Total Pages: 3 Roll No.

MZO-508

Human Cytogenetic

M.Sc. Zoology (MSCZO-20)

2nd Semester Examination, 2022 (June)

Time: 2 Hours] Max. Marks: 40

Note: This paper is of Forty (40) marks divided into two (02) Sections A and B. Attempt the questions contained in these sections according to the detailed instructions given therein.

SECTION-A

(Long Answer Type Questions)

Note: Section 'A' contains Five (05) long answer type questions of Ten (10) marks each. Learners are required to answer any Two (02) questions only.

 $(2 \times 10 = 20)$

- 1. Describe the process of cell division in detail.
- **2.** Explain different modes of inheritance.

- 3. Describe structural chromosomal abnormalities.
- **4.** Write in detail on DNA analysis methods.
- **5.** Describe the different types of staining.

SECTION-B

(Short Answer Type Questions)

Note: Section 'B' contains Eight (08) short answer type questions of Five (05) marks each. Learners are required to answer any Four (04) questions only. (4×5=20)

- 1. Write short notes any two of the following:
 - (a) Chromosome.
 - (b) Inversions.
 - (c) Deletions.
 - (d) Trisomy 21.
- **2.** Explain heterochromatin and euchromatin in brief.
- **3.** Write about dosage compensation.
- **4.** Explain dominant mutations with suitable diagram.
- **5.** What is DNA cloning and explain the DNA in vivo cell based cloning?

- **6.** Write short notes on :
 - (a) Laminar Air Flow.
 - (b) Incubator.
- 7. Write a detail about objective lens.
- **8.** Describe microscopy and imaging.