



I B.Tech I Sem Regular Examination, Dec 2019/Jan 2020

ENGINEERING GRAPHICS
(ECE)

Time: 3 Hours.**Max. Marks: 70**

Answer all Five Questions
 All questions carry equal marks

- 1 a) Construct a conic when the distance of its focus from its directrix is equal to 50 mm and its eccentricity is $2/3$. Name the curve, mark its major axis and minor axis. Draw a tangent at any point, P on the curve. 7 M
 - b) A line of length 200 mm is divided into 10 equal parts and each part represents a main scale division. With the help of diagonal scale obtain a LC of 0.2 mm and mark on it a length of : (a) 41.6 mm (b) 53.8 mm and (c) 67.4 mm. 7 M
- OR**
- 2 a) A study of map reading showed that a distance of 1 cm on it represents an actual distance of 5 km on the field. Construct a plain scale to read to single kilometre. Mark on it a distance of 69 kilometres. What is the representative fraction. 7 M
 - b) Draw an ellipse by oblong method. The major and minor axes given as 150 mm and 90 mm respectively. Draw normal and tangent at any point on the ellipse at a distance of 55 mm from the geometrical centre of the ellipse. 7 M
- 3 a) A pentagonal plate of 45 mm side has a circular hole of 40 mm diameter in its centre. The plane stands on one of its sides on the H.P. with its plane perpendicular to V.P. and 45° inclined to the H.P. Draw the projections. 10M
 - b) A rectangle ABCD of size 30 mm x 20 mm is inclined to the HP at 30° . Its shorter side AB is parallel to the HP. Draw the projections of the rectangle. 4 M
- OR**
- 4 a) The top view of a 75 mm long line AB measures 65 mm, while the length of its front view is 50 mm. Its one end A is in the HP and 12 mm in front of the VP. draw the projections of AP and determine its inclinations with the HP and the VP. 10M
 - b) The two points A and B are in the H.P. The point A is 30 mm in front of the V.P., while B is behind the V.P. The distance between their projectors is 75 mm and the line joining their top views makes an angle of 45° with xy. Find the distance of the point B from the V.P. 4 M
- 5 A hexagonal prism, base 40 mm side and height 40 mm has a hole of 40 mm diameter drilled centrally through its ends. Draw its projections when it is resting on one of its corners on the H.P. with its axis inclined at 60° to the H.P. and two of its faces parallel to the V.P. 14 M
- OR**
- 6 A cylinder 50 mm diameter and 60 mm long, is resting on its base on the ground. it is cut by a section plane perpendicular to the VP, the VT of which cuts the axis at a point 40 mm from the base and makes an angle of 45° with the HP. Draw its front view, sectional top view and another sectional top view on AIP parallel to the section plane. 14 M

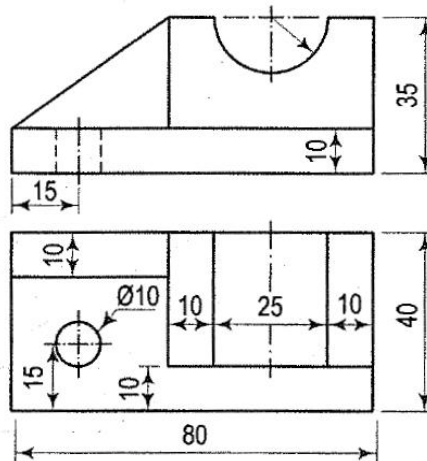
(P.T.O.)

- 7 A vertical hexagonal prism of 25 mm side of base and axis 60 mm has one of its rectangular faces parallel to VP . A circular hole of 40 mm diameter is drilled through the prism such that the axis of the hole bisects the axis of the prism at right angle and is perpendicular to VP. Draw the development of the lateral surface of the prism showing the true shape of the hole on it. 14 M

OR

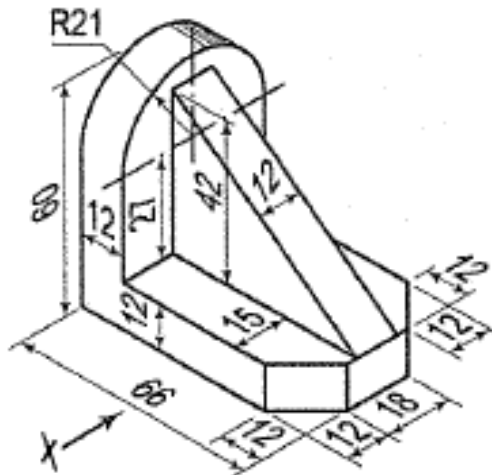
- 8 A hexagonal pyramid, side of base 30 mm, axis 70 mm is resting on HP on its base. It is cut by a section plane perpendicular to VP and at 45° to HP and passing through the midpoint of the axis of the pyramid. Draw the development of the lateral surface of the truncated pyramid. 14 M

- 9 The Orthographic projections of the objects are shown in figure. Draw its Isometric View. 14 M



OR

- 10 a) Draw the following views of the block shown pictorially in figure. Use third-angle projection method. (i) Front view (ii) Top view (iii) side view 8 M



- b) Draw the following views of the block shown pictorially in figure. Use third-angle projection method. (i) Front view (ii) Top view (iii) side view 6 M

