Code No: 182AV **R22**

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech I Year II Semester Examinations, February - 2025
COMPUTER AIDED ENGINEERING GRAPHICS
(Common to CE, ME, ECE, AE, BT, MIE, PCE)

Time: 3 Hours **Max. Marks: 60**

Note: This question paper contains two parts A and B.
i) **Part- A** for 10 marks, ii) **Part - B** for 50 marks.
- Part-A is a compulsory question which consists of ten sub-questions from all units carrying equal marks.
- Part-B consists of **ten questions** (numbered from 2 to 11) **carrying 10 marks each**. From each unit, there are two questions and the student should answer one of them. Hence, the student should answer five questions from Part-B.

PART- A

(10 Marks)

1.a)	Define eccentricity.	[1]
b)	What is representative factor.	[1]
c)	Define vertical, horizontal and profile plane.	[1]
d)	A point on *xy* represents the front view of a straight line. What is the position of the line?	[1]
e)	Differentiate between frustum of a pyramid and a truncated pyramid.	[1]
f)	Define cylinder and cone in terms of solids of revolution.	[1]
g)	Write the classification of development of solids.	[1]
h)	What is the development of a hollow cylinder?	[1]
i)	State the relation between true length and isometric length?	[1]
j)	Define isometric axes and isometric planes.	[1]

PART - B

(50 Marks)

2. Construct a hyperbola when the distance between the focus and the directrix is 40 mm and the eccentricity is 4/3. Draw a tangent and normal at any point on the hyperbola. [10]

OR

3. Construct a diagonal scale of RF = (1/4000) to show meters and long enough to measure 500 meters. Indicate on this a length of 374 meters. [10]

4. The front view of a line 'AB' 80 mm long measures 55 mm while its top view measures 70 mm. End 'A' is in both HP and VP. Draw the projections of the line and find its inclination with the reference planes. [10]

OR

5. Draw the projections of a circle of 50 mm diameter when its plane is equally inclined to the HP and VP. One end of a diameter of the circle touches the HP while the other end touches the VP. [10]

6. Draw the projections of a cube of 40 mm side, having one of its sides on the H.P. Which is inclined at 30^0 to the V.P and one of the faces containing the edge making 60^0 with H.P? [10]

OR

7. A cylinder, 65 mm diameter and 90 mm long, has its axis parallel to the H.P. and inclined at 30^0 to V.P. It is cut by a vertical section plane in such a way that the true shape of the section is an ellipse having the major axis 75 mm long. Draw its sectional front view and true shape of the section. [10]

8. A hexagonal pyramid side of base 30 mm axis 70 mm is resting on HP on its base. It is cut by a section plane perpendicular to VP and at 45^0 to H.P and passing through the midpoint of the axis of the pyramid. Draw the development of the lateral surface of the truncated pyramid. [10]

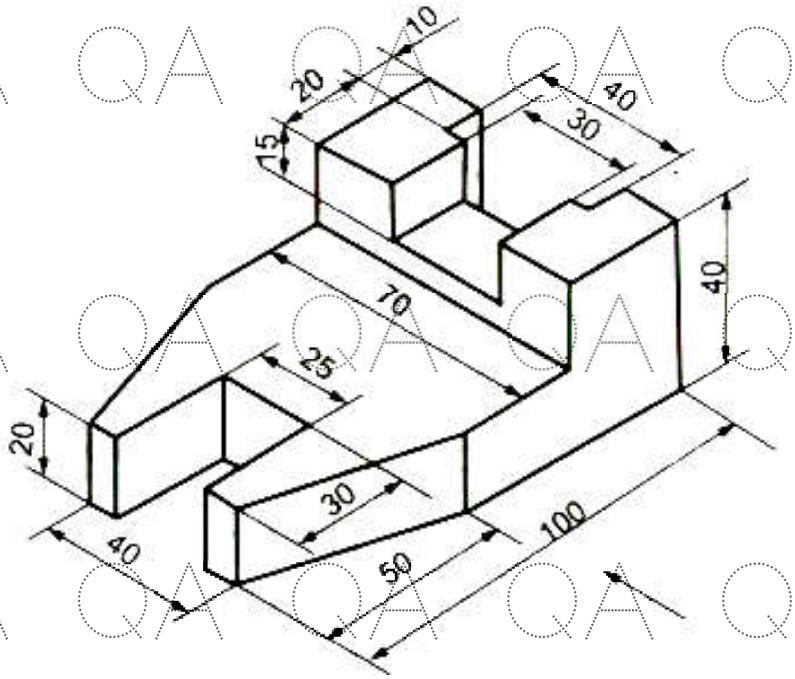
OR

9. Draw the development of a cylinder of 50 mm diameter and 75mm height, containing a square hole of 25 mm side. The sides of the hole are equally inclined to the base and the axis of the hole bisects the axis of the cylinder. [10]

10. A square pyramid having a side of 50 mm base and 75 mm as axis height stands centrally on circular block of 100 mm diameter and 50 mm thick. The base edges of the pyramid are parallel to VP. Draw the isometric projection of the two objects. [10]

OR

11. Draw the front view in the direction of arrow, top view and left side view of the object shown in the following figure. All dimensions are in mm. [10]



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