Reg. No. \_\_\_\_\_\_\_\_\_\_\_\_\_



**End Semester Examination – Nov / Dec – 2019**

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|  |  |  |  |
| **Code :** | **14BT2012** | **Duration :** | **3hrs** |
| **Sub. Name :** | **GENETIC ENGINEERING AND BIOETHICS** | **Max. Marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | |  | | --- | | Enumerate in detail the type 2 restriction enzymes with suitable examples and write the name of the microorganism source. | | CO1 | 10 |
| b. | Appraise on the linkers, adapters and homopolymer tailing in the development of a recombinant molecule. | CO1 | 10 |
| **(OR)** | | | | |
| 2. | a. | |  | | --- | | Elaborate the construction of PBR322 vector. | | CO2 | 10 |
| b. | Articulate the procedure involved in the screening of recombinant PBR 322 vector. | CO2 | 10 |
|  |  |  |  |  |
| 3. | a. | Discuss the structure of Phage vectors with suitable examples. | CO2 | 10 |
| b. | Outline the genome of M13 vector and discuss the importance of the vector in genetic engineering. | CO2 | 10 |
| **(OR)** | | | | |
| 4. |  | Describe the polymerase chain reaction mechanism, role of chemicals and its applications. | CO2 | 20 |
|  |  |  |  |  |
| 5. |  | Dicuss in detail the Western Blotting with neat illustrations. | CO2 | 20 |
| **(OR)** | | | | |
| 6. |  | Describe the physical and chemical transfection methods involved for the transfer of genes. | CO2 | 20 |
|  |  |  |  |  |
| 7. |  | Enumerate the importance and development of transgenic plants as bioreactors with suitable examples. | CO2 | 20 |
| **(OR)** | | | | |
| 8 |  | Explain in detail the development of Transgenic animals with examples. | CO2 | 20 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Enumerate the importance and the screening techniques invoved in the selection of recombinants in PUC vectors. | CO2 | 10 |
| b. | Discuss the ethical issues in Genetic Engineering. | CO3 | 10 |