

Lesson Plan

Name of the Faculty : Mr. Sandeep Chhillar (Theory & Practical)

Discipline : Mechanical Engineering

Semester : 4th

Subject : Workshop Technology & Manufacturing Process lab
(ESC-ME-102G & ESC-ME-103G)

Lesson Plan Duration : 15 Weeks (September 2020 to Nov. 2020)

** Work Load (Lecture/Practical) per week (in hours): Lectures-02, Practicals-02

Week	Theory		Practical	
	Lecture Day	Topic (including assignment/test)	Practical day	Topic
1 st	1 st	Introduction to Manufacturing Processes and their Classification, additive manufacturing	1 st	To study different types of measuring tools used in metrology and determine least counts of vernier, calipers, micrometers and vernier height gauges.
	2 nd	Industrial Safety; Introduction, Types of Accidents, Causes and Common Sources of Accident		
2 nd	3 rd	Methods of Safety, First Aid		
	4 th	Objectives of Layout, Types of Plant Layout and their Advantages.		
3 rd	5 th	Basic Principle of Hot & Cold Working, Hot & Cold Working Processes, Rolling, Extrusion	2 nd	To study different types of machine tools (lathe, shaper, planer, milling, drilling machines)
	6 th	Forging, Drawing, Wire Drawing and Spinning		
4 th	7 th	Sheet Metal Operations: Measuring Layout marking, Shearing, Punching, Blanking, Piercing, Forming, Bending and Joining		
	8 th	Advantages of timber, types of timber, defects in timber		
5 th	9 th	carpentry tools, classification of metals, fitting tools, fitting	3 rd	To prepare a job on a lathe

		operations, glass cutting.		involving facing, outside turning, taper turning, step turning, radius making and parting-off
	10 th	Introduction to Casting Processes, Basic Steps in Casting Processes, Pattern: Types of Pattern and Allowances		
6 th	11 th	Sand Casting: Sand Properties, Constituents and Preparation. Gating System		
	12 th	Melting of Metal, Cupola Furnace, Casting Defects & Remedies, plastic moulding		
7 th	13 th	lathe machine, lathe operations	4 th	To study different types of fitting tools and marking tools used in fitting practice.
	14 th	Shaper and planner machine		
8 th	15 th	CNC machining	5 th	To prepare lay out on a metal sheet by making and prepare rectangular tray pipe shaped components e.g. funnel.
	16 th	Introduction to welding, Classification of Welding Processes,		
9 th	17 th	GAS Welding : Oxy-Acetylene Welding	6 th	To prepare joints for welding suitable for butt welding and lap welding.
	18 th	Resistance Welding : Spot and Seam Welding		
10 th	19 th	Arc Welding : Metal Arc, TIG & MIG		
	20 th	Welding Defects and Remedies, Soldering & Brazing		
11 th	21 st	Revision of syllabus	7 th	To study various types of carpentry tools and prepare simple types of at least two wooden joints
	22 nd	Revision of syllabus		
12 th	23 rd	Revision of syllabus	8 th	To prepare simple engineering components/shapes by forging.
	24 th	Revision of syllabus		
13 th	25 th		9 th	To prepare mold and core assembly.
	26 th			
15 th	28 th		10 th	To prepare horizontal surface/vertical surface/curved surface/slats or V-grooves on a shaper/planner.
	29 th			
16 th	30 th			
	32 nd			