

# ED-625

M.Sc. 3rd Semester Examination, March-April 2021

### BOTANY

Paper - III

# Biotechnology - I (Genetic Engg. of Plant and Microbes)

Time : Three Hours][Maximum Marks : 80[Minimum Pass Marks : 16

Note : Answer all questions. All questions carry equal marks.

#### Unit-I

1. Write down the principles of gene cloning and explain the role of restriction endonuclease in gene cloning with suitable examples.

#### OR

Write notes on the following:

- (a) Principles and scope of Biotechnology
- (b) Bacteriophage vectors

**DRG\_132\_**(3)

(Turn Over)

NS

# (2)

#### Unit-II

2. Explain various methods of vector mediated gene transfer and discuss their advantages and limitations.

#### OR

Write notes on the following:

- (a) Bacterial Transformation
- (b) Transgenic plants

#### Unit-III

**3.** Describe the mechanism of Polymerase Chain Reaction.

## OR

Write short notes on the following:

- (a) DNA Fingerprinting
- (b) DNA Sequencing

#### Unit-IV

4. What is gene mapping? Explain genetic and physical mapping of genes with suitable examples and discuss the role of gene mapping in Biotechnology.

#### OR

**DRG\_132\_**(3)

#### (Continued)

ews.h

# (3)

Write short notes on the following:

(a) Microarrays

(b) Protein profiling



DRG\_132\_(3)

520