



Seat No. _____

HB-003-1144003

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

April - 2023

Botany : BOT-421

(Plant Biotechnology & Genetic Engineering)

(Elective Paper)

Faculty Code : 003

Subject Code : 1143003

Time : $2\frac{1}{2}$ Hours / Total Marks : 70

Instruction : All questions are compulsory and carry equal marks.

1 Answer any Seven from the following : **7×2=14**

- (a) What is RAPD ? Explain in short.
- (b) Write basic principle of SSR technique.
- (c) What are the methods for gene cloning in plants ?
- (d) Write importance of marker techniques in plants.
- (e) What are the criteria for vector selection ?
- (f) What is ion-exchange chromatography ?
- (g) What is plantibody ?
- (h) Write principle of 2-D electrophoresis.
- (i) Write difference between SDS PAGE and native gel electrophoresis.
- (j) What is RIA ? Explain.

2 Write note on the following (Any Two) : **2×7=14**

- (a) What is the importance of GMO plants ? Explain with an example.
- (b) Write notes on Ti plasmid.
- (c) What are the techniques used for GMO identification ? Explain.

- 3 Write short note on the following : **2×7=14**
- (a) RFLP
 - (b) PCR

OR

- 3 Answer the following : **2×7=14**
- (a) What are the PCR based marker techniques ? Explain any one.
 - (b) Write importance of marker techniques in agriculture.
- 4 Write note on : **2×7=14**
- (a) Agarose Electrophoresis
 - (b) IEF
- 5 Write short notes on any Two of the following : **2×7=14**
- (a) Biological control of pest.
 - (b) Mode of action of bio-control agents.
 - (c) Affinity chromatography.
 - (d) Basic principle of chromatography.
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