R22

Code No: 181AG

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech I Year I Semester Examinations, January/February - 2025
COMPUTER AIDED ENGINEERING GRAPHICS
(Computer Science and Engineering)

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)	Why engineering drawing is considered as universal language of engineers?	[1]
b)	What are different types of scales?	[1]
c)	Differentiate between first angle and third angle projection.	[1]
d)	The front view and top view of a point are on reference line. Describe position of point with respect to HP and VP.	[1]
e)	Differentiate between frustum of a pyramid and a truncated pyramid.	[1]
f)	How do you get true shape of a section?	[1]
g)	What do you mean by radial line method?	[1]
h)	What is the shape of development of curved surface of a cone?	[1]
i)	Write the difference between isometric projection and orthographic projection?	[1]
j)	What do you mean by isometric axis?	[1]

PART - B

(50 Marks)

2. The distance between Bombay and Poona is 180 km. a passenger train covers this distance in 6 hours. Construct a plain scale to time up to a single minute. The R.F. of the scale is 1/200000. Find the distance covered by the train in 36 minutes. [10]

OR

3. Show by means of a drawing that when the diameter of the directing circle is twice that of the generating circle, the hypocycloid is a straight line. Take the diameter of the generating circle equal to 50 mm. [10]

4. The top view of 75 mm long AB measures 65 mm, while the length of its front view is 50 mm. It's one end A is in the H.P. and 12 mm in front of the V.P. Draw the projections of line AB and determine its inclinations with the H.P. and The V.P. [10]

OR

5. A hexagonal lamina of side 35 mm rests on one of its edges on the HP. This edge is parallel to the VP. The surface of the lamina is inclined at 60^0 to the HP. Draw the projections. [10]

6. A pentagonal pyramid, base 25 mm side and axis 50 mm long has one of triangular faces in the V.P. and the edge of the base contained by that face makes an angle of 30 degrees with the H.P. Draw its projections. [10]

OR

7. A pentagonal prism of 30 mm base side and height 50 mm is standing on the HP on its base, with one side of base perpendicular to VP. This prism is cut by a section plane 40^0 inclined to HP through mid-point of the axis. Draw the front view, sectional top view, and sectional side view. Draw also the true shape of the section. [10]

8. A pentagonal prism of 30 mm base edges and 60 mm long, is resting on its base with an edge of base inclined at 40^0 to the VP. The prism is cut by a section plane is inclined at 30^0 to the HP and passes through a point 25 mm from the base along its axis. Develop the lateral surface of the truncated prism. [10]

OR

9. A cone of base circle diameter 40 mm and height 60 mm is resting on the ground on its base. It is cut by a section plane perpendicular to VP and inclined at an angle of 30^0 to HP. Section plane is passing through the axis a point 20 mm from the base of the cone. Draw the development of lateral surface of top part of the solid. [10]

10. Draw the front view, top view and side view for the given figure 1. [10]
All the dimensions are in mm.

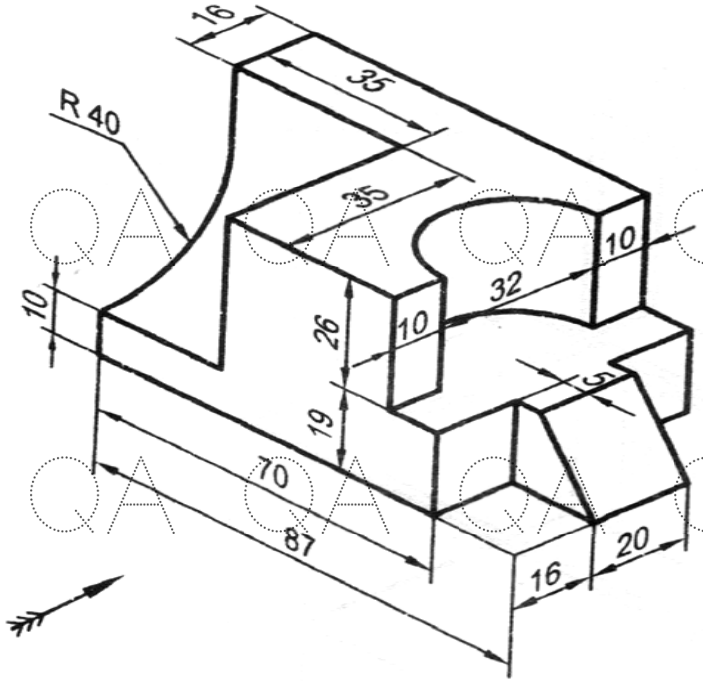

Figure 1

OR

11. Draw the isometric view of the following figure 2. All dimensions are in mm. [10]

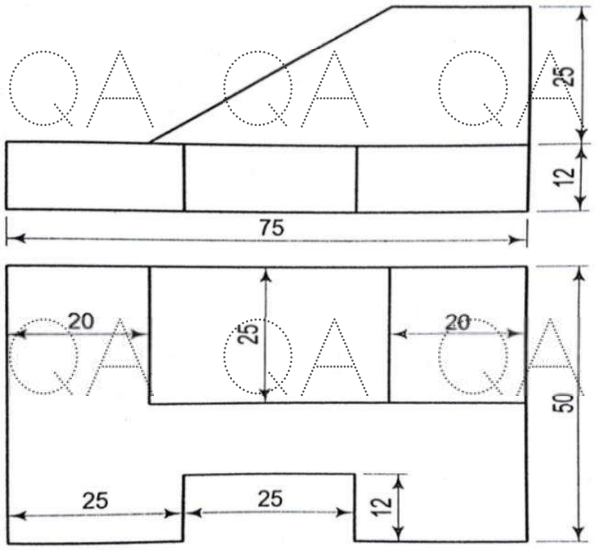

Figure 2

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