

M.Sc. (Microbiology) (CBCS Pattern) Semester-IV  
**PSMBT-16 - Biostatistics and Bioinformatics**

P. Pages : 1

Time : Three Hours



**GUG/S/25/11411**

Max. Marks : 80

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Notes : 1. All questions are compulsory and carry equal marks. Draw well labelled diagrams wherever necessary.

**1.** Describe in detail descriptive statistics and its importance. **16**

**OR**

i) Discuss in detail chi-square ( $\chi^2$ ) distribution and test. **8**

ii) Describe in detail various sampling methods. **8**

**2.** Describe in detail basic concepts correlation and its types and methods. **16**

**OR**

i) Give the account of experimental designs of ANOVA. **8**

ii) Describe regression with simple linear regression. **8**

**3.** Describe in details Information networks. **16**

**OR**

i) Give the account of biological sequence by EST. **8**

ii) Discuss on national center for biotechnology information. **8**

**4.** Discuss sequence queries against biological databases BLAST and FASTA. **16**

**OR**

i) Describe in detail secondary and 3D structure of protein modeling. **8**

ii) Describe in detail cDNA libraries. **8**

**5.** Write in short.

i) Cluster sampling. **4**

ii) F-test. **4**

iii) Chaperons sequence analysis. **4**

iv) Protein data bank. **4**

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