

2053

B.A./B.Sc. (General) Sixth Semester  
Industrial Microbiology (Elective)  
IMB-601: Biostatistics, Tools and Techniques

Time allowed: 3 Hours

Max. Marks: 33

**NOTE:** Attempt five questions in all, including Question No. 1 which is compulsory and selecting one question from each Unit.

x-x-x

I. Answer briefly:-

- a) Chi-square statistics
- b) Variance Transformation
- c) Affinity Chromatography
- d) Membrane filters
- e) PCR
- f) Ultracentrifuge
- g) Harward Graphics
- h) Biochemical processes
- i) LOTUS

(9x1)

**UNIT - I**

- II. Discuss the Analysis of Variance transformation.
- III. a) Discuss the logarithmic functions.  
b) Differentiate between the mode and median.

(6)

(2x3)

**UNIT - II**

- IV. Explain the working and applications of fluorescence microscope.
- V. Write notes on:-

(6)

- a) Paper chromatography
- b) Isoelectric focusing

(6)

**UNIT - III**

- VI. Discuss the basic principle and functioning of Electron Microscope.
- VII. a) Describe the working of water purification systems.  
b) Discuss the applications of Flow cytometers.

(6)

(2x3)

P.T.O.

(2)

**UNIT - IV**

- VIII. a) What are the differences between fluidized bed fermenter and solid state fermenter?  
b) Discuss the factors involved in Fermenter design. (2x3)
- IX. a) What is computer hardware?  
b) Explain Computer application in fermentation technology. (2,4)

x-x-x