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

G:\logo and QP Template\logo 3 Feb 2018 final.tif

**End Semester Examination – Nov/Dec – 2018**

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

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. |  | Discuss the importance of modifying enzymes with suitable examples. | CO1 | 20 |
| (OR) | | | | |
| 2. |  | Enumerate in detail type 2 restriction enzymes with suitable examples and write the name of the source microorganism. | CO2 | 20 |
|  |  |  |  |  |
| 3. |  | Write a detailed note and the methods involved to over come the problem of cloning the blunt end molecules to the vectors. | CO2 | 20 |
| (OR) | | | | |
| 4. | a. | Describe the construction of PBR322 vector with suitable illustrations. | CO2 | 10 |
| b. | Demonstrate the replication of phage lambda in *E.coli* cell and describe the decision between lytic and lysogenic pathway selection by the host cell. | CO2 | 10 |
|  |  |  |  |  |
| 5. |  | Enumerate the importance and development in Transgenic Plants as bioreactors with suitable examples. | CO1 | 20 |
| (OR) | | | | |
| 6. |  | Describe about the physical and chemical transfection methods involved for the transfer of genes. | CO1 | 20 |
|  |  |  |  |  |
| 7. |  | Explain about working principle, role of chemicals, types and applications of PCR. | CO2 | 20 |
| (OR) | | | | |
| 8. | a. | What is RFLP? Discuss restriction mapping. | CO2 | 10 |
| b. | Describe the role of southern blotting and its use in solving childhood disputes. | CO2 | 10 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Enumerate the importance and the screening techniques involved in the selection of recombinants in PUC vectors. | CO2 | 10 |
| b. | Discuss the ethical issues in Genetic Engineering. | CO3 | 10 |