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| **Course Code – CE303** | | **Building Materials and Construction** | **3L + 1T** | **4 Credits** |
| **Course Objective** | To introduce the different construction materials course introduces students to materials used in different construction projects from building materials to ground and foundation make-up. Specific materials studied include soil, metals, concrete and wood. This course also covers finishes and materials for the exterior and interior of buildings. | | | |
| **Course Outcome (CO)** | 1. Ability to know about different construction materials and their classification, manufactural and structural requirements  2. Ability to know about tests on cement such as field and lab tests and uses of cement and admixtures.  3. Understanding of various building components such as lintels, arches, types of roofs and joinery such as doors, windows and the materials used in making.  4. Find the importance of masonry, finishing and form works.  5. Ability to know about the various building services such as plumbing services, sanitary and ventilations. | | | |

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| **CO Distribution** | **Assignment 1 (T1)** | **Slot Test 1 (T2)** | **Assignment 2 (T3)** | **Slot Test 2 (T4)** |
| **CO1** | Q1 | Q1, Q3 | Q4 |  |
| **CO2** | Q2, Q5 | Q4, Q6 | Q3 |  |
| **CO3** | Q4 | Q5 | Q2, Q6 | Q1 |
| **CO4** | Q1 | Q2 | Q5 | Q3, Q6 |
| **CO5** | Q2 |  | Q3 | Q4, Q5, Q6 |

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| **Course outcomes** | **% of students achieved CO** | **Decision on CO result (achieved) (Y/N) with level** |
| **CO1** | 68% | Y(Level: 1) |
| **CO2** | 82% | Y(Level: 3) |
| **CO3** | 70% | Y(Level:2) |
| **CO4** | 78% | Y(Level:2) |
| **CO5** | 76% | Y(Level: 2) |
| **Average CO attainment for the course through CIE CE303** | 74.8% | Level: 2 |

**Overall CO attainment (CE303) in the scale of 3**

= (40% of target level of average CO attainment through CIE) +(60% of target level of CO attainment through SEE)

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| **CO Articulation Matrix** | | | | | | | | |
| **Subject Code** | **CO1** | **CO2** | **CO3** | **CO4** | **CO5** | **Average CO Score**  **(CIE)** | **CO Score**  **(SEE)** | **Overall CO Attainment Score** |
| **CE502** | 1 | 3 | 2 | 2 | 2 | 2 | 0 | 0.8 |

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| **CO-PO Mapping**  **Building Materials and Construction (Course Code - CE303)** | | | | | | | | | | | | | |
|  | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| **CO1** | 1 | 2 | 3 | - | - | - | - | - | - | - | - | - |
| **CO2** | 2 | 3 | 1 | 2 | - | - | - | - | 3 | 1 | - | - |
| **CO3** | 3 | 2 | 1 | - | - | 1 | 2 | - | - | 2 | - | - |
| **CO4** | - | 3 | 2 | 1 | 1 | - | 3 | - | - | - | - | 1 |
| **CO5** | 1 | - | 1 | - | - | - | - | 1 | - | - | 1 | - |
| **Average CO** | **1.75** | **2.5** | **1.6** | **1.5** | **1** | **1** | **2.5** | **1** | **1** | **1.5** | **1** | **1** |

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| **CO-PSO Mapping**  **Building Materials and Construction (Course Code – CE303)** | | | |
|  | **PSO1** | **PSO2** | **PSO3** |
| **CO1** | 3 | 2 | 1 |
| **CO2** | 2 | 2 | 3 |
| **CO3** | 1 | 2 | 3 |
| **CO4** | 3 | 1 | 2 |
| **CO5** | 2 | 1 | 2 |
| **Average CO** | 2.2 | 1.6 | 2.2 |

Following table has been generated considering mapping of CO-PO and CO attainment.

For, PO1 mapping value is = 1.75

Target PO = 3

Overall CO1 attainment score = 0.8

**Therefore, contribution to PO3 attainment is 0.8 × (1.75/3) =0.46. Others are calculated accordingly**

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| **PO Articulation Matrix** | | | | | | | | | | | | |
|  | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| **CE303** | **0.46**  (1.75/3)\*0.8 | **0.66**  (2.5/3)\*0.8 | **0.42**  (1.6/3)\*0.8 | **0.40**  (1.5/3)\*0.8 | **0.26**  (1/3)\*0.8 | **0.26**  (1/3)\*0.8 | **0.66**  (2.5/3)\*0.8 | **0.26**  (1/3)\*0.8 | **0.26**  (1/3)\*0.8 | **0.40**  (1.5/3)\*0.8 | **0.26**  (1/3)\*0.8 | **0.26**  (1/3)\*0.8 |

Following table has been generated considering mapping of CO-PSO and CO attainment.

For, PSO1 mapping value is = 2.2

Target PSO = 3

Overall CO1 attainment score = 0.8

**Therefore, contribution to PO3 attainment is 0.8 × (2.2/3) =0.58. Others are calculated accordingly**

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| **PSO Articulation Matrix** | | | |
|  | **PSO1** | **PSO2** | **PSO3** |
| **CE303** | **0.58**  (2.2/3)\*0.8 | **0.42**  (1.6/3)\*0.8 | **0.58**  (2.2/3)\*0.8 |