SUBJECT NO-ME29701, SUBJECT NAME- Workshop Process-II

LTP- 0-0-3,CRD- 2

SYLLABUS :-

Workshop Processes – 2

Prerequisite – Introduction to Engineering Practice or Equivalent

Selected jobs for practicing:

Machining:

facing, drilling, boring, turning-straight, taper, eccentric, grooving, thread cutting, forming etc. in centre lathes

surfacing, making regular polygons and cutting gear teeth in milling machines

gear teeth generation in gear shaping machine and hobbing machine

part programming and machining in CNC machining center

setting and operation of EDM

finishing by grinding

Measurement of dimensions, forms and surface finish of machined products.

Foundry Technology:

The practice-cum-experiments to impart an understanding on the various steps in metal casting including pattern design, sand preparation, moulding and melting:

(a) Study on various types of patterns and pattern materials

(b) Layout of a pattern

(a) Study on sand preparation

(b) Study on variation of mould properties with different moulding machines

Study on the effect of moulding parameters on the properties of moulds

Study of melting furnace and melting of aluminium alloys including degasification.

Welding:

Practical classes designed with the objective of imparting hands on training as well as understanding of welding technology. Suggested exercises are:

Understanding of welding machine characteristics and controls, electrode specifications, selection of electrode size and current, laying of beads.

Study of joint configuration and specification, required edge preparations; practice on preparing both side square groove butt weld; grinding of weld crown to make bead flush with plate surface; visual inspection of defects and reporting.

Study of various types of oxy-acetylene flames; practice on flame adjustment, gas welding/brazing.

Study and practice on submerged arc welding/ MIG welding.