

Seat No.: _____

Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- 1st / 2nd EXAMINATION (NEW SYLLABUS) – WINTER 2018

Subject Code: 2110013

Date: 16/01/2019

Subject Name: Engineering Graphics

Time: 10:30 AM TO 1:30 PM

Total Marks: 70

Instructions:

1. Question No. 1 is compulsory. Attempt any four out of remaining Six questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

Q.1 Objective Question (MCQ) Mark

(a) Select the correct answer: 07

1. Which type of line is a part of a dimension?
(a) Break lines (b) Phantom lines
(c) Extension lines (d) Cutting plane lines
2. Which one of the following is not a reduction Scale?
(a) 1:1 (b) 1:200 (c) 5/320 (d) 5:6
3. The eccentricity of which of the following curve is greater than one?
(a) Ellipse (b) Hyperbola
(c) Parabola (d) None of above
4. For the third angle projection method, which of the following is correct?
(a) Observer - Object – Plane (b) Observer – Plane – Object
(c) (a) and (b) both (d) None of above
5. When the front view of line having a length less than the original length then which of the following is correct?
(a) Line is inclined to H.P. (b) Line is inclined to V.P.
(c) Line is inclined to both H.P. (d) (b) and (c) both and V.P.
6. To obtain the true shape of the section of solid, an auxiliary plane is set
(a) Inclined at an angle of 45° (b) parallel to XY to a cutting plane
(c) Parallel to a cutting plane (d) perpendicular to a cutting plane
7. A square plate of negligible thickness is inclined to HP and parallel to V.P. The front view will appear as
(a) rhombus (b) square (c) line (d) rectangle

(b) Select the correct answer: 07

1. A French curve is used to draw
(a) Circles (b) Ellipses (c) Smooth curves (d) Polygon
2. The angle between isometric axis is
(a) 30° (b) 90° (c) 120° (d) 180°
3. If a line is inclined to the Vertical Plane and parallel to Horizontal Plane, then which of the following statements is always correct?
(a) True Length = Plan Length (b) True Length ≠ Plan Length
(c) True Length > Elevation Length (d) True Length = Elevation Length
4. In first angle projection method The Left-hand side view is placed on
(a) Above elevation (b) Right side of elevation
(c) below elevation (d) Left side of elevation

5. Second angle projection is not used because
 (a) Plan is above xy (b) both views overlap each other
 (c) elevation is above xy (d) views are small in size
6. A cylinder standing on the HP is cut by a vertical plane parallel to the axis and away from it. The shape of the section will be
 (a) Rectangle (b) Circle (c) Ellipse (d) Hyperbola
7. When the plane cuts the cone parallel to the generator, the curve traced out is
 (a) ellipse (b) parabola (c) hyperbola (d) triangle
- Q.2** (a) A point "A" is located in the 1st quadrant. The shortest radial distance of point "A" from the intersection of H.P. and V.P. is 40 mm and is inclined at 45° to the H.P. Draw the projection of point A. **03**
- (b) Construct a plain scale of R.F. = 1:40 to show meters and decimetres and long enough up to 10 meter. Indicate 7.4 m distance on scale. **04**
- (c) Draw an ellipse having major axis 120 mm and minor axis 80 mm by using concentric circle method. **07**
- Q.3** (a) Explain Systems of Dimensioning in brief. **03**
- (b) A line PQ 60 mm long its end P on VP and end Q on HP. Line is inclined to HP by 60° and VP by 30° and it is 20 mm away from the profile plane. Draw the projections of the line. **04**
- (c) Draw an Archimedean spiral of 1.5 convolutions, the greatest and least radii being 125 mm and 35 mm respectively. Draw tangent and normal to the spiral at any point on the curve. **07**
- Q.4** (a) What are projection, projector and plane of projection? **03**
- (b) A line AB is 80 mm long. It is inclined at an angle of 45° to the Horizontal Plane and 30° to the Vertical Plane. The end A is 20 mm above Horizontal Plane and 10 mm in front of Vertical Plane. Draw the projections of the line AB. **04**
- (c) A hexagonal plane of 30 mm side has one of its sides on the H.P and inclined at 45° to the V.P. The surface of the plane is inclined at 45° to H.P. Draw its projections. **07**
- Q.5** (a) Define Representation Factor. What is Difference between plain Scale and Diagonal Scale. **03**
- (b) Differentiate between Isometric View and Isometric Projections and Construct the isometric scale to measure 100 mm. **04**
- (c) A hexagonal pyramid, side of the base 25 mm long and height 70 mm resting on HP on its side, has one of its triangular faces perpendicular to the HP and inclined at 60° to VP. Draw its projections. **07**
- Q.6** (a) Give complete classification of Solids. **03**
- (b) A square pyramid, base 45 mm side and axis 70 mm long has its base in H.P. all edges of the base are equally inclined to V.P. It is cut by a section plane Perpendicular to V.P. and inclined at 45 degree to the H.P. such that it bisects the axis. Draw its sectional top view and Front View. **04**

