

VEER SURENDRA SAI UNIVERSITY OF TECHNOLOGY, BURLA

Semester: 4th, Sec-A
Session: Jan - April
2017

LESSON PLAN

Subject: Structural Analysis-I

Theory/Sessional

Branch/ Course: Civil Engineering/ B.Tech.

Name of the Faculty Member: Sanjaya Kumar Patro

Period	Module/ Number	Topic to be covered	Remarks/ Sign. of Faculty Member
1	Module-I	Introduction to statically determinate/indeterminate structures for 2D	
2		Introduction to statically determinate/indeterminate structures for 3D	
3		Free body diagram of structures	
4		Introduction to kinematically indeterminate structures for 2D and 3D	
5		SFD and BMD for statically determinate beams	
6		SFD and BMD for statically determinate beams	
7		BM, Shear and Normal thrust for three hinged arches	
8		BM, Shear and Normal thrust for three hinged arches	
9		Cables and three hinged stiffening girders	
10		Cables and three hinged stiffening girders	
11	Module-II	Deflection of statically determinate beams: Double integration method	
12		Deflection of statically determinate beams: Double integration method	
13		Deflection of statically determinate beams: Moment area method	
14		Deflection of statically determinate beams: Moment area method	
15		Deflection of statically determinate beams: Conjugate beam method	
16		Deflection of statically determinate beams: Conjugate beam method	
17		Deflection of statically determinate beams: Strain energy method	
18		Deflection of statically determinate beams: Strain energy method	
19		Deflection of statically determinate beams: Unit load method	
20		Deflection of statically determinate beams: Unit load method	
21		Deflection of statically determinate pin-jointed trusses	
22		Reciprocal theorems	
23	Module-III	Analysis of Propped cantilever beam for SFD and BMD	
24		Analysis of Fixed beam for SFD and BMD	
25		Analysis of Fixed beam for SFD and BMD	
26		Analysis of continuous beam using theorem of three moments	
27		Analysis of continuous beam using theorem of three moments	
28		Analysis of continuous beam using theorem of three moments	

29	Module-IV	ILD for determinate beams for reactions, S.F and B.M at a section	
30		ILD for determinate beams for reactions, S.F and B.M at a section	
31		ILD for determinate beams for reactions, S.F and B.M at a section	
32		Application of ILD for determining reaction, SF and BM	
33		Application of ILD for determining reaction, SF and BM	
34		Maximum bending moment, shear force, end shear for moving loads	
35		Maximum bending moment, shear force, end shear for moving loads	
36		Absolute maximum BM for simple supported beam for moving loads	
37		ILD for three hinged arches	
38		ILD for cables and three hinged suspended girders	
39		ILD for different members of trusses	
40		ILD for different members of trusses	

Signature of Faculty Member:

Date:

Counter Signature of H.O.D.