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 – 2016**

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|  |  | **Semester :** | **VII** |
| **Code :** | **14CE2031** | **Duration :** | **3hrs** |
| **Sub. Name :** | **CONCRETE TECHNOLOGY** | **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. | List down the properties of ordinary Portland cement. | | CO1 | 10 |
| b. | Explain in detail any two laboratory test on properties of cement. | | CO1 | 10 |
| (OR) | | | | | |
| 2 | a. | List the raw materials required for manufacturing Portland Cement and explain the salient features of its two process of manufacturing. | CO1 | | 10 |
| b. | Write short notes on Hydration of cement. | CO1 | | 4 |
| c. | Write short notes on the parameters involved in deciding the W/C ratio. | CO1 | | 6 |
| 3 | a. | Explain in detail about the influence of aggregate on the properties of concrete. | CO1 | | 8 |
| b. | What are all the effects of ‘Accelerators’ on the property of fresh concrete? | CO1 | | 4 |
| c. | Explain the three types of pre-setting cracks in detail. | CO1 | | 8 |
| (OR) | | | | | |
| 4. | a. | Write in detail about Deleterious substances in Aggregates and their effect on concrete properties. | CO1 | | 10 |
| b. | Explain in detail the physical and mechanical properties of aggregates and its effect on concrete. | CO1 | | 10 |
| (OR) | | | | | |
| 5. | a. | What are all the factors affecting the workability of concrete and explain any two factors in detail how they are affecting? | CO1 | | 10 |
| b. | Explain in detail about the action, advantage, application and effect of Super Plasticizer on flowing concrete. | CO1 | | 10 |
| (OR) | | | | | |
| 6. | a. | Explain in detail about the types of ‘Shrinkage in Concrete’. | CO2 | | 10 |
| b. | List out the various stages of manufacture of concrete in sequential order and explain any two stages in detail. | CO1 | | 10 |
| 7. | a. | Define and explain the significance of Durablity of concrete. And also list out the factors influencing the durability of concrete. | CO2 | | 10 |
| b. | Write detailed report on Creep in concrete.(Definition, Influencing factors . Effect on concrete). | CO2 | | 10 |
| (OR) | | | | | |
| 8. | a. | List the properties of hardened concrete. Explain any one factor in detail. | CO2 | | 10 |
|  | b. | Write detailed report on Chemical action/attack on concrete and explain each attack. | CO2 | | 10 |
|  | | **Compulsory:** |  | |  |
| 9. | a. | Explain the ACI method of mix design with an illustration problem. | CO3 | | 14 |
|  | b. | Write about Non-Desteuctive testing of conctrete. | CO2 | | 6 |

ALL THE BEST