

GUJARAT TECHNOLOGICAL UNIVERSITY**Diploma Semester –II Remedial Examination December - 2010****Subject code: 320015****Subject Name: Mechanical Structure & Piping Drafting****Date: 18 / 12 /2010****Time: 10.30 am – 01.30 pm****Instructions:****Total Marks: 70**

1. Attempt all questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. English version Authentic

- Q.1** (a) Draw neat sketches of Assembly and separate components of THREE types of structural joint set-ups showing edge preparations. **07**
- (b) Draw neat sketches of Assembly and separate components of Shell to Shell, Shell to Cone and Shell to Dished End joint set-ups showing edge preparation. **07**
- Q.2** (a) Two views of an object are shown in **FIG.-1**, Redraw its sectional views and add its third view. Name the views and draw projection method symbol. **07**
- (b) An object is shown in **FIG.-2**, draw its Pictorial view with isometric scale, Also draw the isometric scale. **07**
- OR**
- (b) Pictorial view of an object is shown in **FIG.-3**, Draw its orthographic views giving its names. **07**
- Q.3** (a) An assembly drawing is shown in **FIG.-4**, Draw orthographic drawings of its components. **07**
- (b) A cylinder of 45mm dia. resting on its base is penetrated by another cylinder dia,35mm. The axis of penetrating cylinder is parallel to V.P. and H.P. Axis of both cylinders bisects each other from the mid. Draw front and Top views showing curves of inter section. **07**
- OR**
- Q.3** (a) Draw neat sketch of Horizontal Heat Exchanger, label its parts and prepare list of components giving specifications of materials used. **07**
- (b) A cylinder of 55mm dia. resting on its base is penetrated by another cylinder dia,45mm. The axis of penetrating cylinder is inclined at 10 degrees to V.P. and H.P. both and bisects axis of vertical cylinder from the mid center. Draw two views showing curves of inter section. **07**
- Q.4** (a) Draw Development of lateral surfaces of parts A and B for item shown in **FIG.-5**. **07**
- (b) Draw neat sketch of Reaction Vessel and label its parts. **07**
- OR**
- Q. 4** (a) Construct N or Z type Nomograph for the following: **07**

$$I = \frac{E}{R} \quad \text{where, } I = \text{Current in Amperes,}$$

$$R = \text{Resistance ranging from 0 to 10 Ohms,}$$

$$E = \text{Voltage ranging from 0 to 100 Volts.}$$

Find value of current for R=5 Ohms and V=50 Volts from it.

- (b) Draw neat sketch of Distillation Column and label its parts and prepare list of components giving specifications of materials used. **07**

Q.5

- (a) Draw typical Piping drawing and prepare material take off report from it. **07**
(b) Give names of SEVEN AutoCAD commands and state its uses. **07**

OR

- Q.5** (a) Draw neat sketches of different type Agitators giving its names and state its uses. **07**
(b) Name and explain uses of different computer peripherals and soft wares used in CAD laboratory. **07**

