



Attempt this Paper on this Question Sheet only.

Division of marks is given in front of each question.

This Paper will be collected back after expiry of time limit mentioned above.

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Signature of Supdt.:

Q.1. Encircle the right answer cutting and overwriting is not allowed. (10x1=10)

- i) Mitochondrial DNA is
- Circular double stranded
 - Circular single stranded
 - Linear double helix
 - None of these
- ii) The general formula of MONOSACCHARIDES is
- $C_nH_{2n}O_n$
 - $C_{2n}H_2O_n$
 - $C_nH_2O_{2n}$
 - $C_nH_{2n}O_{2n}$
- iii) In RNA molecule
- Guanine content equals cytosine
 - Adenine content equals uracil
 - Adenine content equals guanine
 - Guanine content does not necessarily equal its cytosine content.
- iv) The number of isomers of Mannose is
- 2
 - 4
 - 8
 - 16
- v) α -D-glucose and β -D-glucose are
- Stereoisomers
 - Epimers
 - Anomers
 - Keto-aldo pairs
- vi) A nucleoside consists of
- Nitrogenous base
 - Purine or pyrimidine base + sugar
 - Purine or pyrimidine base + phosphorous
 - Purine + pyrimidine base + sugar + phosphorous

- vii) The carbon of the pentose in ester linkage with the phosphate in a nucleotide structure is
- C₁
 - C₃
 - C₄
 - C₅
- viii) In glucose the orientation of the —H and —OH groups around the carbon atom 5 adjacent to the terminal primary alcohol carbon determines
- 1-4
 - 2-3
 - 3-5
 - 1-6
- ix) In ATP, the adenine moiety is linked by a glycosidic bond to
- Galactose
 - Raffinose
 - Arabinose
 - Ribose
- x) Which of the following belongs to Algal polysaccharide :
- Heprin
 - Agar
 - Chondroitin sulphate
 - Both A & B



ATTEMPT THIS (SUBJECTIVE) ON THE SEPARATE ANSWER SHEET PROVIDED

Q.2. Give short answers of the following:

(10x2=20)

- i. Write two Functions of DNA.
- ii. Which are the two important buffers in biological systems.
- iii. What are amino derivatives? Draw the Amino derivatives of Galactose and Mannose.
- iv. Draw the structure of Hyluronic acid Chondroitin Sulphate.
- v. Differentiate between PROTEOGLYCANS and GLYCOPROTEINS?
- vi. Explain Uronic and Aldonic acids.
- vii. What are OLIGONUCLEOTIDES?
- viii. Draw Anomeric forms of Glucose.
- ix. Draw the structure of ADENINE.
- x. What is a GLYCOSIDIC BOND?

Q.3. Answers the following questions.

(6x5=30)

- i. Describe the Reducing and non reducing sugars with examples.
- ii. Explain Disaccharides by giving at least two examples.
- iii. Give a brief description on the isolation of cellular components.
- iv. Explain Nucleic acid hydrolysis
- v. Explain in detail the structure and function of Mitochondria.
- vi. Explain Homopolysaccharides with examples..