

PC – 273 CV-19
(552) M.Sc. ZOOLOGY (SECOND SEMESTER)
Term End Examination JUNE 2020

Compulsory/Optional Group Paper - IV TOOLS AND TECHNIQUES FOR BIOLOGY
Time: Three Hours] [Maximum Marks : 080 [Minimum Pass Marks :029

नोट :- दोनों खण्डों से निर्देशानुसार उत्तर दीजिए। प्रश्नों के अंक उनके दाहिनी ओर अंकित हैं।

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

SECTION - A

1. Answer the following question in few words: 1X10

- (a) Name the different type of Reference electrode used in P^H meter.
- (b) Write the use of Condenser lens of light microscope.
- (c) What is the basic difference between TEM and SEM on the basis of image formation pattern?
- (d) Write the function of auto clave.
- (e) What do you understand by Ceu harvesting?
- (f) What do you understand by DNA "Biosensors".
- (g) Define Cryopreservation.
- (h) Define Rf value.
- (i) What do you understand by RPM of Centrifuge.
- (j) Why we perform Coomb's test?

2. Answer the following short- answer type question: 2x5

- (a) Calculate the P^H of a Solution in Which $[H+J = 4.5 \times 10^{-6}$ State whether the solution is acidic, basic or Neutral.
- (b) Write the Beer's-Lambert's Law.
- (c) What do you understand by inoculation and sterilization?
- (d) What is ELISA test? Write its application.
- (e) What is PAGE? Write its application.

SECTION - B

Answer the following long-answer type question:- 15x4

3. Write the principle and application of spectrophotometer.

OR

Write the principle of light microscope. Describe the phase Contrast microscope and explain how a image form in phase contrast microscope with suitable ray diagram.

4. Write about the Various method of media preparation and sterilization.

OR

Write Short note on-

- (a) Cell proliferation measurement. (b) Cell harvesting method.

5. Write about the immunological techniques based on agglutination and precipitation reaction of Antigen-antibody reaction.

OR

Write Short note on-

- (a) Cryotechnique for light microscopy. (b) Biosensors.

6. Write the Principle of Centrifuge and explain how organelle Separated by Centrifuge.

OR

Write Short note on-

- (a) Gel electrophoresis. (b) Paper Chromatography.