GOVERNMENT POLYTECHNIC JAJPUR
A/ P: Ragadi, Block: Korei, Dist.: Jajpur, Odisha- 755019
Website: https://www.gpjajpur.org E-mail: principalgpjajpur@yahoo.co.in
DEPARTMENT OF MECHANICAL ENGINEERING
LESSON PLAN

Discipline: Mechanical	Semester: 4th	Name of the Teaching faculty: Gitanjali Sathi,Sr.Lect.Mechanical
Subject: Manufacturing Technology (TH2)	No of Days/Week class alloted: 4	Semester from Date: 4/02/25 To date: 17/05/25 No of weeks: 15
Week	Class Day	Topics
1st	1st	i) introduction to manufacturing technology
		ii) importance of this subjects, Cos
		iii) syllabus description of each module
		iv) discussion about lesson plan, examination, tests, assignments
	2nd	i) Composition of various tool materials
	3rd	i) composition and properties of various tool materials
	4th	i) recent developments in tool materials
2nd	1st	i) Physical properties & uses of such tool materials.
	2nd	i) Cutting action of various hand tools: Chisel, hacksaw blade
	3rd	ii) Cutting action of various hand tools: dies and reamers
	4th	i)Turning tool geometry
		ii) tool nomenclature
		iii) various angles such as rack angle, side cutting edge angle
3rd	1st	i) side relief , end relief, nose radius, 3D animation, videos
		ii) purpose of such tool angles
	2nd	i) Machining process parameters (Speed, feed and depth of cut)
		ii) functions of coolant and lubricants
	3rd	i) characteristics of Coolants and lubricants, examples
	4th	i) Construction and working of lathe
		ii) Major components of a lathe and their function
4th	1st	i) Operations carried out in a lathe, job setting, types of tools
		ii) Turning, thread cutting, internal machining, parting off, facing, knurling
	2nd	i) taper turning, methods
		ii) Safety measures during machining
	3rd	i) Capstan lathe, Major components and their function
	4th	i) Difference with respect to engine lathe
		ii) multiple tool holders
5th	1st	i) Turret Lathe, Major components and their function
	2nd	i) Difference with respect to capstan lathe
	3rd	i) tooling layout for preparation of a hexagonal bolt &bush
	4th	CLASS TEST 1, previous year question discussion
6th	1st	i) Potential application areas of a shaper machine
	2nd	i) Major components and their functions of a shaper
	3rd	i) automatic table feed mechanism
	4th	i) construction &working of tool head
7th	1st	i) quick return mechanism (crank and slotted lever mechanism)
	2nd	i) specification of a shaping machine.
	3rd	i) Application area of a planer
		ii) difference with respect to shaper
	4th	i) Major components and their functions
8th	1st	i) The table drive mechanism
	2nd	i) The table drive mechanism
	3rd	i) Working of tool and tool support
	4th	i) Clamping of work through sketch
9th	1st	i) Types of milling machine
	2nd	i) Operations performed by milling machine
	3rd	i) work holding attachment
	4th	i) Construction & working of simple dividing head

10th	1st	i) Construction & working of universal dividing head
	2nd	i) indexing methods
		ii) Procedure of simple indexing
	3rd	i) Procedure of compound indexing
	4th	i) Illustration of different indexing methods
11th	1st	i) Major components of a slotter machine
	2nd	i) function of those components
	3rd	i) construction of slotter machine
	4th	i) working principle of slotter
		ii) Tools used in slotter
12th	1st	CLASS TEST 2, previous year question discussion
	2nd	i) Significance of grinding operations
	3rd	i) Manufacturing of grinding wheels
	4th	i) materials used for manufacturing
13th	1st	i) Criteria for selecting of grinding wheels
	2nd	i) Specification of grinding wheels with example
	3rd	i) Working of Cylindrical Grinder
		ii) working of surface grinder
	4th	i) working of Centreless Grinder
14th	1st	i) Classification of drilling machines
		ii) working of Bench drilling machine
	2nd	i) Pillar drilling machine
		ii) Radial drilling machine
	3rd	i) Basic Principle of Boring
		ii) boring machines
	4th	i) Different between Boring and drilling
15th	1st	i) Types of Broaching(pull type, push type)
	2nd	i) Advantages of Broaching and applications
	3rd	i) Definition of Surface finish
		ii) various surface finish processes,Description of lapping
	4th	Description of lapping& their specific cutting,honing process,Revision

1.2.25

Signature Of Faculty