

#### LESSON PLAN

SUBJECT: STRENGTH OF MATERIAL (TH 2)

FACULTY: RUTUPARNA SAHU

ACCADEMIC SESSION: 2022-23

SEC: B

SEMESTER: 3<sup>RD</sup>

FACULTY SIGNATURE

HOD SIGNATURE

3 <sup>rd</sup> 19/07/2024	16/07/2024	13/07/2024	12/07/2024	2 <sup>nd</sup> 10/07/2024	09/07/2024	06/07/2024	05/07/2024	1 <sup>st</sup> 03/07/2024	02/07/2024	Week Class Day	MATERIAL TUE-1Perion 1Perion 1	SUBJECT: (TH-2) pe STRENGTH OF	Smoothig
)24	024 1	024 1	024 1	024 1	024 1	024 1	024 1	)24 1	)24	ay No of period available	TUE-1Period, WED-1Period, FRI- 1Period, SAT-1Period	No. of Days/ per week class allotted: 04 periods per week	
1.4 Strain energy and resilience	1.3 determine the temperature stress in composite bar (single core)	1.3 Temperature stress	1.2 stresses in composite section	1.2 Principle of super position	1.1 Derive the relation between three elastic constants	1.1 Derive the relation between three elastic constants	1.1 Hooke's law, young's modulus, bulk modulus, modulus of rigidity, Poisson's ratio	1.1 Hooke's law, young's modulus, bulk modulus, modulus of rigidity, Poisson's ratio	1.1 Types of loads, stresses & strains, (Axial and tangential)	Theory Topics	No. of weeks: 19 weeks	Semester From Date: 01/07/2024 To Date:08/11/2024	KUTUPARNA SAHU

3.2 Location of principal plane and computation of		13/08/2024	7 <sup>th</sup>
resultant stress on oblique plane		10/00/2024	
3 1 Determination of sound later		1000000	
resultant stress on oblique plane	_		C
3.1 Determination of normal stress, shear stress and		09/08/2024	D <sub>±</sub>
resultant stress on oblique plane	-		
3.1 Determination of normal stress, shear stress and	_	07/08/2024	
Monthly Class Test	_	06/08/2024	
2.4 Simple problems on spherical shell	_	03/08/2024	
volume for spherical shell	-		
2.3 Computation of the change in length, diameter and	_	02/08/2024	
spherical shell			(
strain, longitudinal strain and volumetric strain for	_		5#
2.2 Derivation of hoop stress, longitudinal stress, hoop		31/07/2024	
spherical shell	-		
2.1 Definition of hoop and longitudinal stress, strain for	۷.	30/07/2024	
2.4 Simple problems on thin cylinder	_	27/07/2024	
volume for thin cylinder	-		
2.3 Computation of the change in length, diameter and	۷.	26/07/2024	
0	-		4
2.2 Derivation of hoop strain, longitudinal strain and	_	24/07/2024	Ť
thin cylinder	-		
2.1 Definition of hoop and longitudinal stress, strain for	_	23/07/2024	
1.5 Simple problems on above			
and impact load	_		
1.4 Stress due to gradually applied, suddenly applied		20/07/2024	
PLAN	LESSON PLAN		

									_								
	9 <sup>th</sup>						& <u></u>										
31/08/2024	30/08/2024	28/08/2024	27/08/2024	24/08/2024	23/08/2024	21/08/2024		20/08/2024			17/08/2024			16/08/2024		14/08/2024	
7	_	1	1		1	_				_			_		_	_	
4.3 Shear Force and Bending moment diagram and its salient features illustration in simply supported beam under uniformly distributed load	4.3 Shear Force and Bending moment diagram and its salient features illustration in simply supported beam under point load	4.3 Shear Force and Bending moment diagram and its salient features illustration in cantilever beam under point load and under uniformly distributed load	4.2 Concepts of Shear force and bending moment	4.1 Types of beams and load	Numerical problems on above	Numerical problems on above	circle	3.3 Location of principal plane and computation of principal stress and Maximum shear stress using Mohr's	circle	pal stress	3.3 Location of principal plane and computation of	circle	principal stress and Maximum shear stress using Mohr's	3.3 Location of principal plane and computation of	principal stress	3.2 Location of principal plane and computation of	principal stress

