Roll No. : .....

Total No. of Questions : **11**] [Total No. of Printed Pages : **3**

BPF–2193

M.Sc. (Final) Examination, 2022

ZOOLOGY

Paper – VIII (a)

(Cell Biology)

*Time : **3** Hours*] [*Maximum Marks : **75***

Section–A **(Marks : 2 × 10 = 20)**

Note :– Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

Section–B **(Marks : 5 × 5 = 25)**

Note :– Answer any *five* questions. Each question has internal choice. (Answer limit **200** words). Each question carries **5** marks.

Section–C **(Marks : 10 × 3 = 30)**

Note :– Answer any *three* questions out of five (Answer limit **500** words). Each question carries **10** marks.

Section–A

1. (i) What is Hayflick phenomenon ?

   (ii) What is Primary Cell Culture ?

   (iii) What is the use of Feulgen Stain ?

(iv) Define Supra-vital staining.

(v) What is Fluorochrome ?

(vi) How the objective lenses of phase-contrast microscope is different from light microscope ?

(vii) Name the 'Antigen presenting cells'.

(viii) What are the different categories of antigens ?

(ix) What is 'Xeroderma Pigmentosum' ?

(x) Name *three* molecular markers.

Section–B

2. Explain the kinetics of cell growth citing a proper example.

Or

What is the difference between Natural and Defined Media ? Elaborate.

3. Elucidate the process of freeze-substitution.

Or

Describe the function of ATP-ase enzyme and its mechanism of action.

4. Explain the working and use of interference microscopy.

Or

How the cellular dynamics of the protein processing in ER and Golgi body can be studied using fluorescence microscopy ?

5. Describe the process of monoclonal antibodies generation in brief.

Or

What is the difference between Immunogenicity and Antigenicity ? Illustrate with example.

6. How the ionising radiations are responsible for alteration in genome structure ? Explain.

Or

Write a note on Glycogen Storage Disease.

Section–C

7. What is Primary Explant Technique ? Describe the procedure in detail.

8. Write an essay on two-dimensional chromatography.

9. Explain the difference between Scanning and Transmisison Electron Microscopy using suitable diagrams.

10. Describe the types of antigen-antibody reactions.

11. What is the difference between the 'Physical Map' and 'Genetic Map' ? Explain in detail.