Formation of RBC is because of?

BIOMOLECULES

Continued from 15th March

LEVEL I B
CARBOHYDRATES

1. **Which of the following is a ketohexose?**
   1)Fructose 2)Glucose 3)Ribose 4)Starch
2. **Which of the following is not a sugar?**
   1) Sucrose 2) Glucose 3) Fructose 4) Starch
3. **Which of the following is an example of aldotriose**
   1) Glyceraldehyde 2) Ribose 3) Fructose 4) Erythrose
4. **Which of the following is a disaccharide ?**
   1) glucose 2) Fructose 3) Sucrose 4) Starch
5. **Which of the following is an example of aldopentose?**
   1) Glyceraldehyde 2) Ribose 3) Fructose 4) Erythrose

MONOSACCHARIDES

6. **Which of the following carbohydrates is the essential constituent of all cell walls?**
   1) Starch 2) Maltose 3) Cellulose 4) Sucrose
7. **The reagent which may be used to distinguish cane sugar and glucose solutions is**
   1) I_2 solution 2)Baeyer's reagent 3) Both 1 & 2 4)Fehling's solution
8. **Five membered ring structure of glucose is known as**
   1) Aromatic 2) Furanose 3) Pyranose 4) Baeyer's structure
9. **In the ring structure of fructose , the anomeric carbon is:**
   1) C-1 2)C-2 3)C-5 4)C-6
10. **Starch consists of two polymeric units , namely**
    1)cellulose and cellobiose
    2)glycogen and collagen
    3)amylose and amylopectin
    4)inulin and pectin
11. **On hydrolysis of starch , we finally get:**
    1)glucose 2)fructose 3) glucose and fructose both 4) sucrose
12. **Which of the following is the most abundant carbohydrate found in plants?**
    1)Cellulose 2)starch 3) Lipids 4)Fructose

AMINO ACIDS AND PROTEINS

13. **The number of amino acids in insulin is**
    1. 21 2. 574 3. 51 4. 5733
14. **Which of the following amino acids does not correspond to the general formula given below**
    R - CH(NH_2) - COOH
    1) Cysteine 2) Proline 3) Argenine 4) Glutamic acid
15. **The amino acids are the end products of the digestion of,**
    1) Lipids 2) Fats 3) Proteins 4) Enzymes

VITAMINS

16. **Deficiency of vitamin E causes**
    1) Night blindness 2) Loss of fertility 3) Scurvy 4) Impaired clotting
17. **Which one of the following is synthesized in our body by sun rays?**
    1) Vitamin D 2) Vitamin B 3) Vitamin K 4) Vitamin A
18. **All vitamins are synthesised by**
    1) plants 2) human beings 3) fishes 4) all

NUCLEIC ACIDS

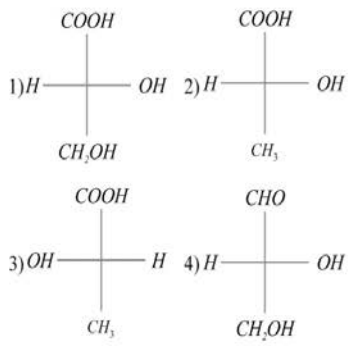
19. **The carbohydrate present in DNA is**
    1) L - glucose 2) D - ribose 3) 2 - Deoxyribose 4) Fructose

LEVEL I B - KEY

1) 1 2) 4 3) 1 4) 3 5) 2 6) 3 7) 4
8) 2 9) 2 10) 3 11) 1 12) 1 13) 3 14) 2
15) 3 16) 2 17) 1 18) 1 19)3

LEVEL II A
CARBOHYDRATES

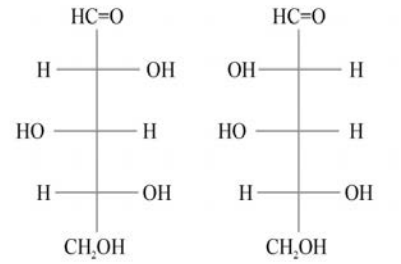
1. **Which of the following statements is true regarding a carbohydrate having five carbon atoms and an aldehyde group?**
   1) It can have 8 stereo isomers
   2) It can have 4 stereo isomers
   3) It can have 2 sterero isomers
   4) All the above
2. **Which of the following is different with refered to D, L-Configuration?**



3. **Which of the following is least related to the other three ?**
   1) Galactose 2) Glucose 3) Mannose 4) Arabinose
4. **The end product (B) formed in the reaction sequence**

   Glucose $\xrightarrow[H_3O^+]{HCN} A \xrightarrow[\Delta]{HI,P} B$

   1) Hexanoic acid 2) Hexane 3) Heptane 4) Heptanoic acid
5. **Which of the following statements about (+) (-) sucrose is not correct ?**
   1) it does not posses a free aldehydic (or) ketonic group
   2) on hydrolysis, it produce invert sugar
   3) it is an a - D-Glucoside
   4) It undergoes mutarotation
6. **Sucrose reacts with acetic anhydride to form**
   1) Penta - acetate 2) Hexa - acetate 3) Tetra - acetate 4) Octa - acetate
7. **All monosaccharides containing five or six carbon atoms have**
   1) Open chain Structures
   2) Pyranose structure
   3) Furanose structures
   4) may have pyranose or furanose structures
8. **Configuration of mannose and glucose differ at C-2 position ,they termed as:**
   1) epimers 2) anomers 3)racimers 4)mesomers
9. **Which of the following disaccharide has different type of linkage?**
   1) maltose 2) Galactose 3) Starch 4) Sucrose
10. **Starch is made up of :**
    1) α-glucose pyranose 2) β-fructose pyranose 3) β-fructose furanose 4) both (1) and (3)
11. **In alkaline medium fructose is -**
    1. An aldose 2. A reducing sugar 3. A non reducing sugar 4. A furanose
12. **Glucose will show mutarotation in ___solvent**
    1. acidic 2. basic 3. neutral 4. amphiprotic
13. **The two forms of D-glucopyranose obtained from the solution of D-glucose are called**
    1. isomer 2. anomer 3. epimer 4. enantiomer
14. **At which carbon are the following sugars epimers of each other?**



