GOVERNMENT POLYTECHNIC, PURI
DEPARTMENT OF MECHANICAL ENGINEERING

Discipline: **MECHANICAL ENGG**	Semester: 2ND	Name of the Teaching Faculty: **CHINMAYEE JAYASINGH,PTGF IN MECH. ENGG. , SUSHREE PRIYANKA PANIGRAHI, LECTURER IN MECH. ENGG.**
Subject: **WOKSHOP PRACTICE**	No. of days/per week class allotted: **06**	Semester From date: **14.03.2022** To Date: **18.06.2022** No. of Weeks: **15**
PRE REQUISITE	• Basic knowledge about unit and dimensions. • Basic knowledge about different instrument.	
COURSE OUTCOMES	**CO1**; To demonstrate safely practice in various shops of the workshop. **CO2**; To select suitable tools & equipment in the following shops. (a) Fitting. (b) Sheet Metal. (c) Welding (Gas & Electrical). (d) Turning. **CO3**; To select suitable materials for different process in the above shops. **CO4**; To demonstrate the different processes adopted in the above shops. **CO5**; To finish the jobs within stipulated time and with accuracy as per specifications	

Week	Class Day	Theory / Practical Topics	DELIVERY METHOD
1ST	1ST	Safety practices in the fitting shop	LAB MANUAL/ LAB
	2ND	Holding & clamping devices for fitting jobs. Various tools like - files, vice, chisels, punch, scriber, hammers, surface plate, V- block, try square, caliper used in fitting shop.	LAB MANUAL/ LAB
	3RD	Demonstration of following operations: Sawing, Chipping, Fitting, Craping, Grinding, Marking, Reaming, Tapping, Drilling & Angular cutting.	LAB MANUAL/ LAB
2ND	1ST	Introduction of chipping, demonstration on chipping and its applications. Description, demonstration and practice of simple operation of hack saw straight and angular cutting.	LAB MANUAL/ LAB
	2ND	Introduction and use of measuring tools used in fitting shop like steel rule, measuring tape, outside micrometer, vernier caliper and vernier height gauge.	LAB MANUAL/ LAB
	3RD	Description and Demonstration and practice of thread cutting using taps and dies.	LAB MANUAL/ LAB

3RD	1ST	Job: Cutting & fitting practice on a square	LAB MANUAL/ LAB
	2ND	Job: Cutting & fitting practice on a square Record checking.	LAB MANUAL/ LAB
	3RD	Job: Angular cutting practice of 45degree, Job submitted, Record checking	LAB MANUAL/ LAB
4TH	1ST	Job: Preparation of stud (to cut external threads) with the help of dies	LAB MANUAL/ LAB
	2ND	Job: Preparation of stud with the help of dies, Job submitted, Record checking	LAB MANUAL/ LAB
	3RD	Job: H-fitting	LAB MANUAL/ LAB
5TH	1ST	Job: Preparation of H-fitting, Job submitted, Record checking.	LAB MANUAL/ LAB
	2ND	Job: Preparation one job on male female fitting.	LAB MANUAL/ LAB
	3rd	Job: Preparation of male female fitting, job submitted, record checking.	LAB MANUAL/ LAB
6TH	1ST	Demonstrate safety practices in sheet metal shop. Preparation surface development for the jobs according to the drawing.	LAB MANUAL/ LAB
	2ND	Cut M.S and G.P. sheets according to the surface development / drawing using standard sheet metal cutting tools. Selection hand tools for sheet metal work.	LAB MANUAL/ LAB

		Demonstration- the process of metal clamp joining and rivetjoining of sheet metals.	LAB MANUAL/ LAB
	3RD	Job: Making of sheet metal joints, Job submitted, Record checking.	LAB MANUAL/ LAB
7TH	1ST	Job: Prepare a sheet metal tray or a funnel, Job submitted, Record checking.	LAB MANUAL/ LAB

