**19CE41P1 – STAAD LABORATORY**

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| **Course Category** | Professional Core | **Credits**  | 1.5 |
| **Course Type**  | Practical | **Lecture - Tutorial - Practical**  | 0 - 0 - 3 |
| **Prerequisite**  | Structural Analysis I & II, DRCCS | **Sessional Evaluation**  | 40 |
| **Semester End Exam Evaluation**  | 60 |
| **Total Marks**  | 100 |

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| **Course Objective** | 1. To analyse and design of simple beam, simple frame and simple truss using STAAD Pro.
2. To analyse and design of single-storeyed building using STAAD Pro.
3. To analyse and design of multi-storeyed building using STAAD Pro.
4. To analyse and design of simple beam, simple frame and simple truss using STRAP.
5. To analyse and design of single-storeyed building using STRAP.
6. To analyse and design of multi-storeyed building using STRAP.
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| **Course Outcomes** | CO1 | Perform analysis and design of simple beam, truss and frames using STAAD Pro. |
| CO2 | Use STAAD Pro for analysis and design of single-storeyed building. |
| CO3 | Operate STAAD Pro for analysis and design of multi-storeyed building. |
| CO4 | Apply the knowledge of STRAP for analysis and design of simple beam, truss and frames. |
| CO5 | Operate STRAP for analysis and design of single-storeyed building. |
| CO6 | Use STRAP for analysis and design of multi-storeyed building. |
| **Course Content** | **LIST OF EXPERIMENTS**1. Analysis and Design of simple beam using STAAD Pro.
2. Analysis and design of Simple Frame using STAAD Pro.
3. Analysis and design of Simple truss using STAAD Pro.
4. Analysis and design of single-storeyed building using STAAD Pro.
5. Analysis and design of multi-storeyed building using STAAD Pro.
6. Analysis and Design of simple beam using STRAP.
7. Analysis and design of Simple Frame using STRAP.
8. Analysis and design of Simple truss using STRAP.
9. Analysis and design of single-storeyed building using STRAP.
10. Analysis and design of multi-storeyed building using STRAP.
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**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** |
| **CO1** | 1 | - | 2 | - | 2 | 1 | - | - | - | - | 1 | 1 |
| **CO2** | 1 | - | 2 | 1 | 2 | 1 | 1 | 1 | - | - | 3 | 1 |
| **CO3** | 1 | - | 2 | 1 | 2 | 1 | 1 | 1 | - | - | 3 | 1 |
| **CO4** | 1 | - | 2 | - | 2 | 1 | - | - | - | - | 1 | 1 |
| **CO5** | 1 | - | 2 | 1 | 2 | 1 | 1 | 1 | - | - | 3 | 1 |
| **CO6** | 1 | - | 2 | 1 | 2 | 1 | 1 | 1 | - | - | 3 | 1 |