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 :** | **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 types of cement and explain their properties & uses. | CO1 | 10 |
| b. | Explain in detail about the supplementary cementing materials with examples. | CO1 | 10 |
| (OR) | | | | |
| 2. | a. | Discuss the different qualities of water used in concrete and list down the parameters involved in deciding the W/C ratio. | CO1 | 10 |
| c. | What are all the field test available to ascertain the quality of cement at site? Discuss in detail. | CO1 | 10 |
| 3. | a. | What are all the classification of aggregates? Discuss in detail. | CO1 | 7 |
| b. | List down the effect of admixtures on hardened concrete properties. | CO1 | 7 |
| c. | Write short notes on Alkali - Aggregate Reaction on concrete. | CO1 | 3 |
| d. | Write short notes on Alkali – Silica Reaction. | CO1 | 3 |
| (OR) | | | | |
| 4 | a. | List down the effect of Air Entrainment admixtures addition, on the Properties of Concrete. | CO1 | 6 |
| b. | Write in detail about Deleterious substances in Aggregates and their effect on concrete properties. | CO1 | 7 |
|  | c. | Explain the three types of pre-setting cracks in detail. | CO1 | 7 |
| 5. | a. | Explain the procedure for conducting ‘slump test’ for finding the workability of concrete, with sketches. | CO1 | 4 |
| b. | Explain in detail about the Shotcrete and its application. | CO1 | 8 |
| c. | Compare Ready Mix concrete and Site Mix Concrete. | CO1 | 8 |
| (OR) | | | | |
| 6. | a. | Demonstrate any two tests that are commonly employed to measure workability at site or lab. | CO2 | 6 |
| b. | What is the action of plasticizer in concrete? Explain the mechanism involved in it. | CO2 | 8 |
| c. | List the type of Admixtures classified based on their function. | CO2 | 6 |
| 7. | a. | Discuss in detail about the Permeability of concrete including its causes and measures for reduction. | CO2 | 10 |
| b. | Explain the factors influencing the concrete strength test results. | CO2 | 10 |
| (OR) | | | | |
| 8. | a. | What are all the factors affecting the durability of concrete? Explain in detail. | CO2 | 10 |
| b. | Define Creep of concrete and explain the factors which are influencing it. | CO2 | 10 |
|  | | **Compulsory:** |  |  |
| 9. | a. | Explain the IS method of mix design with an example. | CO3 | 14 |
| b. | Define Light weight concrete. Give detailed notes on its types. | CO2 | 6 |