Code No: 152AG

R18

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech I Year II Semester Examinations, September - 2023
ENGINEERING GRAPHICS
(Computer Science and Engineering)

Time: 3 Hours **Max Marks: 75**

Answer any five questions
All questions carry equal marks
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1. Construct a hyperbola whose vertex is 65 mm from the focus. Draw the conic section if the eccentricity of 1.5. Also draw the tangent and normal to it. [15]

OR

2.a) A circle of 30 mm diameter rolls on a circle of 70 mm diameter with an internal contact. Draw the locus of a point on the rolling circle for its one complete revolution.

b) A 3.2 cm long line represents a length of 4 metres. Extend this line to measure lengths upto 25 metres and show on it units of metre and 5 metres. Show the length of 18 metres on this line. [9+6]

3.a) A point P is in first quadrant. Its shortest distance from the intersection point of HP, VP and Auxiliary Vertical Plane perpendicular to the HP and VP is 70 mm and is equidistance from principle planes. Draw the projections and determine its distance from HP and VP.

b) The length of the top view of a line parallel to the V.P. and inclined at $45^0$to the H.P. is 50 mm. One end of the line is 12 mm above the H.P. and 25 mm in front of the V.P. Draw the projections of the line and determine its true length [10+5]

OR

4. A square ABCD of 50 mm side has its corner A in the H. P., its diagonal AC inclined at 30^0 to the H.P. and the diagonal BD inclined at 45^0 to the VP and parallel to the HP. Draw its projections. [15]

5. A cone, diameter of base 50 mm and axis 65 mm long, is resting on the lying on the H.P. on one of its generators with the axis parallel to the V.P. Draw the projections of a cone. [15]

OR

6. A pentagonal pyramid base 50 mm and axis 65 mm long, is resting on the HP on its base. It is cut by a section plane perpendicular to VP and making an angle 45^0 with HP and bisecting the axis. Draw the projection. [15]

7. A cube of 50 mm long edges is resting on the H.P. with a vertical face inclined at 30° to the V.P. It is cut by a section plane, perpendicular to the V.P., inclined at 30° to the H.P. and passing through a point on the axis, 38 mm above the H.P. Draw the development of a lateral surface of the cube. [15]

OR

8. A vertical square prism, base 50 mm side and height 90 mm has a face inclined at 30° to the V.P. It is completely penetrated by another square prism, base 38 mm side and axis 100 mm long, faces of which are equally inclined to the V.P. The axes of the two prisms are parallel to the V.P. and bisect each other at right angles. Draw the projections showing lines of intersection. [15]

9. Draw the isometric projection of the following orthographic projections shown in figure 1 below.(All dimensions are in mm) [15]

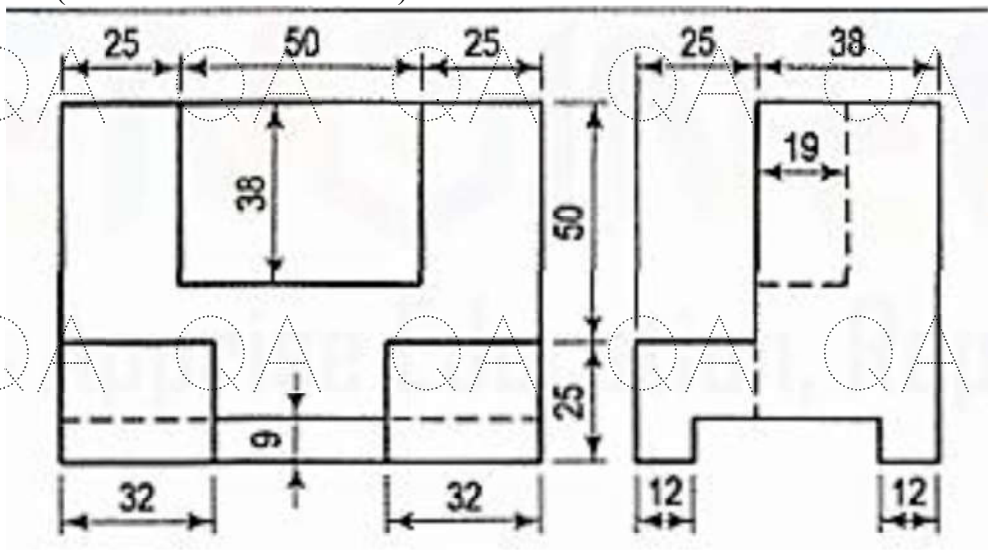

Figure 1

OR

10. Draw the Front view and Top view of an isometric projection shown in Figure 2 below. (All dimensions are in mm) [15]

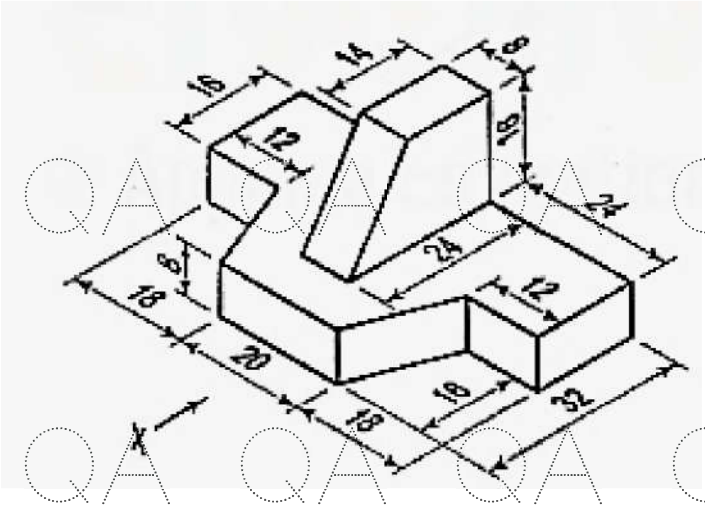

Figure 2

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