п		
п		
п		
п		
п		
н		
п		
п		
ı	ı	
н	1	
н	п	_
1	ı.	٠.
1	ı	1
н	С	=
1	(	1
н	к	-
ı	1	_
н	١	_
ı		=
ı		•
ı		•
н		
н	r	₹
ı	٠	•
ı	Р	,
ı	ı,	
4	۰	-
П	v	
п	c	
н	Г	4
П	4	~
П		

04/09/2024  04/09/2024  06/09/2024  06/09/2024  1 salient features il point load  4.3 Shear Force salient features il uniformly distribut  06/09/2024  1 salient features il uniformly distribut  10/09/2024  11/09/2024  11/09/2024  12/09/2024  13/09/2024  14/09/2024  15.2 Bending equal 24/09/2024  15.2 Section modul 27/09/2024  15.3 Solve simple problem odul 20/09/2024	6.2 Axial load, Eccentric load on column	1	05/10/2024	4
04/09/2024  04/09/2024  04/09/2024  06/09/2024  1 salient features i uniformly distribu  06/09/2024  1/09/2024	6.1 Define column	_	04/10/2024	4 Ath
04/09/2024  04/09/2024  06/09/2024  1 salient features i point load  06/09/2024  1 salient features i uniformly distribu  10/09/2024  11/09/2024  12/09/2024  13/09/2024  14/09/2024  15.2 Bending equation and 27/09/2024  15.3 Solve simple	5.3 Solve simple problems	_	01/10/2024	
04/09/2024  04/09/2024  06/09/2024  1 salient features i point load  06/09/2024  1 salient features i uniformly distribu  4.3 Shear Force  5 salient features i uniformly distribu  10/09/2024  1 Numerical proble  11/09/2024  1 Numerical proble  11/09/2024  1 Numerical proble  11/09/2024  1 Numerical proble  11/09/2024  1 S.2 Bending equal  21/09/2024  1 5.2 Moment of re  25/09/2024  1 5.2 Section modu  27/09/2024  1 5.2 Section modu		_	28/09/2024	
04/09/2024  04/09/2024  06/09/2024  1	5.2 Section modulus& neutral axis	_	27/09/2024	ū
04/09/2024  04/09/2024  06/09/2024  1 salient features i point load  06/09/2024  1 salient features i uniformly distribu  10/09/2024  11/09/2024  12/09/2024  13/09/2024  14/09/2024  15.2 Bending equations of residual parts of the salient features i uniformly distribu  10/09/2024  1 Numerical probletations  17/09/2024  1 Numerical probletations  18/09/2024  1 S.2 Bending equations  18/09/2024  1 S.2 Bending equations  18/09/2024  1 S.2 Moment of residuations	5.2 Section modulus& neutral axis	_	25/09/2024	40 5
04/09/2024  04/09/2024  06/09/2024  1 salient features i point load  4.3 Shear Force salient features i uniformly distribu  10/09/2024  11/09/2024  11/09/2024  120/09/2024  11/09/2024  120/09/2024  120/09/2024  13/09/2024  14/09/2024  15.1 Assumptions 5.2 Bending equal	5.2 Moment of resistance		24/09/2024	
04/09/2024  04/09/2024  06/09/2024  1 salient features i point load  06/09/2024  1 salient features i uniformly distribu  10/09/2024  10/09/2024  11/09/2024  11/09/2024  11/09/2024  11/09/2024  11/09/2024  11/09/2024  12/09/2024  12/09/2024  13/09/2024  13/09/2024  14/09/2024  15.1 Assumptions  15.2 Bending equal	5.2 Bending equation	_	21/09/2024	
04/09/2024  04/09/2024  06/09/2024  1 salient features i point load  4.3 Shear Force salient features i uniformly distribu  10/09/2024  11/09/2024  11/09/2024  13/09/2024  14/09/2024  17/09/2024  18/09/2024  1 Numerical proble  17/09/2024  1 Numerical proble  18/09/2024  1 S.1 Assumptions	5.2 Bending equation	_	20/09/2024	
04/09/2024  04/09/2024  06/09/2024  1 salient features i point load  4.3 Shear Force salient features i uniformly distribu  10/09/2024  11/09/2024  11/09/2024  13/09/2024  11/09/2024  11/09/2024  12/09/2024  13/09/2024  13/09/2024  14/09/2024  15/09/2024  16/09/2024  17/09/2024  17/09/2024  1 Numerical probletation of the salient features i uniformly distributed in the salient features i uniformly distributed i	5.1 Assumptions in the theory of bending	_	18/09/2024	40 <sup>‡</sup>
04/09/2024  04/09/2024  06/09/2024  1 salient features i point load  4.3 Shear Force salient features i uniformly distribu  4.3 Shear Force salient features i uniformly distribu  10/09/2024  11/09/2024  11/09/2024  12/09/2024  13/09/2024  1 Numerical proble 14/09/2024  1 Numerical proble 14/09/2024  1 Numerical proble 14/09/2024	Numerical problems on above	_	17/09/2024	
04/09/2024  04/09/2024  06/09/2024  1 salient features i uniformly distribu 06/09/2024  1 salient features i uniformly distribu 10/09/2024  11/09/2024  1 Numerical proble 13/09/2024  1 Numerical proble	Numerical problems on above	_	14/09/2024	
04/09/2024  04/09/2024  06/09/2024  1 salient features i point load  4.3 Shear Force salient features i uniformly distribu  4.3 Shear Force 4.3 Shear Force salient features i uniformly distribu  10/09/2024  1 Numerical proble  11/09/2024  1 Numerical proble	Numerical problems on above	_	13/09/2024	
04/09/2024  04/09/2024  1	Numerical problems on above	_	11/09/2024	11 <sup>‡</sup>
04/09/2024  06/09/2024  1 salient features i point load  4.3 Shear Force salient features i uniformly distribu  4.3 Shear Force salient features i uniformly distribu	Numerical problems on above	_	10/09/2024	
04/09/2024  06/09/2024  1 salient features i point load  4.3 Shear Force salient features i uniformly distribu  4.3 Shear Force 4.3 Shear Force salient features i	uniformly distributed load			
04/09/2024  06/09/2024  1 salient features i point load  4.3 Shear Force salient features i uniformly distribu  4.3 Shear Force 4.3 Shear Force	salient features illustration in over hanging beam under	_		
04/09/2024  1 salient features i point load  04/09/2024  1 salient features i anity distribu			06/09/2024	
04/09/2024  1 salient features i point load  4.3 Shear Force salient features i	uniformly distributed load			
1 salient features i point load 4.3 Shear Force	salient features illustration in over hanging beam under	_		i
atures i			04/09/2024	10 <sup>th</sup>
atures i	point load			
	atures i	_		
	4.3 Shear Force and Bending moment diagram and its		03/09/2024	

