

Exam. Code : 210003

Subject Code : 4804

M.Sc. Botany 3rd Semester

PLANT MOLECULAR BIOLOGY

Paper—BOT-C613

Time Allowed—3 Hours] [Maximum Marks—50

Note :— Attempt *five* questions, selecting at least *one* question from each section. The *fifth* question may be attempted from any Section. All questions carry equal marks.

SECTION—A

1. Write notes on the following (5 marks each) :
 - (a) C-value paradox
 - (b) Structure of mRNA. 10
2. Give a detailed account of RNA processing. 10

SECTION—B

3. What do you understand by Restriction endonucleases ? Discuss in detail their different types, nomenclature and use in rDNA technology. 10
4. Write notes on (5 marks each) :
 - (a) Biological and physical containment of recombinant clones
 - (b) cDNA library. 10

SECTION—C

5. What do you understand by plasmids ? Discuss usefulness of natural plasmids in rDNA technology. Also discuss limitations of natural plasmids in rDNA technology. 10
6. Draw a well labelled diagram to show lysogeny and lytic cycles in bacteriophage λ . 10

SECTION—D

7. Write notes on (5 marks each) :
- (a) T-DNA
 - (b) RAPD. 10
8. Write notes on (5 marks each) :
- (a) Artificial Chromosomes
 - (b) Microarrays. 10