



HBX-953

Seat No. _____

First Year B. Sc. (Sem. II) Examination

April / May - 2015

Biotechnology : CBT-1-11

(Core Compulsory) (New Course)

Time : Hours]

[Total Marks :

1 Answer the following : 10

1. Which of the following forms clover leaf structure?
a) t-RNA b) r-RNA
c) m-RNA d) DNA
2. Which bond is present between COOH & NH₂ of two amino acid of Protein.
a) H-bond b) Peptide
c) Glycosidic d) Phosphodiester
3. Which hormonal deficiency produce Pellagra ?
a) VitB₂ b) Vit C
c) Vit K d) Vit B₆
4. The bond angle of water is
a) 104.5° b) 100°
c) 109° d) 110.5°
5. _____ is the formula of ribose.
a) C₅H₁₀O₅ b) C₆H₁₂O₆
c) C₇H₁₄O₇ d) None of the above
6. A 100 bp DNA has 20% A, 30% G, then what is the % of C and T.
a) 30,20 b) 20,30
c) 30,30 d) 20,20

7. Which of the following sugars is present in DNA?
 - a) Xylose
 - b) Hexose
 - c) Ribose
 - d) Ribulose
8. Which of these is sulfur containing amino acid.
 - a) Lysine
 - b) Proline
 - c) Cystein
 - d) Tryptophan
9. The ratio of $(\text{HCO}_3^-) / (\text{H}_2\text{CO}_3)$ required for the pH blood plasma to remain 7.4 is
 - a) 1:2
 - b) 2:1
 - c) 20:1
 - d) 1:20
10. The H^+ ion present in a solution is the measure of
 - a) Acidity
 - b) Basicity
 - c) Alkalinity
 - d) None

2 Do as directed. (any ten)

1. Desire pH and pKa.
2. Give examples of Lipid soluble vitamins.
3. Give the full form of MUFA and PUFA.
4. Write down the function of m-RNA.
5. Define Hydrogen and Ionic bond.
6. Define Polar and non-polar molecules.
7. Give the definition of Reducing and Non-Reducing sugar.
8. Write down the functions of Buffer.
9. Define Polysaccharides.
10. Define Nucleotide and Nucleoside.
11. Give the examples of two saturated fatty acids.
12. Give the destinition of Protein and Lipid.

3 Write short notes on following. (any four)

1. Give Fisher and Haworth Projection of Carbohydrate.
2. Explain H-H equation.
3. Give a detailed note on Fat soluble vitamins.
4. Give a detailed note on m-RNA
5. Explain Nucleotide.
6. Write a note on Biological and chemical properties of water.
7. Alternative forms of DNA

4 Explain in detail. (any two)

1. Give a detailed account on DNA double-helix structure.
 2. Write a detailed note on Polysaccharide.
 3. Types of Lipid.
 4. Give Note on chemical-bonds.
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