**20CE31P2 - COMPUTER AIDED CIVIL ENGINEERING DRAWING 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 | Prepare the detail drawings of doors and windows |
| CO2 | Prepare detail drawings of single stored residential building and its components. |
| CO3 | Prepare detail drawings of multi stored residential building and its components. |
| CO4 | Prepare detail drawings of layouts and detailing of beams, columns, footings and slabs. |
| CO5 | Develop 3D model of a residential building |
|  | CO6 | Prepare detail drawing of surplus weir. |
| **Course Content** | **List of Experiments**   1. Paneled and flush doors - Glazed windows 2. Steel roof truss- king post truss 3. Queen post truss. 4. Preparation of plan, section and elevation of single storied residential buildings with flat roof 5. Preparation of plan, section and elevation of multi storied residential buildings with flat roof. 6. Preparation of plan, section and elevation of Commercial buildings. 7. Grade beam layout and RCC beam detailing. 8. Floor slab reinforcement detailing. 9. Column layout and RCC column details. 10. Foundation layout and RCC foundation detailing. 11. 3D Modelling of residential building by AutoCAD 12. Surplus weir | |

**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** | 1 | - | 1 | - | - | 1 | - | - | - | 1 | 1 | - | 3 | - | 2 |
| **CO2** | 2 | - | 1 | - | 2 | 2 | 1 | 1 | - | 1 | 3 | - | 3 | - | 2 |
| **CO3** | 2 | - | 1 | - | 3 | 2 | 1 | 1 | - | 1 | 3 | 1 | 3 | - | 2 |
| **CO4** | 1 | - | 1 | - | 3 | 2 | 1 | - | - | 1 | 3 | 3 | 3 | - | 2 |
| **CO5** | 1 | - | 1 | - | 3 | 2 | 1 | - | - | 1 | 3 | 2 | 3 | - | 2 |
| **CO6** | 1 | - | 1 | - | 2 | 1 | 1 | - | - | 1 | 1 | - | 2 | - | 1 |