Discipline: **MECHANICAL**	**Semester : 4th**	**Name of the Teaching Faculty:** **ER. BIKASH MURMU** **Sr.Lecturer Mechanical**
Subject: TH-2 MANUFACTURING TECHNOLOGY.	**No. of days/per week class allotted: 4**	**Semester From date: 14/02/2023 To date: No of weeks: 15**
Week	**Class Day**	**Theory Topics:**
1st	**1st**	**Tool Materials:** Composition of various tool materials
	2nd	Composition of various tool materials
	3rd	Physical properties& uses of such tool materials.
	4th	Physical properties& uses of such tool materials.
2nd	**1st**	Physical properties& uses of such tool materials
	2nd	**Cutting Tools:** Cutting action of various and tools such as Chisel, hacksaw blade, dies and reame
	3rd	Turning tool geometry and purpose of tool angle
	4th	Machining process parameters (Speed, feed and depth of cut)
3rd	**1st**	Coolants and lubricants in machining and purpos
	2nd	**Lathe Machine** Construction and working of lathe and CNC lathe
	3rd	Major components of a lathe and their function
	4th	Operations carried out in a lathe(Turning, thread cutting, taper turning,
4th	**1st**	Operations carried out in a lathe(Turning, thread cutting, taper turning, internal machining, parting off, facing, knurling
	2nd	Operations carried out in a lathe(Turning, thread cutting, taper turning, internal machining, parting off, facing, knurling
	3rd	Safety measures during machining
	4th	**Capstan lathe** Difference with respect to engine lathe·
5th	**1st**	Major components and their function
	2nd	Major components and their function
	3rd	Define multiple tool holders.

	4th	Define multiple tool holders

6th	**1st**	**Turret Lathe** Difference with respect to capstan lathe·
	2nd	Major components and their function
	3rd	Major components and their function
	4th	Draw the tooling layout for preparation of a hexagonal bolt &bush
7th	**1st**	Draw the tooling layout for preparation of a hexagonal bolt &bush
	2nd	**Shaper:** Potential application areas of a shaper machine
	3rd	Major components and their function:
	4th	Explain the automatic able feed mechanism.
8th	**1st**	Explain the construction &working of tool head
	2nd	Explain the quick return mechanism through sketch.
	3rd	State the specification of a shaping machine.
	4th	**Planning Machine** Application area of a planer and its difference with respect to shaper
9th	**1st**	Application area of a planer and its difference with respect to shaper
	2nd	The table drive mechanism
	3rd	Working of tool and tool support Clamping of work through sketch.
	4th	**Milling Machine:** Types of milling machine and operations performed by them and also same for CNC milling machine
10th	**1st**	Explain work holding attachment,
	2nd	Construction & working of simple dividing head, universal dividing head
	3rd	Procedure of simple and compound indexing

	4th	Illustration of different indexing methods

11th	**1st**	**Slotter** Major components and their function
	2nd	Construction and working of slotter machine
	3rd	Tools used in slotter
	4th	**Grinding** Significance of grinding operations
12th	**1st**	Manufacturing of grinding wheels
	2nd	Criteria for selecting of grinding wheels
	3rd	Specification of grinding wheels with example Working of Cylindrical Grinder· Surface Grinder· Centreless Grinde·
	4th	**Internal Machining operations** Classification of drilling machine
13th	**1st**	Working of Bench drilling machine·
	2nd	Pillar drilling machine
	3rd	Radial drilling machine
	4th	**Boring** Basic Principle of Boring·.
14th	**1st**	Different between Boring and drilling
	2nd	**Broaching** Types of Broaching(pull type, push type·
	3rd	Advantages of Broaching and applications
	4th	Advantages of Broaching and applications
15th	**1st**	**Surface finish, lapping**
	2nd	Definition of Surface finish
	3rd	Description of lapping& explain their specific cutting.
	4th	Description of lapping& explain their specific cutting.