Paper / Subject Code: FE115 / Engineering Graphics

FE115

Total No. of Printed Pages:3

F.E. Semester- I (Revised Course 2007-08)
EXAMINATION Aug/Sept 2019
Engineering Graphics

[Duration : Four Hours] **[Max. Marks: 100]**

Instructions:

1) Attempt in all FIVE questions.
2) At least ONE questions must be attempted from EACH MODULE.
3) ASSUME MISSING DIMENSION/DATA IF ANY.
4) ALL DIMENSIONS are in mm unless otherwise specified.
5) Figures to RIGHT indicate FULL marks.

MODULE - I

Q 1 (A) Draw a line AB at an angle of 30 deg the horizontal. Point 'F' is at a distance of 60mm from AB. Draw the locus of a point P which moves in such a way that its distance from point F is always equal to its distance from line AB. **(10)**

Q 1 (B) The projections of line AB which is in the first quadrant are perpendicular to xy line. The end A is 20 mm from both the reference planes HP & VP. End B is 50 mm from HP and 65 mm from VP. Determine its true length and inclinations with HP and VP. **(10)**

Q 2 (A) Draw an involute of a square of 30 mm side. **(10)**

Q 2 (B) The end projectors of a line PQ are 70 mm apart. The point P is 25 mm in front of the VP and 30 mm above the HP. The point Q is 40 mm above the HP and 15 mm in front of the VP. Determine the true length of line PQ and its inclination with HP and VP. **(10)**

MODULE - II

Q 3 (A) A thin regular hexagonal plate of side 25 mm is resting on one of its sides in HP such that the surface of the plate makes an angle of 50 deg to HP and the side on which it is resting makes an angle of 30 deg to VP. Draw the projections of the plate. **(10)**

Q 3 (B) A right regular hexagonal prism, edge of base 25 mm and axis 65 mm long, rests on one of its base corners on HP with its axis inclined at 45 deg to HP and the top view of the axis inclined at 40 deg to VP. Draw the projections of the given solid **(10)**

Q 4 (A) Draw the projections of a Rhombus having diagonals 100mm and 40mm long. The larger diagonal is inclined at 30 deg to HP with one of the end points in HP and the smaller diagonal is parallel to both the primary reference planes. **(10)**

Q 4 (B) A right regular tetrahedron, edge of base 35mm, rests on HP on one of its edges such that the face containing that edge is inclined to HP at 30 deg and the edge is inclined at 45 deg to VP. Draw the projections of the solid. **(10)**

MODULE - III

Q 5 (A) A vertical cylinder 50mm diameter is cut by an AVP making an angle of 30° to VP in such a way that the true shape of the section is a rectangle of 40mm X 80mm sides. Draw the sectional front view, top view and true shape of the section. **(10)**

Q 5 (B) A right circular cone, diameter of base 40mm and height 50 mm, rests on its base on HP. A section plane perpendicular to VP and inclined to HP at 45° cuts the cone bisecting its axis. Draw the projection of truncated cone and develop its lateral surface. **(10)**

Q 6 A right regular hexagonal pyramid is having base 25mm side and axis 70 mm long. It is resting on its base on the HP with two of its edges perpendicular to the VP. It is cut by a section plane, perpendicular to the VP and inclined at 30 deg to the HP bisection the axis above the base. Draw the FV, sectional TV, and true shape of the section and development of the lateral portion of remaining part of the pyramid. **(20)**

MODULE - IV

Q 7 (A) Figure FIG. 7A shows pictorial view. Draw the following views using first angle projection method. **(10)**

i) Front view looking in direction of arrow

ii) Top view

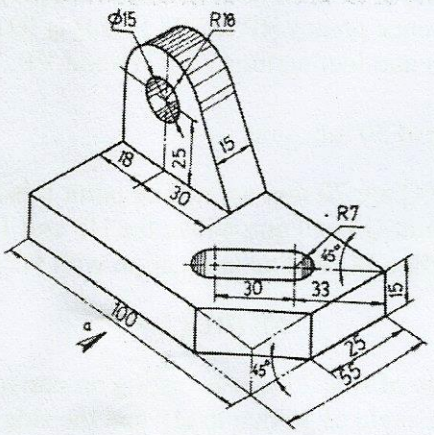

FIG. 7A

Q 7 (B) Two orthographic views are given in FIG. 7B below. Draw an isometric view. **(10)**

