STRUCTURAL DESIGN LABORATORY

I Semester: STE								
Course Code	**Category**	**Hours / EXP**			**Credits**	**Maximum Marks**		
BSTB09	**Core**	**L**	**T**	**P**	**C**	**CIA**	**SEE**	**Total**
		0	0	4	2	30	70	100
Contact Classes: Nil	**Tutorial Classes: Nil**	**Practical Classes: 40**				**Total Classes:40**		

OBJECTIVES:

The course should enable the students to:

I. Design and Detail all the Structural Components of FrameBuildings.
II. Design and Detail complete Multi-Storey FrameBuildings.

COURSE LEARNING OUTCOMES (CLOs):

1. Understand the modeling of the structure in STAAD Pro.
2. Know the application of correct boundary conditions to the structure.
3. Learn to apply load to the structure in STAAD Pro.
4. Learn to add and modified materials.
5. Understand load combination as per code.
6. Performing the seismic analysis by seismic coefficient method in STAAD Pro.
7. Perform the Model analysis/ find natural frequency of structure.
8. Learn to interpret the result which is utmost important part of learning.
9. Understand about STAAD editor.
10. Analysis and design of concrete structure.

EXP-I	**INTRODUCTION TO STAAD PRO SOFTWARE**
Introduction& Commands of Staad Pro	
EXP-II	**ANALYSIS OF CONTINUOUS BEAM**
Analysis of continuous beam for different loads	
EXP-III	**ANALYSIS OF SINGLE STOREY FRAME**
Analysis of single storied frame	
EXP-IV	**ANALYSIS OF MULTISTOREY FRAME**
Analysis of multistoried frame	
EXP-V	**DESIGN OF MULTISTOREY FRAME**
Design of multistoried frame for different loads	
EXP-VI	**ANALYSIS OF MULTI-STOREYED BUILDING**
Analysis of multistoried building	
EXP-VII	**DESIGN OF MULTI-STOREYED BUILDING**

Design of multistoried building	
EXP-VIII	**WIND LOAD ANALYIS FOR RCC BUILDING**
Wind load analysis for RCC building	
EXP-IX	**ANALYSIS AND DESIGN OF STEEL TRUSS**
Analysis and design of steel truss	
EXP-X	**ANALYSIS AND DESIGN OF ISOLATED FOOTING**
Analysis and design of isolated footing	
EXP-XI	**ANALYSIS AND DESIGN OF COMBINED FOOTING**
Analysis and design of combined footing	
EXP-XII	**ANALYSIS OF BRIDGE DECK**
Analysis of bridge deck	
Text Books:	
1. T.S. Sarma, "Staad.Pro v8i for Beginners" Notion press, 2014 2. SivakumarNaganathan, "Learn Yourself Staad Pro V8i", Lap Lambert Academic Publishing GmbHKG, 2012.	
Reference Books:	
1. Dr. Subramanian Narayanan, Design of steel Structures- Oxford Publication	
Web References:	
1. https://onlinecourses.nptel.ac.in/noc17_ce21/preview	
E-Text Books:	
1. https://civildigital.com/staad-pro-v8i-video-tutorials/.	