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| **Course Code –**  **CE604B** | | **Prestressed Concrete** | **3L + 0T** | **3 Credits** |
| **Course Objective** | To introduce the students to the basic concepts and principles of Prestressed concrete structures. | | | |
| **Course Outcome (CO)** | 1. Students will be able to learn the introduction of prestressed concrete members and their deflection properties. 2. Student will be able to develop the design criteria of prestressed concrete section for flexure and shear properties. 3. Student will be able to analyze the anchorage zone stress for post-tensioned members 4. Student will be able to understand the knowledge regarding the composite construction of Prestress and In-situ concrete. 5. Student will be able to assess & develop required skill for designing of sections for compression and bending with partial & non prestressed reinforcement detailing. | | | |

1. Learn the introduction of prestressed concrete member and its deflection properties.

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

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| **Course outcomes** | **% of students achieved CO** | **Decision on CO result (achieved) (Y/N) with level** |
| **CO1** | 78% | Y (Level: 2) |
| **CO2** | 86% | Y(Level: 3) |
| **CO3** | 84% | Y(Level:3) |
| **CO4** | 88% | Y(Level:3) |
| **CO5** | 82% | Y(Level: 3) |
| **Average CO attainment for the course through CIE CE604B** | 83.60% | Level: 3 |

**Overall CO attainment (CE604B) 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** |
| **CE604B** | 2 | 3 | 3 | 3 | 3 | 2.8 | 3 | 2.92 |

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| **CO-PO Mapping**  **Prestressed Concrete**  **(Course Code – CE604B)** | | | | | | | | | | | | | |
|  | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| **CO1** | 3 | 2 | 3 | 1 | 1 | 1 | 1 | 1 | 1 | 2 | 1 | 2 |
| **CO2** | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 1 | 1 | 2 | 2 | 3 |
| **CO3** | 3 | 2 | 2 | 3 | 3 | 3 | 2 | 1 | 1 | 2 | 2 | 3 |
| **CO4** | 3 | 3 | 2 | 1 | 1 | 1 | 2 | 1 | 1 | 2 | 1 | 3 |
| **CO5** | 3 | 2 | 3 | 3 | 2 | 1 | 2 | 1 | 1 | 2 | 1 | 3 |
| **Average CO** | 3 | 2.2 | 2.4 | 2.2 | 2 | 1.8 | 1.8 | 1 | 1 | 2 | 1.4 | 2.8 |

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| **CO-PSO Mapping**  **Design of RC Structure**  **(Course Code – CE604B)** | | | |
|  | **PSO1** | **PSO2** | **PSO3** |
| **CO1** | 2 | 1 | 1 |
| **CO2** | 2 | 3 | 2 |
| **CO3** | 3 | 2 | 2 |
| **CO4** | 3 | 2 | 3 |
| **CO5** | 2 | 3 | 3 |
| **Average CO** | 2.4 | 2.2 | 2.2 |

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

For, PO1 mapping value is = 3

Target PO = 3

Overall CO1 attainment score = 2.92

**Therefore, contribution to PO3 attainment is 2.92 × (3/3) =2.92. Others are calculated accordingly**

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| **PO Articulation Matrix** | | | | | | | | | | | | |
|  | **PO1** | **PO2** | **PO3** | **PO4** | **PO5** | **PO6** | **PO7** | **PO8** | **PO9** | **PO10** | **PO11** | **PO12** |
| CE604B | 2.92 | 2.14 | 2.34 | 2.14 | 1.95 | 1.75 | 1.75 | 0.97 | 0.97 | 1.95 | 1.36 | 2.73 |

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

For, PSO1 mapping value is = 2.4

Target PSO = 3

Overall CO1 attainment score = 2.92

**Therefore, contribution to PO3 attainment is 2.92 × (2.4/3) =2.34. Others are calculated accordingly**

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| **PSO Articulation Matrix** | | | |
|  | **PSO1** | **PSO2** | **PSO3** |
| CE604B | 2.34 | 2.14 | 2.14 |