

Seat No.: _____
No. _____

Enrolment

GUJARAT TECHNOLOGICAL UNIVERSITY

Diploma Engineering - SEMESTER-I&II • EXAMINATION – WINTER • 2014

Subject Code: 320015

Date: 20-12-2014

Subject Name: Mechanical Structure and Piping Drafting

Time: 10:30 am - 01:30 pm

Total Marks: 70

Instructions:

1. Attempt any 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 prepare its BOM (Bill of Material) **07**
(b) Draw neat sketch of following process equipment setup & fit-up **07**
1. Shell to shell long seam setup
2. Shell to shell circular seam setup
- Q.2** (a) Draw following riveted joint **07**
1. Single riveted lap joint
2. Double riveted chained lap joint
3. Double riveted zigzag lap joint
4. Triple riveted chained lap joint
5. Triple riveted zigzag lap joint
6. Single riveted double strap butt joint
7. Double riveted double strap(equal) butt joint chain riveting
(b) Explain different types of piping flanges with neat sketch **07**
OR
(b) Explain different dimensioning methods as per BIS **07**
- Q.3** Draw following views of object shown in FIG-1 by using 1st angle projection system **14**
1. Front view
2. RHSV
3. Top plan
OR
- Q.3** Draw according to 1st angle projection system projection following views of object shown in FIG-2 **14**
1. Front view
2. Sectional side view take section along A-A
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 object shown in FIG-5 **14**
OR
- Q.5** (a) Draw neat sketch and label different parts of following process equipment **07**
1. Shell and tube heat exchanger
2. Evaporative type crystallizer
(b) Draw N or Z type nomograph of equation $E=I \times R$ **07**
Where $I = 0$ to 80 Amp
 $R = 0$ to 100 Ohm

Find value of E when $I=40$ Amp. And $R=50$ Ohm

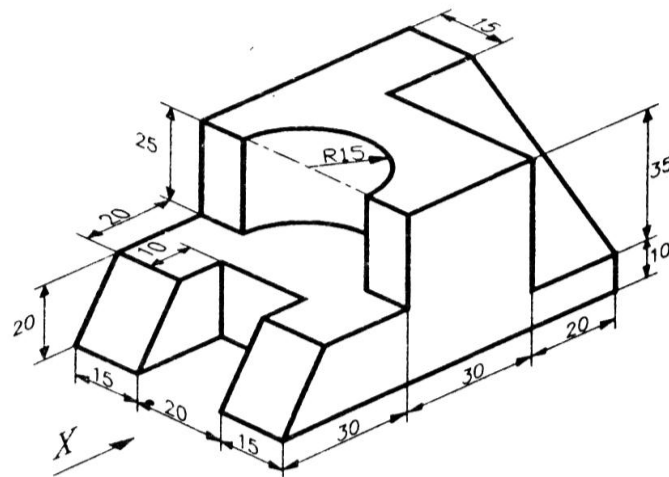


FIG-1 ALL DIMENSIONS ARE IN MM

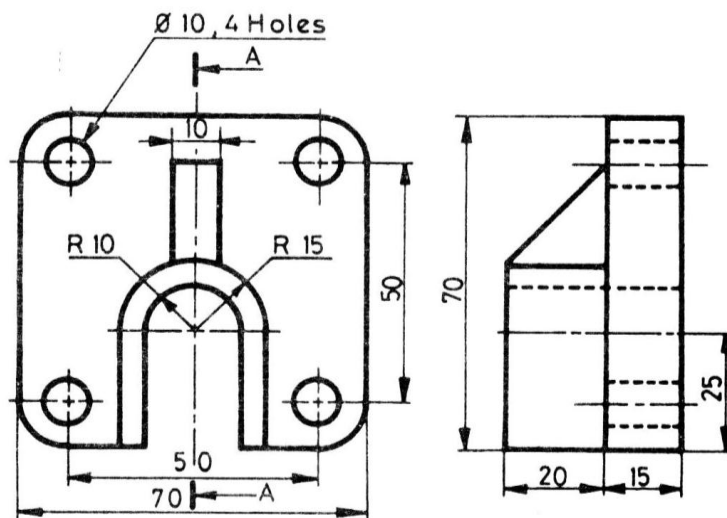


FIG-2 ALL DIMENSIONS ARE IN MM

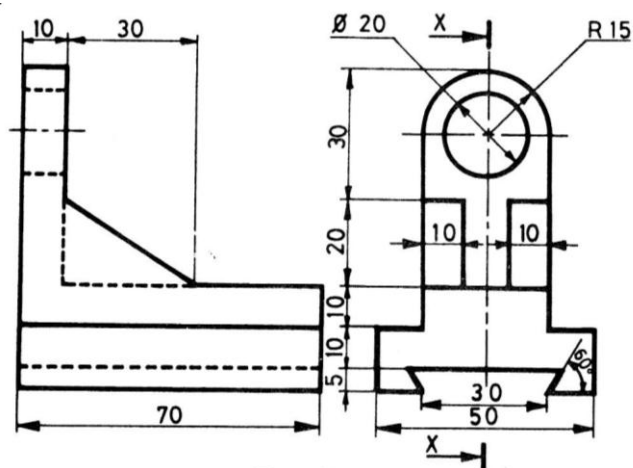


FIG-3 ALL DIMENSIONS ARE IN MM

