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 – Nov/Dec– 2017**

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| **Code :** | **16CE3010** | **Duration :** | **3hrs** |
| **Sub. Name :** | **ENVIRONMENTAL GEOTECHNOLOGY** | **Max. marks :** | **100** |

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

|  |  |  |  |  |
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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Explain the factors governing soil contaminant interaction. | CO1 | 10 |
| b. | Describe the basic structural units in soil mineralogy. | CO3 | 5 |
|  | c. | Discuss the concept of multiphase behaviour of soil system in geoenvironmental engineering. | CO1 | 5 |
| (OR) | | | | |
| 2. | a. | List out and explain the causes of soil environment reaction. | CO1 | 12 |
| b. | Differentiate between montmorillonite and illite clay minerals. | CO3 | 8 |
|  |  |  |  |  |
| 3. | a. | Paraphrase the term containment landfill. | CO2 | 15 |
|  | b. | Elucidate Volumetric water content. | CO3 | 5 |
| (OR) | | | | |
| 4. | a. | Recall the various Chemical process for insitu remediation method. | CO2 | 15 |
|  | b | Define the procedure for vitrification. | CO2 | 5 |
|  |  |  |  |  |
| 5. | a. | State the importance of thermal properties of soil. | CO3 | 5 |
|  | b. | Illustrate water content and Permeability measurement in soil. | CO3 | 15 |
| (OR) | | | | |
| 6. |  | Summarize the relevance of Passive containment system in the background of safe disposal of wastes. | CO2 | 20 |
|  |  |  |  |  |
| 7. | a. | Elaborate the different biological process for exsitu site remediation. | CO2 | 10 |
|  | b. | Recall the various Contaminant transformation process in soil. | CO2 | 10 |
| (OR) | | | | |
| 8. | a. | Compare horizontal and vertical barrier methods for site remediation. | CO2 | 12 |
|  | b. | Write a note on Geotechnical centrifuge modeling. | CO3 | 8 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. | a. | Describe the various modes in which Contaminant transport occurs in soil with suitable figures. | CO2 | 10 |
|  | b. | Distinguish between soil washing and soil flushing. | CO2 | 10 |

ALL THE BEST