

**SAMANTA CHANDRASEKHAR INSTITUTE
OF TECHNOLOGY & MANAGEMENT**
SEMILIGUDA-764 036, KORAPUT

DEPT. OF... Mechanical.....

LESSON PLAN AND PROGRESS REGISTER

(To be maintained by all members of the teaching staff)

SESSION 2021
(COOD - SEMESTER)

NAME Usha Kiran
DESIGNATION HOD
DEPT. Mechanical


SIGNATURE

This Lesson Plan and Progress Register is to be submitted to the Director for verification and counter signature twice in every semester. The H.O.D. must verify and sign this Register before submission.

COURSES ALLOTTED

FOR DIFFERENT BRANCHES & SEMESTER (Degree/Diploma/+2 Science)

Semester	Course No.	Course Title
2nd	TH-2	Strength of Material
2nd	TH-1	Structural Mechanics. (Civil)
5th	TH-2	Design of Machine Elements

N.B. : Submission of Annual Lesson Plan-cum-Progress Register and performance Report Assessment are responsibility of each faculty member.

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
October 1st	Strength 1	Simple stress and strain	
04/10/2021	Material	Types of load, stresses, strain, Hooke's law, Young's Modulus	1
05/10/2021		Modulus of Rigidity, Poisson's Ratio, Derive the relation bet. Elastic constant	1
06/10/2021		Principle of Superposition, Stresses in composite section	1
08/10/2021		Temperature stress, determine the temperature stress in composite bars	1
09/10/2021		Strain energy and resilience	2
10/10/2021		Stress due to gradually applied load suddenly and impact load	2
21/10/2021		Definition of hoop and longitudinal stress and strain	1
27/10/2021		Derivation of volumetric strain	1
02/11/2021		Computation of change in length, diameter and volume with problems.	1
03/11/2021		Determination of normal stress in shear stress and resultant stress on oblique plane	2
04/11/2021		Location of Principal planes and computation of principal stress and Maximum shear stress using Mohr's circle	2
05/11/2021			
08/11/2021		Types of Beam and load Concepts of shear force and B.M	1
08/11/2021		Problems on S.F.D and B.M.D for Cantilever beam	2

Date	Course No. & Title	No. of Student Present	Mention the Topics covered	If not taken mention the reasons	Remarks/ Signature of HOD/Director
04/10/2021	TH-2	28/31	Simple stress and strain, Types of load		
05/10/2021		35/31	Hooke's law, Young's Modulus, Modulus of Rigidity, Poisson's Ratio		
06/10/2021		28/31	Derivation to find the relation bet. elastic constants		
06/10/2021		30/31	Solved simple problems on the above topic.		
06/10/2021		32/31	Principle of Superposition, stresses in composite section.		
08/10/2021		32/31	Temperature stresses Determine the temp stress in composite bar.		
08/10/2021		29/31	Strain energy and Resilience.		
09/10/2021		38/31	Stress due to gradually applied and suddenly applied impact load		
10/10/2021		30/31	Definition of hoop and longitudinal stress		
21/10/2021		34/31	Derivation of volumetric strain.		
27/10/2021		30/31	Computation of change in length, dia & volume (problems)		
02/11/2021		34/31	Derivation of volumetric strain		
03/11/2021		34/31	Location of Principal planes and computation of principal stress and Maximum shear stress using Mohr's circle		
04/11/2021		34/31	Types of Beam and load Concepts of shear force and B.M		
08/11/2021		33/31	Problems on S.F.D and B.M.D for Cantilever beam		

