MERI College of Engineering and Technology

Asanda, Near Sampla

(www.meri.edu.in/engineering)

Lesson Plan

Name of the Faculty : Dr.S.S.Arora (Theory & Practical)

Discipline : Mechanical Engineering

Semester : 1st

Subject : Workshop Technology & Manufacturing Practice Lab

Lesson Plan Duration : 15 Weeks (from Aug., 2018 to Nov., 2018)

** Work Load (Lecture/Practical) per week (in hours): Lectures-03, Practicals-06

Week	Theory		Practical	
	Lecture Day	Topic (including assignment/test)	Practical day	Topic
1st	1st	**Manufacturing Processes:** Introduction to Manufacturing Processes and their Classification,	1st	To study different types of measuring tools used in metrology and determine least counts of vernier calipers, micrometers and vernier height gauges.
	2nd	additive manufacturing Industrial Safety; Introduction,		
	3rd	Types of Accidents, Causes		
	4th	Common Sources of Accident,		
2nd	5th	Methods of Safety, First Aid	2nd	To study different types of machine tools (lathe, shaper, planer, milling, drilling machines)
	6th	Objectives of Layout		
	7th	Types of Plant Layout and their Advantages.		
	8th	**Carpentry, Fitting & Forming Processes**		
3rd	9th	Basic Principle of Hot & Cold Working, Hot & Cold Working Processes	3rd	To prepare a job on a lathe involving facing, outside turning, taper turning, step turning, radius Making and parting-off.
	10th	Rolling, Extrusion, Forging		
	11th	Drawing, Wire Drawing and Spinning		
	12th	Sheet Metal Operations: Measuring Layout marking		

4th	13th	Shearing, Punching, Blanking	4th	To study different types of fitting tools and marking tools used in fitting practice.
	14th	Piercing, Forming, Bending and Joining		
	15th	Advantages of timber, types of timber		
	16th	defects in timber, carpentry tools		
5th	17th	classification of metals, fitting tools	5th	To prepare joints for welding suitable for butt welding and lap welding.
	18th	fitting operations, glass cutting		
	19th	**Casting and Machine Tools** Introduction to Casting Processes		
	20th	Basic Steps in Casting Processes		
6th	21st	Pattern: Types of Pattern and Allowances	6th	To study various types of carpentry tools and prepare simple types of at least two wooden joints.
	22nd	Sand Casting: Sand Properties, Constituents and Preparation.		
	23rd	Gating System. Melting of Metal		
	24th	Cupola Furnace, Casting Defects & Remedies		
7th	25th	plastic moulding, lathe machine, lathe operations	7th	To prepare horizontal surface/vertical surface/curved surface/slats or V-grooves on a shaper/planner.
	26th	CNC machining, Shaper and planner machine.		
	27th	**Welding :** Introduction to welding		
	28th	Classification of Welding Processes,		
8th	29th	GAS Welding : Oxy-Acetylene Welding	8th	To prepare a job involving side and face milling on a milling
	30th	Resistance Welding : Spot and Seam Welding		
	31st	Arc Welding : Metal Arc,		
	32nd	TIG welding		
9th	33rd	MIG welding	9th	To prepare lay out on a metal sheet by making and prepare rectangular tray pipe shaped components e.g. funnel.
	34th	Welding Defects and details		
	35th	Remedies, Soldering & Brazing.		
	36th	Revision of Syllabus		
10th	37th	Revision of Syllabus		
	38th	Revision of Syllabus		
	39th	Revision of Syllabus		
	40th	Revision of Syllabus		
	41st	Revision of Syllabus		
11th	42nd	Revision of Syllabus		
	43rd	Revision of Syllabus		
	44th	Revision of Syllabus		
	45th	Revision of Syllabus		