

S.Y.MSc.(Zoology) Fourth Semester Old  
**MSc13 - Biotechniques, Biostatistics & Ethology Paper - I**

P. Pages : 1

Time : Three Hours



**GUG/W/18/2432**

Max. Marks : 80

- Notes :
1. All questions are compulsory.
  2. All questions carry equal marks.
  3. Illustrate your answers with well labelled diagrams wherever necessary.

1. Describe the process of cell separation by flow cytometry. 16

**OR**

Write notes on:

- a) Inoculation methods for microbial culture.
- b) Primary culture and cell lines.

2. Give an account on high Performance Liquid Chromatography (HPLC) and its applications. 16

**OR**

Write notes on:

- a) Rocket Electrophoresis.
- b) Autoradiography.

3. Explain the significance tests for Hypothesis testing and its importance in statistics. 16

**OR**

Write notes on:

- a) Types of probability distribution.
- b) Dispersion and Variance.

4. Explain in detail Orientation, Navigation and Homing in animals. 16

**OR**

Write notes on:

- a) Population Structure, distribution and Fluctuation.
- b) Neuronal and environmental components in development of animal behaviour.

5. Attempt the following: 16

- a) Cloning technique.
- b) Principle of Sedimentation.
- c) Representation of data by bar diagram and pie diagram.
- d) Concept of Animal Ethics.

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