

(i) Printed Pages : 2

Roll No.

(ii) Questions : 7

Sub. Code :

0	9	9	4
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Exam. Code :

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B.Sc. (Hons.) Bioinformatics 1st Semester
(2122)

INTRODUCTION TO BIOCHEMISTRY

Paper : BIN-1007

Time Allowed : Three Hours]

[Maximum Marks : 60

Note :— Attempt **FIVE** questions in all, selecting at least **TWO** questions from each section. Question No. 1 is compulsory.

1. Give the answer of the following questions in very brief :

- (i) What is the weak acid ?
- (ii) Write the difference between pK_a and pI.
- (iii) What is peptide bond ?
- (iv) Write the name of aromatic amino acids.
- (v) Write a short note on transcription.
- (vi) Effect of substrate on enzymes activities.
- (vii) Write difference between DNA and RNA.
- (viii) Role of disaccharides in energy yielding process.
- (ix) Denaturation of DNA structure.
- (x) Steady state kinetics of enzyme.
- (xi) What is the splicing ?
- (xii) Write the names of nucleotides present in t-RNA. 12×1

SECTION—A

2. (a) Write the structure of water molecule. Prove that water is good solvent.
- (b) What is buffer ? How buffer resist in change ? 6,6
3. (a) What is the pH concept ? How pH is important in biological system ?
- (b) What is the circular DNA ? Explain the structure of B form of DNA. 6,6
4. (a) Write about central dogma of molecular biology.
- (b) What is the genetic code ? How it links DNA to sequence of amino acid in proteins ? 6,6

SECTION—B

5. (a) What are the various functions of enzymes ?
- (b) Write about the alpha helixes of proteins. 6,6
6. (a) Define the biocatalysts. Also write how activities of enzymes are regulated in cell.
- (b) What is MM equation ? Derive the MM equation and its application. 6,6
7. (a) What are the polysaccharide ? Write the structure and function of starch.
- (b) What is the glycolipid ? Mention various roles of glycolipids in biological system. 6,6