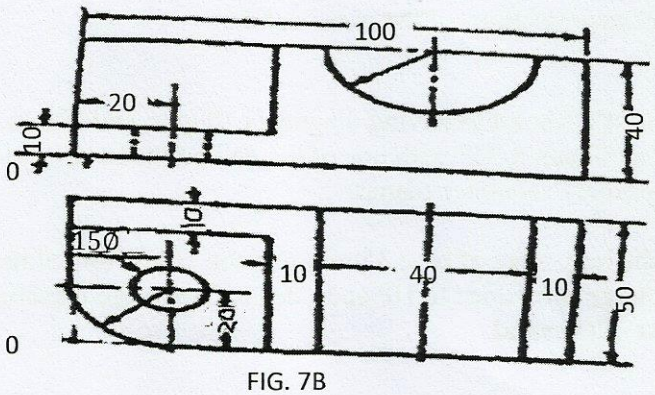

FIG. 7B

Q.8 (A) FIG. 8A shows the pictorial view. Draw the following views using first angle projection method. **(10)**

i) Sectional Front view taking section along A-B.

ii) Top view.

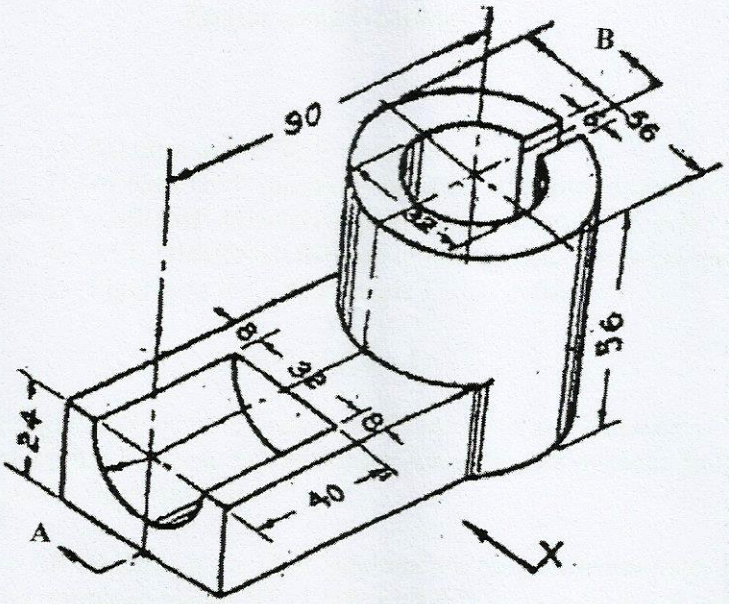

FIG. 8A

Q 8 (B) Two orthographic views are given in FIG. 8B below. Draw isometric view. **(10)**

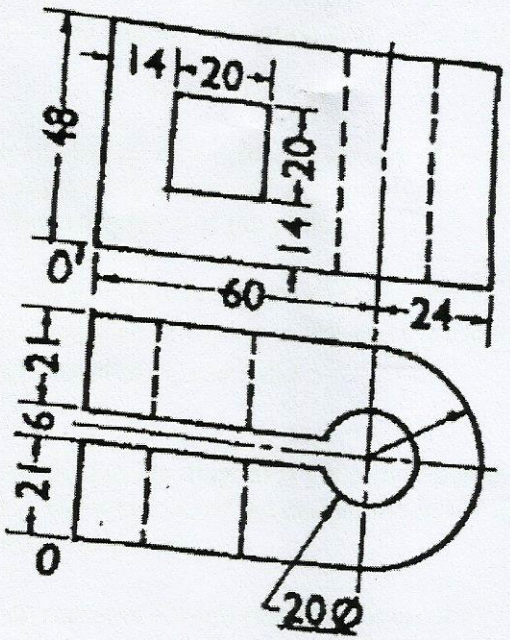

FIG. 8B