

Seat No.: _____

Enrollment No. _____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER– 1st / 2nd EXAMINATION (NEW SYLLABUS) – SUMMER 2016

Subject Code: 2110013

Date:09/05/2016

Subject Name: Engineering Graphics

Time:02:30 PM to 5:30 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. When a surface of an object is inclined to a plane of projection, it will appear _____ in the view.
 - a. foreshortened
 - b. in true size and shape
 - c. as a line
 - d. as a point
2. A sphere can be described in how many views?
 - a. 4
 - b. 3
 - c. 2
 - d. 1
3. If point C is below HP and behind VP then in which quadrant point C lies?
 - a. First
 - b. Second
 - c. Third
 - d. Fourth
4. 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
5. The angle between each axis for an isometric drawing is _____.
 - a. 90 degrees
 - b. 120 degrees
 - c. 180 degrees
 - d. 60 degrees
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. Scale used when the lengths are required in three consecutive units is

a. Plain

b. Vertical

c. Diagonal

d. Vernier

(b)

07

1. In first angle projection system, plan is drawn

- a) Above Elevation b) Below Elevation c) Left of the Elevation
d) Right of the Elevation

2. Dashed line is used to draw...

- a) Outer Edges b) Projections
c) Center & Center axis d) Hidden faces

3. A solid is said to be a right solid if-

a. Axis is perpendicular to its base

b. Parallel to its base

c. Inclined to its base

d. All of these

4. If the value of Eccentricity is greater than 1 curve will be

- a) Ellipse b) Parabola c) Hyperbola d) Circle

5. The curve traced out by a point which moves uniformly both about the centre and at the same time away or toward the centre is

- a) Cycloid b) Logarithmic Spiral c) Involute d) Archimedean Spiral

6. 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

7. 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

Q.2 (a) Define Representation Factor. What is Difference between plain Scale and Diagonal Scale. **03**

(b) Construct a plain scale of R.F.= 1:50 to show meters and decimeters and long enough up to 8 meter. Indicate 6.7 m distance on scale. **04**

(c) A wheel rolls over the horizontal straight line path and covers 1980 mm distance in one rotation. Draw the path traced by the point P which is initially at the point of contact between the wheel and the horizontal straight line. **07**

Q.3 (a) Explain (i) Polyhedra (ii) Solid of revolution **03**

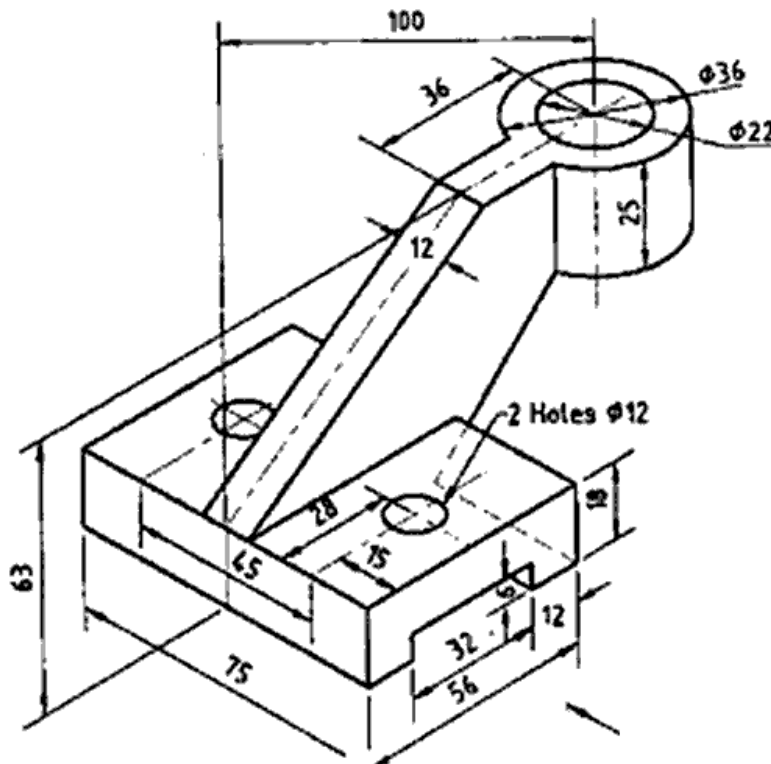
(b) A Square plate, side 40 mm, is resting on H.P with one side of plate inclined to V.P. by 30° . Draw the projections. **04**

(c) Draw an ellipse if the distance of focus from the directrix is 50mm :

and the eccentricity is $2/3$.

07

- Q.4** (a) Draw the Projections of the following points on same Reference line keeping 30 mm distance between its projectors. 03
(a) Point A is 20 mm above HP and 40 mm behind VP.
(b) Point B is 10 mm above HP and 20 mm in front of VP.
(c) Point C is in the HP and 20 mm in front of VP.
- (b) A pentagon plate, side 40mm is resting on H.P. on one of its corners. The plate is inclined to H.P. by 45° and perpendicular to VP. Draw its projections. 04
- (c) A hexagonal plate is resting on one of its side on H.P. The side on which it rests makes an angle of 45° with V.P. and the plate makes an angle of 45° with H.P. Draw the projections of the plate. 07
- Q.5** (a) A line PQ 70 mm long is parallel to VP and 30° inclined to HP. The end P is 30 mm above HP and 20 mm in front of VP. Draw the Projections. 03
- (b) A Pentagonal pyramid, side of the base 35 mm and height 70 mm is resting on HP on its side, has one of its triangular faces perpendicular to the HP and VP both. Draw its projections. 04
- (c) A line AB is 75 mm long. It is inclined at an angle of 45° to the Horizontal Plane and 30° to the Vertical Plane. The end A is in the HP as well as in the VP. Draw the projections of the line. 07
- Q.6** (a) Explain Systems of Dimensioning in brief. 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 Sectional Front View from the direction shown with arrow and Top View using the FIRST angle projection method for the object shown in Figure. 07



Q.7 (a) Which are the Difference between 1st angle projection Method and 3rd angle Projection Method. **03**

(b) Draw Isometric View of Square Prism with side of base 40 mm and length of axis 70 mm. **04**

07

(c) Draw Isometric View of the Following Object.

