

Manufacturing Technology(Th-2)

Lesson Plan for the Academic Semester 2020-21(s)

Government Polytechnic ,Balasore

<b>Discipline:</b> Mechanical Engg.	<b>Semester:</b> 4 <sup>th</sup>	<b>Name of the Faculty:</b> S.N.Ghose
<b>Subject:</b> MT-(Th-2)	<b>No. of days /per week class allotted:4p/w</b>	<b>Academic Session-2020(s)</b>
<b>WEEK</b>	<b>PERIOD</b>	<b>TOPIC</b>
1 <sup>ST</sup>	1 <sup>ST</sup>	Unit -1: introduction of tool material 1.1-Composition of tool material
	2 <sup>ND</sup>	1.2-Physical properties of such type of tool material
	3 <sup>RD</sup>	Uses of such type of tool material
	4 <sup>TH</sup>	Details on various tool material and their application
2 <sup>ND</sup>	1 <sup>ST</sup>	Unit-2:-Cutting Tool 2.1-Cutting action of various tool material
	2 <sup>ND</sup>	Chisel ,hacksaw blade, cutting action
	3 <sup>RD</sup>	Reamer cutting action
	4 <sup>TH</sup>	2.2-Turning tool geometry and purpose of tool angle
3 <sup>RD</sup>	1 <sup>ST</sup>	2.3- Machining process parameter
	2 <sup>ND</sup>	2.4-Coolant and Lubricants in machining and purpose
	3 <sup>RD</sup>	Unit-3:- Lathe machine 3.1-construction and working of CNC Lathe and Lathe
	4 <sup>TH</sup>	Major components and various operation on lathe
4 <sup>th</sup>	1 <sup>st</sup>	Safety major during machining
	2 <sup>nd</sup>	3.2-Capstan Lathe-Difference with respect to engine lathe
	3 <sup>rd</sup>	Major components and function of capstan lathe
	4 <sup>th</sup>	Defination of multiple tool holder
5 <sup>th</sup>	1 <sup>st</sup>	3.3- Turret Lathe different with respect to capstan lathe
	2 <sup>nd</sup>	3.4-Tooling layout for preparation of a hexagonal bolt and bush
	3 <sup>rd</sup>	Unit-4:- Shaper 4.1-Potential application of area of a shaper machine
	4 <sup>th</sup>	4.2- Major components and their functions
6 <sup>th</sup>	1 <sup>st</sup>	4.3- Explain the automatic feed mechanism
	2 <sup>nd</sup>	4.4-Explanation of construction of tool head
	3 <sup>rd</sup>	4.5- Explanation of quick return mechanism through sketch
	4 <sup>th</sup>	4.6-Specification of shaper machine
7 <sup>th</sup>	1 <sup>st</sup>	Unit-5:-Planning Machine 5.1-Application of planner
	2 <sup>nd</sup>	Difference with respect to shaper
	3 <sup>rd</sup>	5.2- Major Components of planner and functions
	4 <sup>th</sup>	5.3- Drive mechanism
8 <sup>th</sup>	1 <sup>st</sup>	5.4-Working of tool and tool support

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	2 <sup>nd</sup>	5.5-Clamping of work through sketch
	3 <sup>rd</sup>	Unit-6:-Milling Machine
		6.1- Types of milling machine
	4 <sup>th</sup>	Various operation of milling machine
9 <sup>th</sup>	1 <sup>st</sup>	Application of milling machine
	2 <sup>nd</sup>	Function and application of milling machine
	3 <sup>rd</sup>	6.2- Working holding attachment
	4 <sup>th</sup>	6.3-Construction working of simple dividing head
10 <sup>th</sup>	1 <sup>st</sup>	6.4- Procedure of simple and compound indexing
	2 <sup>nd</sup>	6.5-Different illustration indexing method
	3 <sup>rd</sup>	Unit-7:-Slotter
		7.1-Major components of slotter
	4 <sup>th</sup>	Major function of slotter
11 <sup>th</sup>	1 <sup>st</sup>	7.2-Construction of slotter machine
	2 <sup>nd</sup>	Working principle of slotter machine
	3 <sup>rd</sup>	7.3- Tools are used in slotter
	4 <sup>th</sup>	Application and various function of slotter
12 <sup>th</sup>	1 <sup>st</sup>	Unit-8:-Grinding
		8.1-Variou grinding operation
	2 <sup>nd</sup>	8.2- Manufacturing of grinding wheel
	3 <sup>rd</sup>	8.3-Selection grinding wheel
	4 <sup>th</sup>	8.4- Specification of grinding wheel
13 <sup>th</sup>	1 <sup>st</sup>	Cylindrical grinder , surface grinder
	2 <sup>nd</sup>	Center less grinder
	3 <sup>rd</sup>	Unit-9:-Internal Machining Operation
		9.1-Bench pillar drilling machine
	4 <sup>th</sup>	Radial drilling machine
14 <sup>th</sup>	1 <sup>st</sup>	9.2- Basic principle of boring
	2 <sup>nd</sup>	Different between boring and drilling
	3 <sup>rd</sup>	9.3-Broching types and pull types
	4 <sup>th</sup>	Push types
15 <sup>th</sup>	1 <sup>st</sup>	Advantages of broaching and application
	2 <sup>nd</sup>	Unit-10:-Surface Finishing and Lapping
		10.1- definition of surface finish
	3 <sup>rd</sup>	10.2-Description of lapping
	4 <sup>th</sup>	Specific cutting of Lapping