Reg. No. : ⬚⬚⬚⬚⬚⬚⬚⬚⬚⬚

Question Paper Code: 31017

B.E./B.Tech. DEGREE EXAMINATION, MAY 2017

First Semester

Civil Engineering

01UME107 – ENGINEERING GRAPHICS

(Common to ALL branches)

(Regulation 2013)

Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions.

(5 x 20 = 100 Marks)

(a) Sketch by free hand, the following views of the object shown in Figure 1.
   (i)   The front view in the direction of the arrow.
   (ii) The top view and
   (iii) The available side view.
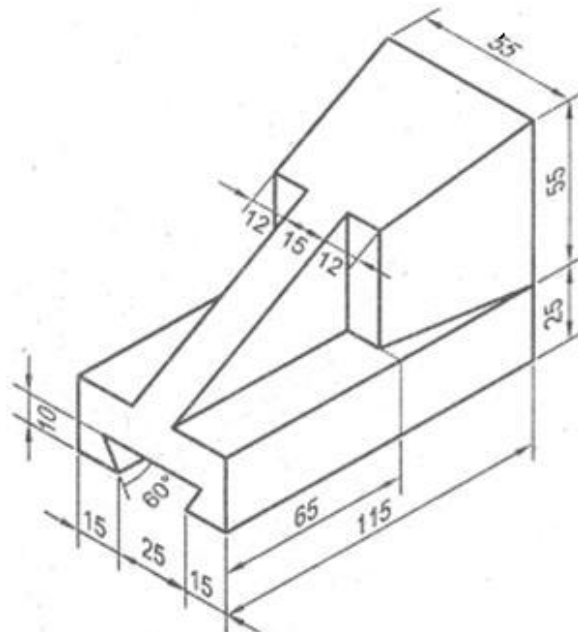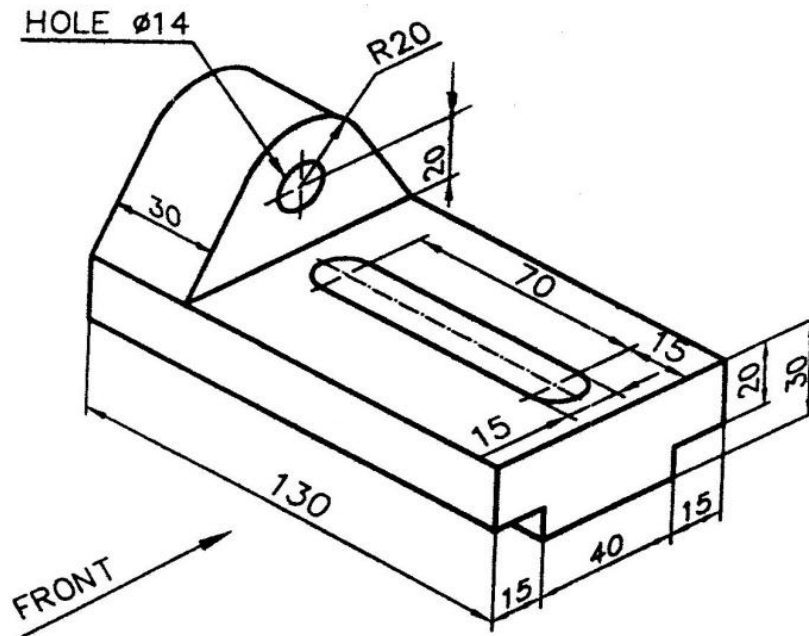   The dimensioning is also to be done by free hand.   (20)

Figure 1

All dimensions are in mm

(b) Draw the plan, elevation and left side view of the following object. (20)

All dimensions are in 'mm'.

2. (a) A 60^0 set square has its shortest edge length 40 mm kept perpendicular to the VP so that the projection of the set-square on the HP is an isosceles triangle. Draw the projections and find the inclination of the set-square with the HP. (20)

Or

(b) A regular pentagonal lamina of 30 mm sides has one edge in HP and inclined at an angle of 30° to VP. Draw its projection when its surface is inclined at 45° to HP. (20)

3. (a) A cylinder of base diameter 50 mm and axis length 70 mm is resting on HP on a point on the circumference of the base with its axis inclined at 50° to HP and parallel to VP. Draw its projections. (20)

Or

(b) Draw the projections of a cone of base diameter 50 mm and axis length 70 mm when it lies on the ground on its generators with the axis parallel to the VP. (20)

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4. (a) A hexagonal pyramid of base side 25 mm and height 50 mm rests on the HP on one of its ends with two base edges parallel to the VP. It is cut by a plane perpendicular to the VP and inclined at 45° to the HP at a distance of 20 mm from the vertex on the axis. Draw the front view, sectional top view and true shape of the section.   (20)

Or

(b) A cone of diameter 60 mm and height 70 mm is resting on its base on the ground. It is cut by a plane perpendicular to VP and parallel to HP at a distance 20 mm from the vertex. It is also cut by a plane inclined at 40° to the base and perpendicular to VP and meeting the axis at a point 20 mm from the base. Draw the development of the lateral surface of the remaining portion of the cone.   (20)

5. (a) A concrete pillar is in the shape of hexagonal frustum with the side of base 0.5 m and the side of top face is 0.25 m. The height of the pillar is 2.5 m. Draw the isometric view of the pillar. Assume one of the base edges is parallel to the VP.   (20)

Or

(b) A dust bin is in the form of a hollow square pyramid with the base dimensions of 20 mm side and the top open surface of 45 mm side. Draw the isometric projection of the hollow dust bin, if its height is 50 mm and the wall thickness is negligible.   (20)

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