

M.Sc.(Zoology) (C.B.C.S. Pattern) Sem-III  
**PSCZOOT10-5-Paper-X-Special Group : Cell Biology (Paper-I)**

P. Pages : 1

Time : Three Hours



**GUG/S/19/11311**

Max. Marks : 80

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

- 1.** Describe in detail the electron microscopy & add a note on principle working and its Application. **16**

**OR**

Write notes on:

- a) Cell separation by flow cytometry
- b) NMR Spectroscopy.

- 2.** Describe in detail the design and functioning of tissue culture laboratory. **16**

**OR**

Write notes on:

- a) Tissue Engineering
- b) Mass Spectroscopy

- 3.** Describe in detail the construction of C-DNA & genomic library. **16**

**OR**

Write notes on:

- a) YAC & BAC Vectors.
- b) Recombinant DNA technology.

- 4.** Describe in detail the applications of gene cloning. **16**

**OR**

Write notes on:

- a) Phage display techniques.
- b) Genetic Screening methods for gene constructs.

- 5.** Attempt the following. **16**

- a) X Ray Crystallography.
- b) Affinity chromatography.
- c) Gene Probes.
- d) DNA chip technology.

\*\*\*\*\*