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



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

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| **Code :** | **14BT3012** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ADVANCED ENVIRONMENTAL BIOTECHNOLOGY** | **Max. Marks :** | **100** |

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

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. |  | Illustrate the role of biotechnology in environmental protection for clean and green India. | CO1 | 20 |
| **(OR)** | | | | |
| 2. |  | Define water pollution. Discuss in detail the causes, effects and prevention of water pollution. | CO3 | 20 |
|  |  |  |  |  |
| 3. |  | Give the comparison between Aerobic and Anaerobic Treatment. Explain the design and process of activated sludge process and rotating biological contactor. | CO2 | 20 |
| **(OR)** | | | | |
| 4. |  | Define anaerobic digester. Explain in detail the upflow anaerobic sludge blanket reactor. | CO3 | 20 |
|  |  |  |  |  |
| 5. |  | List out the harmful effects due to disposal of industrial wastes without adequate treatment and how to solve problem using 3 R’s. | CO1 | 20 |
| **(OR)** | | | | |
| 6. | a. | Write a detailed note on Biogas Production. | CO2 | 10 |
| b. | Explain Composting and Vermicomposting. | CO2 | 10 |
|  |  |  |  |  |
| 7. |  | Describe how microbial populations can be promoted to degrade xenobiotic hydrocarbon compounds. | CO4 | 20 |
| **(OR)** | | | | |
| 8. |  | What are the characteristics of wastewater? Outline the processes available for treating wastewater from dye industries. | CO4 | 20 |
|  | | **Compulsory:** |  |  |
| 9. |  | What is metagenomic? Explain the genomic tools involved for bioremediation. | CO3 | 20 |