**20CE31P1 -CONCRETE TECHNOLOGY LABORATORY**

**(Civil Engineering)**

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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 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. a) Determination of Fineness by dry sieving

b) Determination of Specific gravity1. Determination of Normal consistency, initial & final setting times
2. Determination of Compressive Strength

**TESTS ON AGGREGATES**1. a) Determination of Specific gravity and water absorption of coarse aggregate.

b) Determination of Bulk density1. Sieve analysis of coarse and fine aggregates
2. a) Bulking of sand by volume method

b) Bulking of sand by weight method**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. a) Determination of Compressive strength

b) Determination of Water absorptionc) Determination of Efflorescence |

**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** | **PSO1** | **PSO2** | **PSO3** |
| **CO1** | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 2 | - | 2 | 1 |
| **CO2** | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 2 | - | 1 | 1 |
| **CO3** | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 2 | - | 1 | 1 |
| **CO4** | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 2 | - | 1 | 1 |
| **CO5** | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 2 | - | 1 | 1 |
| **CO6** | 3 | 2 | 2 | 1 | - | - | - | - | - | - | 2 | 2 | - | 1 | 1 |