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



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

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| **Code :** | **17BI2003** | **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. | Elucidate about bacterial conjugation with diagrammatic representation. | CO1 | 10 |
| b. | Outline Hershey Chase experiment to prove DNA as genetic material. | CO1 | 10 |
| **(OR)** | | | | |
| 2. |  | Explain how did Avery Mcleod and Mc Carty further developed Griffiths experiment. | CO1 | 20 |
|  |  |  |  |  |
| 3. | a. | Explain the process of prokaryotic DNA replication. | CO1 | 10 |
| b. | Analyze the difference in termination of eukaryotic replication and mention the action of telomerase. | CO1 | 10 |
| **(OR)** | | | | |
| 4. | a. | Demonstrate D loop and rolling circle model of prokaryotic replication. | CO2 | 10 |
| b. | Describe the initiation of transcription in eukaryotes. | CO2 | 10 |
|  |  |  |  |  |
| 5. |  | Define Genetic code and write in detail about prokaryotic translation with illustrations. | CO2 | 20 |
| **(OR)** | | | | |
| 6. |  | Discuss Lac and trp operation involved in the regulation of gene expression. | CO2 | 20 |
|  |  |  |  |  |
| 7. | a. | Discuss how blotting techniques are involved to identify a specific protein. | CO2 | 10 |
| b. | Give a detailed account of PCR and its applications. | CO2 | 10 |
| **(OR)** | | | | |
| 8. | a. | Explain the construction of cDNA libraries. | CO2 | 10 |
| b. | Write a note on the Type II restriction enzymes with suitable examples. | CO3 | 10 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Enumerate the steps involved for gene knock out in Mice. | CO3 | 10 |
| b. | Briefly explain about transgenic animals with suitable examples. | CO3 | 10 |