**18CE405**

**Hall Ticket Number:**

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| **II / IV B.Tech (Regular/Supplementary) DEGREE EXAMINATION** | | | |
| **August, 2021** | **Civil Engineering** | | |
| **Fourth Semester** | **CONCRETE TECHNOLOGY** | | |
| **Time:** Three Hours | | **Maximum: 5**0 Marks | |
| *Answer Question No. 1 Compulsorily.* | | | (10X1 = 10 Marks) |
| *Answer* ***ANY ONE*** *question from each Unit.* | | | (4X10=40 Marks) |
| ***Note: IS 10262:2019 code book is not allowed*** | | |  |

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| 1. | a) | What are the different types of tests conducted on cement? | CO1 | |  |
|  | b) | Write any two advantages of Portland pozzolana cement. | CO1 | |  |
|  | c) | On what circumstances high grade concretes are utilized effectively. | CO2 | |  |
|  | d) | What is Workability | CO2 | |  |
|  | e) | Write about tension tests | CO2 | |  |
|  | f) | Define bleeding | CO1 | |  |
|  | g) | What are accelerators and mention its purpose | CO3 | |  |
|  | h) | Write about quality control of concrete. | CO3 | |  |
|  | i) | Write briefly about durability of concrete | CO4 | |  |
|  | j) | Define nominal mix and design mix | CO4 | |  |
| **Unit - I** | | | | | |
| 2. | a) | Explain the manufacturing process of Portland cement by dry process. | CO1 | **5M** | |
|  | b) | Describe any two types of cement in detail. | CO1 | **5M** | |
|  |  | **(OR)** |  |  | |
| 3. | a) | What are the properties of good aggregates for making concrete and discuss in brief various tests carried out on aggregates | CO1 | **5M** | |
|  | b) | Write short note on bulking of sand and its importance. | CO1 | **5M** | |
| **Unit - II** | | | | | |
| 4. | a) | Explain the factors affecting workability of concrete | CO2 | **5M** | |
|  | b) | Explain tolerable concentrations of various impurities in mixing water for concrete. | CO2 | **5M** | |
|  |  | **(OR)** |  |  | |
| 5. | a) | Discuss about silica fume and fly ash as admixtures for concrete. | CO2 | **5M** | |
|  | b) | Explain about a) Super plasticizers b) Plasticizers | CO2 | **5M** | |
| **Unit - III** | | | | | |
| 6. | a) | Discuss about the maturity concept of concrete, and gel space ratio of concrete. | CO3 | **5M** | |
|  | b) | Describe the compression test conducted on concrete. | CO3 | **5M** | |
|  |  | **(OR)** |  |  | |
| 7. | a) | Discuss about the rebound hammer test method on concrete structures and its limitations. | CO3 | **5M** | |
|  | b) | Explain various factors contributing to cracks in concrete. | CO3 | **5M** | |
| **Unit - IV** | | | | | |
| 8. | a) | Discuss the properties of high performance concrete | CO4 | **5M** | |
|  | b) | What are the different types of fibers? What are factors affecting properties of FRC. | CO4 | **5M** | |
|  |  | **(OR)** |  |  | |
| 9. | | Discuss IS method of concrete mix design procedure. | CO4 | **10M** | |
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