

(2) Marking out—

(a) A steel or cast-iron component for machining, in which the following operations are planned : facing by turning, milling or other general machining method, drilling, boring and counter-boring.

(b) A plate gauge demanding the use of height gauge, bevel protractor or combination set and other marking out equipment.

(3) Fitting and bench work—

(a) The fitting of two mating parts requiring the use of chisels, files, scrapers, drills, reamers, hand taps, stocks and dies, in which the important dimensions are to tolerances recognized in good class practice.

(b) The soldering, brazing and the welding of simple lap or butt joint with steel or copper plate.

(4) Elementary machine work, including the use of the drilling machine, lathe and shaping machine.

There will be no examination in this subject, but a candidate in the subject will be required to present a certificate from the Principal of the institution attended that he has carried out a course of practical work of at least thirty hours' duration based on the above prescription and that his attendance and work have been satisfactory.

Workshop Practice II (a)

(See note heading syllabus in this subject in second year course)

The syllabus of work to be followed is set forth in the following sections :—

(1) The care and use of all hand tools and gauges for marking out and setting-up of machine shop work.

(2) *Tool-grinding*—The hand grinding of a representative selection of single-point tools to standard shapes and angles for specified machining operations.

Turning—Central lathe turning and boring, including chucking operations with both three- and four-jaw chucks. Taper turning. The cutting of a single-start Whitworth or square thread.

Milling—The milling of flat surfaces, and of vee-grooves, slots or key-ways in which the widths and spacings are to tolerances recognized in good class practice.

Shaping, Planing, or Slotting—The machining of flat faces, with vee-grooves, tee-slots, or other work requiring similar operations.

Grinding—

(a) External (parallel and taper) or internal (cylindrical) grinding.

(b) Surface grinding of parallel faces, to tolerances and finish recognized in good class practice.

Heat Treatment—The preparation and heat treatment of a typical selection of plain carbon or alloy steel cutting tools for hand or machine work.

There will be no examination in this subject, but a candidate in the subject will be required to present a certificate from the Principal of the institution attended that he has carried out a course of practical work of at least thirty hours' duration based on the above prescription and that his attendance and work have been satisfactory.