

M.Sc. (Zoology) Semester - 2 (CBCS) Examination
March/April – 2026 (As Per Syllabus Year-2023)
Biotechnology & Immunology (Core)

Time: 2:30 Hours**Marks:70****Instructions:**

1. All questions are compulsory.
2. Figures to the right indicate marks.

Que.1 Answer the following (any seven out of eight) (14)

1. What is the difference between free and immobilized enzymes?.
2. Define bacteriophage.
3. What is totipotency?
4. Define embryo culture.
5. Explain the function of IgG and IgE.
6. Mention the applications of ELISA.
7. Define Geographical Indication.
8. Explain WTO and GATT in brief.

Que.2 Answer the following (any two out of three) (14)

1. Describe various techniques of enzyme immobilization with suitable examples.
2. Explain the concept of bioremediation and its applications.
3. Compare plasmids and cosmids with suitable application as vectors.

Que.3 Answer the following (any two out of three) (14)

1. Describe the techniques used in plant tissue culture.
2. Explain the principles of animal tissue culture.
3. Explain the role of culture media and environmental conditions in animal tissue culture.

Que.4 Answer the following (any two out of three) (14)

1. Describe the production and applications of monoclonal antibodies.
2. Describe agglutination and precipitation as antigen-antibody interactions.
3. Explain the components and functions of innate immunity.

Que.5 Answer the following (any two out of three) (14)

1. Explain the role of intellectual property in research and development.
2. Describe trademarks, copyright, and industrial design.
3. Describe different types of patents and their significance.
