

BLACK DIAMOND SCHOOL OF ENGINEERING, JHARSGUDA

LESSON PLAN Session (2022-2023)

Discipline: Mechanical Engineering	Semester: 4 th , Summer/2023	Name of the Faculty: Sipra Patel Lecturer
Subject: Manufacturing Technology, Theory-2	No. of Days/week: 04	Start Date: 13/02/2023 End Date: 23/05/2023

Week	Class Day	Theory Topics
1st	1st	Types of tool material, desirable properties, State Composition of various tool materials
	2nd	State physical properties & uses of tool materials
	3rd	Types of cutting tool, tool nomenclature
	4th	State purpose of providing different tool and specify the angles for different materials to be machined
2nd	1st	Doubt Clearing Class
	2nd	Tool geometry (ASA System and ORS System)
	3rd	Describe tool geometry of turning tool & milling cutter
	4th	Explain cutting action of various hand tools such as Chisel, hack saw blade
3rd	1st	State the purpose of using coolants & lubricants
	2nd	Specify various coolants and lubricants
	3rd	Doubt Clearing Class
	4th	Assignment evaluation, class test.
4th	1st	S.S & S.C lathe, Define S.S & S.C lathe Identify the different parts of lathe & their functions

	2nd	Different parts of Lathe and their function. Explain the function of different components of capstan lathe Define multiple tool holders
	3dr	Enlist the different operations on lathe State & explain turning, grooving
	4th	Step turning, thread cutting, taper turning, parting off
5th	1st	Different operation of Lathe machine
	2nd	Explain the function of different components of capstan lathe Define multiple tool holders
	3rd	Explain the functions of different components of Turret Lathe
	4th	Explain the indexing arrangement for turret head, Explain with neat sketch the feeding mechanism
6th	1st	Difference between Capstan and Turret Lathe. Draw the tooling lay out for preparation of a hexagonal bolt & bush
	2nd	Advantage of Capstan & turret lathe over S.S & S.C Lathe. Describe parts, types and function of lathe machine
	3rd	Doubt Clearing Class
	4th	Assignment evaluation, class test.
7th	1st	Quiz-1
	2nd	List out the different parts, Describe the functions of parts of Shaper machine
	3rd	Explain the quick return mechanism through sketch, crank and slotted link mechanism
	4th	crank and slotted link mechanism and Hydraulic mechanism
8th	1st	Explain the construction & working of tool head and the automatic table feed mechanism
	2nd	State the specification of a shaping machine
	3rd	Enlist different parts, Describe and explain the function of parts of Planar machine
	4th	Explain the table drives mechanism
9th	1st	Explain the working of tool and tool support. Explain the clamping of work through sketch
	2nd	Enlist the different parts n Specify various tools of slotter machine
	3rd	Explain the construction & working of slotter machine
	4th	Doubt Clearing class
10th	1st	Define grinding, Explain manufacturing of grinding wheels

	2nd	State Criteria for selecting of grinding wheels and Abrasives, Bond, Grade, Grain, Grit, Structure
	3rd	Explain specification of grinding wheels with example
	4th	Explain working of Cylindrical Grinder
11th	1st	Explain Surface Grinder and Centre less Grinder
	2nd	Doubt Clearing class
	3rd	<i>Assignment Evaluation & Class Test</i>
	4th	Quiz-2
12th	1st	Classify of drilling, Bench drilling Pillar drilling machine and Radial drilling machine
	2nd	Basic Principle of Boring, Difference between Boring and drilling Types of Broaching (pull type, push type)
	3rd	Advantages & Application of Broaching.
	4th	Doubt Clearing & Practice Class
13th	1st	Define Surface finish, Define super finishing
	2nd	Describe lapping & explain their specific cutting.
	3rd	Various types of milling machine, Explain work holding attachment
	4th	Describe construction & working of simple dividing head, universal dividing head
14th	1st	Doubt Clearing Class
	2nd	Describe the different numerical indexing procedure and show one example from each indexing method.
	3rd	Direct indexing, simple indexing, compound indexing
	4th	Angular indexing and differential indexing
15th	1st	<i>Doubt Clearing class</i>
	2nd	<i>Assignment Evaluation & Class Test</i>
	3rd	<i>Discussion of Previous year questions</i>
	4th	<i>Discussion of Previous year questions</i>