

Discipline – MECHANICAL ENGG.	Semester – 4th	Name of Teacher – SUBHRANSU SEKHAR BARIK
Subject – MANUFACTURING TECHNOLOGY	No. of days/week Class allotted - 4	Semester from date 13.02.2023 to date 23.05.2023 No. of weeks - 15
Week	Class Day	Theory/Practical Topics
1st	1 st	1. Tool Materials: Composition of various tool materials.
	2 nd	Composition of various tool materials.
	3 rd	Physical properties of such tool materials.
	4 th	Physical properties of such tool materials.
2nd	1 st	2. Cutting Tools: Cutting action of various hand tools such as Chisel, hack saw blade, dies and reamer.
	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 toolangle.
	4 th	Turning tool geometry and purpose of toolangle.
3rd	1 st	Machining process parameters (Speed, feedand depth of cut)
	2 nd	Coolants and lubricants in machining Purpose.
	3 rd	3. Lathe Machine: Construction andworking of lathe. Major components of lathe and their function
	4 th	Major components of lathe and their function
4th	1 st	Operations carried out in a lathe (Turning, thread cutting, taper turning, internal machining)
	2 nd	Operations carried out in a lathe (parting off, facing, knurling). Safety measures during machining
	3 rd	Capstan lathe: Difference with respect toengine lathe .Define multiple tool holders
	4 th	Major components and their function Turret Lathe: Difference with respect tocapstan 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 toolhead.
	3 rd	Explain the quick return mechanism through sketch.
	4 th	State the specification of a shaping machine.
7 th	1 st	5. Planing Machine. Application area of a planar and its difference with respect to shaper.
	2 nd	Major components and their functions.
	3 rd	Major components and their functions.
	4 th	The table drives mechanism.
8 th	1 st	Working of tool and tool support..
	2 nd	Clamping of work through sketch.
	3 rd	6. Milling Machine. Types of milling machine
	4 th	Types of 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	Construction & working of universal dividing head.
	4 th	Procedure of simple indexing.
10 th	1 th	Procedure of compound indexing.
	2 nd	Illustration of different indexing methods.
	3 rd	7. Slotter: major components & their function.
	4 th	major components & their function.
11 th	1 st	Construction & Working of slotter machine .
	2 nd	Construction & Working of slotter machine. 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 Working of Cylindrical Grinder.
	3 rd	Working of 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, Pillardrilling machine.
	3 rd	Working of Radial drilling machine.
	4 th	Boring: Basic Principle of Boring. Different between Boring and drilling.
14 th	1 st	Broaching: Types of Broaching (pull type, push type), Advantages of Broaching and applications.
	2 nd	10. Surface finish, lapping: Definition of Surface finish.
	3 rd	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 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