MULTIPLE CHOICE QUESTIONS ON CARBOHYDRATES

Q1. Which of the following is the most abundant biomolecule on the earth?

(a) Lipids

(b) Proteins

(c) Carbohydrates

(d) Nucleic acids.

Q2. Which of the following are the major functions of Carbohydrates?

(a) Storage

(b) Structural framework

(c) Transport Materials

(d) Both Storage and structural framework

Q3. Which of the following is the general formula of Carbohydrates?

(a) $(C_4H_2O)n$

(b) $(C_6H_2O)n$

(c) $(CH_2O)n$

(d) $(C_2H_2O)n$ COOH

Q4. Which of the following is the smallest carbohydrate – triose?

(a) Ribose

(b) Glucose

(c) Glyceraldehyde

(d) Dihydroxyacetone

Q5. Which of the following is a reducing sugar?

(a) Dihydroxyacetone

(b) Erythrulose

(c) Glucose

(d) All of the above

Q6. Which of the following is an example of Epimers?

(a) Glucose and Ribose

(b) Glucose and Galactose

(c) Galactose, Mannose and Glucose

(d) Glucose, Ribose and Mannose

Q7. Which of the following is the simplest carbohydrate?

(a) Glycose
(b) Glucose
(c) Dihydroxyacetone
(d) Glyceraldehyde

Q8.A disaccharide is formed when two monosaccharides are bonded together by a bond.
a) glycosidic
b) peptide
c) ionic
d) phosphodiester

Q9. Which of the following statements about starch is incorrect?
a) It gives blue colour with iodine
b) It is a polymer of α-D-glucose
c) It is a reducing carbohydrate
d) It consists of branched chains

Q10. When converting a disaccharide to monosaccharides, which bond is hydrolyzed?
a) Disulfide bond
b) Glycosidic bond
c) Phosphodiester bond
d) Hydrogen bond

Q11. Which of the following polymer is stored in the liver of animals?
(i) Amylose
(ii) Cellulose
(iii) Amylopectin
(iv) Glycogen

Q12. Sucrose (cane sugar) is a disaccharide. One molecule of sucrose on hydrolysis gives
(i) 2 molecules of glucose
(ii) 2 molecules of glucose + 1 molecule of fructose
(iii) 1 molecule of glucose + 1 molecule of fructose
(iv) 2 molecules of fructose

Q13. Which of the following statements is not true about glucose?
(i) It is an aldohexose.
(ii) On heating with HI it forms n-hexane.
(iii) It is present in furanose form.
(iv) It does not give 2,4-DNP test.

Q14. Which of the following reactions of glucose can be explained only by its cyclic structure?
(i) Glucose forms pentaacetate.
(ii) Glucose reacts with hydroxylamine to form an oxime.
(iii) Pentaacetate of glucose does not react with hydroxylamine.
(iv) Glucose is oxidised by nitric acid to gluconic acid.

Q15. The reaction of glucose with hydrogen cyanide confirms the _____
a) straight chain structure of glucose
b) presence of a carbonyl group in glucose
c) presence of an aldehyde group in glucose
d) presence of a keto group in glucose

Q16. The reaction of glucose with NH2OH gives _____
a) n-hexane
b) glucose oxime
c) glucose cyanohydrin
d) a gluconic acid

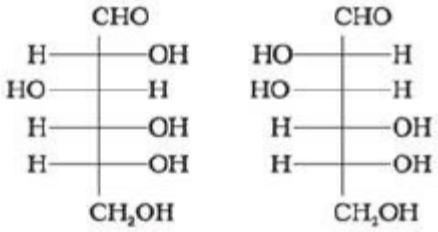
Q17. The reaction of glucose with which of the following proves the presence of an aldehydic group?
a) Potassium iodide
b) Hydroxylamine
c) Bromine water
d) Acetic anhydride

Q18. On oxidation of glucose with mild oxidising agent like Br2 water , it produces
a) Gluconic acid
b) Saccharic acid
c) Valeric acid
d) Glucoric acid

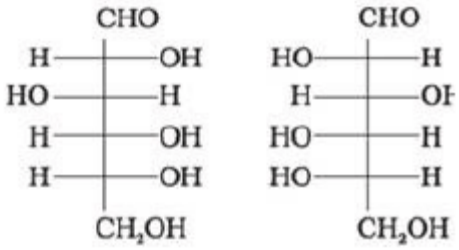
Q19. Which reagent is used to convert Glucose into Saccharic acid ?
a) Bromine water
b) Nitric acid
c) Alkaline solution of KOH
d) Ammonium Hydroxide

Q20. Which of the following pairs represents anomers?

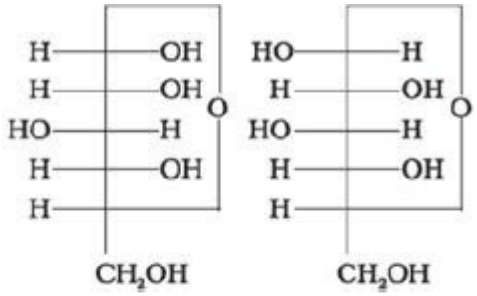
(i)



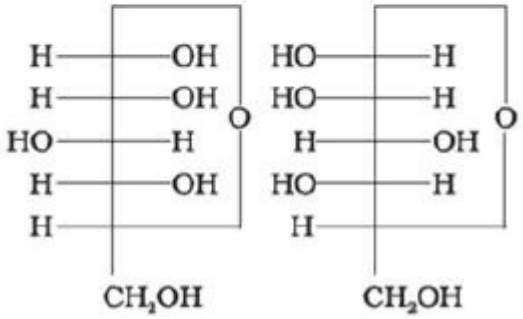
(ii)



(iii)



(iv)



Answer