

PD-273 CV-19
(552) M.Sc. ZOOLOGY (SECOND SEMESTER)
Examination JUNE- 2021
Compulsory/Optional
Group -
Paper - IV

Name/Title of Paper- TOOLS AND TECHNIQUE FOR BIOLOGY
Time:- Three Hours

Maximum Marks- 080
Minimum Passing Marks-029

Note: Answer From Both the Section as Directed. The Figures in the right-hand margin indicate marks.

Section-A

(1) Answer the following questions in few words:- 1x10

- a. Transmittance can be observed by which instrument?
- b. What is the Range of RPM for ultracentrifuge?
- c. Annular ring is used in which microscope?
- d. Material having nutrients for growth of microorganism is known as?
- e. What is a standard requirement of autoclave for sterilization of most culture media?
- f. What stands for PCNA?
- g. For prolong storage what condition is required in cryopreservation?
- h. Technique used to detect specific RNA sequence is?
- i. Name of two gels used for electrophoresis are?
- j. What is mobile phase in paper chromatography?

(2) Answer the following short-answer type questions:-

2x5

- a. What is pH? Define.
- b. What is Resolving power?
- c. What do you mean by Cell proliferation?
- d. Define thawing?
- e. What is Centrifugal effect?

Section-B

Answer the following long answer type questions. Internal Choice is given for each question/Unit:-

15x4

(3) Write the principle and application of Ultracentrifuge?

Or

Write short notes on the following:-

- (a) Principle of Calorimeter (b) SEM

(4) Discuss about different microbiological techniques?

Or

Write short notes on the following:-

- (a) Cell viability testing (b) Cell harvesting methods

(5) Discuss about the cryotechniques for preservation of Cells, tissues and organisms?

Or

Write short notes on the following:-

- (a) Cryotechniques for electron microscope (b) ELISA

(6) Discuss about the principle, type and application of chromatographic techniques?

Or

Write short notes on the following:-

- (a) HPLC (b) Density gradient centrifugation