30/12/17 M

Exam. Code : 103201

Subject Code : 1317

B.A./B.Sc. Ist Semester

BIOINFORMATICS

(Fundamentals of Computers, Molecular Biology & rDNA Technology)

Time Allowed—3 Hours] [Maximum Marks—75

Note :— Question **1** is compulsory. Candidates are required to attempt **one** question from each unit.

1. Write short notes on the following terms :

   (a) Minicomputers

   (b) ROM

   (c) WAN

   (d) HTML

   (e) FTP

   (f) RNA

   (g) Transcription

   (h) Translation

   (i) Tryptophan operon

   (j) Physical maps. 1½×10=15

UNIT—I

2. Explain in detail the evolution and generations of computers. Also differentiate between minicomputers and supercomputers. 15

3. Introduce the term MS PowerPoint. Write down important elements of PowerPoint, text formatting and methods of creating, opening and saving a PowerPoint file. 15

UNIT—II

4. Comparatively illustrate properties and applications of Mobile Computing, E-mail and World Wide Web. 15

5. What is internet ? Explain basic concepts of intranet and extranet. Also discuss important parameters of computer networks and security. 15

UNIT—III

6. What are amino acids and proteins ? Explain secondary, tertiary and quaternary structures of proteins using suitable examples. 15

7. Explain in detail the mechanism of translation in bacteria. Outline important features of the Genetic Code. 15

UNIT—IV

8. Discuss methods and significance of regulation of gene expression in bacteria and eukaryotes. Describe properties and regulation of lactose operon. 15

9. Write illustrated notes on :
   (a) Restriction digestion
   (b) PCR and
   (c) Plasmid vectors. 15