

**K-372**

Total Pages : 3

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# **MBOT-601**

## **CELL BIOLOGY AND GENETICS**

M.Sc. Botany (MSCBOT)

3rd Semester Examination, 2023 (Dec.)

**Time : 2 Hours]**

**[Max. Marks : 35**

**Note :** This paper is of Thirty Five (35) 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)**

**Note :** Section 'A' contains Five (05) long answer type questions of Nine and Half (9½) marks each. Learners are required to answer any Two (02) questions only.

(2×9½=19)

1. Describe the various type of structural variation in chromosomes and their significance.
2. What do you know about mutation? How are they useful to mankind? Also give the names of chemicals being used as mutagens.
3. Explain the Mendel's law of inheritance. Which law do you think is more important and why?
4. Define cell cycle. With the help of suitable diagrams explain the process of mitosis.
5. Give a detailed note on ultra-structure and functions of Plant Cell.

### **SECTION-B**

#### **(Short Answer Type Questions)**

**Note :** Section 'B' contains Eight (08) short answer type questions of Four (04) marks each. Learners are required to answer any Four (04) questions only. (4×4=16)

1. Lampbrush chromosome.
2. Types of DNA.

3. Aneuploidy.
  4. Characteristics of Genetic Code.
  5. Apoptosis.
  6. Working principles and uses of electron microscope.
  7. Structure and function of endoplasmic reticulum.
  8. Detailed structure of cell membrane.
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