

GUJARAT TECHNOLOGICAL UNIVERSITY**Diploma Engineering - SEMESTER-I&II • EXAMINATION – SUMMER • 2014****Subject Code: 320015****Date: 30-06-2014****Subject Name: Mechanical Structure and Piping Drafting****Time: 10:30 am - 01:30 pm****Total Marks: 70****Instructions:**

1. Attempt all five questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.
4. Each question carry equal marks (14 marks)

- Q.1** (a) Draw a typical fabrication drawing and write sequence of drawing reading. **07**
 (b) Explain following terms w.r.t. dimensional tolerance with neat sketch **07**
1. Basic dimension
 2. Upper deviation
 3. Lower deviation
 4. Tolerance zone
 5. Actual size
 6. Zero line
 7. Unilateral limits
- Q.2** (a) Explain commercial form of metal as BIS in following tabulated format **07**
- | Sr. No | Description | symbol | Dimensions to be specified of the profile section | | Designation Example |
|--------|-------------|--------|---|--------|---------------------|
| | | | letter | figure | |
| | | | | | |
- (b) Draw piping line diagram and label different piping elements in it. Write application of different piping elements **07**
- OR
- (b) Explain ANY SEVEN AutoCAD commands with neat sketch. **07**
- Q.3** Draw following views of object shown in FIG-1 by using 1st angle projection system **14**
1. Front view
 2. R.H.S.V.
 3. Top plan
- OR
- Q.3** Draw by the same method of projection following views of object shown in FIG-2 **14**
1. Front view
 2. Sectional side view take section along X-X
 3. Top plan
- Q.4** Draw Isometric view of given orthographic views shown in FIG-3 **14**
- OR
- Q.4** Make detail drawing of cotter joint shown in FIG-4 **14**
- Q.5** Draw development of part B of object shown in FIG-5 **14**
- OR
- Q.5** (a) Draw neat sketch and label different parts of following process equipment **07**
1. Pressure vessel
 2. Helical screw, cone type, propeller, radial propeller, high speed disc agitator

- (b) Draw N or Z type nomograph of equation $E=I \cdot R$
 Where $I = 0$ to 100 Amp
 $R = 0$ to 150 Ohm
 Find value of E when $I=50$ Amp. And $R=100$ Ohm

