

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

P. Pages : 1

Time : Two Hours



**GUG/W/24/15955**

Max. Marks : 40

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

1. Describe the formation of cDNA library and its importance. 8

**OR**

Write notes on:

- a) Southern hybridization 4  
b) Western blotting. 4

2. Describes the vectors for prokaryotes and eukaryotes and their importance. 8

**OR**

Write notes on:

- a) Transformation 4  
b) Working principle & application of PCR. 4

3. Describe the genetic polymorphism and genetic mutations of genome analysis. 8

**OR**

Write notes on:

- a) Protein stability and folding.  
b) Protein complexes and aggregates.

4. What is bioinformatics. Describe history and applications of bioinformatics. 8

**OR**

Write notes on:

- a) Nucleic acid sequence and protein sequence of primary database. 4  
b) Gene Bank and Taxonomy databases. 4

5. Write short notes on:

- a) Dot – blot 2  
b) Transfection 2  
c) DALI 2  
d) BLAST 2

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