B.Sc. BIOTECHNOLOGY
Fifth Semester (Repeat)
COMPUTER APPLICATION & BIOINFORMATICS
(BBT - 23)

Duration: 3Hrs.

Full Marks: 70

Part-A (Objective) =20
Part-B (Descriptive) =50

(PART-B: Descriptive)

Duration: 2 hrs. 40 mins.

Marks: 50

Answer any four from Question no. 2 to 8
Question no. 1 is compulsory.

1. What are the different types of memory present in a computer? Convert the following binary number to decimal and decimal number to binary number:

   100011   (5+5=10)

   (ii) 27

2. Define operating system in a computer. Describe the organization of different components of a digital computer with a schematic diagram.   (2+8=10)

3. Answer the following:

   a) What is an electronic spreadsheet?   (2)

   b) What are the advantages of a spreadsheet?   (3)

   c) What are the various applications of a spreadsheet?   (3)

   d) In spreadsheet, cells are named by their positions either by rows or columns – True or False?   (1)

   e) To create a new worksheet, select worksheet from the file menu- True or False?   (1)

4. Answer the following: (2+3+5=10)

   a) Define nucleoside.

b) Draw the DNA delical structure with bases.

c) Explain super secondary structure of a protein? Give example.

5. Define multiple sequence alignment? Explain match, mismatch, gap, insertion in a sequence alignment event. (2+8=10)

6. What do you mean by biological databases? Explain different nucleic acid sequence database. (2+8=10)

7. What kinds of data are stored in 'Prosite' database? What are the file types in 'Prosite' database? Write down the applications of 'Prosite' database. (2+3+5=10)

8. Write short notes on the following: (5+5=10)

   a) Protein Data Bank

   b) Protein modelling

*****

B.Sc. BIOTECHNOLOGY
Fifth Semester (Repeat)
COMPUTER APPLICATION & BIOINFORMATICS
(BBT - 23)

Duration: 20 minutes   **Marks – 20**

(PART A - Objective Type)

I. Match the following: **1×10=10**

1.1	Heading	a) Italics
1.2	Ctrl+I	b) It refers a hidden character that designates the end of the line followed by a new paragraph
1.3	Delete selected text	c) Font
1.4	Ctrl+B	d) Backspace
1.5	Paragraph mark	e) It refers to a title for a part of a document
1.6	Courier	f) Bold
1.7	Defaults	g) This button is on the upper-right corner of a window
1.8	Close button	h) They refer to predefined settings
1.9	Dialog box	i) It refers to a list of commands that drops down from the menu bar
1.10	Menu	j) It is a box that displays the available

II. Choose the correct answer: **1×10=10**

1. Which of the following holds the ROM, CPU, RAM and expansion cards?

   a) Hard disk   b) Floppy disk

   c) Mother board   d) None

2. The torsion angle present in C_∞-C bond in a polypeptide is known as

   a) Psi   b) Phi

   c) Both a & b   d) None

3. Which of the following is not a non covalent interaction in proteins?

   a) Electrostatic forces   b) Hydrogen bonds

   c) Hydrophobic forces   d) Disulfide bonds

4. Add, subtract, divide, multiply and logic operations are performed by

   a) Registers   b) Control unit

   c) ALU   d) None

5. Which of the following is not a hydrophobic, aromatic amino acid?

   a) Tyr   b) Cys

   c) Trp   d) Phe

6. Which of the following database is used for biochemical pathway analysis?

   a) KEGG   b) EMBL

   c) NCBI   d) PDB

7. BLASTx program is used for

   a) Translate protein sequence

   b) Translate DNA database

   c) Translate input sequence

   d) None of these

8. Which is data retrieving tool?

   a) ENTREZ   b) EMBL

   c) PHD   d) All

9. SCOP is

   a) It is primary database.

   b) It is nucleotide sequence database.

   c) SCOP database is a hierarchical classification of protein 2D domain structures.

   d) Structural database, which identify structural and evolutionary relationships.

10.PDB is

a) Primary database for macromolecules.

b) Can be determined by gel electrophoresis.

c) Composite database.

d) Database for three dimensional structure of biological macromolecule.

*****