Code No: 131AF **R16**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY, HYDERABAD
B.Tech I Year I Semester Examinations, December - 2018
ENGINEERING GRAPHICS
(Common to ME, MMT, MSNT)

Time : 3 hours **Max Marks: 75**

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

1.a) Construct a heptagon with a side of 30 mm using general method.
b) Construct a vernier scale of R.F = 1: 2.5 to show decimeters, centimeters and millimeters. The scale should be capable of reading up to 4 decimeters. Mark on your scale the following distances: (i) 3.23 dm and (ii) 3.65 dm. [15]

OR

2.a) The actual length of 500 m is represented by a line of 15 cm on a drawing. Construct a vernier scale to read up to 600 m. Mark on it a length of 568 m.
b) The distance between directrix of an ellipse is 170 mm and the distance between its foci is 70mm. Determine its major and minor axes and construct the ellipse using 'arc of circles' method. [7+8]

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) Draw the projections of a 60 mm long straight line, in the following positions.
(i) Perpendicular to the HP, in the VP and its one end in the HP.
(ii) Inclined at 45^0 to the VP, in the HP and its one end in the VP. [5+10]

OR

4. A line AB measures 100 mm. The projectors through its VT and the end A are 40 mm apart. The point A is 30 mm below the HP and 20 mm behind the VP. The VT is 10mm above the HP. Draw the projections of the line and determine its HT, inclinations with the HP and VP. [15]

5. Draw the projections of a cylinder, base 30 mm diameter and axis 40 mm long, resting with a point of its base circle on HP such that the axis is making an angle of 30^0 with HP and its top view perpendicular to VP. [15]

OR

6. Draw the projections of a cone, base 75 mm diameter and axis 100 mm long, lying on the ground on one of its generators with the axis parallel to the VP. Assuming the cone to be resting on its base on the ground, draw its projections. [15]

7. A cube of 45 mm side rests with a face on HP such that one of its vertical faces is inclined at 30^0 to VP. A sectional plane parallel to VP cuts that cube at a distance of 15 mm from the vertical edge nearer to the observer. Draw its top and sectional front views. [15]

OR

8. A cone, base 50 mm diameter and axis 60 mm long, rests with its base on HP. A section plane perpendicular to VP and inclined at 45^0 to HP bisects the axis of the cone. Draw the development of lateral surface of the remaining portion of the cone. [15]

9. Draw the isometric view for the figure 1 shown below front and top views.
All dimensions are in mm. [15]

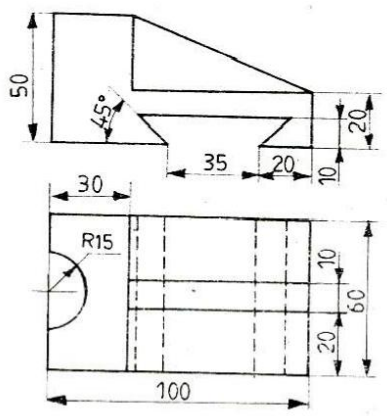

Figure: 1

OR

10. Draw (a) Front View (b) Top View (c) Side View (Figure 2).
All dimensions are in mm. [15]

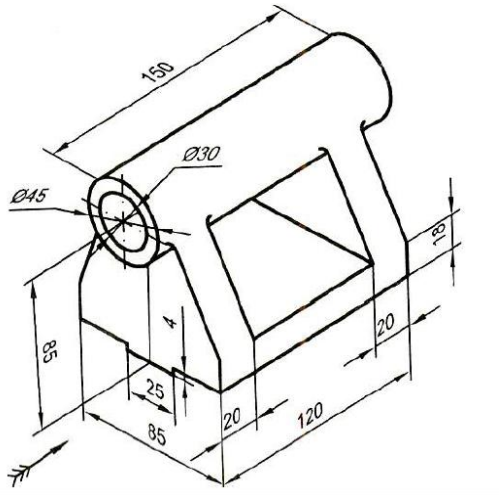

Figure: 2

---ooOoo---