

**GUJARAT TECHNOLOGICAL UNIVERSITY****BE - SEMESTER- I & II (NEW) EXAMINATION – WINTER 2019****Subject Code: 2110013****Date: 09/01/2020****Subject Name: Engineering Graphics****Time: 10:30 AM TO 01:30 PM****Total Marks: 70****Instructions:**

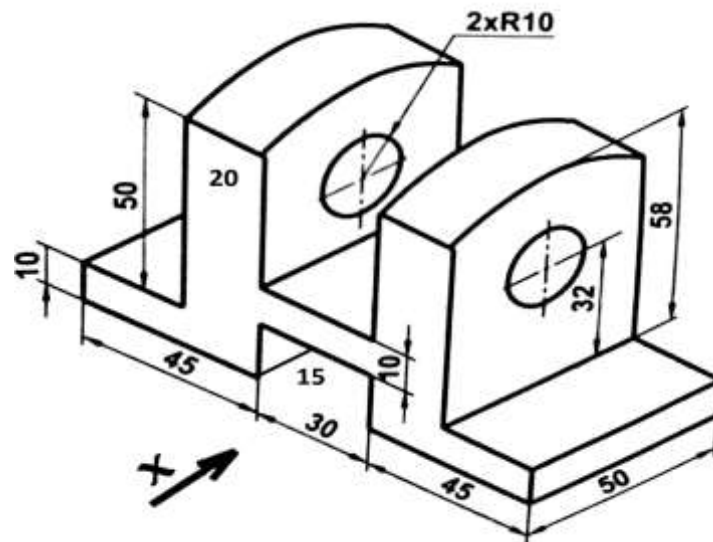
1. Question No. 1 is compulsory. Attempt any four out of remaining Six questions.
2. Make suitable assumptions wherever necessary.
3. Figures to the right indicate full marks.

<b>Q.1</b>	<b>Objective Question (MCQ)</b>	<b>Mark</b>
		<b>07</b>
(a)		
1.	Enlarge scale are generally used for drawing of _____. (a) Very small object (b) large object (c) Heavy weight object (d) object of any size	
2.	The type of line used to draw hidden edges in orthographic projection is (a) Dashed (b) long dashed dotted (c) long dashed double dotted (d) Continuous thin	
3.	The value of Eccentricity is less than 1, the curve will be_____. (a) Ellipse (b) Parabola (c) Hyperbola (d) cycloid	
4.	The locus of point on circumference of a circle which rolls, without slipping, outside of a fixed circle is called _____. (a) Hypocycloid (b) Epicycloid (c) Trochoid (d) Cycloid	
5.	If the object lies in the second quadrant, its position with respect to reference plane will be (a) In front of V.P. and above H.P., (b) Behind V.P. and below H.P. (c) In front of V.P. and below H.P., (d) Behind V.P. and above H.P.	
6.	If a line is inclined by 40 ° to H.P. and 50 ° to V.P. than the line is _____to profile plane. (a) aligned (b) Perpendicular (c) Inclined (d) Parallel	
7.	A square plane is inclined to V.P. & perpendicular to H.P. its top view appears as (a) Rhombus (b) Square (c) Straight line (d) Rectangle.	
(b)		<b>07</b>
1.	A plane perpendicular VP and inclined to HP is _____. (a) a plan perpendicular to P.P. (b) an A.V.P. (c) a plan parallel to P.P. (d) an A.I.P.	
2.	If front view and side view of a solid is rectangle of equal size than its top view will be (a) Rectangle (b) Square (c) Triangle (d) Pentagon	
3.	A cone is cut by a plane inclined to HP and perpendicular to VP. The cutting plane line will appear in _____. (a) Front view (b) Top view (c) Side view (d) none of the view.	

