

MACHINE TOOLS AND METROLOGY LAB

List of Experiments:

SECTION – A:

1. Introduction of general purpose machines – lathe, Drilling machine, Milling machine, shaper.
2. Planing machine, slotting machine, cylindrical grinder, surface grinder and tool and cutter grinder.
3. Step turning and taper turning on the lathe machine.
4. Thread cutting and knurling on the lathe machine.
5. Drilling and tapping
6. Machining Flat surfaces using Shaping and planing machines.
7. Making internal spines using Slotting machine.
8. Gear Cutting on milling machine.
9. Cylindrical surface grinding.
10. Grinding of tool angles.
11. Surface Grinder.

SECTION B:

1. Measurement of lengths, heights, diameters by Vernier calipers, micrometers etc.
2. Use of gear teeth Vernier calipers and checking the chordal addendum and chordal height of spur gear.
3. Machine tool “alignment test on the lathe.
4. Machine tool alignment test on milling machine.
5. Tool maker’s microscope.
6. Angle and taper measurements by Bevel protractor & sine bars.
7. Use of spirit level in finding the flatness of the surface plate.
8. Thread measurement by two wire / three wire method or Tool makers’ microscope.