

## VOC-133: Workshop Technology

### **Learning Outcomes:**

1. Students will gain knowledge about basic and heavy machine tools, manufacturing processes. They can start work in any automobile shop or industry

### **Module I: Introduction of General machineries:-**

Introduction, working, Construction and use of machines: - Lathe, Milling, Shaper, Drilling, Grinding, Welding machine ( Arc/Gas), Soldering and Brazing, air Compressor, Fly press, Pipe bending Machine, Wheel alignment machine, Wheel balancer Machine, F.I pump testing bench, Tyre changer Machine, Tyre inflection Machine, Decarburizing Machine.

### **Module II: General Purpose Machines**

Lathe machine, types of Lathe machine, Construction of Lathe, Thread cutting mechanism, Accessories and attachments, Lathe operations, Taper turning, Milling machine, Milling Methods, Types of Milling machine, operations on milling machine

### **Module III: Special Purpose Machines**

Drilling machine, Construction of drilling machine, Types of drilling machines, operations on drilling machine, Shaper machine, working principle of shaper machine, Types of shaper, operations on shaper machine, Planer machine, Working principle, Types of planer.

### **Module IV: Metal Joining Methods**

Welding, Electrodes, Gas Welding, Oxy fuel gas welding, MIG, TIG, SAW, SMAW, Thermit welding, Electroslag welding, Types of joints, Riveting, Soldering, Brazing.

### **Module V: Tutorials, assignments and presentation based on Module I to IV**

### **References:**

- 1) Workshop Technology Vol-I: B. S. Raghuwanshi: DhanpatRai& Co.
- 2) Workshop Technology Vol-II: B. S. Raghuwanshi: DhanpatRai& Co.
- 3) Workshop Technology Vol-I: S. K. Hajra Choudhari. A. K. Hajra Choudhari. Nirjhar Roy :Media Promoters and Publication Pvt.Ltd.
- 4) Workshop Technology Vol-III: W.A.J. Chapman.