	2ND	Job: Prepare a sheet metal job involving rolling, shearing, creasing.	LAB MANUAL/ LAB
	3RD	Job: Prepare a sheet metal job involving bending & cornering, Job submitted, Record checking.	LAB MANUAL/ LAB
8TH	1ST	Job: Prepare a lap riveting joint, Job submitted, Record checking	LAB MANUAL/ LAB
	2ND	Introduction, Safety precautions in welding, safety equipment & its application in welding shop	LAB MANUAL/ LAB
	3RD	Introduction to welding, type of welding, common materials that can be welded, introduction to gas welding equipment, types of flame, adjustment of flame, applications of gas welding. Welding tools & safety precautions	LAB MANUAL/ LAB
9TH	1ST	Introduction to electric arc welding (AC & DC), practice in setting current & voltage for striking proper arc, precautions while using electric arc welding. Applications of arc welding. Introduction to polarity & their use.	LAB MANUAL/ LAB
	2ND	Demonstrate & use of the different tools used in the welding shop with sketches, Hand shield, helmet, clipping hammer, gloves, welding lead, connectors, aprons, goggles, etc. Demonstrate of welding defects & various types of joints & end preparation.	LAB MANUAL/ LAB
	3RD	Job: Preparation of lap joint by arc welding rod.	LAB MANUAL/ LAB
10TH	1ST	Job: Preparation of lap joint by arc welding rod, Job submitted, Record checking	LAB MANUAL/ LAB
	2ND	Job: Preparation of Tee joint by arc welding	LAB MANUAL/ LAB
	3RD	Job: Preparation of Tee joint by arc welding, Job submitted Record checking	LAB MANUAL/ LAB
11TH	1ST	Job: Preparation of single V or double V butt joint by electric arc welding.	LAB MANUAL/ LAB
	2ND	Job: Preparation of single V or double V butt joint by electric arc welding, Job submitted, Record checking.	LAB MANUAL/ LAB
	3RD	Job: Brazing practice, Job submitted, Record checking.	LAB

			MANUAL/ LAB
12TH	1ST	Job: Gas welding practice on worn-out & broken parts, Job submitted, Record checking.	LAB MANUAL/ LAB
	2ND	Introduction, Safety precaution & safety equipment (Turning Shop).	LAB MANUAL/ LAB
	3RD	Various marking, measuring, cutting & holding tools. Demonstration of different parts of a lathe, demonstration centering & turning operation.	LAB MANUAL/ LAB
13TH	1ST	Plain turning practices on round bar	LAB MANUAL/ LAB
	2ND	Taper turning practices on round bar	LAB MANUAL/ LAB
	3RD	Grooving practices on round bar, Job submitted, Record checking	LAB MANUAL/ LAB
14TH	1ST	EXPOSURE TO C.N.C MILLING / LATHE MACHINE	LAB MANUAL/ LAB
	2ND	EXPOSURE TO C.N.C MILLING / LATHE MACHINE	LAB MANUAL/ LAB
	3RD	EXPOSURE TO C.N.C MILLING / LATHE MACHINE	LAB MANUAL/ LAB
15TH	1ST	EXPOSURE TO C.N.C MILLING / LATHE MACHINE	LAB MANUAL/ LAB
	2ND	EXPOSURE TO C.N.C MILLING / LATHE MACHINE	LAB MANUAL/ LAB
	3RD	EXPOSURE TO C.N.C MILLING / LATHE MACHINE	LAB MANUAL/ LAB

LEARNING RESOURCES:

01. Machine Drawing by N D Bhatt, Charotar Publisher
02. Machine Drawing by R K Dhawan, S. Chand

WEBSITE RESOURCES:

01. https://youtu.be/7_5kEAdBi7M
02. https://youtu.be/QVVdEi0k7pc
03. https://youtu.be/ZoCn4Pb6rLU
04. https://youtu.be/vF_veOZwZxQ
05. https://youtu.be/7xRSJUsybSQ

24/03/22 24/03/22

Sign. of Faculty concerned

24/03/2022

Sign. of HOD

Principal
G.P Puri