

1151CE305 (VTUR15)	COMPUTER APPLICATIONS IN CIVIL ENGINEERING	L	T	P	C
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Course Category: Laboratory Course

A. Preamble:

- To make the students to design various concept of reinforced concrete structures using STAAD pro

B. Prerequisites:

- Design of RC structures

C. Link to other Course:

- Basics of Dynamics and Aseismic Design of Structures

D. Course Educational Objectives:

- To make the students to design various concept of reinforced concrete structures and steel structures using STAAD Pro
- The student acquires hands on experience in design and analysis of Concrete structures / steel structures in Civil Engineering practice.

E. Course Outcome:

Upon completion of the course students will be able to

CO	STATEMENT	K LEVEL
CO1	Utilise the tools for assigning properties, supports and loadings for a structural model	K2
CO2	Analyse Simply Supported Beam and Framed Structure	K2
CO3	Design RC Beam and Columns	K2&K4
CO4	Design RC one way slab and two way slab	K3&K6
CO5	Design RC water tank structures	K3&K6

A. Correlation of COs with POs

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
CO1					H									
CO2					H									
CO3					H									
CO4					H									
CO5					H									

LIST OF EXPERIMENTS

1. Introduction to STAAD.Pro.V8i
2. Assigning Properties, Assigning Supports
3. Assigning different types of loads, Creating Load Combinations.
4. Analysis of Simply Supported Beam, Analysis of Framed Structure
5. Concrete Design and Report Generation: Beam and Column design
6. Concrete Design and Report Generation: Slab Design – One-way Slab, Two-way Slab.
7. Concrete Design and Report Generation: Water Tank Design

TOTAL: 30 Periods

F. Learning Resources:**a) TEXT BOOKS:**

1. Staad Pro V8i for Beginners Paperback – August 22, 2014 by T.S Sarma.
2. Structural Analysis and Design using STAAD.Pro V8i by Sivakumar Naganathan