



**PAR-003-014202**

Seat No. \_\_\_\_\_

**M. Sc. (Botany/Zoology/Microbiology) (Sem. II)  
(CBCS) Examination**

**August / September - 2020**

**Zoo-208 : Biotechnology & Immunology**

**Faculty Code : 003**

**Subject Code : 014202**

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

[Total Marks : 70

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

- (a) What is biostimulation?
- (b) What are xenobiotic compounds?
- (c) Define Neoshizomeric RE with example.
- (d) Write down various features required by plasmid vector in gene cloning.
- (e) Enlist various Plant Culture media.
- (f) What is the difference between monoclonal and polyclonal antibody?
- (g) What are cell lines?
- (h) Explain the term :
  - (i) Organotypic culture
  - (ii) Histotypic culture.
- (i) Define Antigen and adjuvants.
- (j) What is autoimmunity?

**2 Answer of the following : (any Two) 7×2=14**

- (a) What are the advantages of using white rot fungi as bioremediation agents?
- (b) Describe any one method of enzyme immobilization and its applications.
- (c) Describe various factors responsible for molecular recalcitrance.

- 3** Answer the following : **7×2=14**
- (a) Explain cloning in Lambda phage vectors.
  - (b) What do you mean restriction enzymes and gene targeting?

**OR**

- 3** Answer the following : **7×2=14**
- (a) Describe the enzymatic disaggregation for primary cell culture for Animal.
  - (b) Describe briefly various types of Plant Tissue Culture.

- 4** Answer the following : **7×2=14**
- (a) Give a brief account on Innate Immune System.
  - (b) Describe Immunoprecipitation and Immunofluorescence.

- 5** Answer the following : (any **Two**) **7×2=14**
- (a) Describe the screening of the recombinant clones.
  - (b) What are the scopes of Animal Biotechnology?
  - (c) Discuss the principles of Plant Tissue Culture.
  - (d) Write notes on ELISA.

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