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GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER- I & II (OLD) EXAMINATION – WINTER 2019 Code: 110013 Date: 09/01/2020

Subject Code: 110013

Subject Name: Engineering Graphics Time: 10:30 AM TO 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.
- Q.1 (a) Refer the object shown in FIGURE-1. Draw the following views using the first angle 07 projection method. (draw elevation in the direction of X)
 (i) Sectional Front View
 (ii) Right Hand Side View
 - (b) A wheel rolls over the horizontal straight line path and covers 1980 mm distance in one 07 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. Name the path traced by the point P.
- Q.2 (a) The top view of an object is a square of 60 mm side while the front view is a circle of radius 07 30 mm. Draw the isometric projection of the object.
 - (b) A square plate of 60 mm side is resting on HP on one of its corners in such a way that its 07 surface makes an angle of 45° to HP. Draw the projections of the square plate when diagonal passing through the corner on HP makes an angle of 30° to VP.
- Q.3 (a) The top view of 75 mm long line AB measures 65 mm, while the length of its front view is 07 50 mm. Its one end A is in the H.P. and 12 mm in front of the V.P. Draw the projections of line AB and its inclinations with the H.P. and the V.P.
 - (b) ABC is an equilateral triangle of side 60 mm long. Its corner A is on H.P and side BC is 20 07 mm above HP. Draw the projections of the triangle when side BC is inclined to V.P at an angle of 50°
- Q.4 (a) Classify the solids. Differentiate prism and pyramid with figure.
 - (b) A pentagonal prism rests on one of its edges of the base on H.P. with its axis inclined at 45° 07 to the H.P. The top view of the axis is inclined at 30° to the V.P. Draw the projections of the prism, assuming the edge of the base to be 30 mm and the axis 70 mm long.
- Q.5 (a) Draw the symbol for first and third angle projection. Describe the types of system of 07 dimensioning with figure.
 - (b) A cube with a 30 mm side resting on one of its corners on HP. Draw the projections when 07 the base is inclined at 45° to HP and axis parallel to VP.
- **Q.6** (a) Draw a plain scale to show kilometer and hectometer when R.F. = 1/35000 and long enough 07 to measure 5 km. Measure 3.7 km on scale
 - (b) A cone, base 40 mm diameter and axis 60 mm long, rests on its base on the HP. It is cut by 07 a section plane perpendicular to the VP and parallel to one of its generators and passing through a point on the axis at a distance of 25 mm from the apex. Draw the sectional top view
- Q.7 (a) An inelastic string 150 mm long has its one end attached to the circumference of a circular disc, of 40 mm diameter. Draw the curve traced out by the other end of the string when it completely wound around the disc keeping the disc always tight
 - (b) Draw a rectangle of 120 mm × 60 mm. draw ellipse in it.

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