

**SAMANTA CHANDRASEKHAR INSTITUTE
OF TECHNOLOGY & MANAGEMENT**
SEMILIGUDA-763008, KORAPUT

DEPT. OF.....MECHANICAL.....ENGINEERING

LESSON PLAN AND PROGRESS REGISTER

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

SESSION.....2023-2024..... (E)

Diploma 4th & 6th Sem.

NAME LAXMIKANT BIDIKA
DESIGNATION SENIOR LECTURER
DEPT. MECHANICAL ENGINEERING

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)

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

LESSON PLAN

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

Semester LH Branch Mechanical Engineering

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
	<u>TH</u> <u>1.0</u>	<u>PROPERTIES OF FLUID</u>	
1/1/24	1.1	Define fluid	<u>1</u>
3/1/24	1.2	Description of fluid properties like density,	
to 8/1/24		specific weight, specific gravity, specific volume &	<u>4</u>
		solve simple problems	
10/1/24 to 12/1/24	1.3	Definition and units of Dynamic viscosity, kinematic viscosity, surface tension capillary phenomenon.	<u>3</u>
	<u>2.0</u>	<u>FLUID PRESSURE AND ITS MEASUREMENT</u>	
15/1/24	2.1	Definition & units of fluid pressure, pressure intensity and pressure head	<u>1</u>
17/1/24	2.2	Statement of Pascal's Law	<u>1</u>
18/1/24 19/1/24	2.3	Concept of atmospheric pressure, gauge pressure vacuum pressure & absolute pressure	<u>2</u>

LESSON PLAN

Degree/Diploma/+2 Science
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Semester	Branch	4th	Mechanical Engineering
Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
23/1/24	2.4	Pressure measuring instruments Manometry (Simple & Differential)	①
25/1/24 27/1/24	2.4.1	Board on the pressure gauge (Simple numerical)	②
30/1/24	2.5	Solve simple problems on Manometer.	①
	③.0	<u>HYDROSTATICS</u>	
1/2/24 2/2/24	3.1	Definition of hydrostatic pressure.	②
	3.2	Total pressure and centre of pressure on	
5/2/24 6/2/24		immersed bodies (Horizontal and vertical Bodies)	②
7/2/24	3.3	Solve simple problems	①
8/2/24 9/2/24	3.4	Archimedes principle, concept of buoyancy,	②
		meta center and meta centric height.	
12/2/24	3.5	Concept of flotation.	①
	④.0	<u>KINEMATICS of flow</u>	
15/2/24 16/2/24	4.1	Types of fluid flow	②

LESSON PLAN

Degree/Diploma/+2 Science
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Semester 4th Branch Mechanical Engineering

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
19/2/24 21/2/24	4.2	Continuity equation (statement and proof) for one dimensional flow	②
22/2/24 23/2/24	4.3	Bernoulli's Theorem (statement and proof)	②
		Application and limitations of Bernoulli's Theorem (Venturimeter, pitot tube)	
26/2/24 28/2/24	4.4	Solve simple problems	②
	⑤.0	<u>ORIFICES, NOTCHES & WEIRS</u>	
29/2/24	5.1	Define orifice	①
1/3/24	5.2	Flow through orifice	①
4/3/24	5.3	Orifice coefficient & the relation between the orifice coefficients	①
6/3/24 7/3/24	5.4	Classification of notches & weirs	②
11/3/24	5.5	Discharge over a rectangular notch or weir	①
14/3/24	5.6	Discharge over a triangular notch or weir	①

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Degree/Diploma/+2 Science
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Semester 4th Branch Mechanical Engineering

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
15/3/24	5.7	Simple problems on above	①
	⑥.0	<u>Flow through Pipe</u>	
18/3/24 20/3/24	6.1	Definition of pipe	②
21/3/24 22/3/24	6.2	Loss of energy in pipes	②
29/3/24 30/3/24	6.3	Head loss due to friction Darcy's & Chezy's formula (expression only)	②
3/4/24 4/4/24	6.4	Solve problems using Darcy's & Chezy's formula	②
5/4/24 8/4/24	6.5	Hydraulic gradient & total gradient line.	②
	⑦.0	<u>IMPACT OF JET</u>	
10/4/24 12/4/24	7.1	Impact of jet on fixed and moving vertical flat plates	③
18/4/24 19/4/24	7.2	Derivation of work done on series of vanes & condition for maximum efficiency	③
24/4/24 26/4/24	7.3	Impact of jet on moving curved vanes, illustration using velocity triangles, derivation of work done & efficiency	④

