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



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

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| **Code :** | **18CE3037** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ENVIRONMENTAL CHEMISTRY AND MICROBIOLOGY** | **Max. marks :** | **100** |

**ANSWER ANY FIVE QUESTIONS (5 x 16 = 80 Marks)**

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | State the law that relates absorbance and transmittance. With neat sketch explain the working principle of UV- spectrophotometer. | CO3 | 8 |
| b. | Explain the principles of green chemistry with suitable applications. | CO1 | 8 |
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| 2. | a. | Derive Langmuir adsorption theorem for  Langmuir Adsorption Equation | CO3 | 8 |
| b. | Enumerate the fate of pesticide pollution in aquatic environment. | CO2 | 8 |
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| 3. | a. | Illustrate the process of electrokinectic remediation of heavy metal contaminated soil. | CO2 | 8 |
| b. | Enumerate the current scenario and harmful effects of oxides of nitrogen in the atmosphere. | CO3 | 8 |
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| 4. | a. | Give a detailed account on biological methods of isolating pure culture. | CO6 | 8 |
| b. | Paraphrase about the indicator bacterias and the techniques available to detect it. | CO6 | 8 |
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| 5. | a. | Express the various routes of transmission of infectious disease. | CO6 | 8 |
| b. | Write a detailed note on the various methods available for the control of microbial growth. | CO6 | 8 |
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| 6. | a. | Explain the role of atmosphere as a protective shield and the process that lead to formation of photochemical smog. | CO2 | 8 |
| b. | Recognize the various layers of atmosphere with respect to altitude, its range of temperature, gases found and its role. | CO1 | 8 |
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| 7. | a. | Summarize the pathogens that cause water borne disease breakout along with a case study. | CO6 | 8 |
| b. | Explain the applications of various microorganisms in industrial wastewater treatment. | CO5 | 8 |
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| **COMPULSORY QUESTION (1 x 20 = 20 Marks)** | | | | |
| 8. | a. | Enumerate the process of leaching of ores by microorganisms. | CO5 | 10 |
| b. | Explain the principles used in bioassay, its types and the advantages of environmental bioassay. | CO4 | 10 |