2015

M.Sc.

3rd Semester Examination

BIOTECHNOLOGY

PAPER—BIT-306

(PRACTICAL)

Full Marks : 40

Time : 4 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Answer *all* questions.

1. Access sequence of given biomolecule name from any sequence database and use that sequence for protein BLAST. Discuss the result with statistical significance. 15

[Principle — 3 + Procedure — 5 + Result — 7]

Or

Select 5 homologs for the given accession number by using any computational method. Do multiple sequence alignment and interpret the result. 15

[Principle — 3 + Procedure — 5 + Result & Interpretation— 7]

2. Find out ORF of the provided accession number or gene id and use that ORF to find out the motif present in that sequence. Interpreat the result. 15

[Principle — 3 + Procedure — 5 + Result — 7]

Or

Give the protein name for the supplied PDBID and perform the following operations :

(a) Predict the tertiary structure and state the prediction method.

(b) Total number of secondary structural elements present in the structure.

(c) Mention the ligand name, name of amino acid present at the N-terminal and C-terminal.

[Principle — 3 + Procedure — 5 + Result — 7]

3. Practical Note Book. 5

4. Viva-Voce. 5