**19CE32P2 -CONCRETE TECHNOLOGY LABORATORY**

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| **Course Category**  | Professional Core | **Credits**  | 1.5 |
| **Course Type**  | Practical | **Lecture - Tutorial - Practical**  | 0 - 0 - 3 |
| **Prerequisite**  | Building Materials and Construction | **Sessional Evaluation**  | 40 |
| **Semester End Exam Evaluation**  | 60 |
| **Total Marks**  | 100 |

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| **Course Objectives** | 1. To know the concept and procedure of different types of tests conducted on cement, aggregate and hardened concrete.
2. To understand the procedure of designing the concrete mix of given specification of its ingredients along with appropriate water cement ratio and admixtures.
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| **Course Outcomes** | CO1 | Evaluate the physical properties of cement. |
| CO2 | Determine the physical properties of fine aggregates. |
| CO3 | Determine the physical properties of Coarse aggregates. |
| CO4 | Evaluate the fresh properties of concrete. |
| CO5 | Evaluate the hardened properties of concrete. |
| CO6 | Assess the physical and mechanical properties of bricks. |
| **Course Content** | **LIST OF EXPERIMENTS****TESTS ON CEMENT**1. Determination of Fineness by dry sieving
2. Determination of Normal consistency, initial & final setting times
3. Determination of Specific gravity
4. Determination of Compressive Strength

**TESTS ON AGGREGATES**1. Determination of Specific gravity and water absorption of coarse and fine aggregates
2. Sieve analysis of coarse and fine aggregates
3. Bulking of sand by volume method
4. Bulking of sand by weight method
5. Determination of Bulk density

**TESTS ON CONCRETE**1. Workability of fresh concrete by slump test
2. Workability of fresh concrete by compaction factor test
3. Workability of fresh concrete by Vee-Bee test
4. Workability of fresh mortar by flow table test
5. Determination of Compressive strength

**TESTS ON BRICKS**1. Determination of Compressive strength
2. Determination of Water absorption
3. Determination of Efflorescence
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**CO-PO Mapping:** 3-High Mapping, 2-Moderate Mapping, 1-Low Mapping, - -Not Mapping

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|  | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| **CO1** | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 2 |
| **CO2** | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 2 |
| **CO3** | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 2 |
| **CO4** | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 2 |
| **CO5** | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 2 |
| **CO6** | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 2 |