



FD-321

M.Sc. 1st Semester
Examination, Dec.-Jan., 2021-22

ZOOLOGY

Paper - IV

Tools and Techniques in Biology

Time : Three Hours] [*Maximum Marks* : 80

Note : Answer **all** questions in which Question No. 1 is compulsory. All questions carry equal marks.

1. (a) Write the principle of ultracentrifugation.
- (b) Draw a well labelled diagram (Ray diagram) of light microscope.
- (c) What is PCR ?
- (d) What is cryopreservation ?

(2)

Unit-I

2. Describe the principle of chromatography with giving its uses and various types.

OR

Write the principle of colorimetry. Describe its role in Bioscience.

Unit-II

3. On what principle does electron microscope work ?
(a) Write about types of EM.
(b) How does fixation done for EM ?

OR

Describe the working principle and uses of phase contrast microscopy.

Unit-III

4. What is ELISA ? Write its application in Bioscience.

OR

How do you identify presence of proteins in any tissue? Describe with suitable stains.

(3)

Unit-IV

5. Write a note on DNA sequencing.

OR

How do you prepare a cladogram ?