FIG.-1

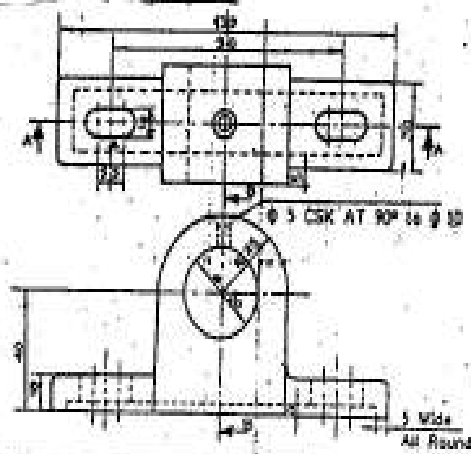


FIG.-2

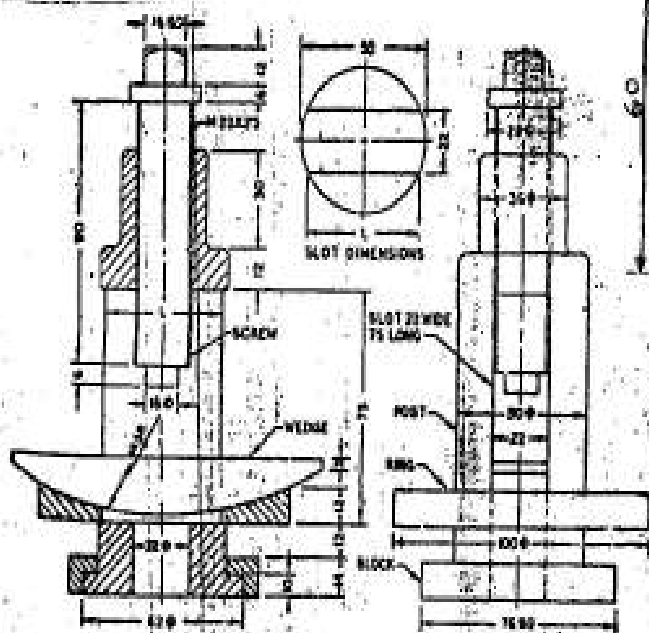
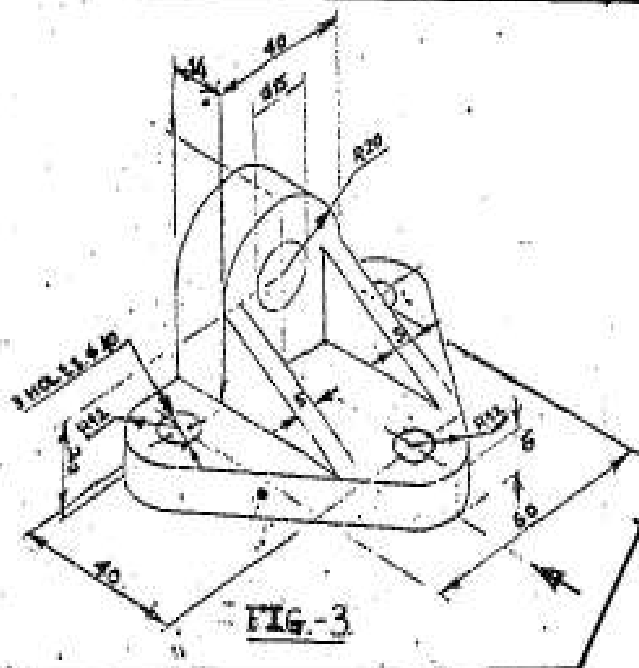
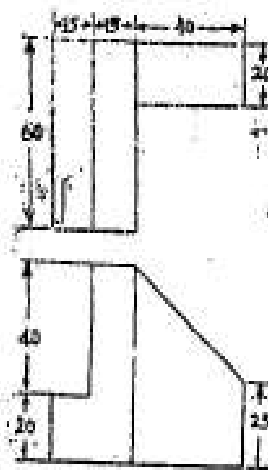


FIG-4 : Tool Post

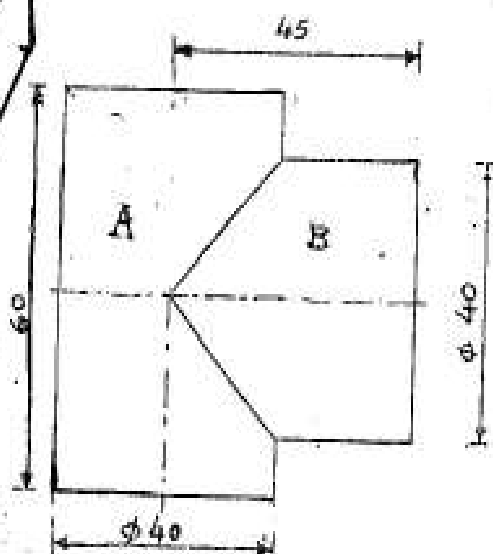


FIG.-5