Lesson Plan

Name of the Faculty	:	Mr. Sandeep Chhillar (Theory & Practical)
Discipline	:	Mechanical Engineering
Semester	:	2nd
Subject	:	Workshop Technology & Manufacturing Process lab (ESC-ME-102G & ESC-ME-103G)
Lesson Plan Duration	:	15 Weeks (from 06 Jan, 2020 to 30 April, 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
1st	1st	Introduction to Manufacturing Processes and their Classification, additive manufacturing	1st	To study different types of measuring tools used in metrology and determine least counts of vernier, calipers, micrometers and vernier height gauges.
	2nd	Industrial Safety; Introduction, Types of Accidents, Causes and Common Sources of Accident		
2nd	3rd	Methods of Safety, First Aid		
	4th	Objectives of Layout, Types of Plant Layout and their Advantages.		
3rd	5th	Basic Principle of Hot & Cold Working, Hot & Cold Working Processes, Rolling, Extrusion	2nd	To study different types of machine tools (lathe, shaper, planer, milling, drilling machines)
	6th	Forging, Drawing, Wire Drawing and Spinning		
4th	7th	Sheet Metal Operations: Measuring Layout marking, Shearing, Punching, Blanking, Piercing, Forming, Bending and Joining		
	8th	Advantages of timber, types of timber, defects in timber		
5th	9th	carpentry tools, classification of metals, fitting tools, fitting	3rd	To prepare a job on a lathe

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