(c) Draw the isometric view from the following orthographic views. (Figure-1)

07

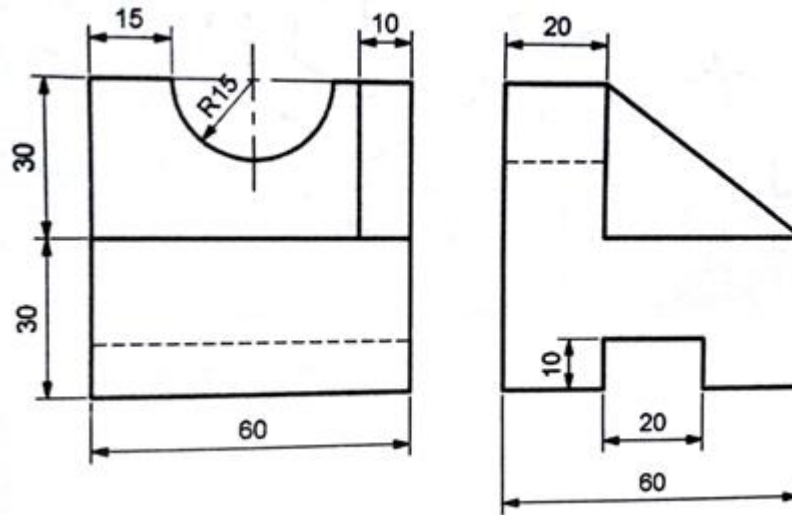


Figure-1

- Q.7 (a) Write down the difference between first angle and third angle projection methods. 02
- (b) Figure – 2 shows pictorial view of an object. Draw following views (a) Sectional Elevation from – X (b) Plan and (c) Right hand side view 12
- (a) Sectional Elevation from – X (b) Plan and (c) Right hand side view

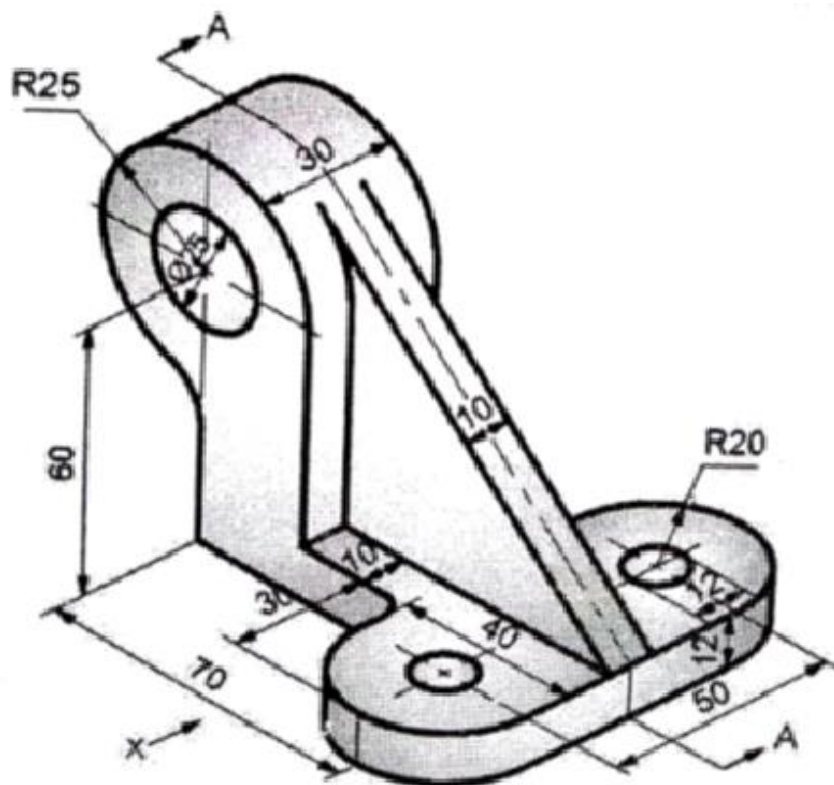


Figure-2