07

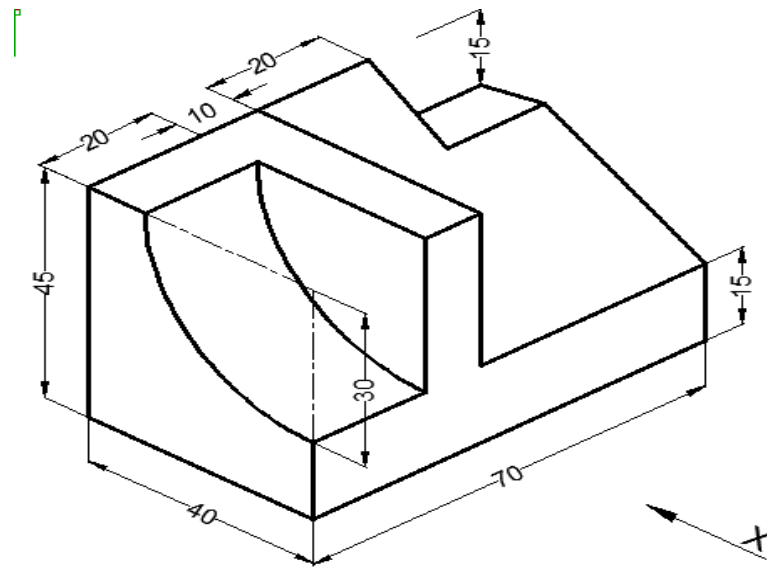


FIG-1 ALL DIMENSIONS ARE IN MM

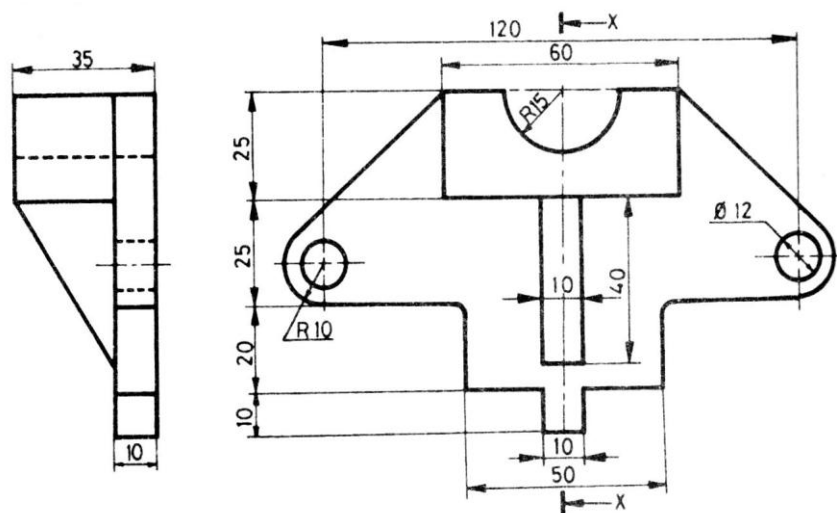


FIG-2 ALL DIMENSIONS ARE IN MM

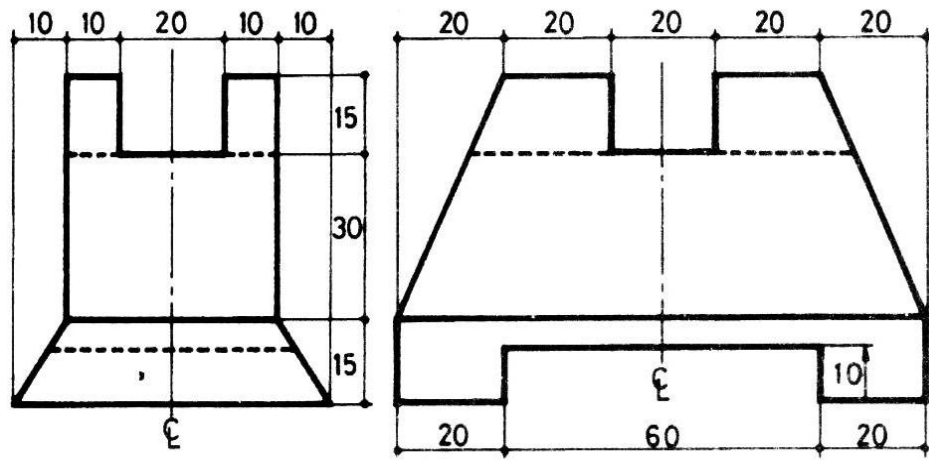


FIG-3 ALL DIMENSIONS ARE IN MM

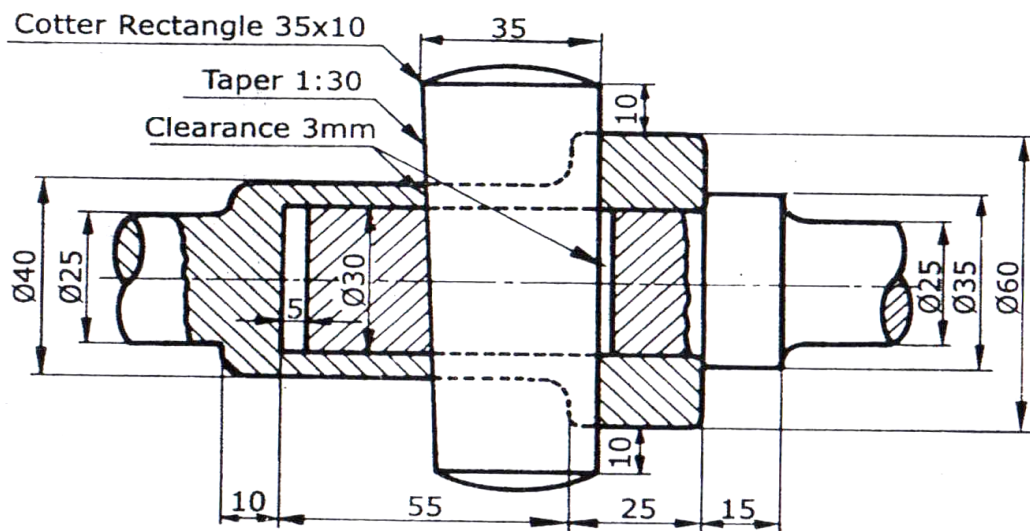


FIG-4 ALL DIMENSIONS ARE IN MM

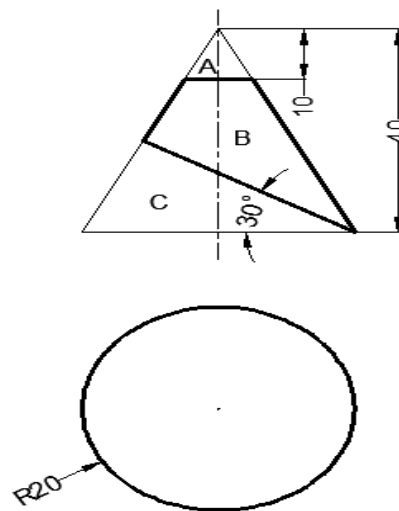


FIG-5 ALL DIMENSIONS ARE IN MM
