

LESSON PLAN

Discipline- MECHANICAL ENGG.	Semester-4 th	Name of Teacher-TIMASWAR MALIK
Subject - MANUFACTURING TECHNOLOGY(TH-2)	No. of days/week Class allotted-4	Semester from date:04.02.2025 to date 17.05.2025 No. of weeks-15
Week	Class Day	Theory Topics
1st	1st	1. Tool Materials: Composition of various tool materials.
	2nd	Composition of various tool materials.
	3rd	Physical properties of such tool materials.
	4th	Physical properties of such tool materials.
2nd	1st	2. Cutting Tools: Cutting action of various hand tools such as Chisel, hack saw blade, dies and reamer.
	2nd	Cutting action of various hand tools such as Chisel, Hacksaw blade, die sand reamer.
	3rd	Turning tool geometry and purpose of tool angle.
	4th	Turning tool geometry and purpose of tool angle.
3rd	1st	Machining process parameters(Speed, feed and depth of cut)
	2nd	Coolants and lubricants in machining Purpose.
	3rd	3. Lathe Machine: Construction and working of lathe. Major components of lathe and their function
	4th	Major components of lathe and their function
4th	1st	Operations carried out in a lathe(Turning, Thread cutting, taper turning, internal machining)
	2nd	Operations carried out in a lathe (parting off, facing, knurling). Safety measures during machining
	3rd	Capstan lathe :Difference with respect to engine lathe .Define multiple tool holders
	4th	Major components and their function Turret Lathe: Difference with respect to capstan lathe
5th	1st	Major components and their function.
	2nd	Draw the tooling layout for preparation of A hexagonal bolt& bush.
	3rd	4. Shaper: Potential application areas of a Shaper machine.
	4th	Major components and their function.

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

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	4th	Working of Centre less Grinder
13th	1st	9. Internal Machining operations: Classification of drilling machines.
	2nd	Working of Bench drilling machine, Pillar drilling machine.
	3rd	Working of Radial drilling machine.
	4th	Boring : Basic Principle of Boring. Different between Boring and drilling.
14th	1st	Broaching: Types of Broaching(pull type, Push type), Advantages of Broaching and applications.
	2nd	10. Surface finish, lapping: Definition of Surface finish.
	3rd	Define super finishing.
	4th	Description of lapping & explain their specific cutting.
15th	1st	Revision and previous year questions
	2nd	Revision and previous year questions
	3rd	Revision and previous year questions
	4th	Revision and previous year questions

Learning Resources:

Text Books:

1. Workshop Technology by Hazra Choudhary Vol.-I, Vol.-II
2. Manufacturing Technology by P.N. Rao, Vol.-I, Vol.-II
3. Production Technology by O.P. Khanna, vol-I, II

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