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

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**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

**End Semester Examination – Nov/Dec - 2016**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **09BT213/12BT215** | **Duration :** | **3 hrs** |
| **Sub. Name :** | **MOLECULAR BIOLOGY** | **Max. marks :** | **100** |

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| **Q. No.** | **Questions** | **Marks** |
| **PART-A (10X1=10 MARKS)** | | |
| 1. | What is a transforming principle? | (1) |
| 2. | What is F factor? | (1) |
| 3. | Mention D Loop, and its significance in DNA replication. | (1) |
| 4. | Explain Cot value. | (1) |
| 5. | Explain RNA splicing. | (1) |
| 6. | Which enzyme is involved in Transcription? | (1) |
| 7. | What is a codon and anti-codon? | (1) |
| 8. | What is wobble base pairing? | (1) |
| 9. | What is shine Dalgarno sequence? | (1) |
| 10. | What is SOS response? Explain its role in DNA repair. | (1) |

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| **PART-B (5 X 3= 15 MARKS)** | | |
| 11. | Explain the process of bacterial conjugation in detail with illustration. | (3) |
| 12. | Discuss the salient feature of genetic code. | (3) |
| 13. | Explain the rolling circle model of DNA replication. | (3) |
| 14. | Write a short note on the post translational modifications. | (3) |
| 15. | Explain the significance of promoter in gene regulation | (3) |

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| **PART-C (5 X 15= 75 MARKS)** | | | |
| 16. |  | Demonstrate the transformation experiment carried by Hershey-Chase experiment to prove that the DNA is genetic material | (15) |
| (OR) | | | |
| 17. |  | Explain the transduction process of generalized and specialized transduction | (15) |
| 18. |  | Describe the molecular mechanism of DNA replication in prokaryotes. Explain the semi-conservative mode of replication | (15) |
| (OR) | | | |
| 19. |  | Write detailed note on the Organization of eukaryotic chromosome. | (15) |
| 20. | a. | Describe Transcription Factors | (5) |
| b. | Describe RNA editing | (5) |
| c. | Describe RNA splicing | (5) |
| (OR) | | | |
| 21. |  | Explain the various molecular mechanisms involved in the transcription process. | (15) |
| 22. |  | Explain the various steps involved in the translational process with illustrations. | (15) |
| (OR) | | | |
| 23. |  | How the genetic code was elucidated? Add a note on the wobble hypothesis. | (15) |
| 24. |  | Write a detailed note on the various DNA damages and repair mechanisms. | (15) |
| (OR) | | | |
| 25. |  | Explain the utilization of lactose sugar and elaborate the mechanism of operation of Lac operon. | (15) |

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