



MECHANICAL COURSE

FITTING, FITTING AND TURNING AND TOOL JIG AND DIE-MAKER COURSE MODULES

FITTING & TURNING 1ST YEAR

Course control document
 Perform safe work practices
 Read engineering drawings
 Use measuring instruments
 Use a file and saw
 Allowances and tolerances for fits
 Make and fit a key
 Maintain a pedestal grinder
 Sharpen a drill
 Maintain a pedestal drill
 Plan a drilling work piece
 Drill a flange
 Set a drip feed lubricator
 Pack a plumber block
 Examine bearings
 Mount and remove bearing manually
 Mount and remove bearing mechanically
 Mount and remove bearing with adapter sleeve
 Mount and remove bearing with a press
 Identify threads
 Fit washers and tighten screws
 Drill and tap holes
 Cut a thread with stocks and dies
 Fit split pins and circlips
 Make up a pipe system
 Cut and fit gaskets
 Fit seals and packing
 Overhaul a gate valve
 Maintain and align couplings
 Tension and align v-belts
 Replace chain and sprockets
 Lift and move equipment
 Use an angle grinder
 Operate oxy-acetylene cutting equipment
 Use welding equipment
 Tamper and grind a chisel
 Grind tool bits
 Maintain a lathe
 Operate a lathe
 Plan a turning work piece
 Turn a coupling pin and bush
 Maintain a milling machine
 Plan a milling work piece
 Mill a key way and hexagon

FITTING & TURNING 2ND YEAR

Principals of pneumatics
 Construct a circuit with single acting cylinders
 Fit and adjust a service unit
 Control the speed of a single acting cylinder
 Construct a circuit controlled from two points
 Control the speed of a double acting cylinder
 Design and construct a pneumatic circuit
 Set pressure sequence valve
 Construct and set circuit with time delay valve
 Principals of hydraulics
 Test the pump in a circuit
 Fit and set pressure relief valve
 Construct a circuit with single acting cylinder
 Construct a circuit with double acting cylinder
 Construct a circuit with check valve
 Construct a circuit with a rotary motion
 Control the speed of an actuator
 Construct a duel circuit
 Construct a circuit with sequenced actuators
 Construct a circuit with an accumulator
 Make up hydraulic hoses
 Diagnose and test an hydraulic circuit
 Start a four stroke petrol/diesel engine
 Maintain a cooling system
 Maintain a fuel system
 Maintain a lubrication system
 Maintain cylinder heads
 Line up a fluid drive coupling
 Remove and replace universal joints
 Overhaul hydraulic brakes
 Overhaul an electromagnetic brake
 Maintain clutches
 Maintain gearboxes
 Overhaul a single-stage centrifugal pump
 Overhaul a multi-stage centrifugal pump

