

APRIL/MAY 2018

**MAM23 — BIOINFORMATICS AND
BIOSTATISTICS**

Time : Three hours

Maximum : 75 marks

SECTION A — (5 × 6 = 30 marks)

Answer ALL the questions.

1. (a) Give the classification of biological databases.

Or

- (b) What is Search engine? Describe any four popular search engines.

2. (a) Give a schematic representation of BLAST search for a nucleotide sequence comparison.

Or

- (b) What are the criteria to be considered in sequence alignment? Explain.

3. (a) Critically comment on biochemical pathway databases.

Or

- (b) Define proteomics and explain the main areas of proteomics.

4. (a) Describe the molecular visualization of proteins.

Or

- (b) Enumerate the protein prediction strategies.

5. (a) Define correlation. Explain the types of correlation with examples.

Or

- (b) Mention the characteristics of χ^2 test and point out its applications in biology.

SECTION B — (3 × 15 = 45 marks)

Answer any THREE questions.

6. Write an essay on generation of computers.
7. Give a detailed account on the various methods for multiple sequence alignment.
8. Define genome annotation. What are the points of differences between structural and functional genome annotation?

9. Explain any two methods to predict the secondary structure of proteins.

10. Find out the median for the following data.

Weight of capsules (in gm)	0-10	10-20	20-30	30-40	40-50
Frequency	22	38	46	34	20