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



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

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| **Code :** | **14BT2011** | **Duration :** | **3hrs** |
| **Sub. Name :** | **MOLECULAR BIOLOGY** | **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. | Illustrate any one classical experiment to prove that DNA is the genetic material and also explain the Griffith experiment for transformation principle. | CO1 | 20 |
| (OR) | | | | |
| 2. | a. | Explain the process of any one type of transduction and conjugation. | CO1 | 20 |
|  |  |  |  |  |
| 3. | a. | What are the functions of different types of DNA polymerases present in *E.coli*? Explain the process of replication in *E.coli*. | CO1 | 20 |
| (OR) | | | | |
| 4. | a. | What are the different types of rolling circle mode of replication? Explain any one with diagram. | CO1 | 10 |
|  | b. | Describe the process of telomerase replication in eukaryotic DNA. | CO1 | 10 |
|  |  |  |  |  |
| 5. | a. | How does thymine dimerization occur in DNA? How can it be repaired? Explain. | CO3 | 10 |
|  | b. | Describe the process of transcription in prokaryotes with neat illustrations. | CO1 | 10 |
| (OR) | | | | |
| 6. | a. | Criticize the significance of eukaryotic promoters, enhancer, Transcription factor and mRNA splicing process. | CO2 | 20 |
|  |  |  |  |  |
| 7. | a. | List out the salient features of genetic code and describe the process of protein synthesis in prokaryotes in detail with neat diagrams. | CO1 | 20 |
| (OR) | | | | |
| 8. | a. | Explain the operon concept of gene regulation through *lac* operon and *trp* operon. | CO2 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Discuss tha various levels of regulation of gene expression in eukaryotes. Also write the role of *cis* & *trans* elements. | CO2 | 20 |