

M.Sc. - II (Botany) (NEP Pattern) Semester-III
**03MSCBOT04.1 - Elective DSE Paper-IV : Molecular Biology and Plant
Biotechnology-III 21-May-25**

P. Pages : 1

Time : Three Hours



GUG/S/25/15955

Max. Marks : 40

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- Notes : 1. All questions are compulsory and carry equal marks.
2. Draw well labeled wherever necessary.

1. Describe the General methods of gene isolation in detail. 8

OR

Write notes on:

- a) gDNA library. 4
b) Southwestern screening. 4

2. Describe the PCR working principles and their applications in Molecular biology in detail. 8

OR

Write notes on:

- a) Expression vectors. 4
b) Transformation 4

3. Describe the DNA microarrays technology and applications in details. 8

OR

Write notes on:

- a) Protein stability and folding. 4
b) DALI (Distance-matrix alignment) 4

4. Describe about the introduction definition and applications of Bioinformatics in details. 8

OR

Write notes on:

- a) Phylogeny and phylogenetic tree evaluation. 4
b) Secondary databases 4

5. Write short notes on:

- a) DNA manipulation enzymes. 2
b) Transgenesis. 2
c) Application of hydrophobicity. 2
d) AutoDep tools 2