LESSON PLAN

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

Semester	6th	Branch	Mechanical Engineering	No. of Classes Required
Month & Date	Course No. & Title	Brief note of the topics to be covered		
	1.0	INTRODUCTION & TRANSMISSION SYSTEM		
11/1/24 31/1/24	1.1	Automobile: Definition, need classification: Layout of automobile chassis with major components (Free diagram)		②
4/1/24 5/1/24	1.2.	Clutch system: Need, Type (single & multiple) & working principle with sketch		②
8/1/24 10/1/24	1.3	Gear Box: purpose of gear box, construction & working of a 4 speed gear box		②
11/1/24 12/1/24	1.4	concept of automatic gear changing mechanism		②
15/1/24 17/1/24	1.5	Propeller shaft: Constructional features.		②
18/1/24 19/1/24	1.6	Differential: Need, Type & working principle.		②
	②.0	BRAKING SYSTEM		
23/1/24	2.1	Braking system in automobile: Need & type		①
25/1/24	2.2	Mechanical Brake		①
27/1/24	2.3	Hydraulic Brake		①

LESSON PLAN

Degree/Diploma/+2 Science
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Semester 6th Branch Mechanical Engineering

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
30/11/24	2.4	Air Brake	①
1/12/24	2.5	Air assisted Hydraulic Brake	①
	2.6	Vacuum Brake	
	③.0	IGNITION & SUPERCHARGE SYSTEM	
2/12/24 5/12/24	3.1	Describe the battery ignition & Magnet ignition system.	②
7/12/24	3.2	Sparking plugs: Purpose construction & specification	①
8/12/24	3.3	State the common ignition troubles & its remedies	①
9/12/24 12/12/24	3.4	Description of the conversion of suspension system for rear & front axle.	②
15/12/24 16/12/24	3.5	Description of Independent suspension system in cars (coil spring & torsion bar)	②
19/12/24 21/12/24	3.6	Construction, parts and working of a telescopic shock absorber	②

LESSON PLAN

Degree/Diploma/+2 Science
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Semester 8th Branch Mechanical Engineering

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
22/2/24	4.0	<u>COOLING & LUBRICATION</u>	
23/2/24	4.1	Engine cooling: Need & classification	①
26/2/24 27/2/24	4.2	Describe defects of cooling & their remedial measures	②
29/2/24 1/3/24	4.3	Describe the function of lubrication.	②
4/3/24 6/3/24	4.4	Describe the lubrication system of I.C engine	②
	5.0	<u>FUEL SYSTEM</u>	
7/3/24	5.1	Describe the fuel ratio	①
11/3/24 13/3/24	5.2	Describe carburetion process for petrol engine	②
14/3/24 15/3/24	5.3	Describe Multipoint fuel injection for petrol engine	②
18/3/24 20/3/24	5.4	Describe the working principle of fuel injection system for multi cylinder engine	②
21/3/24	5.5	Filter for diesel engine	①
22/3/24 28/3/24	5.6	Describe the working principle of fuel feed pump & fuel injector for Diesel engine.	②

LESSON PLAN

Degree/Diploma/+2 Science
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Semester 6th Branch Mechanics Engineering

Semester	Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
		6.0	<u>ELECTRIC AND HYBRID VEHICLES</u>	
	28/3/24 3/4/24	6.1	Introduction, Social & Environmental importance of Hybrid & Electric vehicles. (2)	
	4/4/24 5/4/24 11/4/24	6.2	Description of Electric vehicles, operating advantages (3)	
			present performance & application of electric vehicles -	
	10/4/24 12/4/24	6.3	Battery for Electric vehicles, Battery types & fuel cells. (2)	
	15/4/24 18/4/24	6.4	Hybrid vehicles: Types of hybrid & electric vehicle (2)	
			Parallel, series, Parallel and series configuration	
	19/4/24 22/4/24	6.5	Drive train (2)	
	24/4/24 25/4/24	6.6	Solar powered vehicles. (2)	