

**R18**

Code No: 151AD

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD

B.Tech I Year I Semester Examinations, June - 2022

ENGINEERING GRAPHICS

(Common to CE, ME, EIE, MCT, MMT, ECM, AE, MIE, PTM, CSBS, CSE(AI&ML),  
CSE(IOT))

Time: 3 Hours

Max. Marks: 75

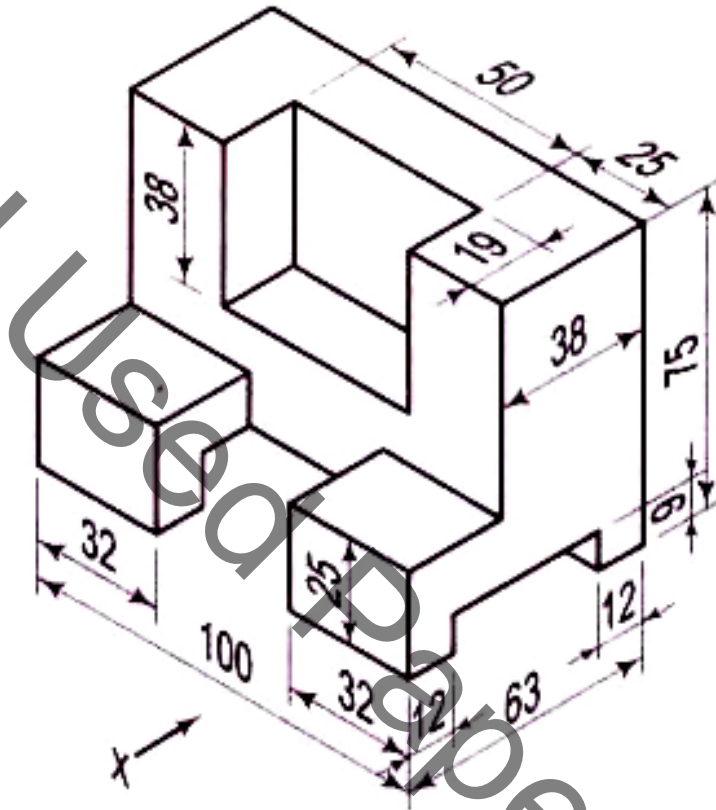
Answer any three questions  
All questions carry equal marks

---

1. On a map the distance between two points is 1 cm. The real distance between them is 20 km, draw a diagonal scale of this map to read kilometers and hectometers and to measure up to 25 km. Show a distance of 17.6 km on this scale. [25]
- 2.a) The major-axis AB of an ellipse is 140 mm long with P as its mid-point. The foci  $F_1$  and  $F_2$  of the ellipse are 48 mm away from the mid-point P. Draw the ellipse and find the length of the minor axes.  
b) A point P is 15 mm above the H.P. and 20 mm in front of the V.P. Another point Q is 25 mm behind the V.P. and 40 mm below the H.P. Draw projections of P and Q keeping the distance between their projectors equal to 90 mm. Draw straight lines joining (i) their top views and (ii) their front views. [10+15]
3. Draw the projections of a regular hexagon of 25 mm side, having one of its sides in the H.P. and inclined at  $60^\circ$  to the V.P., and its surface making an angle of  $45^\circ$  with the H.P. [25]
4. A hexagonal prism, base 30 mm side and axis 75 mm long, has an edge of the base parallel to the H.P. and inclined at  $45^\circ$  to the V.P. Its axis makes an angle of  $60^\circ$  with the H.P. Draw its projections. [25]
5. A cube of 50 mm long edges is resting on the H.P. with a vertical face inclined at  $30^\circ$  to the V.P. It is cut by a section plane, perpendicular to the V.P., inclined at  $30^\circ$  to the H.P. and passing through a point on the axis, 38 mm above the H.P. Draw the sectional top view, true shape of the section and development of the surface of the remaining portion of the cube. [25]

(Contd...)

6. Draw (a) front view (b) side view (c) top view of following casting. (All dimensions are in mm). [25]



--ooOoo--