

**K-375**

Total Pages : 3

Roll No. ....

## **MBOT-604**

**Plant Molecular Biology**

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. Write an essay on genome and gene organization.
2. What is repetitive DNA? Explain various types of repetitive DNA.
3. Discuss the regulation of gene expression in eukaryotes.
4. What are restriction endonucleases? Give a detailed account of different types of restriction endonucleases and their application in molecular biology.
5. What is Polymerase Chain Reaction? Write in detail about Polymerase Chain Reaction and its applications.

### **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. Write a short note on DNA packaging.
2. Write briefly about gene amplification.
3. Write a short note on Exon shuffling.

4. Write briefly on post translational modifications in eukaryotes.
  5. Write briefly about the significance of methylases.
  6. Write a short note on Yeast Artificial Chromosomes (YAC vectors).
  7. Enumerate the differences between genomic and cDNA libraries
  8. Write a short note on different types of molecular markers.
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