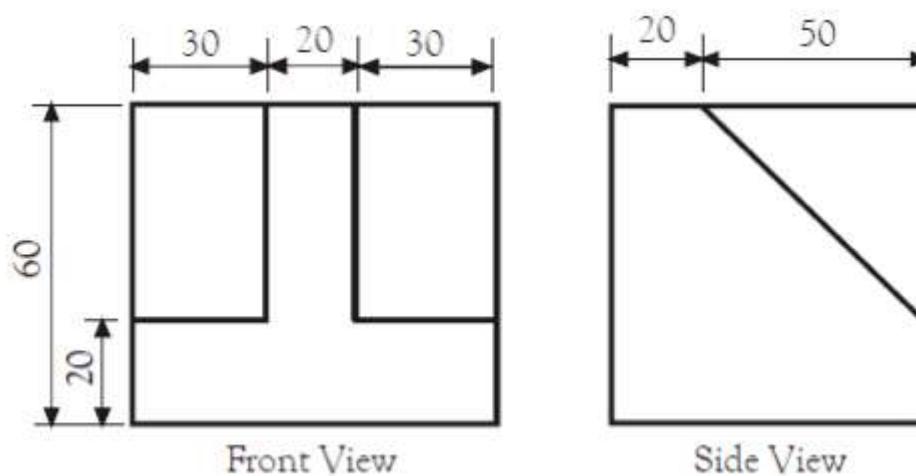
4. In first angle projection system the front view will be \_\_\_\_\_.  
 (a) in right hand side of its LHSV (b) above its top view  
 (c) in left hand side of its RHSV (d) below its top view
5. The orthographic axis are at \_\_\_\_\_ to each other.  
 (a)  $120^\circ$  (b)  $180^\circ$  (c)  $90^\circ$  (d)  $0^\circ$
6. An Isometric view is \_\_\_\_\_ view of an object.  
 (a) 1D (b) 2D (c) 3D (d) 4D
7. Isometric length of an edge of an object will be \_\_\_\_\_.  
 (a) longer than its true length (b) equal to its true length  
 (c) shorter than its true length (d) a dashed line
- Q.2** (a) Define Representation Factor. If effective available drawing paper length is 25 cm and the distance between two places to be measure is 50 km what is the representative factor for scale. **03**
- (b) Construct the Involute of circle of 35 mm diameter for one turn. **04**
- (c) Draw an ellipse having major axis 110 mm and minor axis 70 mm by using rectangle method. **07**
- Q.3** (a) Classify basic engineering curves. **03**
- (b) A line AB, 90 mm long, is inclined to HP and VP by  $45^\circ$  &  $30^\circ$  respectively. End A is 10 mm above HP and 20 mm in-front of VP. End B is in first quadrant. Draw plan and elevation of the line. **04**
- (c) A line PQ, 80 mm long, is inclined at  $45^\circ$  to HP. The end P is 15 mm above HP and is 50 mm in front of the VP. If front view of the line measure 65 mm draw projections of the line. Find the inclination of the line with the VP. **07**
- Q.4** (a) Differentiate symmetric and axisymmetric solids with examples. **03**
- (b) A regular pentagonal plate of 30 mm sides is resting on one of its edges on H.P. such that the surface is inclined at  $45^\circ$  to H.P. Draw the projections of the pentagonal surface considering plate in first quadrant. **04**
- (c) A circular thin plate of 50 mm in diameter rests on H.P. on a point of its circumference P. The diameter line PQ is inclined at  $30^\circ$  to H.P. and  $45^\circ$  to V.P. Draw projection of circular surface. **07**
- Q.5** (a) Draw simple sketch to differentiate types of dimensioning. **03**
- (b) A cylinder of base diameter 50 mm and axis 70 mm rest in the HP, has its inclination  $30^\circ$  to the HP. Draw the projection of the cylinder. **04**
- (c) A hexagonal pyramid is resting on HP on its base with two edges of the base parallel to V.P. Take edge of base 40 mm and height 80 mm. It is cut by a cutting plane perpendicular to V.P. and inclined to H.P. by  $45^\circ$  and passing through a point 25 mm from the apex on the axis. Draw elevation and sectional plan of pyramid. **07**

- Q.6 (a)** Show arrangement of six orthographic views in 1<sup>st</sup> Angle and 3<sup>rd</sup> Angle projection system. **03**
- (b)** Draw front view, top view and right hand side view of object shown in Figure 1 (as per first angle projection system). **11**
- Q.7 (a)** What is the difference between isometric projection and isometric view? **03**
- (b)** Prepare isometric scale for 100mm orthographic length. **04**
- (c)** Draw isometric view refer to Figure 2. **07**

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**Figure 1**



**Figure 2**

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