

AE-774

M.Sc. (Final)
Term End Examination, 2016-17

BOTANY

Paper - III

Biotechnology and Genetic Engineering of Plants and Microbes

*Time : Three Hours] [Maximum Marks : 100
[Minimum Pass Marks : 36*

Note : Answer any **five** questions. All questions carry equal marks.

- 1.** What is Protoplast ? Describe protoplast isolation, fusion and culture.
- 2.** Write short notes on any **two** of the following :
 - (a) Artificial Seeds
 - (b) Cryopreservation
 - (c) Somatic Hybridization

(2)

3. What is recombinant DNA technology ? Describe all steps in brief.
4. Write short notes on any **two** of the following :
 - (a) cDNA library
 - (b) DNA synthesis
 - (c) DNA fingerprinting
5. What is germplasm storage ? How is it useful for plant tissue culture ?
6. Write a detail account on Polymerase Chain Reaction.
7. Write aim and strategies for the development of transgenic plant through genetic engineering.
8. Write short notes on any **two** of the following :
 - (a) Chloroplast Transformation
 - (b) Intellectual Property Rights
 - (c) T-DNA
9. Write an essay on bacterial transformation and how genetic improvement of industrial microbes helpful in industries.

(3)

10. Write short notes on any **two** of the following :

- (a) Protein Profiling
- (b) Artificial Chromosome
- (c) Microarray