1. C-1 2. C-2 3. C-3 4 C-4

AMINO ACIDS AND PROTEINS

15. **The structural feature which distinguishes proline from α-amino acids is**
    1) It is optically inactive
    2) It contains aromatic group
    3) It is a dicarboxylic acid
    4) It is a secondary amine
16. **β - pleated structure of proteins is**
    1) Primary structure 2) Secondary structure 3) Tertiary structure 4) Quaternary structure
17. **Number of peptide linkages in the artificial sweetener "aspartame" is**
    1) 2 2) 21 3) 1 4) 11
18. **For a neutral amino acid (X), isoelectric point is 5.8. Now its solubility at this point in water is**
    1) maximum 2) minimum 3) zero 4) unpredictable

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19. **Protein with special three dimensional structure and biological activity is called:**
    1) native protein 2) Conjugative protein 3) Simple protein 4) Globular protein
20. **A mixture of α – amino acids is obtained when proteins are hydrolysed by**
    1) Acids 2) Bases 3) Enzymes 4) All
21. **In aqueous solutions, amino acids mostly exist as**
    1) $NH_2-CHR-COOH$ 2) $NH_2-CHR-COO^-$ 3) $N_3H^+-CHR-COOH$ 4) $H_3N^+-CHR-COO^-$
22. **The chemical change in a DNA molecule that leads to the synthesis of proteins with different amino acids sequence is called,**
    1. Allergy 2. Mutation 3. Transcription 4. Metabolism
23. **If the amino group of Glycine and carboyxylic acid group of alanine undergo elimination of water molecule, the name of the compound thus formed is**
    1) Alanylglycide (dipeptide)
    2) Glycyl alanide (tri peptide)
    3) Glycyl alanine (dipeptide)
    4) Alanylglycine (dipeptide)
24. **The secondary structure of a protein refers to**
    1) α - helical back bone
    2) hydrophobic interactions
    3) Sequence of α-amino acids
    4) fixed configuration of the polypeptide back bone
25. **Nature of aqueous solutions of two different amino acids X and Y are acidic and basic.Now X and Y are**
    1) Alanine and valine
    2) Aspartic acid and Asparagine
    3) Glutamine and Glutamic acid
    4) Aspartic acid and Lysine
26. **The forces that stabilize the 2^0 and 3^0 structure of protein are:**
    1) H-bonds 2) Disulphide linkages 3) Both 1 and 2 4) Covalent bonds

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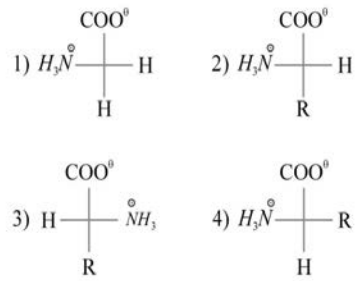
27. **At pH = 4 , glycine exists as:**
    1) $H_3\overset{+}{N}-CH_2-COO^-$ 2) $H_3\overset{+}{N}-CH_2-COOH$ 3) H_2N-CH_2-COOH 4) $H_2N-CH_2-COO^-$
28. **A nanopeptide contains how many peptide linkages?**
    1) 10 2)8 3)9 4)18
29. **The bonds in protein structure , that are not broken on denaturation ,are:**
    1) Hydrogen bonds 2) peptide bonds 3) ionic bonds 4) disulphide bonds
30. **Which of the following is an L-amino acid?**



VITAMINS

31. **Formation of RBC is because of**
    1) Mucoprotein 2) Vitamin B_{12} 3) Vitamin C 4) Both 1 & 2
32. **The vitamin which is water soluble and antioxidant is**
    1. Vitamin B_6 2. Vitamin B_{12} 3. Vitamin C 4. Vitamin E
33. **Which of the following vitamin contains ionone ring and hydrocarbon chain?**
    1) Retinol 2) Calciferol 3) Thiamin 4) Riboflavin
34. **Which vitamins are present in much smaller amounts in cells**
    1) A 2) D 3) B & C 4) K

NUCLEIC ACIDS

35. **In the sequence of changes/processes,**

    $X \xrightarrow{replication} Y \xrightarrow{trancription} Z \xrightarrow{translation}$

    Proteins X, Y and Z are
    1) DNA, DNA and RNA 2) RNA, RNA and DNA 3) DNA, RNA and RNA 4) DNA, RNA and DNA
36. **RNA and DNA are chiral molecules ,their chirality is due to :**
    1) Chiral Phosphate ester units
    2) D-sugar component
    3) L-sugar component 4) chiral bases

LEVEL-I A KEY

1) 4 2) 3 3) 4 4) 4 5) 4 6) 4 7) 4
8) 1 9) 4 10) 1 11) 3 12) 3 13) 2 14) 2
15) 4 16) 2 17) 1 18) 2 19) 1 20) 4 21) 4
22) 2 23) 4 24) 1 25) 4 26) 3 27) 2 28) 2
29) 2 30) 2 31) 2 32) 3 33) 1 34) 3 35) 1
36) 2