Question Paper Code: 11008

B.E./B.Tech. DEGREE EXAMINATION, DECEMBER 2013.

First Semester

Civil Engineering

01UME107 – ENGINEERING GRAPHICS

(Common to ECE, EIE, ICE and IT branches)

(Regulation 2013)

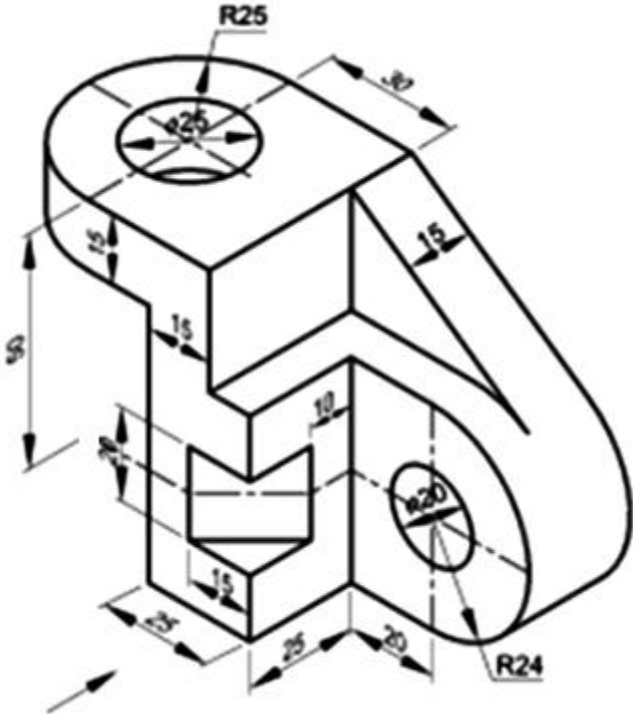Duration: Three hours   Maximum: 100 Marks
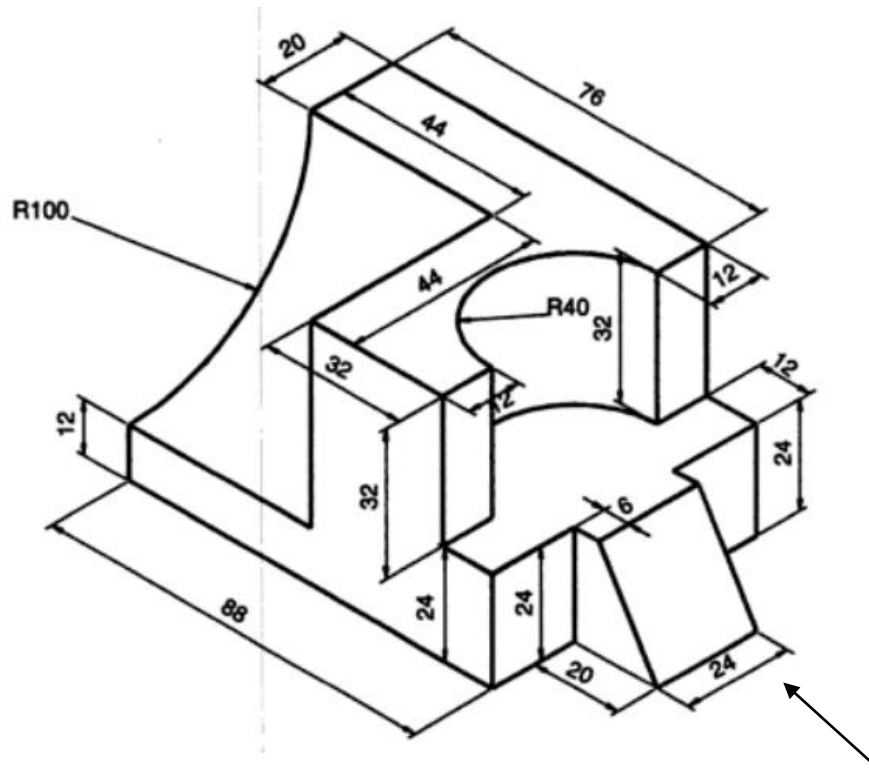
Answer ALL Questions.

(5 x 20 = 100 Marks)

1. (a) Draw the front, top and side views of the given object.   (20)

All dimensions are in 'mm'

Or

(b) Draw the orthographic views (At least three views) of the following mechanical component. (20)

All dimensions are in 'mm'

2. (a) A straight line ST has its end S, 10 mm in front of the V.P. and nearer to it. The mid-point 'm' of the line is 50 mm in front of the V.P. and 40 mm above H.P. The front and top view measure 90 mm and 120 mm respectively. Draw the projection of the line. Also find its true length and true inclinations with the H.P. and V.P. (20)

Or

(b) Draw the projections of a circle of 70 mm diameter resting on the H.P. on a point A on the circumference. The plane is inclined to the H.P. in such a way that the top view of it is an ellipse of minor axis 40 mm. The top view of the diameter, through the point A is making an angle of 45° with the V.P. Determine the inclination of the plane with the H.P. (20)

3. (a) A cone of base diameter 60 mm and altitude 80 mm rests on the H.P. with its axis inclined at 30° to the H.P. and parallel to the V.P. Draw its front and top views by change of position method. (20)

Or

(b) A hexagonal pyramid of base side 30 mm and axis length 60 mm is resting on V.P. one of its base edges with the face containing the resting edges perpendicular to both H.P. and V.P. Draw its projections. (20)

4. (a) A vertical cylinder of base diameter 40 mm and axis length 70 mm is cut by a vertical section plane making 30° to V.P. in such a way that the true shape of the section is a rectangle of 25 mm and 60 mm side. Draw the projections and true shape of the section. (20)

Or

(b) A vertical chimney of 70 cm diameter joints a roof sloping at an angle of 35° with the horizontal. The shortest portion over the roof is 32 cm. Determine the shape of the sheet metal from which the chimney can be fabricated. Assume suitable scale.

5. (a) A cylinder of base diameter 50 mm and height 70 mm is resting upon its base on H.P. A section plane of 60° inclination to the H.P. cuts the axis of the cylinder at a height of 55 mm from the base. Draw the isometric view of the cylinder showing the sectioned surface. (20)

Or

(b) A pentagonal pyramid, 30 mm edge of base and 65 mm height stands on H.P. such that an edge of the base is parallel to V.P. and nearer to it. A section plane perpendicular to V.P. and inclined at 30^0 to H.P. cuts the pyramid passing through a point on the axis at a height of 35 mm from the base. Draw the isometric view of the truncated pyramid, showing the cut surface. (20)

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