

Manufacturing Technology(Th-2)

**LESSON PLAN FOR THE ACADEMIC SEMESTER -
ASIAN SCHOOL OF TECHNOLOGY, KHORDHA**

Discipline: Mechanical Engg.	Semester: 4TH	Name of the Faculty: Sudhir kumar Mahapatra
Subject: MT-(Th-2)	No. of days /per week class allotted:4p/w	Academic Session- 2024-2025
WEEK	PERIOD	TOPIC
1ST	1ST	Unit -1: introduction of tool material 1.1-Composition of tool material
	2ND	1.2-Physical properties of such type of tool material
	3RD	Uses of such type of tool material
	4TH	Details on various tool material and their application
2ND	1ST	Unit-2:-Cutting Tool 2.1-Cutting action of various tool material
	2ND	Chisel ,hacksaw blade, cutting action
	3RD	Reamer cutting action
	4TH	2.2-Turning tool geometry and purpose of tool angle
3RD	1ST	2.3- Machining process parameter
	2ND	2.4-Coolant and Lubricants in machining and purpose
	3RD	Unit-3:- Lathe machine 3.1-construction and working of CNC Lathe and Lathe
	4TH	Major components and various operation on lathe
4th	1st	Safety major during machining
	2nd	3.2-Capstan Lathe-Difference with respect to engine lathe
	3rd	Major components and function of capstan lathe
	4th	Defination of multiple tool holder
5th	1st	3.3- Turret Lathe different with respect to capstan lathe
	2nd	3.4-Tooling layout for preparation of a hexagonal bolt and bush
6th	3rd	Unit-4:- Shaper 4.1-Potential application of area of a shaper machine
	4th	4.2- Major components and their functions
	1st	4.3- Explain the automatic feed mechanism
	2nd	4.4-Explanation of construction of tool head
7th	3rd	4.5- Explanation of quick return mechanism through sketch
	4th	4.6-Specification of shaper machine
	1st	Unit-5:-Planning Machine 5.1-Application of planner
	2nd	Difference with respect to shaper
8th	3rd	5.2- Major Components of planner and functions
	4th	5.3- Drive mechanism
	1st	5.4-Working of tool and tool support

	2 nd	5.5-Clamping of work through sketch
	3 rd	<u>Unit-6:-Milling Machine</u> <u>6.1- Types of milling machine</u>
	4 th	Various operation of milling machine
9 th	1 st	Application of milling machine
	2 nd	Function and application of milling machine
	3 rd	6.2- Working holding attachment
	4 th	6.3-Construction working of simple dividing head
10 th	1 st	6.4- Procedure of simple and compound indexing
	2 nd	6.5-Different illustration indexing method
	3 rd	Unit-7:-Slotter 7.1-Major components of slotter
	4 th	Major function of slotter
11 th	1 st	7.2-Construction of slotter machine
	2 nd	Working principle of slotter machine
	3 rd	7.3- Tools are used in slotter
	4 th	Application and various function of slotter
12 th	1 st	Unit-8:-Grinding 8.1-Various grinding operation
	2 nd	8.2- Manufacturing of grinding wheel
	3 rd	8.3-Selection grinding wheel
	4 th	8.4- Specification of grinding wheel
13 th	1 st	Cylindrical grinder , surface grinder
	2 nd	Center less grinder
	3 rd	Unit-9:-Internal Machining Operation 9.1-Bench pillar drilling machine
	4 th	Radial drilling machine
14 th	1 st	9.2- Basic principle of boring
	2 nd	Different between boring and drilling
	3 rd	9.3-Broaching types and pull types
	4 th	Push types
15 th	1 st	Advantages of broaching and application
	2 nd	Unit-10:-Surface Finishing and Lapping 10.1- definition of surface finish
	3 rd	10.2-Description of lapping
	4 th	Specific cutting of Lapping