

LESSONPLAN

Name of Faculty: Mr. Sumit Kumar

Discipline: Mechanical Engg.

Semester: 2nd

Lesson Plan Duration: 15 Weeks

Work Load: Theory-3 Lectures/Week

Subject: Workshop Technology 1

	THEORY			Signature	
WEEK	LECTURE NUMBER	TOPIC	DATE	TEACHER	HOD
1	1	UNIT-1:HAND TOOLS:Chises and Hammers-Types			
	2	Saw, types of saws, types of saw blades, materials used for saw			
	3	Hacksaw frame, Pliers-Function and types, Wrenches/spanners-			
2	4	Specialized wrenches/spanners, surface plate, V-block, files ,surface gauge			
	5	MEASURING INSTRUMENTS:-Calipers-Types, Working principle of Outside micrometer- Introduction, parts, principle			
	6	UNIT2:-CUTTING TOOL AND CUTTING TOOL MATERIALS. Single point cutting tools and their uses, geometry, Tool signature and its effect,			
3	7	Heat produced during cutting and its effect. Cutting speed, feed and depth of cut and their effect.			
	8	Properties and study of various cutting tool materials ,High speed steel, tungsten carbide, cobalt steel cemented carbides, Satellite, Ceramics and diamond			
	9	1st Sessional Test			
4	10	UNIT-3.WELDING:Weldingprocess-itsprinciple,classification, Advantages, disadvantages & applications of welding			
	11	Welding positions and techniques symbols, safety precautions			
	12	Gas welding			
5	13	Types of gas welding flames and their applications			
	14	Gas welding equipment			
	15	Gas welding equipment-Gas welding torch, oxygen cylinder,			
6	16	Acetylene cylinder, cutting torch, blowpipe			
	17	Pressure regulators, filler rod sand fluxes			
	18	Personal safety equipment for welding			
7	19	Arc welding-Principle of operation, arc welding machines and equipment			
	20	A.C. and D.C. arc welding, effect of polarity,			
	21	Current regulation and voltage regulation,			
8	22	Electrodes, classification, B.I.S. specification and selection			
	23	Flux for arc welding, requirements of pre-heating, post heating of Electrodes			
	24	Welding effects and their testing methods			
9	25	UNIT4:LATHE:Turning, Description, various parts of lathe			
	26	Various types of lathe, Drives and transmission, work holding devices			
	27	Lathe tools-Parameters/ nomenclature and applications			

10	28	Lathe operations-Plain and step turning, facing, parting off, taper turning, Eccentric turning ,drilling ,reaming, boring, threading and knurling, form turning, spinning, Cutting parameters			
	29	2nd Sessional Test			
	30	Lathe accessories-centers, dogs			
11	31	Different types of chucks,collets,face plates, angle plate			
	32	Mandrel, steady rest, follower rest, taper turning attachment, tool post			
	33	Quick change device for tools, capstan& turret lathe,			
12	34	UNIT 5: DRILLING Principle of drilling, classification of drilling machines and their description			
	35	Various operation performed on drilling machine-drilling, spot facing,			
	36	reaming, boring			
13	37	counter boring, Countersinking, Hole milling, tapping			
	38	Speed sand feeds during drilling, impact of these parameters on drilling, Machining time			
	39	Types of drills and their features, nomenclature of a drill, Drill holding devices, types of reamers			
14	40	BORING:- Boring, Classification of boring machine, Specification of boring machines			
	41	Specification of, boring tools, Boring bars and boring heads, jig boring machine			
	42	CUTTING FLUIDS AND LUBRICANTS:- Function of cutting fluid			
15	43	Differences between cutting fluid and lubricant, Selection of cutting fluids for different materials and theirs operations			
	44	Common methods of lubrication of machine tools, Certifying organizations (such as SAE,ASTM) forrating standards of lubricants			
	45	3rd Sessional Test			
16	46	Revision			
	47	Revision			
	48	Revision			