Total No. of printed pages = **3**

SUBJECT CODE = CEE022105

Roll No. of candidate

2017

End Semester B.TECH. Examination

1st Semester

ENGINEERING GRAPHICS

Full Marks- 70   Pass marks- 21   Time- 3 hours

The figures in the margin indicate full marks.

PART-A

Answer all questions

Q.1.   **(1 x 16 = 16)**

a. The following is not included in title block of drawing sheet.
   (i) Sheet No   (ii) Scale   (ii) Method of Projection   (iv) Size of sheet

b. Which of the following represent reducing scale?
   (i) 1:1   (ii) 1:2   (iii) 2:1   (iv) 10:1

c. The following line is used for visible outlines
   (i) Continuous thick   (ii) Continuous thin   (iii) Chain thin line   (iv) Short zigzag thin

d. The dotted lines represents
   (i) Hidden edges   (ii) Projection line   (iii) Centre line   (iv) Hatching line

e. In aligned system of dimensioning, the dimensions may be read from
   (i) Bottom or right hand edges   (ii) Bottom or left hand edges
   (iii) Only from bottom   (iv) Only from left side

f. The Length:Width in case of an arrow head is
   (i) 1:1   (ii) 2:1   (iii) 3:1   (iv) 4:1

g. The internal angle of regular pentagon is ____ degree.
   (i) 72   (ii) 108   (iii) 120   (iv) 150

h. The curve generated by a fixed point on the circumference of a circle rolling along a fixed straight line is called
   (i) Involute   (ii) Spiral   (iv) Cycloid   (iv) Epicycloid

i. A line of 1 m is shown by 1 cm on a scale. Its Representative fraction (RF) is
   (i) 1   (ii) 100   (iii) 1/100   (iv) 1/50

j. The side view of an object is drawn in
   (i) Vertical plane   (ii) Horizontal plane   (iii) Profile plane   (iv) Any of them

k. In first angle projection method, object is placed
   (i) Below HP and in front of VP   (ii) Above HP and behind VP
   (iii) Above HP and in front of VP   (iv) Below HP and behind VP

l. The F.V. of a rectangle, when its plane is parallel to HP and perpendicular to V.P., is
   (i) Rectangle   (ii) Square   (iii) Line   (iv) Point

m. The following are the Polyhedron except
   (i) Prism   (ii) Pyramid   (iii) Cube   (iv) Cylinder

n. A right regular hexagonal prism in resting on HP on its base, its top view is a
   (i) Square   (ii) Rectangle   (iii) Hexagon   (iv) Pentagon

o. The isometric axis are inclined at _____ degree to each other.
   (i) 60   (ii) 90   (iii) 120   (iv)150

p. The isometric projection of a circle is a
   (i) Circle   (ii) Ellipse   (iii) Hyperbola   (iv) Parabola

PART-B
Answer all questions

Q.2.   **(7 x 2 = 14)**

a. Write freehand, in single stroke, vertical capital letters of 10 mm height the following line: "ACCORDING TO BS EN ISO 1302:2002"

b. Draw a plain scale of 1:50 showing metres and decimetres, and to measure up to 5 metres. Show a length of 3.6 metres on it

PART-C
Answer all questions

Q.3.

a. Construct a hyperbola, when the distance of the focus from the directrix is 65mm and eccentricity is $^3/_2$. Draw a normal and a tangent at a point on the curve, 75mm from the directrix.   **(10)**

OR

b. Construct a cycloid, rolling circle diameter is 50mm and directing line of length equal to the circumference of rolling circle. Draw a tangent to the curve at a point on it 40mm from the line.   **(10)**

Q.4.

a. A point P is 15mm above the H.P. and 20mm in front of the V.P. Another point Q is 25mm behind the V.P. and 40mm below the H.P. Draw the projections of P and Q keeping the distance between the projectors equal to 60mm. Draw straight lines joining (i) their top views and (ii) their front views   **(10)**

OR

b. A line AB, 60mm long, is inclined at 45° to the V.P. and 30° to the H.P. Its end A is in 20mm above H.P. and 30mm in front of the V.P. Draw its projections.   **(10)**

Q.5.

    a. Draw the projections of a regular hexagon of 25mm sides, having one of its sides in the H.P, its surface is perpendicular to V.P. and making an angle of 60° with the H.P.

(10)

<p align="center">***OR***</p>

    b. Draw the projections of a triangular prism, base 25mm sides and axis 60mm long, resting on one of its rectangular faces on the HP, with the axis inclined at 30° to the V.P. **(10)**

Q.6.

    a. Draw the isometric projection of a pentagonal pyramid, base 25mm sides and axis 60mm, standing vertically on its base with one side of its base perpendicular to the VP.

(10)

<p align="center">***OR***</p>

    b. Draw the isometric view of a cylinder, base diameter 40mm and axis 60mm when its axis is vertical. **(10)**