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



**UNIVERSITY**

(Karunya Institute of Technology & Sciences)

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

**End Semester Examination – April/May – 2017**

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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. |  | How are atmospheric pollution increased the global warming, smog formation and acid rain? Explain in detail. | CO3 | 20 |
| (OR) | | | | |
| 2. |  | Define soil pollution. Discuss in detail about the causes, effects and prevention of soil pollution. | CO2 | 20 |
| 3. |  | Explain the steps involved for the treatment of wastewater and sewage with suitable bioreactor design and operations. | CO4 | 20 |
| (OR) | | | | |
| 4. |  | Define eutrophication. Describe the process involved for the removal of nutrients by biological methods. | CO3 | 20 |
| 5. |  | Define bioremediation. Mention the role of microorganisms in bioremediation and biodegradation in detail? | CO1 | 20 |
| (OR) | | | | |
| 6. | a. | Explain about the composting process with its types and materials used for composting and vermicomposting. | CO1 | 12 |
|  | b. | What are lagoons? Summarize the treatment methods of waste water by lagoons. | CO2 | 8 |
| 7. |  | Explain about pesticide degradation pattern and how the petroleum products are degraded. | CO4 | 20 |
| (OR) | | | | |
| 8. |  | Elaborate in detail about bioremediation through genomic tools for cleaner environment. | CO4 | 20 |
|  | | **Compulsory:** |  |  |
| 9. |  | Describe the characteristics of the pharmaceutical industry effluent and explain the different process steps in the treatment of the pharmaceutical industry effluent. | CO2 | 20 |

ALL THE BEST