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



**End Semester Examination – Nov/Dec– 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. | Name the major constituents of ordinary portland cement and mention the approximate percentage of each. | CO1 | 5 |
| b. | Compare the dry process over wet process of manufacturing of cement. | CO1 | 15 |
| (OR) | | | | |
| 2. |  | Explain in detail standard consistency test, setting time test and soundness test for cement. | CO1 | 20 |
|  |  |  |  |  |
| 3. | a. | Define bulking of sand? How can this be considered in the design of concrete mixes. | CO1 | 10 |
|  | b. | Explain the deleterious substances in aggregate. | CO1 | 5 |
|  | c. | Define bleeding of concrete. | CO1 | 5 |
| (OR) | | | | |
| 4. | a. | State the advantages and disadvantages of using super plasticizers in concrete? | CO1 | 7 |
|  | b. | How is concrete affected by sulphate attack? Give the method to control the sulphate attack. | CO1 | 7 |
|  | c. | Describe the fineness modulus of aggregate on the properties of concrete. | CO1 | 6 |
|  |  |  |  |  |
| 5. | a. | Discuss the various factors affecting the workability of concrete. | CO2 | 6 |
|  | b. | Write a detailed note on alkali aggregate reaction. | CO2 | 7 |
|  | c. | Explain any two laboratory test for workability with neat sketch. | CO2 | 7 |
| (OR) | | | | |
| 6. | a. | List out the factors affecting the strength of concrete. | CO2 | 6 |
|  | b. | Give the importance for curing of concrete? Explain the process of steam curing. | CO2 | 7 |
|  | c. | Define shrinkage. What are the factors affecting the shrinkage of concrete? | CO2 | 7 |
|  |  |  |  |  |
| 7. | a. | Explain the permeability of concrete and its preventive measures. | CO3 | 10 |
|  | b. | Explain the various tests conducted on hardened concrete. | CO3 | 10 |
| (OR) | | | | |
| 8. |  | Explain special concrete like aerated concrete, fiber reinforced concrete, no fines concrete and self compacting concrete. | CO3 | 20 |
|  | |  |  |  |
|  | | **Compulsory**: |  |  |
| 9. |  | Explain in detail the steps involved in the mix design as per the IS method. | CO3 | 20 |

ALL THE BEST