SAMANTA CHANDRASEKHAR INSTITUTE OF TECHNOLOGY & MANAGEMENT

SEMILIGUDA-763008, KORAPUT

DEPT. OF MECHANICAL ENGINEERING

LESSON PLAN AND PROGESS REGISTER

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

SESSION 2023-2024

(Even Semester
4th & 6th)

NAME ER. USHA KIRAN

DESIGNATION HOD (MECHANICAL DEPT)

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 ALLOTED

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

Semister	Course No.	Course Title
4th Semester	TH-1	TOM (Theory of Machine)
6th Semester	TH-3	PSE (Power Station Engineering)

N.B. : Submission of Annual Lession 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 4th Branch Mechanical

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
January	TH-1 TOM	Introduction Class	
25-01-24	(Theory of Machine)	1.0 Simple Mechanism 1.1 Link, Kinematic Chain, Mechanism, machine	01
1.02.24		1.2 Inversion, four bar link mechanism and its inversion	01
5.2.24		1.3 lower pair and Higher pair	01
6.2.24		1.4 Cam and followers.	01
		② friction.	
8.2.24	↓	2.1 friction between nut and screw for square thread	02
12.2.24		Screw Jack.	
1.3.2.24		2.2 Bearing and its classification. Description of roller, Needle roller and ball bearings.	02
15.2.24			
19.2.24		2.3. Torque transmission in flat pivot and conical	02
20.2.24		Pivot bearings.	
21.2.24		2.4 flat collar bearing of Single and multiple types	01
22.2.24		2.5 Torque-transmission for Single and Multiple clutches	01

LESSON PLAN Degree/Diploma/+2 Scienc (Theory/Pract/Lab/Workshop

Semester 4th Branch Mechanical

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
26.2.24 27.2.24	TH-1 TOM	2.6 Working of ~~Sintmple~~ Simple frictional brakes.	02
28.2.24	(Theory of	2.7 Working of Absorption type of dynamometer	01
29.2.24	Machine)	3.0 Power transmission	01
4.3.24		3.1 Concept of power transmission	01
6.3.24		3.2 Types of drives, belt, gear and chain drive	01
7.3.24		3.3 Computation of velocity ratio, length of belts (open and cross) with and without slip.	01
11.3.24 12.3.24			02
13.3.24	〃	3.4 Ratio of belt tensions Centrifugal tension and initial tension.	02
14.3.24			
18.3.24		3.5 Power transmitted by the belt.	01
19.3.24 to		3.6 Determine belt thickness and width for	03
21.3.24		given permissible stress for open and crossed belt considering Centrifugal tension.	
27.3.24		3.7 V-belts and v-belts pulleys	01
28.3.24		3.8 Concept of crowning of pulleys.	01

LESSON PLAN Degree/Diploma/+2 Sci
(Theory/Pract/Lab/Worksh

Semester 4th Branch Mechanical

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classe Requir
2.4.24	TH-1 TOM	3.9 Gear drives and its terminology	01
3.4.24	Theory of	3.10 Gear trains, working	
4.4.24	Machine)	principle of Simple, Comp-	03
8.4.24		ound, reverted and epicy- clic gear train.	
9.4.24		(4) Governors and flywheel	01
10.4.24		4.1 function of governor.	01
15.4.24		4.2 Classification of governor	01
16.4.24		4.3 Working of watt, porter proel and Hartnell governor	02
18.4.24	〃	Conceptual explanation	
22.4.24		4.4 of Sensitivity; Stability and isochronism.	01
25.4.24		4.5 function of flywheel.	01
26.4.24		4.6 Comparison between flywheel and governor	
		DJ 4.7 fluctuation of energy	01
		and co-efficient of fluct- uation of speed	

LESSON PLAN

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(Theory/Pract/Lab/Worksh

Semester 4th Branch Mechanical

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
	TH-1 TOM	⑤ Balancing of Machine.	
27.4.24	(Theory of Machine)	5.1 Concept of static and dynamic balancing	01
28.4.24		5.2 Static balancing of rotating parts.	01
29.4.24		5.3 Principles of balancing of reciprocating parts.	01
		5.4 Causes and effects of unbalance.	
		5.5 Difference between static and dynamic balancing	
	do		
		⑥ Vibration of Machine parts.	
30.4.24		6.1 Introduction to vibration and related terms (Amplitude, time period and frequency, cycle	01
01.5.24		6.2 Classification of Vibration.	
		6.3 Basic Concept of natural forced and damped vibration	01
2.5.24		6.4 Torsional and longitudinal vibration.	01.
4.5.24		6.5 Causes and remedies of Vibration.	01