PROGRESS

Branch Mechanical

Brief note of the topics to be covered

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes
09/11/21 14/11/21	H-2 SOM.	Problems on S.F.D & B.M.D for simply supported beam, fixed beam, overhanging beam.	3
15/11/21	5-1	Assumption in the theory of bending, bending equation.	2
16/11/21 17/11/21	5-2	Moment of resistance, Section modulus and neutral axis with problem.	3
22/11/21	6-1	Define column, axial load eccentric load on column.	1
23/11/21	6-2	Direct stresses, Bending stresses, Maximum and minimum stresses.	1
24/11/21 29/11/21	6-3	Numerical problems on above.	3
30/11/21	6-4	Buckling load computation using Euler's formula in columns with various end	1
December			
03/12/2021 11/12/2021	7-0	Assumption of pure torsion, The torsion equation for shaft solid and hollow shaft.	3
13/12/2021		Comparison between solid and hollow shaft.	1
16/12/2021		Simple Problems on shaft	
17/12/2021		Problematic classes and Revision classes.	
18/12/2021			
19/12/2021			
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30/02/2022			
31/02/2022			

Semester	Course No. & Title	No. of Student Present	Mention the Topics covered	If not taken mention the reasons	Remarks/ Signature of HOD/Director
2 nd	H-2 SOM	31/31	Types of beam and sign convention.		
2 nd	H-2 SOM	31/31	Problems on S.F.D & B.M.D for cantilever beam.		
2 nd	H-2 SOM	31/31	Simply supported beam		
2 nd	H-2 SOM	31/31	Problems solved to find S.F.D & B.M.D for overhanging beam		
2 nd	H-2 SOM	31/31	Assumption in theory of bending and bending equation.		
2 nd	H-2 SOM	31/31	Define column, axial load, Eccentric load on column.		
2 nd	H-2 SOM	31/31	Direct stress, Bending stresses.		
2 nd	H-2 SOM	31/31	Maximum and minimum stresses and numerical problems.		
2 nd	H-2 SOM	31/31	Buckling load computation using Euler's formula.		
2 nd	H-2 SOM	31/31	Problems solved based on Euler's formula with end condition.		
2 nd	H-2 SOM	31/31	Assumption of pure torsion, The torsion equation for solid shaft.		
2 nd	H-2 SOM	31/31	Comparison between solid and hollow shaft.		

LESSON PLAN

Degree/Diploma/+2 Science
(Theory/Pract/Lab/Workshop)

Semester 3rd Branch Civil

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
29/12/21	CIVIL Structural Mechanics	① Review of Basic concept	
21/12/21	TH-1 1st cs	Basic Principle of Mechanic	1
22/12/21	↓	1.2 Review of CG and MoI of different sections	2
23/12/21	↓		
02/01/22	2.1	Simple stresses and strains	1
03/01/22	2.2	Mechanical properties of materials	1
04/01/22	6	Slope and deflection Introduction	1
05/01/22	6.1	Shape and nature of elastic - Curve	
01/01/22	↓	Relationship between slope deflection and curvature	2
02/01/22	↓	Importance of slope and deflection.	1
10/01/22	↓		
11/01/22	↓		

PROGRESS

Degree/Diploma/+2 Science
(Theory/Pract/Lab/Workshop)

Semester 3rd Branch Civil

Date	Course No. & Title	No. of Student Present	Mention the Topics covered	If not taken mention the reasons	Remarks/ Signature of HOD/Director
29/12/21	TH-1 1st cs (Civil)	21/31	① Basic Principle of Mechanics		
01/01/22	↓	20/31	1.2. Review of CG and MoI		
02/01/22	↓	20/31	Problems on CG & MoI		
03/01/22	↓	20/31	Simple Stress and Strain.		
04/01/22	↓	20/31	2.2 Mechanical Properties		
05/01/22	↓	20/31	6. slope and deflection		
06/01/22	↓	20/31	Shape and nature of elastic curve		
07/01/22	↓	20/31	Relation between slope deflection and curvature		
08/01/22	↓	20/31	Review the above topic		
09/01/22	↓	21/31	Simple problems on slope and deflection		
10/01/22	↓	20/31	Problems on shaft		
11/01/22	↓	20/31	Problems on thin cylinders		
12/01/22	↓	26/31	Doubt clearing class.		
13/01/22	↓	25/31	Revision classes		
14/01/22	↓	26/31	Importance of slope & deflection.		

