



DBX-003-1142002

Seat No. _____

M. Sc. (Botany) (Sem. II) (CBCS) Examination

July - 2022

BOT-208 : Biotechnology & Immunology

Faculty Code : 003

Subject Code : 1142002

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

[Total Marks : 70

Instruction : All questions are compulsory and carry equal marks.

1 Answer any **seven** from the followings : **7×2=14**

- (a) What is bioremediations ? Explain.
- (b) What types of media use for animal tissue culture ?
- (c) List synthetic and natural phytohormones use in Plant Tissue Culture.
- (d) Why sucrose is preferred as carbon source in plant tissue culture ?
- (e) What are the major components of plant tissue culture media ?
- (f) Highlight characteristics of the hinge region of antibody.
- (g) Highlight properties of Immunogens.
- (h) Define adjuvants.
- (i) What is plasmid ? Write its role in recombination techniques.
- (j) What is southern blot technique ? Explain.

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

- (a) Write applications of microbes in pharmaceutical industry.
- (b) What are the methods for immobilization of enzyme ? Discuss.
- (c) Write notes on Animal tissue culture .

3 Write short note on the following : **7×2=14**

- (a) Applications of recombination techniques.
- (b) Restriction Enzymes.

OR

- (a) Vectors for gene cloning.
- (b) Major steps of gene cloning techniques.

4 Write notes on the following : **7×2=14**

- (a) What is totipotency ? What role do phytohormones play in totipotency ?
- (b) What are the types of plant tissue culture ? Discuss their importance.

5 Write notes on any **two** of the following: **7×2=14**

- (a) ELISA
 - (b) Types of antibodies
 - (c) Autoimmunity
 - (d) Innate immune system
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