

M.Sc. (Botany) Semester - 2 (CBCS) Examination
May/June-2022 (NEW COURSE)
Biotechnology & Immunology (CORE)

Time: 2:30 Hours

Marks: 70

Instructions:

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

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- Q.1 Answer the following** (any seven out of ten, each of **two** marks) **14**
1. Give the function of oriC and amrR genes.
 2. Define the role of LacZ gene in vector.
 3. Define bioremediation?
 4. Mention advantage of immobilized cell.
 5. Mention the two immobilization techniques?
 6. Define the function of restriction enzymes.
 7. List out the applications of animal tissue culture?
 8. Explain the callus culture.
 9. Draw the labelled diagram of IgA.
 10. What is innate immunity? explain in brief.
- Q.2 Answer the following** (any two out of three, each of **seven** marks) **14**
1. What is immobilization? explain techniques in detail.
 2. Write the basic principle and methods for the bioremediation of organic compound.
 3. Discuss the opportunity in biotechnology and explain the application.
- Q.3 Answer the following** **14**
1. Write a note on monoclonal antibody and its application. [5]
 2. Write a note on IgG. [5]
 3. Write short note on agglutination. [4]
- OR**
- Q.3 Answer the following** (each of **seven** marks) **14**
1. Discuss in autoimmunity and explain its mechanism.
 2. What is hypersensitivity? Explain in detail.
- Q.4 (A) Answer the following** (any two out of three, each of **five** marks) **10**
1. Explain lambda phage vector in detail and mention application.
 2. Describe method used for the screening of recombinant clone.
 3. Explain pUC18 vector with labelled diagram.
- Q.4 (B) Answer the following** (any One out of two) **04**
1. Write a note on concept of genetic engineering.
 2. Explain gene targeting methods in detail.
- Q.5 Answer the following** (any two out of four, each of **seven** marks) **14**
1. Explain the techniques used for plant tissue culture.
 2. How many types of tissue cultures? explain any two in detail.
 3. Write note on animal culture.
 4. Discuss basic principle and steps of plant tissue culture.
