



**DBX-003-1182002**

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

**M. Sc. (Zoology) (Sem. II) (W.E.F. 2016) Examination**

**July - 2022**

**ZOO-208 : Biotechnology & Immunology**

**Faculty Code : 003**

**Subject Code : 1182002**

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

[Total Marks : 70

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

- (a) Define Bioremediation.
- (b) Define vector with example.
- (c) Significance of culture media.
- (d) Define autoimmunity.
- (e) Define adaptive immune system.
- (f) Criteria to select plant tissue culture.
- (g) What are restriction enzymes.
- (h) Write about Sandwich ELISA.
- (i) Difference between monoclonal and polyclonal antibodies.
- (j) Define gene targeting.

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

- (a) Discuss the various methods of bioremediation.
- (b) Discuss the structure and function of plasmid in detail.
- (c) Write about basic steps of plant tissue culture.

**3 Answer the following : 7×2=14**

- (a) Write short note on technique of animal tissue culture.
- (b) Discuss about technique of DNA isolation.

**OR**

- (a) Discuss immunogen in detail.
- (b) Discuss various types of plant tissue culture in detail.

4 Answer the following : **7×2=14**

- (a) Write a short note on monoclonal antibodies.
- (b) Explain delayed hypersensitivity.

5 Answer the following : (any two) **7×2=14**

- (a) Describe various types of immunoglobulins.
  - (b) Discuss the screening of recombinant clones.
  - (c) Write a short note on inflammation.
  - (d) Discuss Immunoprecipitation and immunofluorescence.
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