

Discipline – MECHANICAL ENGG.	Semester – 4th	Name of Teacher – MUKESH KUMAR DALEI
Subject – MANUFACTURING TECHNOLOGY	No. of days/week class allotted --- 4	No. of weeks - 15
Week	Class Day	Theory/Practical Topics
1st	1 st	1. Tool Materials
	2 nd	Composition of various tool materials
	3 rd	Physical properties
	4 th	Uses of such tool materials
2nd	1 st	2. Cutting Tools
	2 nd	Cutting action of various hand tools such as Chisel, hack saw blade, dies and reamer
	3 rd	Turning tool geometry and purpose of tool angle
	4 th	Machining process parameters (Speed, feed and depth of cut)
3rd	1 st	Coolants and lubricants in machining
	2 nd	Purpose of coolants and lubricants in machining
	3 rd	3. Lathe Machine: Construction and working of lathe
	4 th	Operations carried out in a lathe (Turning, thread cutting, taper turning, internal machining, parting off, facing, knurling)
4th	1 st	Safety measures during machining
	2 nd	Capstan lathe: Difference with respect to engine lathe
	3 rd	Major components and their function Define multiple tool holders
	4 th	Turret Lathe: Difference with respect to capstan lathe
5th	1 st	Major components and their function
	2 nd	Draw the tooling lay out for preparation of a hexagonal bolt & bush
	3 rd	4. Shaper: Potential application areas of a shaper machine
	4 th	Major components and their function

6 th	1 st	Explain the automatic table feed mechanism
	2 nd	Explain the construction & working of tool head
	3 rd	Explain the quick return mechanism through sketch
	4 th	State the specification of a shaping machine.
7 th	1 st	5. Planning Machine
	2 nd	Application area of a planar and its difference with respect to shaper
	3 rd	Major components and their functions
	4 th	The table drive mechanism
8 th	1 st	Working of tool and tool support
	2 nd	Clamping of work through sketch.
	3 rd	6. Milling Machine
	4 th	Types of milling machine and operations performed by them
9 th	1 st	Explain work holding attachment
	2 nd	Construction & working of simple dividing head, universal dividing head
	3 rd	Procedure of simple and compound indexing
	4 th	Illustration of different indexing methods
10 th	1 th	7. Slotter: major components
	2 nd	Their function
	3 rd	Construction of slotter machine
	4 th	Working of slotter machine
11 th	1 st	Tools used in slotter
	2 nd	Tools used in slotter
	3 rd	8. Grinding: Significance of grinding operations
	4 th	Manufacturing of grinding wheels
12 th	1 st	Criteria for selecting of grinding wheels
	2 nd	Specification of grinding wheels with example
	3 rd	Working of Cylindrical Grinder, Surface Grinder
	4 th	Working of Centre less Grinder
13 th	1 st	9. Internal Machining operations: Classification of drilling machines

	2 nd	Working of Bench drilling machine, Pillar drilling machine
	3 rd	Working of Radial drilling machine
	4 th	Boring: Basic Principle of Boring
14 th	1 st	Different between Boring and drilling
	2 nd	Broaching: Types of Broaching (pull type, push type), Advantages of Broaching and applications
	3 rd	10. Surface finish, lapping: Definition of Surface finish, Define super finishing
	4 th	Description of lapping & explain their specific cutting.
15 th	1 st	Revision and previous year questions
	2 nd	Revision and previous year questions
	3 rd	Revision and previous year questions
	4 th	Revision and previous year questions

Learning Resources:

Text Books:

1. Work shop Technology by HazraChoudhary Vol.-I, Vol.-II
2. Manufacturing Technology by P. N. Rao, Vol.- I, Vol.-II

MUKESH KUMAR DALEI