

[SZ - S 135B]
M.Sc. DEGREE EXAMINATION

12

Zoology

First Semester

TOOLS AND TECHNIQUES FOR BIOLOGY

(Effective from the admitted batch of 2022-2023)

Time : 3 Hours

Max. Marks: 70

Answer ONE questions from each Unit.

All question carry equal marks.

UNIT - I

1. (a) Explain the differential and density gradient centrifugation. ✓
(b) Describe the working principle and structural components of electrophoresis. ✓

(OR)

2. (a) Give an account on the working principle and application of GC - MS.
(b) Write notes on principle and application of uv visible spectrophotometer.

UNIT - II

3. (a) Describe the visualization of cells and subcellular components by light microscopy. ✓
(b) Write on account on the principle and applications of components by light microscopy.

(OR)

4. (a) What is SEM? Explain its working principle and applications.
(b) Discuss the image processing methods in microscopy.

(P.T.O.)

UNIT - III

5. (a) Explain the different types of Knives and blades used for microtome. 5
- (b) Describe the process of slide mounting and drying.

(OR)

6. (a) Discuss the application of microtome for frozen section procedure.
- (b) Write on account on applications of cryotechniques for light and electron microscopy.

UNIT - IV

7. (a) Describe the methods of media preparation and their sterilization. 3
- (b) Write notes on biochemical mutants. 3 - chromosomal gene

(OR)

8. (a) Discuss the methods of organ culture.
- (b) Explain the artificial cartilage preparation using tissue engineering.

UNIT - V

9. (a) Describe the process of incorporation of radio isotopes in biological tissues and cells.
- (b) Write notes on G - M counter. 5

(OR)

10. (a) Describe the Brain activity recording technique.
- (b) Write notes on ECG.

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