LESSON PLAN Degree/Diploma/+2 Scien
(Theory/Pract/Lab/Worksho

Semester 6th Branch Mechanical

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
24.1.24	TH-3 PSE	(1) Introduction - 1.1 Describe Sources of energy	01
25.1.24	(Power Station Engineering)	1.2 Explain Concept of Central and Captive power station.	01
27.1.24		1.3) Classify Power Plants.	01
28.1.24		1.4) Importance of Electrical power in day today life.	01
1.2.24		1.5) Overview of method of Electrical power generation.	01
		(2) Thermal Power stations -	
2.2.24	do	2.1 layout of steam power stations.	01
3.2.24		Steam power Cycle. 2.2 Explain Carnot Vapour	02
5.2.24		Power Cycle with P-V, T-S diagram and determine	
		thermal efficiency.	
6.2.24		2.3 Explain Rankine Cycle. with P-V, T-s & H-s diagram	01
7.2.24		and determine thermal efficiency.	
		Work done, Work ratio and Specific Steam Consumption.	
8.2.24		2.4 Solve Simple problems.	01

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Degree/Diploma/+2 Scie
(Theory/Pract/Lab/Worksh

Semester 6th Branch Mechanical.

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
24.2.24	TH-3 PSE	2.9 Steam Condenser : function of Condenser	01
	(Power Station Engineering)	Classification of Condenser	
26.2.24		function of Condenser auxiliaries such as hot well, Condenser Extraction pump.	01
27.2.24		Air extraction pump & circulating pump.	02
28.2.24		2.10 Cooling Tower :	
29.2.24		function and types of Cooling tower and spray Ponds	02
1.3.24		2.11 Selection of site for Thermal Power stations.	01
2.3.24		3.0 Nuclear Power stations	01
4.3.24		3.1 Classify nuclear fuel (fissile & fertile material)	01
6.3.24		3.2 Explain fusion and fission reaction.	
7.3.24		33 Explain the working of nuclear power plants with block diagram.	01
9.3.24		3.4 Explain the working and construction of nuclear reactor	01
11.3.24		3.5 Compare the nuclear & thermal plants.	01

LESSON PLAN Degree/Diploma/+2 Scie
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Semester 6th Branch Mechanical

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Require
12.3.24	TH-3 PSE	3.6 Explain the disposal of Nuclear waste	01
13.3.24	(Power Station	3.7 Selection of site for nuclear Power station.	01
14.3.24	Engineering)	3.8 List of nuclear power stations.	01
		(4.0) Diesel Electric power station.	
15.3.24		4.1 State the advantages and disadvantages of diesel electric power stations.	01
16.3.24 18.3.24		4.2 Explain briefly different System of diesel electric power stations.	02
19.3.24		fuel storage and fuel supply system.	02
20.3.24		fuel injection System, Air supply system	02
		Exhaust System, Cooling System	02
21.3.24		Lubrication System, starting System	02
22.3.24		Governing System.	01
23.3.24		4.3 Selection of site for diesel electric power station	01
4.4.24		4.4 Performance and thermal efficiency of diesel electric power station.	01

LESSON PLAN Degree/Diploma/+2 Scien (Theory/Pract/Lab/Worksho

Semester 6th Branch Mechanical.

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
	TH-3 PSE (Power Station Engineering)	4.4 Performance and thermal efficiency of diesel electric Power station.	01
		(5.0) Hydel Power Station.	
		5.1 State advantages and dis advantages of hydro electric Power plant.	02
		5.2 Classify and Explain the general arrangement of Storage type hydroelectric project and Explain its operation.	03
		5.3 Selection of site of hydel power plant.	01
		5.4 List of hydro power stations with their Capacities and number of units in the state.	01
		5.5 Types of turbines and generation used.	01
		5.6 Simple problems	01