

**M.Sc. (Micro) Semester - 2 (CBCS) Examination**  
**March/April– 2019 (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) 14**

1. What is entrapment and encapsulation ?
2. What is bioaugmentation ?
3. How REN are named ? Give two examples.
4. Which property of lambda phage makes it an ideal vector ?
5. How c-DNA is more useful in genetic engineering than its native molecule ?
6. Write the composition of MS medium.
7. What do you mean by primary and secondary cell lines ?
8. Define : CD4 lymphocyte and Arthus Reaction
9. Which cells are essentially eliminated during HAT selection ?
10. What are APCs ? How are they essential in acquired immunity ?

**Q 2 ANSWER THE FOLLOWING (ANY TWO) 14**

1. Describe different methods of enzyme immobilization in detail.
2. Discuss in detail – Approaches of in situ and ex situ bioremediation.
3. Biotechnology is an interdisciplinary pursuit-Justify and explain scopes.

**Q 3 ANSWER THE FOLLOWING**

- |                                                                             |           |
|-----------------------------------------------------------------------------|-----------|
| A) What is insertional inactivation ?                                       | <b>05</b> |
| B) Enzymes are inevitable in genetic engineering - Explain                  | <b>05</b> |
| C) Explain strategies for inserting recombinant vector into the host cells. | <b>04</b> |

**OR**

**Q 3 ANSWER THE FOLLOWING**

- |                                                                                        |           |
|----------------------------------------------------------------------------------------|-----------|
| A) Explain the protocol of DNA isolation and gene library.                             | <b>07</b> |
| B) Write an elaborate account on plasmids for prokaryotic and eukaryotic gene cloning. | <b>07</b> |

**Q 4 ANSWER THE FOLLOWING (ANY TWO) 14**

1. Describe techniques of plant tissue culture.
2. Discuss the media, reagents and equipment for animal cell culture.
3. Highlight major applications of plant tissue culture technology.

**Q 5 ANSWER THE FOLLOWING (ANY TWO) 14**

1. Explain barriers of innate immunity in detail.
2. Describe classes and functions of immunoglobulins.
3. Write an account on modern immunodiagnostics tests.
4. Describe immunological aspects related with hypersensitivity.

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