

M.Sc. (Botany) 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.

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 ? | 05 |
| B) Enzymes are inevitable in genetic engineering - Explain | 05 |
| C) Explain strategies for inserting recombinant vector into the host cells. | 04 |

OR

Q 3 ANSWER THE FOLLOWING

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

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 immunodiagnostic tests.
4. Describe immunological aspects related with hypersensitivity.
