

M.Sc. (Zoology) Semester - 2 (CBCS) Examination
March/April -2019 (Old Course)
BIOTECHNOLOGY AND IMMUNOLOGY(CORE)

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

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

Q 1 ANSWER THE FOLLOWING (ANY SEVEN) 14

1. Name any three synthetic carriers used in enzyme immobilization.
2. What is ex situ bioremediation ?
3. What is the source and use of Ti Plasmid ?
4. What is gene library ?
5. What is blue white screening ?
6. How is serum an ideal medium for animal cell cultivation ?
7. What is callus and explant ?
8. What are opsonins and hemagglutinins ?
9. What are major chemical mediators of allergy ?
10. Give examples of non organ specific autoimmunity.

Q 2 ANSWER THE FOLLOWING (ANY TWO) 14

1. Describe the scopes of biotechnology.
2. Write a note on bioremediation technology.
3. Describe cell immobilization techniques.

Q 3 ANSWER THE FOLLOWING

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| A) What are Restriction endonucleases ? | 05 |
| B) Explain methods of inserting recombinant vector in host cell | 05 |
| C) Explain pBR 322 in detail. | 04 |

OR**Q 3 ANSWER THE FOLLOWING**

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| A) Describe the use of viruses as vectors in gene cloning. | 07 |
| B) Write an overview of R-DNA Technology | 07 |

Q 4 ANSWER THE FOLLOWING (ANY TWO) 14

1. Describe procedure and applications of callus culture.
2. Explain in detail – Animal Tissue Culture
3. Describe types of plant tissue culture in detail.

Q 5 ANSWER THE FOLLOWING (ANY TWO) 14

1. Explain the activation of adaptive immune response.
2. Describe factors affecting immunogenicity of antigen.
3. Explain various in vitro agglutination and precipitation reactions.
4. Describe autoimmune diseases in detail.
