2004 - BASIC WORKSHOP PRACTICE – II

Teaching Schedule Per Week			Progressive Assessment	Examination Schedule (Marks)		
Lectures	Practical	Credits		Theory	Practical Ex.	Total
-	4	4	50	-	-	50

Pre-requisite	Source
2003	MCL

Semester	Theory	Test	Total	TW	PR	Gr Total
	—	—	—	100	—	100

RATIONALE/ Competencies to be Developed: - This course in Basic Workshop Practice – II is designed to provide further knowledge and skill in wood working, fitting forging and welding methods which a technician would find necessary in course of their diploma in Engineering. The student should be able to identify the tools and select the proper tools for specific operation and to take care in the proper maintenance and safety of man, machine & tool.

COURSE CONTENT

1. FITTING

Knowledge of the following tools. Spanners: -D/E spanners, S/E spanner, ring spanners, box spanners, adjustable spanners, etc; Screw drivers; Pliers: -Nose plier, combination plier, circlip-plier; Allen keys; Fller gauges; Pitch gauges; Radius gauges; Torque wrench.

Use of portable machines such as hand drilling machine, hand grinders such as straight & angle grinder. Precautions to be taken for stage wise identification of parts and their assembly and disassembly. General maintenance such as cleaning, oiling, greasing.

Disassembly and assembly of any machine parts such as Lathe Tail-stock, Bench-vice, Cross-slide, Four jaw independent chuck, or similar components related to the field..

General safety precautions. Perform a job in male and female, fittment of parts.

2. CARPENTRY

Knowledge of various wood working machines such as wood working lathe, circular saw, band saw, wood planner, universal wood working machine.

Knowledge of tools used for different machinery. Knowledge of different types of joint and their uses. Knowledge of wood preservation. Perform one job involving joints.

Perform one job on wood working machines. General safety precautions in various operations.

3. SMITHY AND FORGING

Knowledge of operations such as, upsetting, drawing-down, bending, forge welding and punching.

Identification by name and use of various tools: - Smith's hearth, Anvil, sewage block, tongs, hammers, hot and cold chisels, fullers, swages flatters, etc. Measuring tools such as brass rule, inside and outside callipers etc.

Perform one job involving various operations.

Safety precautions: - Use of proper clothing shoes and goggles etc. for safe working, consequences of using improper tool, general cleanliness, fire safety precautions.

4. WELDING

Knowledge of types of welding sueh as, arc welding (electric), gas welding.

Identification by name and use of various tools, accessories & equipment used in welding operations such as electrode-holders, cables, electrodes, hand shield, chipping hammer, head shield, goggles, tongs, wire brush, transformers, generators, blow pipes, nozzles, gauges, cylinders, cutting torch, filler rod, etc. Knowledge of various welding joints commonly used and positional techniques such as flat, horizontal, vertical overhead, etc. Perform one job involving stringer beading in flat position & one job involving either butt or lap joint.

General safety precautions: - Use of proper clothing & shoes etc for safe working, harmful use of loosely connected cables and improper earthing, use of hand gloves & apron, removal of spatter & flux, use of protective covering for general body parts, prevention of harmful effects of radiation to surroundings.

REFERENCE BOOKS

1. Elements of Workshop Technology, Vol.-I, Hajra Chudhary, Asia publication House.
2. Elements of Workshop Technology, Vol.-II, Hajra Chudhary, Asia publication House.
3. Welding Technology, O.P.Khanna.