alpha methyl glucoside and beta methyl glucoside.

8. (b) Molisch's test is done for the detection of carbohydrate bond formation.

9. (d) Benzidine is not an amino acid. It is an amine.

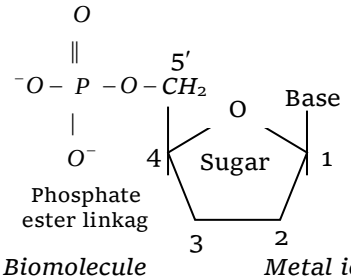
10. (c) A substance forms Zwitter ion. It can have functional groups $-NH_2COOH$ and $-NH_2$, $-SO_3H$.

11. (b) Thiol functional group particpitates in disulphide in proteins.

12. (c) $[Cu(NH_3)_4]SO_4$ is schweitzer's reagent used for manufacture of artificial silk.

13. (a) In the process of translation amino acids are directly recognized by *m*-RNA.

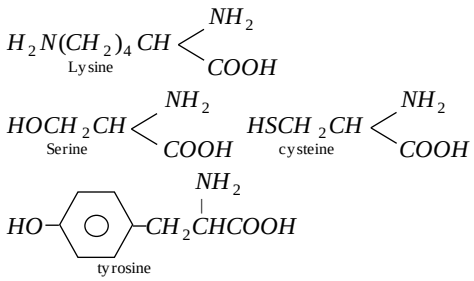
14. (c)



15. (b)

Biomolecule	*Metal ion*
Vitamin B_{12}	*Co* (transition metal)
Chlorophyll	*Mg* (non-transition metal ion)
Haemoglobin	*Fe* (transition metal)
Insulin	*S* (non-Metal)

16. (c)



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17. (d) Nucleotide contains nitrogenous bases like adenine, guanine, thymin, cytosine and uracil.