LESSON PLAN

(Degree/Diploma/+2 Science Theory/Pract/Lab/Workshop)

Semester: 5th sem Branch: Mechanical

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
October-11-2	DME	Introduction 1.1 Introduction for Machine design and classify it. 1.2 Different Mechanical Engg. materials used in design	
05/10/21		with their uses and their uses and their mechanical and physical properties. 1.3 Yield stress, ultimate stress Factor of Safety and stress strain curve for m/s and cast	
6/10/21			
2/10/21			
11/10/21		1.4 Modes of failure. (By elastic deflection, general yielding and fracture) 1.5 state the factors governing the design of machine elements.	
26/10/21		1.6 Describe Design procedure	
2/11/21		Design of fastening elements.	
28/10/21		2.1 Joints and their classification.	
2/11/21		2.2 state types of welded joints	
November		2.3 state the advantages of welded joints for eccentric loads.	
02/11/2021		2.4 Design types of Riveted joints	
3/11/2021		2.5 Failure of riveted joint and to find strength and efficiency of riveted joint	
10/11/21			

PROGRESS

(Degree/Diploma/+2 Science Theory/Pract/Lab/Workshop)

Semester: 5th Branch: Mechanical

Date	Course No. & Title	No. of Student Present	Mention the Topics covered	If not taken mention the reasons	Remarks/Signature of HOD/Director
04/10/21	TH-2 DME	40/47	Introduction to machine design and classification of materials used in design		
05/10/21		35/47	Mechanical and physical properties of materials used in design		
6/10/21		36	Definition of working stress, yield stress and ultimate stress.		
2/10/21			Definition of F.O.S stress - strain diagram and of m/s. Revision of stress-strain diagram of m/s		
11/10/21			stress - strain diagram of brittle materials		
25/10/21		45	Modes of failure by elastic deflection and general yielding & fracture		
28/10/21			Factors governing the design of machine elements		
2/11/21			Describe design procedure		
2/11/21			Joints and their classification.		
2/11/21		38	Types of welded joint & riveted joint		
28/10/21			Advantages of welded joint for eccentric loads		

LESSON PLAN

Degree/Diploma/+2 Science
(Theory/Pract/Lab/Workshop)

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
15/11/22 to 19/11/22	TH-2 DME 1.	Design of riveted joints for pressure vessel. Solve numerical on welded joint and riveted joint.	4
20-11-21	31	State function of shafts & state materials for shafts	1
22-11-21 to 23-11-21	32	Design solid and hollow shafts to transmit a given power at given rpm based on a) strength b) shear stress c) combination to rigidity d) deflection e) modulus of rigidity.	2
24-11-22 to 26-11-22	33	3.4 state function of keys, types of keys, material of keys	2
December 3-12-22	34	3.5) Describe failure of key types of keys & material of key.	3
5-12-22	35	3.6) Design rectangular sunk key by using empirical relation for given dia of shaft	2
7-12-22	36	3.7) state specification of material of keys, gib head key types of key	3
11-12-22	37	3.8) solve numerical on design of shaft & keys	4
13-12-22 to 15-12-22	38		
16-12-22 to 18-12-22	39		
19-12-22 to 23-12-22	40		

PROGRESS

Degree/Diploma/+2 Science
(Theory/Pract/Lab/Workshop)

Date	Course No. & Title	No. of Student Present	Mention the Topics covered	If not taken mention the reasons	Remarks/ Signature of HOD/Director
29-10-11	TH-2 DME		Problems on welded joint Failure of riveted joint. To find strength and efficiency of riveted joint. Problems on riveted joint to find the strength and efficiency.		Principal Sd/M. SEMILGUDA KORAPUT
			Design of riveted joints for pressure vessel		
			Design of longitudinal, integral joint.		
			Design of circumferential joint.		
			Doubt clearing class		Principal Sd/M. SEMILGUDA KORAPUT
			Problems on design of pressure vessel of longitudinal		
			Design of circumferential joint (problem)		
			Problems on riveted joint (exercise)		
			State function of shafts		
			State materials for shafts.		
			Design of solid & hollow shaft to transmit power.		Principal Sd/M. SEMILGUDA KORAPUT

