

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

DEPT. OF.....Mechanical Engineering.

LESSON PLAN AND PROGRESS REGISTER

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

SESSION.....2023-24.....

(Diploma 4th & 6th Semester)

NAME Eo. Shankheswar Pangi
DESIGNATION Lecturer
DEPT. Mechanical

Shankheswar
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)

[illegible]

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[illegible]

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

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 Classes Required
24 January 2024	MET 402 (1)	<u>Tool Materials</u> 1.1. Composition of various tool materials	2
25/1/24.			
29/1/24 30/1/24		1.2. Physical properties and uses of such tool materials.	2
31/1/24	(2)	<u>Cutting Tools</u> 2.1. Cutting action of various and tools such as chisel, hacksaw blade, dies and reamer.	1
02/2/24 03/2/24		2.2. Turning tool geometry and purpose of tool angle.	2
05/2/24 06/2/24		2.3. Machining process parameters (Speed, feed and depth of cut)	2
07/2/24		2.4. Coolants and lubricants in machining and purpose.	1
09/2/24	(3)	<u>Lathe Machine</u> 3.1. Construction and working of lathe and Cnc lathe	1
10/2/24		• Major Components of a lathe and their function	2
12/2/24		• Operations carried out in a lathe (turning, thread cutting, taper turning, internal machining, Parting off, Facing, Knurling)	
13/2/24		• Safety measures during machining	
16/2/24		3.2. Capstan lathe • Difference with respect to engine lathe	2
17/2/24		• Major Components and their function • Define multiple tool holders	

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Semester 4th Branch Mechanical

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Class Requir
19/2/24		3.3. Turret Lathe • Difference with respect to Capstan lathe	2
20/2/24		• Major Components & their function	2
21/2/24		3.4. Draw the tooling layout for preparation of a hexagonal bolt & bush	1
	(4)	<u>Shaper</u>	
23/2/24		4.1. Potential application areas of a Shaper machine.	1
24/2/24		4.2. Major Components and their function.	2
26/2/24		4.3. Explain the automatic table feed mechanism	2
27/2/24		4.4. Explain the Construction and Working of tool head.	2
28/2/24		4.5. Explain the quick return mechanism through sketch	2
01/3/24		4.6. State the Specification of a Shaping machine.	1
	(5)	<u>Planing Machine</u>	
02/3/24		5.1. Application area of a planer and its difference with respect to shaper.	1
04/3/24 06/3/24		5.2. Major Components and their functions	2
09/3/24		5.3. The table drive mechanism	2
11/3/24		5.4. Working of tool and tool support.	2

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Degree/Diploma/+2 &
(Theory/Pract/Lab/Work)

Semester 4th Branch Mechanical

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Class Requir
12/3/24		<u>5.5.</u> Clamping of work through sketch.	1
	6	<u>Milling Machine</u>	
13/3/24		<u>6.1.</u> Types of milling machine and operations performed by them and	2
15/3/24		also same for CNC milling machine	
16/3/24		<u>6.2.</u> Explain work holding attachment.	2
18/3/24		<u>6.3.</u> Construction and working of simple dividing head, universal dividing head.	1
19/3/24 20/3/24		<u>6.4.</u> Procedure of simple & compound indexing	2
22/3/24 23/3/24		<u>6.5.</u> Illustration of different indexing methods.	2
	7	<u>Slotter</u>	
27/3/24 28/3/24		<u>7.1.</u> Major Components and their function	2
30/3/24 02/4/24		<u>7.2.</u> Construction and working of slotter machine.	2
03/4/24 04/4/24		<u>7.3.</u> Tools used in slotter.	2
	8	<u>Grinding</u>	
05/4/24 06/4/24		<u>8.1.</u> Significance of grinding operations.	2
08/4/24		<u>8.2.</u> Manufacturing of grinding wheels.	1

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Degree/Diploma/+2 S
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Semester 4th Branch Mechanical

