



PT-003-1144003

Seat No. _____

**M. Sc. (Botany) (Sem. IV) (CBCS)
(W.E.F. 2016) Examination**

August - 2020

**BOT : 421 Plant Biotechnology and Genetic
Engineering**

Faculty Code : 003

Subject Code : 1144003

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

- 1** Answer the following : (Any Seven) **7×2=14**
- (a) What is marker?
 - (b) Write the limitations of gene cloning.
 - (c) Define the 2D - electrophoresis.
 - (d) Write the application of plantibody.
 - (e) Write the application of ISSR marker technique.
 - (f) What are the methods of protein precipitation?
 - (g) Explain the principle of affinity chromatography.
 - (h) What is the role of SDS in DNA and protein extraction?
 - (i) Write the role of virulence genes in gene transfer method.
 - (j) What is probe? Write its importance in Biotechnology.
- 2** Answer the following : (Any Two) **2×7=14**
- (a) Describe the step for gene transfer method.
 - (b) Explain the advantage and disadvantages of GMO plant.
 - (c) Write note on Ti plasmid.
- 3** Answer the following : **2×7=14**
- (a) Describe the AFLP technique and its application.
 - (b) Briefly describe PCR technique.

OR

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- 3** Answer the following : **2×7=14**
- (a) Briefly describe the application of marker techniques in agriculture.
 - (b) Explain the SSR marker technique.
- 4** Answer the following : **2×7=14**
- (a) Write a note on Isoelectric focusing.
 - (b) Describe the types of ELISA technique and its application.
- 5** Write a short note on any **two** of the following : **2×7=14**
- (a) Radioimmunoassay (RIA)
 - (b) Plantibody
 - (c) Biological control of pest
 - (d) Protein isolation techniques
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