Code No: 132AE

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech I Year II Semester Examinations, August - 2019
ENGINEERING GRAPHICS
(Common to EEE, ECE, EIE)

Time: 3 hours   Max Marks: 75

Answer all five questions
All questions carry equal marks
- - -

1.a) Construct a conic when the distance between its focus and directrix is equal to 50 mm and its eccentricity is one. Name the curve. Draw a tangent and normal at any point on the curve.

   b) Draw an involute around a hexagon of side 25 mm.   [9+6]

OR

2.a) Draw epicycloid of a circle of 40 mm diameter, which rolls outside on another circle of 150 mm diameter for one revolution clockwise. Draw a tangent and normal to it at a point 95 mm from the center of the directing circle.

   b) A room of 1000 m^3 volume is represented by a block of 125 cm^3 volume. Find RF and construct a plain scale to measure up to 30 m. Measure a distance of 18 m on the scale.
                                                                                   [10+5]

3.a) Draw the projections of the following points, keeping the distance between the projectors as 25 mm on the same reference line:
   i) Point 'A' on HP and 20 mm behind VP.
   ii) Point 'B' 20 mm below HP and 30 mm behind VP

   b) A line PQ is parallel to the VP and inclined at 30^0 to the HP. End P is 20 mm from both the reference planes and the top view measure 70 mm. Draw the projections of the line and determine its true length.   [3+12]

OR

4. Draw an equilateral triangle of 75 mm side and inscribe a circle in it. Draw the projections of the figure when the plane is vertical and inclined at 30^0 to the VP and one of the sides is inclined at 45^0 to the HP.   [15]

5. A pentagonal prism of side of base 25 mm and axis 40 mm long is resting on HP on a corner of its base. Draw the projections of the prism, when the base is inclined at 60^0 to HP, and the axis appears to be inclined at 30^0 to VP.   [15]

OR

6. A cone of base 80 mm diameter and height 100 mm lies with one of its generators on HP and the axis is inclined to VP at an angle of 40^0 in the top view. Draw its top and front views.   [15]

7. A triangular prism, side of base 30 mm and axis 50 mm long is lying on the HP on one of its rectangular faces with its axis inclined at 30^0 to the VP. It is cut by a horizontal section plane at a distance of 12 mm above the ground. Draw its front view and sectional top view.   [15]

OR

8. Draw the development of the lower portion of a cylinder, diameter of base 50 mm and axis 70 mm, when it is cut by a plane perpendicular to the VP, inclined at 40^0 to the HP and passing through the mid-point of the axis. [15]

9. The figure 1 shows the side view and front view of a machine Block. Draw the isometric view of the block. All the dimensions are in mm only. [15]
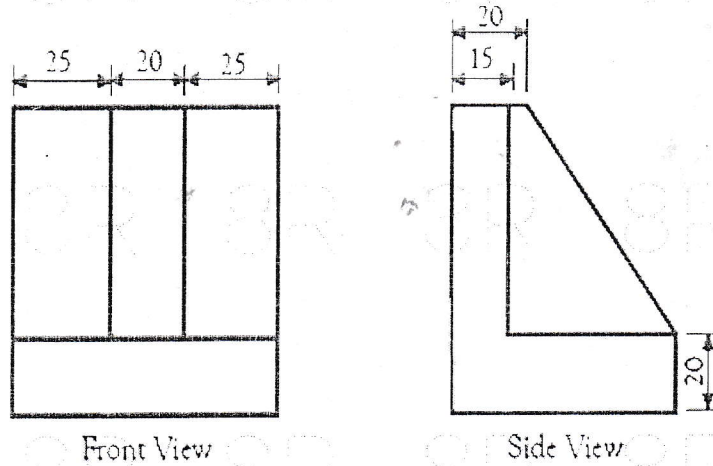

Front View   Side View

Figure: 1

OR

10. Draw the front view, top view and both side views of Tool Post slide shown in figure 2. All dimensions are in mm. [15]
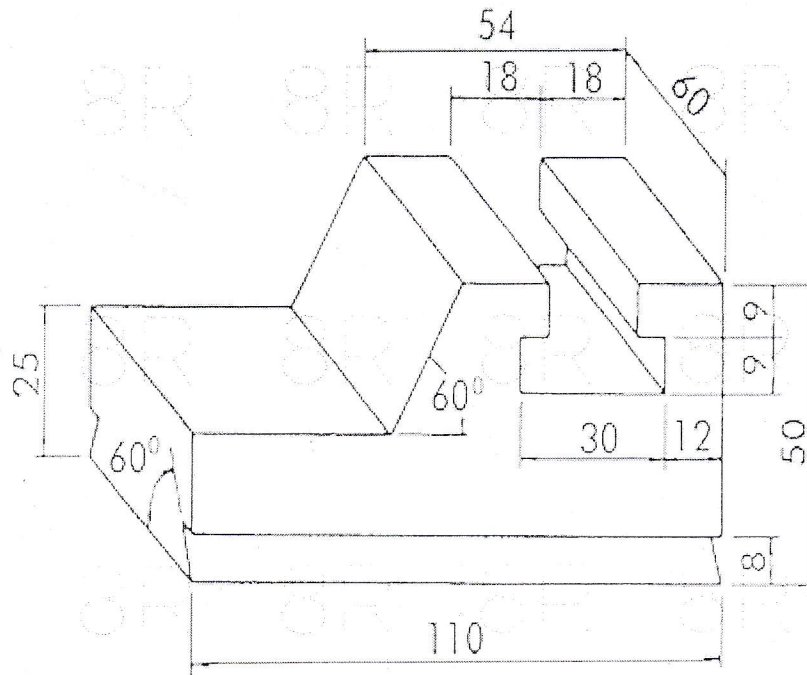

Figure: 2

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