

P-50

Total Pages : 3

Roll No.

MBOT-604

Plant Molecular Biology

M.Sc. Botany (MSCBOT)

3rd Semester Examination, 2023 (June)

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 answer 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.** Differentiate between Reverse Transcriptase PCR and real time PCR.

2. Write an essay on genome and gene organization.
3. Explain in detail about mitochondrial and chloroplast genome organization and regulation of gene expression.
4. Explain different enzymes used in molecular cloning. What are the modified enzymes used in Recombinant DNA Technology?
5. Explain different types of vectors used for cloning. Discuss the use of plasmids in cloning.

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. Discuss the significance of genomic and cDNA libraries.
2. Write a short note on restriction fragment length polymorphisms (RFLPs).
3. Give a brief description of proteomics.
4. Explain restriction endonucleases in brief.

5. What are cistron, recon and muton?
 6. Explain introns and exons.
 7. Explain initiation of protein synthesis.
 8. Discuss the role of histone proteins in regulation of gene activity.
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