Discipline – **MECHANICAL ENGG.**	Semester – **4th**	**Name of Teacher – TIMASWAR MALIK**
Subject – MANUFACTURING TECHNOLOGY	No. of days/week Class allotted **-4**	Semester from date **16.01.2024** to date **26.04.2024** No. of weeks - **15**
Week	**Class Day**	**Theory/Practical 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, hack saw blade, dies and reamer.
	3rd	Turning tool geometry and purpose of toolangle.
	4th	Turning tool geometry and purpose of toolangle.
3rd	1st	Machining process parameters (Speed, feedand depth of cut)
	2nd	Coolants and lubricants in machining Purpose.
	3rd	3. Lathe Machine: Construction andworking 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 toengine lathe .Define multiple tool holders
	4th	Major components and their function Turret Lathe: Difference with respect tocapstan lathe
5th	1st	Major components and their function.
	2nd	Draw the tooling lay out for preparation of A hexagonal bolt & bush.
	3rd	4. Shaper: Potential application areas of a Shaper machine.
	4th	Major components and their function.

6th	1st	Explain the automatic table feed mechanism.
	2nd	Explain the construction & working of toolhead.
	3rd	Explain the quick return mechanismthrough sketch.
	4th	State the specification of a shapingmachine.
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 dividinghead, universal dividing head
	3rd	Construction & working of universal dividing head.
	4th	Procedure of simple indexing.
10th	1th	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 withWorking of Cylindrical Grinder.
	3rd	Working of SurfaceGrinder.
	4th	Working of Centre less Grinder

13th	1st	9. Internal Machining operations: Classification of drilling machines.
	2nd	Working of Bench drilling machine, Pillardrilling 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 andapplications.
	2nd	10. Surface finish, lapping: Definition ofSurface finish.
	3rd	Define super finishing.
	4th	Description of lapping & explain theirspecific 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. Work shop 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