

Exam. Code: 0006
Sub. Code: 17577

2056

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

1. Answer briefly:-

- a) Sampling methods
- b) Poisson distribution
- c) Immunoelectrophoresis
- d) PCR machine
- e) LOTUS

(5x1)

UNIT - I

2. a) Write a note on the basic idea of probability.

b) Discuss the analysis of variance transformation.

(3,4)

3. a) Differentiate between exponential and logarithmic functions.

b) Elaborate on the mean, mode and median.

(5,2)

UNIT - II

4. a) Explain the principle and working of phase contrast microscopy.

b) Discuss the applications of fluorescence microscopy.

(4,3)

5. a) Elaborate on the principle and applications of isoelectric focusing.

b) Describe the use of paper and thin layer chromatography for separation of mixtures.

(3,4)

UNIT - III

6. a) Write a note on the functioning and usage of Fermenters.

b) Elaborate on the role of membrane filters and distillation units in microbiology laboratories.

(3,4)

7. a) Explain the principle of Electron Microscope.

b) Explain Beer Lambert's law and its application in spectrophotometry.

(3,4)

P.T.O.



(2)

UNIT - IV

8. a) Discuss the factors involved in fermenter design.
b) Explain the principle behind batch fermenter and continuous stirred tank fermenter.
(3,4)
9. a) Differentiate between computer hardware and software.
b) Explain the application of computers in fermentation technology with reference to justification and planning.
(3,4)

x-x-x