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

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**End Semester Examination – Nov/Dec – 2018**

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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. |  | Elucidate the role of biotechnology for cleaner and greener environment. | CO1 | 20 |
| (OR) | | | | |
| 2. |  | Define soil pollution? Discuss in detail about the causes, effects and prevention of soil pollution. | CO3 | 20 |
|  |  |  |  |  |
| 3. |  | Elaborate the atmospheric pollution increases the global warming, smog formation and acid rain? Justify. | CO3 | 20 |
| (OR) | | | | |
| 4. | a. | Describe about the Activated sludge process with its disadvantages. | CO2 | 13 |
| b. | Give the comparison between Aerobic and Anaerobic Treatment. | CO2 | 7 |
|  |  |  |  |  |
| 5. | a. | Explain the design and process of anaerobic sewage treatment for biogas production. | CO3 | 10 |
| b. | Summarize the optimized process of nutrient removal from waste water in anoxic condition. | CO3 | 10 |
| (OR) | | | | |
| 6. |  | Depict the characteristics of wastewater? Outline the processes available for treating wastewater from dye industries. | CO2 | 20 |
|  |  |  |  |  |
| 7. |  | Describe the characteristics of the pharmaceutical industry effluent and explain the different process steps in the treatment of the pharmaceutical industry effluent. | CO2 | 20 |
| (OR) | | | | |
| 8. |  | Define xenobiotic and recalcitrant? Explain the xenobiotic biodegradative route of oil spills with illustrations. | CO4 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | What is biosensor? Explain about the role of biosensors in environmental monitoring. | CO4 | 20 |