



**M.Sc. IV Semester Degree Examination, Sept./Oct. - 2024**

**MICROBIOLOGY**

**MB DSC - 12 : Recombinant DNA Technology**

**(NEP)**

Time : 3 Hours

Maximum Marks : 70

**Note :** Answer **any five** of the following questions with question **no.1** is **compulsory**, each question carries **equal** marks.

- |    |   |    |
|----|---|----|
| 1. | Define cloning and explain the types of cloning in bacteria.              | 14 |
| 2. | Explain the different plasmids of bacterial origin.                       | 14 |
| 3. | Explain the key role of restriction endonucleases used in cloning.        | 14 |
| 4. | Discuss the rolling circle amplification technology.                      | 14 |
| 5. | Describe the genome sequencing.   | 14 |
| 6. | (a) Discuss T7 promoter in <i>E coli</i>                                  | 5  |
|    | (b) Explain RT PCR  | 5  |
|    | (c) Write a note on BAC's and YAC's                                       | 4  |
| 7. | (a) Briefly discuss the role of linkers and adapters in R DNA technology. | 7  |
|    | (b) Explain the mammalian over expression system.                         | 7  |
| 8. | (a) Write an account on Ligase.   | 5  |
|    | (b) Explain Natural competence.   | 5  |
|    | (c) Write a short note on primers.  | 4  |

