

6243

M.Sc. (ZOOLOGY) 1st SEMESTER EXAMINATION, 2019

Paper - III

INSTRUMENTATION AND TECHNIQUES IN BIOLOGY

Time: Three Hours

Maximum Marks: 80

PART – A (खण्ड – अ)

[Marks: 20]

Answer all questions (50 words each).

All questions carry equal marks.

सभी प्रश्न अनिवार्य हैं। प्रत्येक प्रश्न का उत्तर 50 शब्दों से अधिक न हो।

सभी प्रश्नों के अंक समान हैं।

PART – B (खण्ड – ब)

[Marks: 40]

Answer five questions (250 words each).

Selecting one from each unit. All questions carry equal marks.

प्रत्येक इकाई से एक-एक प्रश्न चुनते हुए, कुल पाँच प्रश्न कीजिए।

प्रत्येक प्रश्न का उत्तर 250 शब्दों से अधिक न हो।

सभी प्रश्नों के अंक समान हैं।

PART – C (खण्ड – स)

[Marks: 20]

Answer any two questions (300 words each).

All questions carry equal marks.

कोई दो प्रश्न कीजिए। प्रत्येक प्रश्न का उत्तर 300 शब्दों से अधिक न हो।

सभी प्रश्नों के अंक समान हैं।

PART – A

- Q.1 (i) What is Atomic Force Microscope?
(ii) Write the importance of Fluorescence Microscope.
(iii) Write the principle of Colorimeter.
(iv) Which electrophoresis technique is used for protein?
(v) Write two names of non-coagulant fixatives.
(vi) What are the main objectives for tissue fixation?
(vii) Which stain is used for staining of cytoplasmic materials?
(viii) What is heat fixing?
(ix) Which section adhesive are used in microtomy?
(x) What is freeze fracture?

PART – B

UNIT –I

- Q.2 Write three essential system of Transmission Electron Microscope.
Q.3 Write the principle of Confocal Microscope.

UNIT –II

- Q.4 Write principle and application of Spectrophotometer.
Q.5 Write short note on Chromatography.

UNIT –III

- Q.6 Write characteristics of a good fixative.
Q.7 Write short note on (any two)
(1) Bouin's fluid
(2) Carnoy fluid
(3) Ethanol

UNIT -IV

Q.8 Give two examples of acidic, basic and neutral dyes.

Q.9 Write short note on differential staining technique.

UNIT -V

Q.10 Write short note on different types of microtomes.

Q.11 Write principle of freeze drying.

PART - C

Q.12 Write principle and application of phase contrast.

Q.13 Write principle, instrumentation and application of Electrophoresis.

Q.14 Write an essay on Cryopreservation.

Q.15 What are stains? Write a short note on staining techniques.

Q.16 Write short note on-

(i) Mounting Media

(ii) Freeze-drying
