

53515

Seat No. _____

First Year B. Sc. Examination

April / May – 2003

Industrial Microbiology : Paper - II

(Biostatistics, Tools & Techniques)

Time : 3 Hours]

[Total Marks : 70

Instruction : All questions carry **equal** marks.

1 Describe any **two** :

- (a) Basic concepts of biostatistics
- (b) Measures of central tendency of observation (data)
- (c) Normal distribution
- (d) Analysis of variance.

2 Describe phase contrast microscope and give its uses in microbiology.

OR

2 Explain principles and working of various electron microscopes.

3 Explain principles, procedures and uses of :

- (a) Paper chromatography **OR** TLC
- (b) Immunoelectrophoresis **OR** Gel electrophoresis.

4 Discuss basic principles and applications of :

- (a) Absorption **OR** Emission spectroscopy
- (b) Polarograph **OR** pH meter.

5 Discuss role of computer in fermentation technology.

OR

5 (a) Explain differences between biochemical and chemical processes.

- (b) Describe solid state fermentation and give its applications.