

### Semester Plan

#### Semester-III, Class-SE(A)

#### Subject- Advanced Stress Analysis

Sr.No	Module No.	LESSON NO	Topics Planned	Teaching Aid required	Planned Date/Completion Date	Reference
1	1	1.1	Introduction - Basic concepts in theory of elasticity, Numericals	Laptop , Projector, chalk , Board	7/16/2018	2.1
2		1.2	Assumptions in theory of elasticity, Numericals	Laptop , Projector, chalk , Board	7/23/2018	2.1
3	2	2.1	Theory of Plane Problems – Plane Stress & Plane Strain, Stress-Strain relations	Laptop , Projector, chalk , Board	7/23/2018	2.1
4		2.2	Theory of Plane Problems – Saint Venant’s principle	Laptop , Projector, chalk , Board	7/30/2018	2.1
5		2.3	Theory of Plane Problems – Solution of Plane Problems	Laptop , Projector, chalk , Board	7/30/2018	2.1
6		2.4	Theory of Plane Problems – Airy’s stress function, Numericals	Laptop , Projector, chalk , Board	8/6/2018	2.1
7	3	3.1	Solution of Plane Problems in Rectangular Coordinates	Laptop , Projector, chalk , Board	8/6/2018	2.1
8		3.2	Bending of a simple beam under uniform load, Numericals	Laptop , Projector, chalk , Board	8/13/2018	2.1
9	4	4.1	Solution of Plane Problems in Polar Coordinates	Laptop , Projector, chalk , Board	8/13/2018	2.1

10		4.2	Pure bending of curved beams, hollow cylinder	Laptop , Projector, chalk , Board	8/27/2018	2.1
11		4.3	Effect of circular holes on stress distribution and wedge, Numericals	Laptop , Projector, chalk , Board	8/27/2018	2.1
12	5	5.1	Torsion – Circular Shafts	Laptop , Projector, chalk , Board	9/3/2018	2.1, 2.2
13	5	5.2	Torsion – Non-Circular Shafts, Numericals	Laptop , Projector, chalk , Board	9/3/2018	2.1, 2.2
14	6	6.1	Thermal Stresses – Thermoelastic equations	Laptop , Projector, chalk , Board	9/10/2018	2.1
15		6.2	Solution to Plane Problems on Thermal Stress	Laptop , Projector, chalk , Board	9/10/2018	2.1
16		6.3	Solution to Plane Problems on Thermal Stress, Numericals	Laptop , Projector, chalk , Board	9/10/2018	2.1
17	7	7.1	Theory of Spacial Problems on Stress & Strain	Laptop , Projector, chalk , Board	24/09/2018	2.1
18		7.2	Solution to spacial problems	Laptop , Projector, chalk , Board	01-10-2018	2.1
19		7.3	Solution to spacial problems, Numericals	Laptop , Projector, chalk , Board	08-10-2018	2.1
20		7.4	Solution to spacial problems, Numericals	Laptop , Projector, chalk , Board	15-10-2018	2.1



**TCET**  
**DEPARTMENT OF MECHANICAL ENGINEERING (MECH)**  
Credit Based Grading System [CBGS - 2012(R)]/Choice Based Credit and Grading Scheme [CBCGS - 2016(R)]  
**University of Mumbai**



References-

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- 2.1 Advanced Strength and Applied Stress Analysis By Richard G. Budnyas
- 2.2 Jan Francu, Petra Novackova & Premysl Janicek, "Torsion of a non-circular bar", Engineering MECHANICS, Vol.19, 2012, No.1, p.45–60
- 2.3 Chapter 10: Stresses and Deformations in Cylinders

Digital Reference:

[www.nptel.ac.in](http://www.nptel.ac.in)

Sd/-

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Name & Signature of Faculty

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Dr. Siddesh S.

Signature of HOD

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Dr. R. R. Sedamkar

Signature of Principal/Dean (Academics)