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



**End Semester Examination – Nov / Dec – 2019**

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
| **Code :** | **14CE2031** | **Duration :** | **3hrs** |
| **Sub. Name :** | **CONCRETE TECHNOLOGY** | **Max. Marks :** | **100** |

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

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Enlighten Bouge’s compounds and its hydration reaction. | CO1 | 10 |
| b. | Explain the manufacturing of wet cement with neat sketch. | CO1 | 10 |
| **(OR)** | | | | |
| 2. | a. | Explain the properties of cement and the laboratory tests on cement. | CO1 | 10 |
| b. | Explain (i) Sulphate resisting cement (ii) Portland pozzalona cement and (iii) Quick setting cement. | CO1 | 10 |
|  |  |  |  |  |
| 3. | a. | Summarize on ‘Underwater concreting methods’. | CO1 | 4 |
|  | b. | Explain the Deleterious substances  in  aggregates. | CO1 | 8 |
|  | c. | Explain the role of admixtures in concrete and brief ‘Accelerators’ and ‘Retarders’. | CO1 | 8 |
| **(OR)** | | | | |
| 4. | a. | Classify the aggregates. | CO1 | 4 |
|  | b. | Explain the Alkali  Aggregate reaction. | CO1 | 8 |
|  | c. | Enlist the Mineral admixtures and explain any four admixtures. | CO1 | 8 |
|  |  |  |  |  |
| 5. | a. | Brief the factors affecting workability. | CO1 | 4 |
|  | b. | Explain Shrinkage of concrete and its types. | CO1 | 8 |
|  | c. | Elucidate the cracking of concrete and its failure mechanism. | CO1 | 8 |
| **(OR)** | | | | |
| 6. | a. | Enumerate the factors  affecting strength of hardened concrete. | CO1 | 5 |
|  | b. | Explain the tests for workabil­ity in the field and in the laboratory with neat sketch. | CO1 | 15 |
|  |  |  |  |  |
| 7. | a. | Reason out why Marine water should not be used in concrete. | CO1 | 4 |
|  | b. | Explain the Accelerated strength tests. | CO1 | 8 |
|  | c. | Categorize the factors that influences the corrosion in concrete and explain RCPT test. | CO1 | 8 |
| **(OR)** | | | | |
| 8. | a. | Enlist the advantages of Ready Mixed concrete. | CO3 | 5 |
|  | b. | Explain the tests  to determine the strengths of the hardened concrete with neat sketches. | CO1 | 15 |
|  | | **Compulsory**: |  |  |
| 9. | a. | Enumerate the factors influence the choice of mix proportions. | CO2 | 4 |
|  | b. | Describe Fibre  reinforced concrete, Ferro cement, High strengthconcrete. | CO3 | 8 |
|  | c. | Explain the Mix design procedure along with the field corrections. | CO2 | 8 |