UTKALMANI GOPABANDHU INSTITUTE OF ENGINEERING

LESSON PLAN

Discipline: Mechanical	**Semester: 3RD**	**Name of the Teaching faculty: MONALISHA SWAIN**
Subject: Manufacturing Technology(Th-2)	**No of Days/ Week class alloted: 4**	**Semester from Date: 04. 02 . 2024 To Date: 17.05.2024** **No of weeks: 15**
Week	Class	Topics
1st	1st	Introduction
	2nd	1.0 Tool Materials 1.1 Composition of various tool materials
	3rd	1.2 Physical properties& uses of such tool materials.
	4th	1.2 Physical properties& uses of such tool materials.
2nd	1st	2. Cutting Tools 2.1 Cutting action of various and tools such as Chisel, hacksaw blade,
	2nd	2.1 Cutting action of various and tools such as dies and reamer
	3rd	2.3 Turning tool geometry and purpose of tool angle
	4th	2.3 Turning tool geometry and purpose of tool angle
3rd	1st	3.0 Lathe Machine 3.1 Construction and working of lathe and CNC lathe Major components of a lathe and their function
	2nd	3.1 Construction and working of lathe and CNC lathe Major components of a lathe and their function
	3rd	• Operations carried out in a lathe(Turning, thread cutting, taper turning,• internal machining, parting off, facing, knurling)
	4th	Safety measures during machining
4th	1st	3.2 Capstan lathe Difference with respect to engine lathe
	2nd	• Major components and their function • Define multiple tool holders
	3rd	3.3 Turret Lathe Difference with respect to capstan lathe
	4th	• Major components and their function
5th	1st	• 3.4 Draw the tooling layout for preparation of a hexagonal bolt &bush
	2nd	4.0 Shaper 4.1 Potential application areas of a shaper machine

	3rd	4.2 Major components and their function
	4th	4.3 Explain the automatic table feed mechanism
6th	1st	4.4 Explain the construction &working of tool head 4.6 State the specification of a shaping machine.
	2nd	4.5 Explain the quick return mechanism through sketch
	3rd	5.0 Planning Machine 5.1 Application area of a planer and its difference with respect to shaper
	4th	5.2 Major components and their functions
7th	1st	5.3 The table drive mechanism
	2nd	5.4 Working of tool and tool support 5.5 Clamping of work through sketch.
	3rd	TEST
	4th	6.0 Milling Machine 6.1 Types of milling machine and operations performed by them and also same for CNC milling machine
8th	1st	6.1 Types of milling machine and operations performed by them and also same for CNC milling machine
	2nd	6.2 Explain work holding attachment
	3rd	6.3 Construction & working of simple dividing head
	4th	6.3 Construction & working of simple universal dividing head
9th	1st	6.4 Procedure of simple indexing
	2nd	6.4 Procedure of simple indexing
	3rd	6.4 Procedure of compound indexing
	4th	6.4 Procedure of compound indexing
10th	1st	6.5 Illustration of different indexing methods
	2nd	7.0 Slotter 7.1 Major components and their function
	3rd	7.2 Construction and working of slotter machine
	4th	7.3 Tools used in slotter
11th	1st	8.0 Grinding 8.1 Significance of grinding operations 8.4 Specification of grinding wheels with example Working of Cylindrical Grinder• Surface Grinder• Centreless Grinder
	2nd	8.2 Manufacturing of grinding wheels
	3rd	8.2 Manufacturing of grinding wheels
	4th	8.3 Criteria for selecting of grinding wheels
12th	1st	8.3 Criteria for selecting of grinding wheels
	2nd	8.4 Specification of grinding wheels with example Working of Cylindrical Grinder

	3rd	8.4 Specification of grinding wheels with example Working of Surface Grinder
	4th	8.4 Specification of grinding wheels with example Working of Centreless Grinder
13th	1st	9.0 Internal Machining operations Classification of drilling machines
	2nd	9.1 Working of Bench drilling machine
	3rd	• Pillar drilling machine
	4th	• Radial drilling machine
14th	1st	• Different between Boring and drilling)
	2nd	• 9.2 Boring Basic Principle of Boring
	3rd	• 9.3 Broaching Types of Broaching(pull type, push type)
	4th	• Advantages of Broaching and applications
15th	1st	10 Surface finish, lapping 10.1 Definition of Surface finish
	2nd	10.2 Description of lapping& explain their specific cutting.
	3rd	Revision
	4th	Internal -2

Lect.(Mech)