

M.Sc. (Part-I) Semester—II (CBCS Scheme) Examination
MICROBIOLOGY
(Biostatistics, Bioinformatics and Computer Applications)
Paper-V

Time : Three Hours]

[Maximum Marks : 80

Note :— All questions are compulsory and carry equal marks.

1. In a study on typhoid patients, the following data was obtained. Find the standard deviation of the data.

Age (in years)	Number of cases (f)	
10-19	1	
20-29	0	
30-39	1	
40-49	10	
50-59	17	
60-69	38	
70-79	9	
80-89	3	16

OR

- (a) Highlight with various formulae used for determination of measure of dispersion. 8
- (b) Differentiate between geometric mean and harmonic mean. Comment on its merits and demerits. 8
2. (a) What do you mean by test of significance of a mean or difference between two means ? Define standard error with formula, merits and demerits. 8
- (b) Size of 5 fishes in cm are 2, 5, 3, 4, 1; find standard error of mean. 8

OR

In a monohybrid cross between tall (TT) and dwarf (tt) 1574 tall and 554 dwarf were obtained. Suggest if a ratio of 3:1 is suitable or not. 16

3. Elaborate in detail browsers and search engines. Add note on microbiological applications of computer. 16

OR

Take a detailed insight into various parts of computer. 16

4. What is the role of bioinformatics in drug designing ? Discuss in brief sequence analysis. 16

OR

Define biological databases. Highlight in detail structure databases and proteome database. 16

5. Explain various steps involved in protein structure prediction using bioinformatics. 16

OR

(a) Highlight Blosun matrices and PAM matrix. 8

(b) Discuss Biocorba and Biophython. 8

