## 4338 – SHOP FLOOR PRACTICES – II

| Teaching Schedule Per Week | | | Progressive Assessment | | Examination Schedule (Marks) | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | | Theory | | Practical Ex. | | Total |
| Lectures | Practical | Credits | | | | | | | |
| 2 | 2 | 4 | 25 | 25 | 3 Hrs | 100 | - | | 150 |

| Pre-requisite | Source |
|---|---|
| Nil | SHB |

| Semester | Theory | Test | Total | TW | PR | Gr Total |
|---|---|---|---|---|---|---|
| | 75 | 25 | 100 | 25 | — | 125 |

Rationale: - As a supervisor in Shipbuilding Engineering industry, he should know the working principle of various machines used by Industries, their work range, tools used for different operations and their maintenance. The machines, which are dealt here, are of commonly used in an Engineering Industry. Enough practical exposure also has been given to develop minimum hand skill to perform various operations.
Competencies To Be Developed: -The student should be able to- Select proper machine for a particular operation. Select proper tooling for a given operation. Perform a given operation on a particular machine & take care of maintenance and safety of men, machine & tools.

| COURSE CONTENTS | Hrs | Mks |
|---|---|---|
| **1. SHAPING MACHINE** | 8 | 24 |
| Introduction. Types of shaping machine. Main parts and their functions. Shaper mechanisms. Work holding devices. Shaper operations. Shaper tools. General safety precaution and maintenance. | | |
| **2. MILLING MACHINE** | 6 | 20 |
| Introduction. Types of milling machines. Construction and function of parts of horizontal milling machine. Operation carried out on milling machine. Types of milling cutters. Milling machine attachment. General safety precautions and maintenance. | | |
| **3. PRESS & PRESS WORK** | 6 | 20 |
| Introduction. Types of presses. Construction and working of fly press. Power press-driving mechanisms. Press tools. Types, dies and operations on press. General safety precautions and maintenance. | 6 | 20 |
| **4. SURFACE FINISHING PROCESSES** | 4 | 16 |
| Introduction. Metals used for surface finishing, lapping, honing, super finishing, polishing, buffing, pickling and oxidising, electro-plating, hot dipping (galvanising), metal spraying and metallisation. | | |
| **5. NUMERICAL CONTROL OF MACHINE TOOLS** | 8 | 20 |
| Introduction. Classifications of NC machines. Nominal control system. Measuring system for control. Preparation of processing system. Programming and tape preparation. Safety precautions and maintenance. | | |
| Total | 32 | 100 |

**TERM WORK**

1) One job involving different operation on milling machine
2) One job involving different operation on shaping machine
3) One job involving press operation
4) One job on CNC machine (Demonstration)
5) Journal based on shop floor instruction & job carried out.

**REFERENCE BOOKS**

1. Elements of workshop Technology Vol-II by S.K. Hajra Choudhary, S.K. Bose & A.K. Aajra Choudhary
2. Manufacturing science & Technology Vol-II by Suresh Dalala
3. Workshop Technology Vol-II by K.N. Gupta & J.P. Kaushish
4. Workshop Technology Vol-II by H. S. Bawa