PRODUCTION DRAWING PRACTICE AND INSTRUMENTATION LAB

List of Experiments: **Production Drawing Practice**

PRACTICE – I

Conventional representation of materials – conventional representation of parts – screw joints, springs, gears, electrical, hydraulic and pneumatic circuits – methods of indicating notes on drawings.

PRACTICE – II

Limits and Fits: Types of fits, exercises involving selection / interpretation of fits and estimation of limits from tables.

PRACTICE – III

Form and Positional Tolerances: introduction and indication of the tolerances of from and position on drawings, deformation of runout and total runout and their indication.

PRACTICE – IV

Surface roughness and its indication: Definitions – finishes obtainable from various manufacturing processes, recommended surface roughness on mechanical components.

PRACTICE – V

Heat treatment and surface treatment symbol used on drawings.

PRACTICE – VI

Detailed and Part drawings: Drawing of parts from assembly drawings with indications of size, tolerances, roughness, from and position errors etc.

PRACTICE – VII

Part drawing using computer aided drafting by CAD software.

Instrumentation Lab:

1. Calibration of pressure gauges

2. Calibration of transducer for temperature measurement.

3. Study and calibration of LVDT transducer for displacement measurement.

4. Calibration of strain gauge for temperature measurement.

5. Calibration of thermocouple for temperature measurement.

6. Calibration of capacitive transducer for angular displacement.

7. Study and calibration of photo and magnetic speed pickups for the measurement of speed.

8. Calibration of resistance temperature detector for temperature measurement.

9. Study and calibration of a Rotameter for flow measurement.

10. Study and use of a seismic pickup for the measurement of vibration amplitude of an engine bed at various loads.

11. Study and calibration of McLeod gauge for low pressure.