

Discipline: Mechanical Engineering	Semester : 4 <sup>th</sup> Semester-2020-21	Name of the Teaching Faculty: Shri Arun kumar Sahu, Ptgf mechanical engineering	
Subject: MANUFACTURING TECHNOLOGY	No. of Days/week Class Allotted: 60	Semester from date: 05/04/ 2021 to date: 30/06/2021 No of weeks: 18	
week	Class Day	Theory Topics	
1 <sup>st</sup>	1 <sup>st</sup>	Composition of various tool materials	
	2 <sup>nd</sup>	Physical properties& uses of such tool materials.	
	3 <sup>rd</sup>	Cutting action of various and tools such as Chisel, hacksaw blade, dies and reamer	
	4 <sup>th</sup>	Turning tool geometry and purpose of tool angle	
2 <sup>nd</sup>	1 <sup>st</sup>	Machining process parameters (Speed, feed and depth of cut)	
	2 <sup>nd</sup>	Coolants and lubricants in machining and purpose	
	3 <sup>rd</sup>	Construction and working of lathe and CNC lathe	
	4 <sup>th</sup>	Major components of a lathe and their function	
3 <sup>rd</sup>	1 <sup>st</sup>	Operations carried out in a lathe(Turning, thread cutting, taper turning, internal machining, parting off, facing, knurling)	
	2 <sup>nd</sup>	Safety measures during machining	
	3 <sup>rd</sup>	Capstan lathe Difference with respect to engine lathe	
	4 <sup>th</sup>	Major components and their function	
4 <sup>th</sup>	1 <sup>st</sup>	Define multiple tool holders	
	2 <sup>nd</sup>	Turret Lathe Difference with respect to capstan lathe	
	3 <sup>rd</sup>	Major components and their function	
	4 <sup>th</sup>	Draw the tooling layout for preparation of a hexagonal bolt &bush	
5 <sup>th</sup>	1 <sup>st</sup>	Shaper Potential application areas of a shaper machine	
	2 <sup>nd</sup>	Major components and their function	
	3 <sup>rd</sup>	Explain the automatic able feed mechanism	
	4 <sup>th</sup>	Explain the construction &working of tool head	
6 <sup>th</sup>	1 <sup>st</sup>	Explain the quick return mechanism through sketch	
	2 <sup>nd</sup>	State the specification of a shaping machine.	
	3 <sup>rd</sup>	Application area of a planer and its difference with respect to shaper	
	4 <sup>th</sup>	Major components and their functions	
7 <sup>th</sup>	1 <sup>st</sup>	The table drive mechanism	

	2 <sup>nd</sup>	Working of tool and tool support	
	3 <sup>rd</sup>	Clamping of work through sketch	
	4 <sup>th</sup>	Types of milling machine and operations performed by them	
8 <sup>th</sup>	1 <sup>st</sup>	CNC milling machine	
	2 <sup>nd</sup>	Explain work holding attachment	
	3 <sup>rd</sup>	Construction & working of simple dividing head, universal dividing head	
	4 <sup>th</sup>	Procedure of simple and compound indexing	
9 <sup>th</sup>	1 <sup>st</sup>	Illustration of different indexing methods	
	2 <sup>nd</sup>	Major components and their function	
	3 <sup>rd</sup>	Construction and working of slotter machine	
	4 <sup>th</sup>	Tools used in slotter	
10 <sup>th</sup>	1 <sup>st</sup>	Significance of grinding operations	
	2 <sup>nd</sup>	Manufacturing of grinding wheels	
	3 <sup>rd</sup>	Criteria for selecting of grinding wheels	
	4 <sup>th</sup>	Specification of grinding wheels with example	
11 <sup>th</sup>	1 <sup>st</sup>	Working of Cylindrical Grinder	
	2 <sup>nd</sup>	Surface Grinder Centreless Grinder	
	3 <sup>rd</sup>	Bench drilling machine Pillar drilling machine	
	4 <sup>th</sup>	Radial drilling machine	
12 <sup>th</sup>	1 <sup>st</sup>	Basic Principle of Boring	
	2 <sup>nd</sup>	Different between Boring and drilling	
	3 <sup>rd</sup>	Types of Broaching(pull type, push type)	
	4 <sup>th</sup>	Advantages of Broaching and applications	
13 <sup>th</sup>	1 <sup>st</sup>	Definition of Surface finish	
	2 <sup>nd</sup>	Description of lapping& explain their specific cutting	
	3 <sup>rd</sup>	Revision of Chapter – 1	
	4 <sup>th</sup>	Revision of Chapter – 2. 1-2.3	
14 <sup>th</sup>	1 <sup>st</sup>	Revision of Chapter – 2.4-2.6	
	2 <sup>nd</sup>	Revision of Chapter – 3.1,3.2	
	3 <sup>rd</sup>	Revision of Chapter – 3.3,3.4	
	4 <sup>th</sup>	Revision of Chapter – 4.1,4.2	
15 <sup>th</sup>	1 <sup>st</sup>	Revision of Chapter – 4.3,4.4	
	2 <sup>nd</sup>	Revision of Chapter – 4.5,4.6	
	3 <sup>rd</sup>	Revision of Chapter – 5.1,5.2	
	4 <sup>th</sup>	Revision of Chapter – 5.3,5.4,5.5	

16 <sup>th</sup>	1 <sup>st</sup>	Revision of Chapter – 6.1,6.2,6.3	
	2 <sup>nd</sup>	Revision of Chapter – 6.4,6.5	
	3 <sup>rd</sup>	Revision of Chapter – 7	
	4 <sup>th</sup>	Revision of Chapter – 8	
17 <sup>th</sup>	1 <sup>st</sup>	Revision of Chapter – 9	
	2 <sup>nd</sup>	Revision of Chapter – 10	
	3 <sup>rd</sup>	Discussion of Probable Questions and Answers (1)	
	4 <sup>th</sup>	Discussion of Probable Questions and Answers(2)	
18 <sup>th</sup>	1 <sup>st</sup>	Discussion of Probable Questions and Answers (3)	
	2 <sup>nd</sup>	Discussion of Probable Questions and Answers(4)	
	3 <sup>rd</sup>	Discussion of Probable Questions and Answers (5)	
	4 <sup>th</sup>	Discussion of Probable Questions and Answers (6)	