

A-0036

Total Pages : 3

Roll No.

MBOT-604

M.Sc. BOTANY (MSCBOT)

(Plant Molecular Biology)

3rd Semester Examination, Session December 2024

Time : 2:00 Hrs.

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) 2×9½=19

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.

1. Define Genome. What are the main features of genome organization in higher plant ?
2. Explain the following :
 - (i) Restriction Endonuclease Enzyme
 - (ii) Cloning Vector
3. What is the Polymerase Chain Reaction (PCR) ? Give the detail account on PCR.
4. What are Molecular Markers ? Give detail description of any 2 types of molecular markers.
5. Give detail description of any 4 enzymes used in Molecular Cloning.

Section–B

(Short Answer Type Questions) 4×4=16

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.

1. Write short notes on any *two* of the following :
 - (a) Plastid Genome
 - (b) Chondrial Genome
 - (c) Nuclear Genome

2. What is Gene library ? Explain the main purpose of creating genomic library.
3. What is cDNA and where it is used ?
4. What are intron and how they differ from exon in a gene.
5. What is the difference between type-I and type-II restriction enzymes ?
6. Define term “Repetitive DNA” and mention its role in genome.
7. Write a short note on Plasmid.
8. What is the difference between Prokaryotic and Eukaryotic Genomes ?
