

**A-0078**

Total Pages : 3

Roll No. ....

**MSCZO-506**

**M.Sc. Zoology (MSCZO)**  
**(Concepts of Cell Biology and Genetics)**

Examination, June 2025

Time : 2:00 Hrs.

Max. Marks : 70

**Note :-** This paper is of Seventy (70) marks divided into Two (02) Sections 'A' and 'B'. Attempt the questions contained in these Sections according to the detailed instructions given therein. *Candidates should limit their answers to the questions on the given answer sheet. No additional (B) answer sheet will be issued.*

**Section-A**

**(Long Answer Type Questions)**     2×19=38

**Note :-** Section 'A' contains Five (05) Long-answer type questions of Nineteen (19) marks each. Learners are required to answer any *two* (02) questions only.

1. Describe the process of meiosis with suitable diagram and discuss its significance.
2. Explain the technique of DNA fingerprinting.
3. Describe the structure and function of polytene chromosome ?
4. Describe the different theories of sex determination.
5. Describe chromosomal abnormalities in malignancy.

### **Section–B**

**(Short Answer Type Questions)**      4×8=32

**Note** :– Section ‘B’ contains Eight (08) Short-answer type questions of Eight (08) marks each. Learners are required to answer any *four* (04) questions only.

1. Explain genic balance theory of sex determination ?
2. Explain dosage compensation in *Drosophila*.
3. Write a short note on the mechanism of cell fusion.
4. Write a note on bacterial chromosome.
5. Write a short note on Genome analysis ?

6. Explain the Gene regulation in eukaryotic cell.
7. Explain the process of bacterial conjugation in detail.
8. Write the short notes on the following :
  - (a) Human genome
  - (b) Structure and morphology of T4 Phage.

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