

LESSON PLAN-4th SEMESTER (2021)

SUBJECT - MANUFACTURING TECHNOLOGY (TH-2)

Name of the Faculty- Mihir Mohanta

MONTH	CHAPTER /TOPIC	COURSE TO BE COVERED	CLASSES REQUIRED	REMARKS (IF ANY)
	Chapter-1	Tool Materials:	4	
	1.1	Composition of various tool materials	2	
	1.1	Physical properties& uses of such tool materials.	2	
	Chapter -2	Cutting Tools:	6	
	2.1	Cutting action of various and tools such as Chisel, hacksaw blade, dies and reamer	2	
	2.2	Turning tool geometry and purpose of tool angle	3	
	2.3	Machining process parameters (Speed, feed and depth of cut)	1	
	2.4	Coolants and lubricants in machining and purpose	1	
	Chapter-3	Lathe Machine:	8	
	3.1	Construction and working of lathe and CNC lathe <ul style="list-style-type: none"> • Major components of a lathe and their function • Operations carried out in a lathe(Turning, thread cutting, taper turning, internal machining, parting off, facing, knurling) • Safety measures during machining 	2	
	3.2	Capstan lathe <ul style="list-style-type: none"> • Difference with respect to engine lathe • Major components and their function • Define multiple tool holders 	2	
	3.3	Turret Lathe <ul style="list-style-type: none"> • Difference with respect to capstan lathe • Major components and their function 	2	
	3.4	Draw the tooling layout for preparation of a hexagonal bolt &bush	2	
	Chapter-4	Shaper:	6	
	4.1	Potential application areas of a shaper machine	1	
	4.2	Major components and their function	1	
	4.3	Explain the automatic able feed mechanism	1	
	4.4	Explain the construction &working of tool head	1	
	4.5	Explain the quick return mechanism through sketch	1	
	4.6	State the specification of a shaping machine.	1	

	Chapter-5	Planning Machine:	6	
	5.1	Application area of a planer and its difference with respect to shaper	1	
	5.2	Major components and their functions	1	
	5.3	The table drive mechanism	2	
	5.4	Working of tool and tool support	1	
	5.5	Clamping of work through sketch.	1	
	Chapter-6	Milling Machine:	08	
	6.1	Types of milling machine and operations performed by them and also same for CNC milling machine	1	
	6.2	Explain work holding attachment	1	
	6.3	Construction & working of simple dividing head, universal dividing head	2	
	6.4	Procedure of simple and compound indexing	2	
	6.5	Illustration of different indexing methods	2	
	Chapter-7	Slotter	6	
	7.1	Major components and their function	2	
	7.2	Construction and working of slotter machine	2	
	7.3	Tools used in slotter	2	
	Chapter-8	Grinding	6	
	8.1	Significance of grinding operations	1	
	8.2	Manufacturing of grinding wheels	2	
	8.3	Criteria for selecting of grinding wheels	1	
	8.4	Specification of grinding wheels with example Working of <ul style="list-style-type: none"> • Cylindrical Grinder • Surface Grinder • Centreless Grinder 	2	
	Chapter-9	Internal Machining operations	6	
		Classification of drilling machines		
	9.1	Working of <ul style="list-style-type: none"> • Bench drilling machine • Pillar drilling machine • Radial drilling machine 	2	

	9.2	Boring <ul style="list-style-type: none"> • Basic Principle of Boring • Different between Boring and drilling 	2	
	9.3	Broaching <ul style="list-style-type: none"> • Types of Broaching(pull type, push type) • Advantages of Broaching and applications 	2	
	Chapter-10	Surface finish, lapping	4	
	10.1	Definition of Surface finish	2	
	10.2	Description of lapping& explain their specific cutting.	2	