



Seat No. _____

HO-003-1182002

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

April - 2023

ZOO - 208 : Zoology

(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) What are recalcitrant compounds?
 - (b) Define genetic engineering.
 - (c) List out steps involved in hybridoma formation.
 - (d) What are cosmids and phages?
 - (e) Define immunofluorescence.
 - (f) Define Opsonization.
 - (g) Define monoclonal antibodies.
 - (h) What is hypersensitivity?
 - (i) Enlist various methods of enzyme immobilization.
 - (j) What are Sandwich ELISA?
- 2 Answer of the following : (any two) **7+7=14**
- (a) Discuss the bacterial characteristics useful for their commercial applications.
 - (b) Write a note on the types of plant tissue culture.
 - (c) Write a note on agglutination and precipitation of an antigen-antibody reaction.

- 3** Answer the following : **7+7=14**
- (a) Write a note on basic structure of antibody and highlight antibody mediated effector functions.
 - (b) Briefly describe the application of immobilized enzymes and cells.

OR

- 3** Answer the following : **7+7=14**
- (a) Write a note on restriction enzymes and gene targeting.
 - (b) Briefly describe the basic steps of plant tissue culture.
- 4** Answer the following : **7+7=14**
- (a) Write the principles and techniques of animal tissue culture.
 - (b) Give a brief account on Innate immune System.
- 5** Answer the following : (any **two**) **7+7=14**
- (a) Write a note on the delayed hypersensitivity.
 - (b) Briefly describe the advantages of immobilized cells over enzymes in commercial biotransformations.
 - (c) Write a note on the cells of the immune system.
 - (d) Write a note on the host vector system.
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