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| **Course Code – CE802D** | | **Pavement Design** | **3L** | **3 Credits** |
| **Course Objective** | Gain knowledge about the process of collecting data required for design, factors affecting pavement design, and maintenance of pavement. Understand design concepts of flexible pavement by various methods (CBR, IRC 37-2001, Mcleods, Kansas ) and also the same of rigid pavement by IRC 58-2002 | | | |
| **Course Outcome (CO)** | 1. Comprehend the material specifications and design factors of pavements. 2. Analyze stresses in flexible and rigid pavements. 3. Design of flexible and rigid pavements. 4. Study the constructional operations and equipments. 5. Comprehend the concept of strengthening of existing pavements and pavement management system. | | | |

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

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| **Course outcomes** | **% of students achieved CO** | **Decision on CO result (achieved) (Y/N) with level** |
| **CO1** | 75% | Y (Level: 2) |
| **CO2** | 67% | Y(Level: 2) |
| **CO3** | 79% | Y(Level:2) |
| **CO4** | 77% | Y(Level:1) |
| **CO5** | 79% | Y(Level: 2) |
| **Average CO attainment for the course through CIE CE802D** | 75.4% | Level: 2 |

**Overall CO attainment (CE802D) 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** |
| **CE802D** | 2 | 2 | 2 | 2 | 2 | 2 | 3 | 2.6 |

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| **CO-PO Mapping**  **Design of RC Structure**  **(Course Code – CE802D)** | | | | | | | | | | | | | |
|  | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| **CO1** | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 1 | 1 | 1 | 2 | 3 |
| **CO2** | 3 | 3 | 1 | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 3 |
| **CO3** | 3 | 3 | 1 | 1 | 2 | 1 | 3 | 2 | 3 | 1 | 3 | 3 |
| **CO4** | 2 | 1 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 3 |
| **CO5** | 2 | 1 | 2 | 1 | 3 | 1 | 3 | 3 | 3 | 3 | 3 | 3 |
| **Average CO** | **2.4** | **1.8** | **1.6** | **1.6** | **2.4** | **1.2** | **2.4** | **2** | **2.2** | **1.8** | **2.2** | **3** |

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| **CO-PSO Mapping**  **Design of RC Structure**  **(Course Code – CE)** | | | |
|  | **PSO1** | **PSO2** | **PSO3** |
| **CO1** | 3 | 1 | 2 |
| **CO2** | 3 | 3 | 1 |
| **CO3** | 3 | 3 | 2 |
| **CO4** | 3 | 2 | 3 |
| **CO5** | 2 | 2 | 3 |
| **Average CO** | 2.8 | 2.2 | 2.2 |

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

For, PO1 mapping value is = 2.4

Target PO = 3

Overall CO1 attainment score = 2.6

**Therefore, contribution to PO3 attainment is 2.6 × (2.2/3) =2.08. Others are calculated accordingly**

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| **PO Articulation Matrix** | | | | | | | | | | | | |
|  | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| **CE802D** | **2.08**  (2.4/3)\*2.6 | **1.56**  (1.8/3)\*2.6 | **1.39**  (1.6/3)\*2.6 | **1.38**  (1.6/3)\*2.6 | **2.08**  (2.4/3)\*2.6 | **1.04**  (1.2/3)\*2.6 | **2.08**  (2.4/3)\*2.6 | **1.73**  (2/3)\*2.6 | **1.91**  (2.2/3)\*2.6 | **1.56**  (1.8/3)\*2.6 | **1.91**  (2.2/3)\*2.6 | **2.6**  (3/3)\*2.6 |

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

For, PSO1 mapping value is = 2.8

Target PSO = 3

Overall CO1 attainment score = 2.6

**Therefore, contribution to PO3 attainment is 2.6 × (2.8/3) =2.43 Others are calculated accordingly**

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| **PSO Articulation Matrix** | | | |
|  | **PSO1** | **PSO2** | **PSO3** |
| **CE802D** | **2.43**  (2.8/3)\*2.6 | **1.91**  (2.2/3)\*2.6 | **1.9**  (2.2/3)\*2.6 |