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Class Required
09/4/24		<u>8.3.</u> Criteria for selecting of grinding wheels.	1
10/4/24		<u>8.4.</u> Specification of grinding wheels with example working of	2
12/4/24		• Cylindrical Grinder • Surface Grinder • Centresless Grinder	3
	9	<u>Internal Machining Operations</u>	5
13/4/24		<u>9.1.</u> Working of	1
15/4/24		• Bench drilling machine • Pillar drilling machine • Radial drilling machine.	2
16/4/24		<u>9.2.</u> Boring	1
18/4/24		• Basic principle of boring • Different between boring and drilling	2
19/4/24		<u>9.3.</u> Broaching	1
20/4/24		• Types of broaching (pull type, Push type) • Advantages of broaching & applications	2
	10	<u>Surface Finish, Lapping</u>	
22/4/24 23/4/24		<u>10.1.</u> Definition of surface finish	2
24/4/24 26/4/24		<u>10.2.</u> Description of lapping & explain their specific cutting.	2

LESSON PLAN

Degree/Diploma/+2 Scier
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Semester	6 th	Branch	Mechanical
Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
24 January 2024	Th-4 1.0 Advance	1.0 Modern Machining Processes 1.1. Introduction - Comparison with traditional machining.	1
29/1/24 30/1/24	(AMP)	1.2. Ultrasonic machining: Principle, Description of equipment, applications	2
31/1/24		1.3. Electric discharge machining: Principle, Description of equipment, Dielectric fluid, tools (electrodes), Process parameters, output characteristics, applications.	1
02/2/24 03/2/24		1.4. Wire Cut EDM: Principle, Description of equipment, Controlling Parameters; applications.	2
05/2/24		1.5. Abrasive jet machining: Principle, description of equipment, material removal rate, application.	2
06/2/24		1.6. Laser beam machining: principle, description of equipments, material removal rate, application.	2
07/2/24		1.7. Electro Chemical machining: Principle, description of equipments, material removal rate, application.	2
08/2/24		1.8. Plasma Arc machining - Principle, description of equipment, material	1

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Degree/Diploma/+2 Sci
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Semester 6th Branch Mechanical

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
19/2/24 20/2/24	1.0	removal rate, process parameters, performance characterization, applications.	2
21/2/24		1.9. Electron Beam Machining - Principle, description of equipment,	1
22/2/24		Material removal rate,	1
24/2/24		Process Parameters performance characterization applications.	1
26/2/24 27/2/24	2.0	2.0. Plastic Processing	2
28/2/24 29/2/24		2.1. Processing of plastics	2
		2.2. Moulding processes: Injection moulding Compression moulding, Transfer moulding.	2
02/3/24 04/3/24		2.3. Extruding; Casting Calendering.	2
06/3/24		2.4. Fabrication methods - Sheet forming, Blow moulding,	1
07/3/24		Laminating plastics (sheets, rods & tubes), Rein forcing.	1
09/3/24 11/3/24		2.5. Applications of plastics.	2
12/3/24 13/3/24	3.0	<u>Additive Manufacturing Process</u>	2
		3.1. Introduction, Need for additive manufacturing.	2
14/3/24 16/3/24		3.2. Fundamentals of additive manufacturing AM process chain	2
18/3/24 19/3/24		3.3. Advantages and limitations of AM, Commonly used terms.	2

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Semester 6th Branch Mechanical

Month & Date	Course No. & Title	Brief note of the topics to be covered	No. of Classes Required
20/3/24		3.4. Classification of AM process, Fundamental automated processes,	1
21/3/24 23/3/24		Distinction between AM and CNC, other related technologies.	2
27/3/24		3.5. Application - Application in design, Aerospace industry, Automotive	1
28/3/24		industry, Jewelry industry, Arts and architecture RP medical	1
30/3/24		and Bioengineering applications.	1
02/4/24		3.6. Web based rapid prototyping Systems.	1
03/4/24		3.7. Concept of flexible manufacturing process, Concurrent engineering	1
04/4/24		Production tools like Capstan and turret lathes, rapid prototyping processes.	1
06/4/24	4.0	<u>Special Purpose Machines (SPM)</u>	
		4.1. Concept, General elements of	1
08/4/24 10/4/24		SPM productivity improvement by SPM,	3
12/4/24 - 15/4/24		Principles of SPM design.	3
16/4/24 19/4/24	5.0	<u>Maintenance of Machine tools</u>	
		5.1. Types of maintenance,	2
20/4/24 22/4/24		Repair Cycle analysis, Repair Complexity.	2
23/4/24 24/4/24		Maintenance manual, Maintenance records, Housekeeping.	2
25/4/24 26/4/24		Introduction to Total productive maintenance (TPM).	2