

B.Tech II Year II Semester (R13) Supplementary Examinations December/January 2015/2016

ENGINEERING GRAPHICS

(Electronics and Communication Engineering)

Time: 3 hours

Max. Marks: 70

(Answer all five units, 5 X 14 = 70 Marks)

All questions carry equal marks

UNIT – I

- 1 (a) Draw all alphabet and numerical of 12 mm height using single stroke vertical letters as per the Indian standard.
(b) Draw a Heptagon having 30 mm sides such that one of its edges is vertical.

OR

- 2 Draw the epicycloids and hypocycloid, when generating circle and directing circle are of 40 mm and 140 mm diameters respectively. Construct the evolutes of the two curves.

UNIT – II

- 3 (a) A point P is situated in first quadrant. It is 50 mm above HP and 35 mm in front of VP. Draw its projections and find its shortest distance from the intersection of HP and VP and the auxiliary plane.
(b) A 90 mm long line is parallel to and 25 mm in front of the VP. Its one end is in the HP, while the other end is 50 mm above the HP. Draw its projections and find its inclination with the HP.

OR

- 4 (a) A point Q is situated in the first quadrant. It is 40 mm above HP and 30 mm in front of VP. Draw its projections and find its shortest distance from the intersection of HP and VP and auxiliary plane.
(b) The front view of a line, inclined at 30° to the VP is 65 mm long. Draw the projections of the line, when it is parallel to and 40 mm above the HP, its one end being 30 mm in front of the VP.

UNIT – III

- 5 A thin hexagonal piece of metal sheet with a 40 mm side has a hole with a 30 mm diameter punched centrally. It is placed on a corner in the HP. Its surface is inclined at 30° to the HP and the top view of the diagonal through the corner in the HP makes an angle 45° with the VP. Draw its projections.

OR

- 6 Draw the projections of a cone, having base 30 mm diameter and 65 mm axis, when it is resting on one of its generators on the ground:
(a) The generator is inclined at 30° to HP.
(b) The axis is inclined at 30° to the VP.

UNIT – IV

- 7 A pentagonal pyramid of base edge 30 mm and height 60 mm is resting on its base with one base edge perpendicular to VP. A cutting plane inclined at 50° with HP & perpendicular to VP and passing through a corner cuts the pyramid. Draw the sectional front view, top view. Also draw the true shape of the section.

OR

- 8 A funnel tapers from a circular opening of diameter 70 mm to a circular opening of diameter 20 mm over an axial length of 50 mm. It is extended axially a further 40 mm with a cylindrical portion. Develop the surface of the funnel.

UNIT – V

- 9 A cone of base diameter 60 mm and height 70 mm is resting on its base on HP. It is cut by a plane perpendicular to the VP and inclined at 30° to the HP. The plane meets the axis at a distance of 25 mm from the apex. Draw the isometric view of the truncated cone.

OR

- 10 Draw three views of a cone, base 50 mm diameter and axis 75 mm long, having one of its generators in the VP and inclined at 30° to the HP, the apex being in the HP.