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



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

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| **Code :** | **14BI2003** | **Duration :** | **3hrs** |
| **Sub. Name :** | **MOLECULAR BIOLOGY AND GENETIC ENGINEERING** | **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. | Give the experimental proof for the DNA as the Genetic material with neat diagrams of Griffith’s Experiment. | CO1 | 10 |
| b | How did Avery Mcleod and Mc Carty further developed Griffiths experiment? | CO1 | 10 |
| **(OR)** | | | | |
| 2. | a. | Enumerate about Post transcription modification in Eukaryotes. | CO1 | 10 |
| b. | Elucidate the salient features of Genetic code. | CO1 | 10 |
|  |  |  |  |  |
| 3. | a. | Describe in detail about Lac and Trp Operon involved in gene regulation with necessary illustrations. | CO2 | 20 |
| **(OR)** | | | | |
| 4 | a. | Discuss the characteristics of a Good Plasmid. | CO2 | 10 |
| b. | Describe Blue and White screening technique of pUC Vectors. | CO2 | 10 |
|  |  |  |  |  |
| 5. |  | Enumerate in detail about modifying enzymes with suitable examples. | CO2 | 20 |
| **(OR)** | | | | |
| 6. | a. | Discuss in detail about the principle, applications of PCR. | CO3 | 10 |
| b. | Write note on the types of PCR. | CO3 | 10 |
|  |  |  |  |  |
| 7. | a. | Identify the blotting technique used to detect a specific protein and explain in detail with illustrations. | CO3 | 10 |
| b. | Elaborate on Northern blotting and its applications. | CO3 | 10 |
| **(OR)** | | | | |
| 8. |  | Appraise the steps involved in the production of recombinant vaccines and discuss about the types of recombinant vaccines. | CO3 | 20 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Elucidate the importance of gene therapy - Discuss with suitable examples. | CO1 | 10 |
| b. | Discuss about the physical methods of gene transfer used for the development of genetically modified organisms. | CO1 | 10 |