



MBU-003-1144003 Seat No. _____

M. Sc. (Sem. IV) (CBCS) Examination

April / May - 2018

Botany : BOT - 421

(Plant Biotechnology & Genetics)

Faculty Code : 003

Subject Code : 1144003

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

[Total Marks : 70

- 1 Answer the following : (any seven) 14
- (a) What are the methods of protein precipitation ?
 - (b) Explain the principle of size exclusive chromatography.
 - (c) Write the principle of Affinity chromatography.
 - (d) What is Biological Control ?
 - (e) What are plantibodies ? Write its application.
 - (f) Define the 2D-electrophoresis.
 - (g) Write advantages of GM plants.
 - (h) What are the molecular markers ?
 - (i) Explain blunt cutter restriction enzyme.
 - (j) What is transgene ?
- 2 Answer the following : (any two) 14
- (a) What is GMO ? Discuss various steps involved in GMO production.
 - (b) Write detail note on applications of cloning techniques in plant biotechnology.
 - (c) Application of marker techniques in plant molecular biology.

- 3** Answer the following : (Compulsory Questions) **14**
- (a) Explain Protein, isolation techniques.
 - (b) Ion-exchange chromatography for protein separation.

OR

- 3** Answer the following : (Compulsory Questions) **14**
- (a) Write the basic principle of Electrophoresis and explain different types in brief.
 - (b) Isoelectric Focusing.

- 4** Answer the following : **14**
- (a) Write importance of ELISA techniques in detection of plant metabolites.
 - (b) Write note on Radioimmunoassay (RIA)

- 5** Answer the following : (any two) **14**
- (a) What is genetic engineering ? Explain briefly the distinct steps common to all genetic engineering technology.
 - (b) Write short note on Simple sequence repeats.
 - (c) Write note on Polymerase chain reaction.
