

Seat No.: _____ Enrolment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

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

Subject Code: 2110013

Date: 29-05-2018

Subject Name: Engineering Graphics

Time: 02:30 pm to 05:30 pm

Total Marks: 70

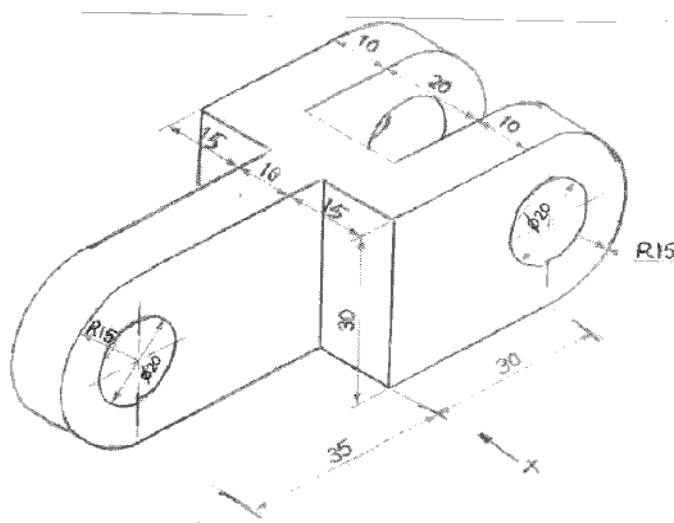
Instructions:

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.

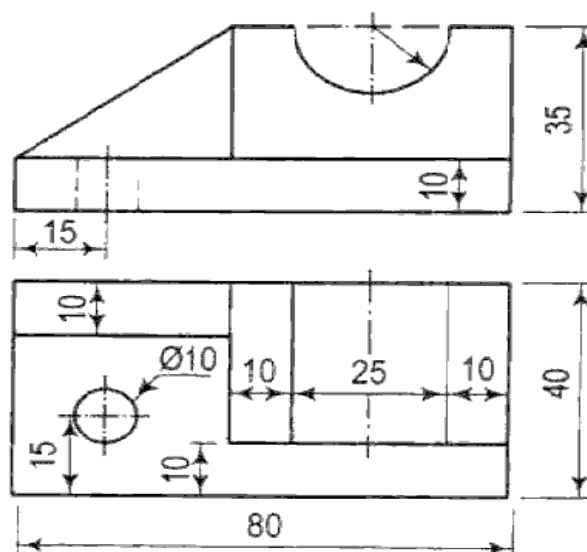
Q.1	Objective Question (MCQ)	Mark
(a)		07
1.	If the object lies in the fourth quadrant, its position with respect to reference plane will be a) In front of V.P. and above H.P. , b) Behind V.P. and below H.P. c) In front of V.P. and below H.P., d) Behind V.P. and above H.P.	
2.	In the orthographic projections, F.V. is projected on (a) H.P. (b) V.P. (c) XY (d) GL	
3.	A square plane is inclined to HP & perpendicular to VP its elevation appears as (a) Rhombus (b) Square (c) Straight line (d) Rectangle	
4.	When the line is parallel to VP and perpendicular to HP, we can get its true length in _____. a) Top view b) Front view c) Side view d) Front view & Side view	
5.	A cone base diameter 40 mm and axis 60 mm is cut by a plane parallel to the base then the true shape will be a) Parabola b) Circle c) Isosceles Triangle d) Regular Triangle	
6.	Representative fraction is ratio of a) Maximum length/Minimum length b) Actual length of object/Length of object in drawing c) Length of object in drawing/Actual length of object d) All of these	
7.	While drawing the isometric view of the sphere, its diameter is taken as a) Equal to actual diameter b) 11/9 times of the actual diameter c) 21/9 times of the actual diameter d) none of the above	
(b)		07
1.	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	
2.	The eccentricity of which of the following curve is greater than one? a) Ellipse b) Hyperbola c) Parabola d) None of above	
3.	A curved traced out by a point which moves uniformly both about the centre and at the same time away or towards the centre is known as a) Involute b) Cycloid c) Archimedian spiral d) None of above	
4.	When a line is inclined to VP and parallel to HP, the front view will be _____ to xy. a) parallel b) perpendicular c) inclined at angle ϕ d) non on these	
5.	A tetrahedron has _____ equal rectangular faces. a) 0 b) 2 c) 3 d) 4	
6.	The angle between isometric axis is a) 30° b) 90° c) 120° d) 180°	
7.	To obtain the true shape of the section of solid, an auxiliary plane is set at a) Parallel to cutting plane b) Perpendicular to cutting plane c) Parallel to Ground plane d) Perpendicular to XY Plane	

- Q.2** (a) Construct a diagonal scale of R.F. = 1/4000 to show 374 meters and long enough to measure up to 500 meters. **03**
- (b) The vertex of a hyperbola is 65mm from its focus. Draw the curve if the eccentricity is 3:2. **04**
- (c) Inscribe an ellipse in parallelogram having sides 150 mm and 100 mm long and an included angle of 120^0 . **07**
- Q.3** (a) A line AB is having its end A 10 mm above the HP and 30 mm in front of the VP. It is inclined at 45^0 to HP and 30^0 to VP. The end B is below the HP and behind the VP. The plan length of line is 80 mm. Draw projections of the line AB. Find True length and elevation length. **07**
- (b) A wheel of diameter 60 mm, rolls on a straight horizontal road. Draw the locus of a point P on the periphery of the wheel for one revolution of the wheel, if P is initially on the road. Name the curve. **07**
- Q.4** (a) A pentagonal pyramid, edges of base 50 mm and height 75 mm is resting on a corner on HP in such a way that slant edge containing corner makes an angle of 60^0 with HP and 30^0 with VP. Draw the projections **07**
- (b) A square plate of side 60 mm is resting on HP on one of its corner. Plate is inclined to HP such that the plan of it is rhombus with a diagonal of 30 mm. Determine the inclination with HP. The plan of diagonal makes an angle of 45^0 VP. **07**
- Q.5** (a) Construct an Involute of a regular pentagon of 25 mm sides. **04**
- (b) Using First angle projection method draw (1) Front view (2) top view (3) LHSV. **10**

Consider all Dimensions are in mm



- Q.6 (a)** Construct the isometric scale to measure 100 mm **02**
(b) Draw isometric drawing of given figure. **12**



- Q.7 (a)** Write down the difference between first angle and third angle projection methods. **03**
(b) A line PQ is 80 mm long. It is inclined at an angle of 45° to the HP and 30° to the VP. The end P is 20 mm above HP and 30 mm in front of VP. Draw projections of line PQ. **04**
(c) A cylinder of 40 mm diameter and 60 mm height is resting on ground. It is cut by a section plane perpendicular to VP inclined at 45° to HP and intersecting the axis 32 mm above the base. Draw its front view and sectional top view and true shape. **07**