LESSON PLAN

Degree/Diploma/+2 Science
(Theory/Pract/Lab/Workshop)

Branch: Mechanical

PROGRESS

Degree/Diploma/+2 Science
(Theory/Pract/Lab/Workshop)

Branch: Mechanical

Semester	Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
5 th Year	31.01.22	TH-2 DME	4.1.8 Design of coupling 4.1.1 Design of shaft coupling 4.1.2 Requirement of a good shaft coupling.	1
	29.01.22		4.1.3 Types of Coupling.	1
	4.01.22		4.1.4 Design of sleeve or muff coupling.	1
	7.01.22		4.1.5 Design of clamp or compression coupling.	2
	8.01.22		Design a closed coil helical spring	3
	9.01.22		5.1 Materials used for helical spring	1
	13.01.22		5.2 Terms used in compression spring.	1
	14.01.22		5.3 Stress in helical spring of a circular wire.	1
	15.01.22		5.4 Deflection of helical spring of circular wire.	1
	18.01.22		5.5 Surge in spring (Numerical problem)	2

Semester	Date	Course No. & Title	No. of Student Present	Mention the Topics covered	If not taken mention the reasons	Remarks/ Signature of HOD/Director
5 th Year	29.11.21	TH-2 DME	40	Design of solid and hollow shaft to transmit power.		PRINCIPAL SCITM, SEMILIGUDA KORAPUT
	01.12.21		39	Basing on stiffness, shear stress, rigidity		
	08.12.21		31	Angle of twist, Deflection, Modulus of rigidity		
	12.12.21		31	State Function of keys.		
	06.12.21		47	Types of keys and material of keys.		
	08.12.21		38	Describe Failure of key.		
	10.12.21		35	Effect of key way		
	18.12.21		36	Design of Rectangular or sunk key by using standard relation for given dia of shaft.		PRINCIPAL SCITM, SEMILIGUDA KORAPUT
	14.12.21		45	State Specification of Parallel key.		
	16.12.21		40	Gib-head key, taper key.		
	17.12.21		33	Problems on key and shaft.		
	18.12.21		32	Exercise Problem 3Dred		
	24.12.21		40	Doubt clearing class.		
	27.12.21		39	Design of shaft coupling		PRINCIPAL SCITM, SEMILIGUDA KORAPUT
	28.12.21		36			

PROGRESS

Degree/Diploma/+2 Science
(Theory/Pract/Lab/Workshop)

Semester 5th Sem

Branch Mechanical

Date	Course No. & Title	No. of Student Present	Mention the Topics covered	If not taken mention the reasons	Remarks/ Signature of HOD/Director	
29.12.21	#1-2 DME	37	Requirements of a good shaft coupling			
3.01.22	↑	41	Types of coupling		PRINCIPAL SCITM, SEMILIGUDA KORAPUT	
4.01.22		43	Design of sleeve or muff coupling			
5.01.22		38	Problems on sleeve or muff coupling			
07/01/22		40	,,			
8/01/22		33	Design of clamp or compression coupling			
9/01/22		39	Exercise problems on shaft coupling			
11/01/22		39	Materials used for helical spring		PRINCIPAL SCITM, SEMILIGUDA KORAPUT	
12/01/22		↓	40	Terms used in compression springs		
13/01/22			44	Stress in helical spring of a circular wire.		
14/01/22			42	Deflection of helical spring of circular wire <small>Solved simple</small> Small problems on spring		
15/01/22		32	Surge in spring			
16/01/22	↓	13	Revision of the above taught topics.		PRINCIPAL SCITM, SEMILIGUDA KORAPUT	