		sion	on discus	ear questi	Previous year question discussion		08/11/2024	
					Revision	_	06/11/2024	19 <sup>th</sup>
					Revision		05/11/2024	
					Numericals		02/11/2024	
					Numericals	_1	01/11/2024	
			on	o pure torsion	subjected to pure			0
aft	solid and hollow shaft	id and l	between sol		7.2 Comparison	_	30/10/2024	÷
			on	o pure torsion	subjected to pure			
aft	between solid and hollow shaft	id and l	tween sol		7.2 Comparison	_	29/10/2024	
	shaft	w circular s	on for hollow	sion equation	7.1 The torsion equation for hollow circular shaft	_	26/10/2024	
	naft	circular sh	on for solid	sion equation	7.1 The torsion equation for solid circular shaft	_	25/10/2024	
			e torsion	tion of pure	7.0 Assumption of pure torsion	_	23/10/2024	17 <sup>th</sup>
	ditions	is end con	with variou	n Columns	derivation) in Columns with various end conditions			
On	computation using Euler's formula (no	ing Euler's	putation us		6.4 Buckling load	٠	22/10/2024	
	ditions	is end con	with variou	n Columns	derivation) in Columns with various end conditions			
00	computation using Euler's formula (no	ing Euler's	putation us		6.4 Buckling load	4	19/10/2024	ć
			s on above	al problem	6.3 Numerical problems on above	1	18/10/2024	10th
			s on above	al problem	6.3 Numerical problems on above	1	15/10/2024	
			s on above	al problem:	6.3 Numerical problems on above	1	12/10/2024	
				resses	Minimum stresses	_		
80	Maximum	stresses,	Bending s	stresses,	6.3 Direct stresses, Bending stresses, Maximum &	٠.	09/10/2024	15
				resses	Minimum stresse	_		÷
8	ses, Bending stresses, Maximum &	stresses,	Bending s	stresses,	6.3 Direct stres	۵	08/10/2024	
2					LAIN	LEGOUN FLAIN		