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| **Course Code –** CE 703C | | Advanced Highway &Transportation Engineering | **3L** | **3 Credits** |
| **Course Objective** | To achieve efficient, free and rapid flow of traffic with fewer accidents and pedestrians are also given importance and also learn about railway and airway. | | | |
| **Course Outcome (CO)** | 1. Comprehend the material specifications and design factors of airport runway. 2. Analyze and design different factor of railway. 3. Understand different factor of traffic for safe travel on road. 4. Study the constructional operations and equipments of airport and railway. 5. Understand the principles and practices of transportation engineering and urban transportation planning. | | | |

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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 | Q2, Q3, | Q1,Q2 |  |
| **CO3** | Q4, Q6 | Q4, Q5,Q6 | Q3 |  |
| **CO4** |  |  | Q4 | Q1,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** | 69.23% | Y (Level: 1) |
| **CO2** | 65.4% | Y(Level: 1) |
| **CO3** | 73.1% | Y(Level:2) |
| **CO4** | 76.9% | Y(Level:2) |
| **CO5** | 75% | Y(Level: 2) |
| **Average CO attainment for the course through CIE CE703C** | 71.9% | Level: 2 |

**Overall CO attainment (CE703C) 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** |
| **CE703C** | 1 | 1 | 2 | 2 | 2 | 2 | 3 | 2.6 |

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| **CO-PO Mapping**  **Design of RC Structure**  **(Course Code – CE703C)** | | | | | | | | | | | | | |
|  | **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** | 2 | 3 | 2 | 3 | 2 | 1 | 2 | 2 | 2 | 2 | 1 | 3 |
| **CO3** | 3 | 3 | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 1 | 3 | 3 |
| **CO4** | 3 | 2 | 3 | 2 | 3 | 2 | 3 | 2 | 2 | 2 | 2 | 3 |
| **CO5** | 2 | 1 | 2 | 1 | 2 | 1 | 3 | 3 | 3 | 3 | 3 | 3 |
| **Average CO** | **2.4** | **2** | **1.8** | **1.6** | **2.2** | **1.2** | **2.2** | **2** | **2** | **1.8** | **2.2** | **3** |

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| **CO-PSO Mapping**  **Design of RC Structure**  **(Course Code – CE703C)** | | | |
|  | **PSO1** | **PSO2** | **PSO3** |
| **CO1** | 3 | 2 | 2 |
| **CO2** | 2 | 3 | 1 |
| **CO3** | 1 | 3 | 2 |
| **CO4** | 3 | 2 | 2 |
| **CO5** | 2 | 2 | 3 |
| **Average CO** | 2.2 | 2.4 | 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 × (2.4/3) =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** |
| **CE703C** | **2.08**  (2.4/3)\*2.6 | **1.73**  (2/3)\*2.6 | **1.56**  (1.8/3)\*2.6 | **1.38**  (1.6/3)\*2.6 | **1.91**  (2.2/3)\*2.6 | **1.04**  (1.2/3)\*2.6 | **2.54**  (2.2/3)\*2.6 | **1.73**  (2/3)\*2.6 | **1.73**  (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 = 2.2

Target PSO = 3

Overall CO1 attainment score = 2.6

**Therefore, contribution to PO3 attainment is 2.6 × (2.2/3) =2.43 Others are calculated accordingly**

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| **PSO Articulation Matrix** | | | |
|  | **PSO1** | **PSO2** | **PSO3** |
| **CE703C** | **1.91**  (2.2/3)\*2.6 | **2.08**  (2.4/3)\*2.6 | **1.73**  (2/3)\*2.6 |