

FACULTY OF SCIENCE

M.Sc. IV-Semester (CBCS/NONCBCS) Examination, May / June 2015

Subject : Biochemistry

**Paper : II
Bio-informatics**

Time : 3 hours

Max. Marks : 80

Note : Answer all questions from Part-A and Part-B. Each question carries 4 marks in Part-A and 12 marks in Part-B.

**PART – A (8 x 4 = 32 Marks)
(Short Answer Type)**

- 1 BLAST
- 2 Epigenomics.
- 3 Serial analysis of gene expression
- 4 Transcriptomics
- 5 Edman degradation
- 6 Motifs of DNA binding proteins
- 7 Minimal genome concept
- 8 Metagenomics

**PART – B (4 x 12 = 48 Marks)
(Essay Answer Type)**

- 9 a) Give an account of 1st and 2nd generation DNA sequencing methods.
OR
b) Write a note on DNA sequence data bases, add note on data mining and uses of data bases.
- 10 a) Discuss different tools of transcriptomics.
OR
b) How will you identify the expressed sequences by Chipseq, DNase seq?
- 11 a) Write note on :
 - i) Micro arrays for proteins
 - ii) Peptide sequences and MS profiles data bases**OR**
b) Give an account of protein structure prediction by Homology modeling.
- 12 a) Describe in detail the use of genomics for rational drug design and drug discovery.
OR
b) Discuss the following :
 - i) PCR to create synthetic gene
 - ii) Building an artificial phase
