

BHUBANANANDA ODISHA SCHOOL OF ENGINEERING, CUTTACK
DEPARTMENT OF MECHATRONICS



LESSON PLAN

SUBJECT: MANUFACTURING TECHNOLOGY (TH-1)
BRANCH- MECHATRONICS
FACULTY: MANORAMA SARABU (Sr. Lect)

ACCADEMIC SESSION: 2026-27(W)

SEMESTER: 3rd

Manorama Sarabu
30/5/26

Sd/-

H O D (Mechatronics.)



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LESSON PLAN

COURSE OUTCOMES

_C301.1: Explain general safety practices in the machining workshop, fundamentals of metal cutting, cutting tool geometry, chip formation, tool wear, machinability, and cutting tool materials.

C301.2: Describe the functions, classification, selection, application, and safety aspects of cutting fluids used in machining operations.

C301.3: Understand the construction, working principle, operations, cutting parameters, and machining time calculations for lathe and milling machines.

C301.4: Explain the construction, working principle, operations, cutting parameters, and machining time calculations of drilling and shaping machines.

C301.5: Describe the working principle, construction, grinding wheel specifications, grinding operations, cutting parameters, and machining time calculations of grinding machines.

C301.6: Explain the construction, working principle, operations, and applications of capstan and turret lathes, and select appropriate machine tools and machining processes for manufacturing different components.



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LESSON PLAN

Discipline: Mechanical Engineering	Semester: 5TH (A)	Name of the Teaching faculty: Ms. MANORAMA SARABU
Subject: METROLOGY AND MEASUREMENT (TH-1)	No. of Days/ per week class allotted: 03 Periods per week (wed,Thu,fri)	Semester From Date: 01-07-2026 To Date: 05-11-2026 No. of weeks: 17 weeks
Week	Class Day	No of periods available
1 st	1 st (1/07/26)	UNIT-I General Safety Considerations on Machining Workshop
	2 nd (2/07/26)	UNIT-II Metal Cutting: Introduction, Orthogonal and Oblique cutting, Classification of cutting tools,
	3 rd (3/07/26)	.Tool geometry in Co – ordinate System, Types of chips, Sources of heat in metal cutting,
2 nd	1 st (08/07/26)	Tool failure, Tool life, Tool wear, Machinability,
	2 nd (9/07/26)	Cutting Tool Materials
	3 rd (10/07/26)	UNIT-III Cutting Fluids: Introduction, Functions of Cutting Fluids,
3 rd	1 st (15/07/26)	Qualities of Good Cutting Fluids,
	2 nd (17/07/26)	Classification of Cutting Fluids,
	3 rd (22/07/26)	Application of Cutting Fluids,
4 th	1 st (23/07/26)	Safety in the Use of Cutting Fluids.
	2 nd (24/07/26)	CLASS TEST-I
	3 rd (29/07/26)	UNIT-IV Lathe Machine: Introduction
5 th	1 st (30/07/26)	and Classification of lathe machine,
	2 nd (31/07/26)	Working Principle and construction of Engine lathes,



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	2nd (25/09/26)	UNIT-VII Shaping Machines: Introduction
	3rd (30/09/26)	and Working Principle, Classification of Shaping Machines,
13 th	1st (1/10/26)	Shaper Mechanism –Quick Return Mechanism, Shaper Tools,
	2nd (7/10/26)	Work holding devices and tool holding devices,
	3 rd (8/10/26)	Shaper Operations – Horizontal, Vertical and Angular cutting,
14 th	1st (9/10/26)	Cutting Speed, Feed and Depth of Cut, Machining Time.
	2nd (14/10/26)	UNIT-VIII Grinding Machines: Introduction and Working Principle,
	3 rd (15/10/26)	Grain, Grade and Structure,
15 th	1st (16/10/26)	Specification of Grinding Wheels,
	2nd (21/10/26)	Grinding Operations: Cylindrical, Internal, Surface,
	3rd (22/10/26)	Face, Form, Center less, Grinding and Sharpening of Cutting Tools,
16 th	1 st (23/10/26)	Cutting Speed, Feed and Depth of Cut, Machining Time
	2nd (28/10/26)	INTERNAL-2
	3rd (29/10/26)	UNIT-IX Capstan and Turret Lathe: Introduction,
17 th	1St (30/10/26)	Working Principle and Operation.
	2 nd (4/11/26)	REVISION
	3 rd (5/11/26)	VST