

PE-273-CV-19
M.Sc. ZOOLOGY (2nd Semester)
Examination, June 2022
TOOLS & TECHNIQUES FOR BIOLOGY

Time : Three Hours]

[Maximum Marks : 80
[Minimum Pass Marks : 29

Note : Answer from both the Sections as directed. The figures in the right-hand margin indicate marks.

Section-A

1. Answer the following short answer questions:

1x10=10

- (a) What is stable electrode in pH meter?
- (b) Name the sample tube of spectrophotometer.
- (c) What $10 \times$ and $40 \times$ signifies in a microscope?
- (d) Which type of microscope enables us to see and examine living cells and its division.
- (e) What is 'F' in F-factor of microbial world?
- (f) What is full form of EDTA?
- (g) What is the best suitable temperature for thawing?
- (h) What is full form of rpm and ppm?
- (i) What is whatman?
- (j) Which type of test is done to examine HIV test?

2. Answer the following short type questions:

2x5=10

- (a) What is the wide use of SDS-PAGE?
- (b) Distinguish between SEM and TEM.
- (c) What are the precaution of Inoculation?
- (d) What is Homogenization technique?
- (e) List the common uses of Biosensors?

Section-B

15x4=60

Answer the following Long-Answer questions:

- 3. What are working principle, apparatus, chemicals and biological significance of pH meter?**
OR
What are basic differences and applications of light and Electron microscopy?
- 4. Write about basic requirements, precaution and application of microbiological techniques.**
OR
Write about Cell Fractionation, Cell culture and Cell Harvesting methods.
- 5. Describe the basic features and application of Cryopreservation technique.**
OR
Write an essay on Immunological techniques.
- 6. What are separation techniques in Biology? Explain any one in detail.**
OR
Describe the Ultracentrifugation techniques for separation of organelle. Give examples of this.