Exam. Code : 103201
Subject Code :   1273

B.A./B.Sc. 1st Sem. (Batch 2021-24)

BIOINFORMATICS

(Fundamentals of Computers, Molecular Biology & rDNA Technology)

Time Allowed—3 Hours]   [Maximum Marks—75

Note :– Attempt **FIVE** questions in all, selecting at least **ONE** question from each section. The **fifth** question may be attempted from any section. All questions carry equal marks.

SECTION—A

1. (a) Discuss various input and output devices.   10

    (b) Explain Workstations and super computers.   5

2. Write short notes on :

    (a) Explain various text formatting options in MS PowerPoint.   8

    (b) Inserting charts and formulas in MS Excel.   7

SECTION—B

3. (a) What is internet ? Discuss its applications.   8

    (b) Differentiate between LAN, WAN and MAN.   7

4. (a) Define HTML. Write a short note on various components of HTML page.   7

    (b) Discuss incorporation of hyperlinks, images, tables and frames in HTML.   8

SECTION—C

5. (a) Discuss tertiary structure of protein giving an example.   7

    (b) Write a note on DNA packaging and its organization on chromosomes.   8

6. (a) What do you mean by Genetic code ? Discuss its features.   5

    (b) Discuss the process of protein synthesis in prokaryotes.   10

SECTION—D

7. (a) What is an operon ? Discuss the process of gene regulation in Prokaryotes explaining mechanisms of tryptophan operon.   8

    (b) What is gene mapping ? Discuss various types of mapping techniques.   7

8. Write short notes on any **three** of the following :

    (a) Restriction enzymes

    (b) Cloning

    (c) PCR

    (d) NGS.   5×3=15