Reg. No. : ☐☐☐☐☐☐☐☐☐☐☐

Question Paper Code: 11007

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

First Semester

Mechanical Engineering

01UME107 – ENGINEERING GRAPHICS

(Common to CSE and EEE branches)

(Regulation 2013)

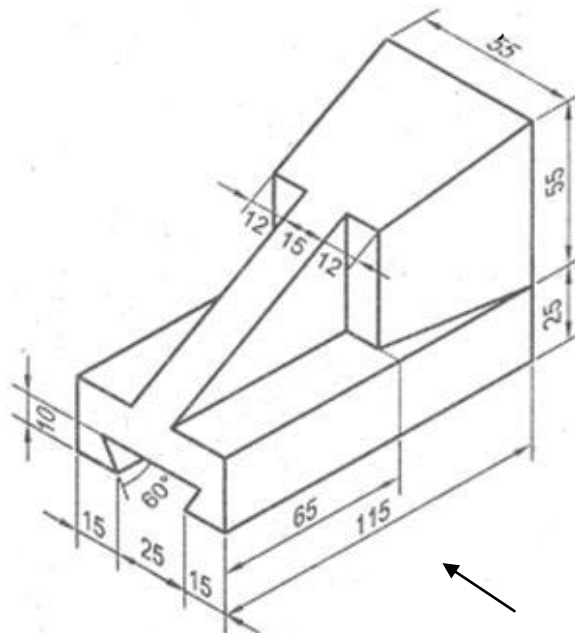Duration: Three hours   Maximum: 100 Marks

Answer ALL Questions.

(5 x 20 = 100 Marks)

1. (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)

All dimensions are in 'mm'.

Figure 1

Or

(b) Sketch by free hand, the following views of the object shown in Figure 2.
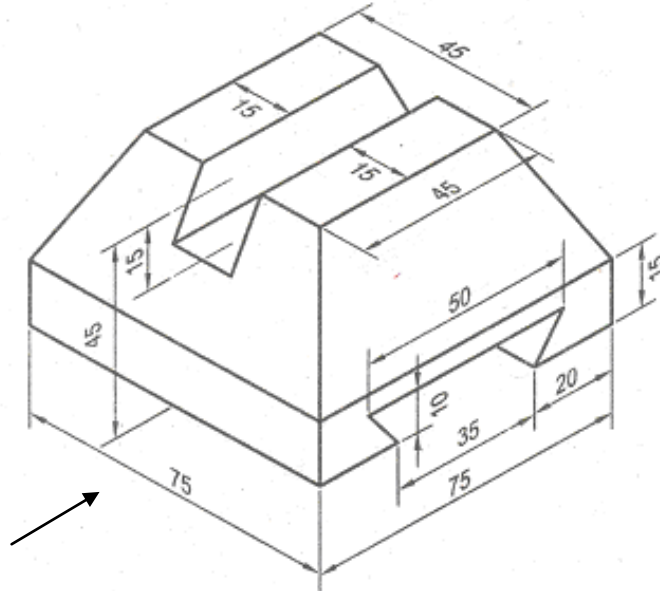   (i)   The front view in the direction of the arrow.
    (ii) The top view and
    (iii) The right side view.
    The dimensioning is also to be done by free hand.   (20)

All dimensions are in 'mm'.

Figure 2

2. (a) A line AB measuring 85 mm has its end 'A' is 25 mm above the HP and 20
        mm in front of the VP. The front view and top view measure 70 mm and 55
        mm respectively. Draw the projections of the line and determine its true
        inclinations.   (20)

Or

(b) 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)

3. (a) A square pyramid base 32 mm side and axis 60 mm long is freely suspended
        from one of the corners of its base with the axis parallel to VP. Draw its
        projections.   (20)

Or

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(b) 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)

4. (a) A pentagonal pyramid of base side 26 mm and altitude 52 mm is resting on H.P on its base with one of its base sides is perpendicular to V.P. It is cut by a plane inclined at 45^0 to H.P and perpendicular to V.P and is bisecting 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 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)

Or

(b) A hexagonal prism of base side 25 mm and height 50 mm rests on the HP and one of the edges of its base is parallel to VP. A section plane perpendicular to VP and inclined at 50^0 to HP bisects the axis of the prism. Draw the isometric projection of the truncated prism, showing the cut surface. (20)

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