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Total No. of Questions : 09] [Total No. of Pages : 03

B. Tech. (Sem. - 1st/2nd)

ENGINEERING DRAWING & COMPUTER GRAPHICS

SUBJECT CODE : ME - 102 (2k4 & Onwards)

Paper ID : [A0116]

[Note : Please fill subject code and paper ID on OMR]

Time : 03 Hours **Maximum Marks : 60**

Instruction to Candidates:

1) Section - A is **Compulsory**.
2) Attempt any **Five** questions from Section - B & C.
3) Select at least **Two** questions from Section - B & C.

Section - A

Q1) ***(Marks : 2 Each)***

a) What is a profile plane?

b) Draw the symbol of first angle projection system.

c) Describe a tetrahedron.

d) Draw any two types of lines and give their applications.

e) What do you understand by reducing scale? Give an example.

f) What is Single Stroke Vertical Gothic Lettering? Give an example.

g) What is a leader line?

h) Briefly explain the aligned system of dimensioning.

i) What is an oblique solid?

j) Draw the plan and elevation of a 50 mm long line AB which is parallel to both the principal planes.

Section - B

(*Marks : 8 Each*)

Q2) Draw a full size diagonal scale to show 0.1 millimetre and long enough to measure up to 5 centimetres. Show on this scale the following distances :

(a) 0.2 millimetre

(b) 2.35 centimetres and

(c) 4.89 centimetres.

Q3) A line AB, inclined at 30° to the VP has its ends 50 mm and 20 mm below the HP. The length of its FV is 65 mm and its VT is 10 mm below the HP. Determine the TL of AB, its inclination with the HP and locate its HT.

Q4) A right regular pentagonal pyramid, side of the base 30 mm and height 60 mm, has one of its triangular faces in VP while the base edge contained by that triangular face is perpendicular to HP. Draw its projections.

Q5) A right circular cylinder of base diameter 54 mm and axis 75 mm long, has a circular hole of 30 mm diameter, drilled centrally through it. It rests on its base on HP. An AIP inclined to HP at 45° cuts it, meeting the axis at a distance of 20 mm below the top end face. Draw its front view, sectional top view and true shape of the section.

Section - C

(*Marks : 8 Each*)

Q6) Two orthographic views of an object are shown in Figure 1 below. Draw its isometric view.

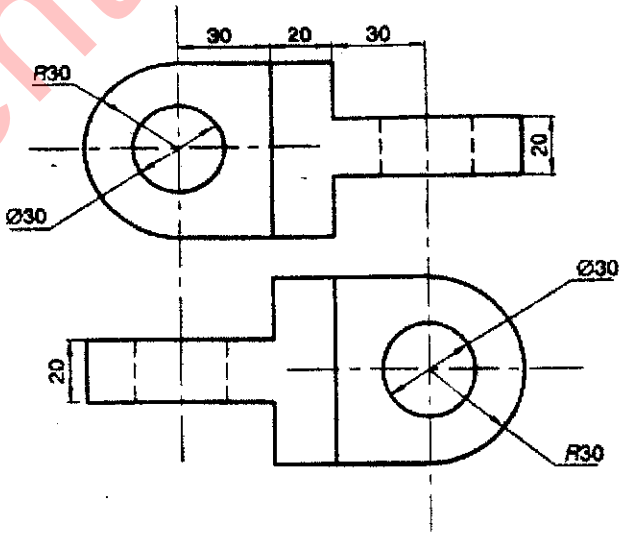

Figure 1

Q7) A right circular cone of base diameter 50 mm and height 70 mm rests on top of a cube of 40 mm side such that the axes of the two solids are along the same vertical line. The four vertical faces of the cube are equally inclined to VP. Draw a neat freehand isometric sketch of the assembly.

Q8) A funnel shown in Figure 2 is made by assembling the frustum of a cone and a truncated cylinder. Draw the complete development of the funnel.

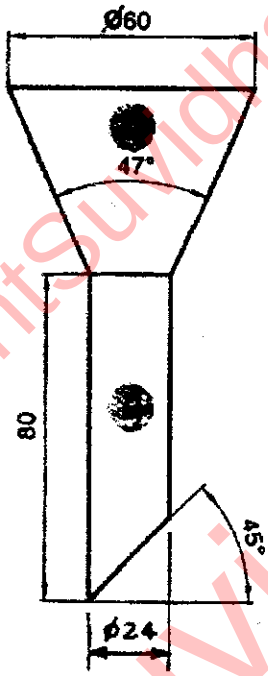

Figure 2

Q9) A square prism, edge of the base 30 mm and height 60 mm is resting on its base on HP. It is completely penetrated by another square prism of 20 mm base edge and height 60 mm such that the axis of the penetrating prism is perpendicular to and 10 mm in front of the axis of the vertical prism. The rectangular faces of the two prisms are equally inclined to VP. Draw the projections of the solids showing lines of intersection.