

## Lecture Plan

Name of Faculty	Sachin Jasuja
Discipline	Mechatronics Engineering
Semester	6th
Subject	MT-310 Production Technology-II and MT-312 Production Technology-II Lab
Lesson Plan Duration	15 Weeks
Work Load per week	Lecture 3, Lab 3

Week	Theory		Practical	
	Lecture Day	Topic	Practical day	Practical
1	1	Drives in machine tools for rotation movement	1	Practice of slab milling on milling machine
	2	stepped and step less drives		
	3	mechanical and hydraulic drives		
2	4	Individual and group drives	2	To cut gear teeth on milling machine using dividing head.
	5	selection of extreme values of spindle speed on a lathe		
	6	principle of stepped regulation		
3	7	Layout of spindle speeds. A.P., G.P. and Logarithmic progressions	3	To cut gear teeth on milling machine using dividing head.
	8	Kinematics advantage of G. P. for gear box design		
	9	selection of common ratio		
4	10	Number of steps in a given speed range	4	To cut gear teeth on milling machine using dividing head.
	11	design of all geared head stock		
	12	Classification of gear production methods		
5	13	gear generation	5	Introduction to various grinding wheels and demonstration on the surface grinder.
	14	gear hobbling gear shaping, gear finishing methods		
	15	shaving, burnishing grinding		
6	16	Lapping gear shaping, gear finishing methods	6	Introduction to various grinding wheels and demonstration on the surface grinder.
	17	shaving, burnishing grinding, honing		
	18	Automatic lathes, classification of automatic machines		
7	19	setting up of automatics, tooling layout and operation sheet	7	Study the constructional detail and working of CNC lathes Trainer.

	20	cam design, tool layout of automatic screw machine		
	21	programmed automatic lathes, bar stock feeding		
8	22	Test	8	Study the constructional detail and working of CNC lathes Trainer.
	23	Need for unconventional processes		
	24	Ultrasonic machining		
9	25	electrochemical machining	9	To carry out welding using TIG/MIG welding set
	26	electrochemical grinding		
	27	Laser beam machining their process parameters		
10	28	principle of metal removal	10	To carry out welding using TIG/MIG welding set
	29	applications advantages and limitations		
	30	Introduction, classifications of presses and dies		
11	31	hear, action in die cutting operations	11	To make a component on lathe machine using copy turning attachment.
	32	center of pressure, mathematical calculation of center of pressure		
	33	clearances, cutting forces,		
12	34	Punch dimensioning.	12	To cut external threads on a lathe.
	35	Test		
	36	Introduction, effects of vibration no-machine tools		
13	37	cutting conditions, work piece and tools life	13	To cut multi slots on a shaper machine
	38	source of vibration, machine tool chatter		
	39	Need for measuring forces		
14	40	Need for measuring forces	14	To perform drilling and Boring operation on a Component.
	41	basic requirements of measuring techniques		
	42	design requirements of dynamometers		
15	43	3-divisional turning dynamometer and its calibration	15	Internal viva-Voce
	44	drill dynamometers		
	45	Test		