

Roll No. : .....

Total No. of Questions : 11 ]

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# **BPF-2186**

**M.Sc. (Final) Examination, 2022**

**BOTANY**

Paper - VIII (d)

**(Advanced Plant Biotechnology-II)**

*Time : 3 Hours ]*

*[ Maximum Marks : 75*

**Section-A**

**(Marks : 2 × 10 = 20)**

*Note :-* Answer all *ten* questions (Answer limit **50** words). Each question carries **2** marks.

**Section-B**

**(Marks : 5 × 5 = 25)**

*Note :-* Answer all *five* questions. Each question has internal choice (Answer limit **200** words). Each question carries **5** marks.

**Section-C**

**(Marks : 10 × 3 = 30)**

*Note :-* Answer any *three* questions out of five (Answer limit **500** words). Each question carries **10** marks.

**Section-A**

1. Define the following :

(i) HAC

(ii) Endonucleases

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- (iii) Protoplasts
- (iv) Herbicide
- (v) Reverse Transcription
- (vi) Nif gene
- (vii) Male sterility
- (viii) Alkaloids
- (ix) Cloned genes
- (x) Trade Mark

**Section-B**

2. Write short note on YAC.

*Or*

Discuss about the useful aspects of rDNA technology.

3. Discuss about agrobacterium mediated gene transfer method in plants.

*Or*

Write short note on insect resistant plants.

4. Discuss about western blotting technique.

*Or*

Explain the molecular mechanism of nitrogen fixation.

5. Write about antisense RNA technology and its applications.

*Or*

Write short note on Molecular Farming.

6. Write short note on Transgenic Plants for Edible Vaccine.

*Or*

Discuss the uses of cloned genes in Industries.

### **Section-C**

7. What are Cloning Vectors ? Describe their types and uses.
8. Describe the various gene transfer methods for producing transgenic plants.
9. What is Polymerase Chain Reaction ? Discuss its principle and applications.
10. Discuss about the strategies to increase production of secondary metabolites in tissue culture.
11. How biotechnology is useful for society in Current Scenario ?