R18

Code No: 151AD

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B. Tech I Year I Semester Examinations, January/February - 2024
ENGINEERING GRAPHICS
(Common to CE, ME, EIE, MCT, MMT, AE, MIE, CSBS, CSE(AI&ML), CSE(IOT))

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

Answer any five questions
All questions carry equal marks

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1.a) Construct a diagonal scale of 1 : 32 to read meters, decimeters, and centimeters, and long enough to measure 4 m. Show on this scale a distance of 2.46 m.

b) A wheel of 50 mm diameter rolls without slipping on a straight road surface. Trace the path of the point of contact for one complete revolution of the wheel. [7+8]

OR

2. Draw an epi-cycloid having a generating circle of diameter 50 mm and directing curve of radius 100 mm. Draw a tangent and a normal at any point on the curve. [15]

3. A line PQ has its end P, 10 mm above the HP and 20 mm in front of the VP. The end Q is 85 mm in front of the VP. The front view of the line measures 75 mm. The distance between the end projectors is 50 mm. Draw the projections of the line and find its true length. [15]

OR

4. A regular pentagon of 30 mm side, is resting on one of its edges on HP which is inclined at 45^0 to VP. Its surface is inclined at 30^0 to HP. Draw its projections. [15]

5. A cube of 40 mm edges is resting on one of its faces on the HP with a vertical face inclined to 30^0 to VP. It is cut by a section plane parallel to the VP and passing 15 mm away from the axis. Draw its top view and sectional front view. [15]

OR

6. Draw the projection of a pentagonal pyramid, whose base edge is 30 mm and axis is 40 mm long. The pyramid is resting on a horizontal plane with one of its base edges inclined at an angle of 30^0 with VP. [15]

7. A cylinder with base circle diameter 50 mm and 60 mm height is resting on the base in HP. It is cut by a plane perpendicular to VP and 60^0 inclined to HP and bisecting the axis of the solid. Draw development of lateral surface of the bottom part of the solid. [15]

OR

8. A regular hexagonal pyramid side of base 30 mm and height 60 mm is resting vertically on its base on HP, such that two of its sides of the base are perpendicular to VP. It is cut by a plane inclined at 40^0 to HP and perpendicular to VP. The cutting plane bisects the axis of the pyramid. Obtain the development of the lateral surface of the truncated pyramid. [15]

9. Draw the elevation, top view and side view of the object shown in figure 1. All dimensions are in mm. [15]

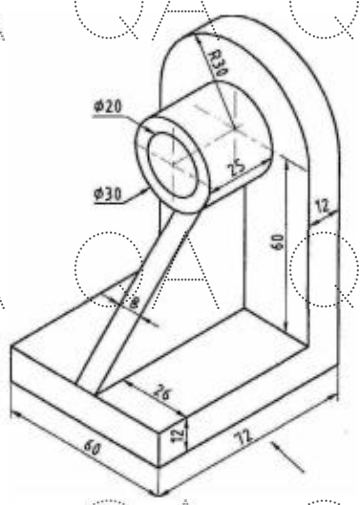

Figure 1

OR

10. Convert the orthographic views as shown in figure 2 into isometric view. All dimensions are in mm. [15]

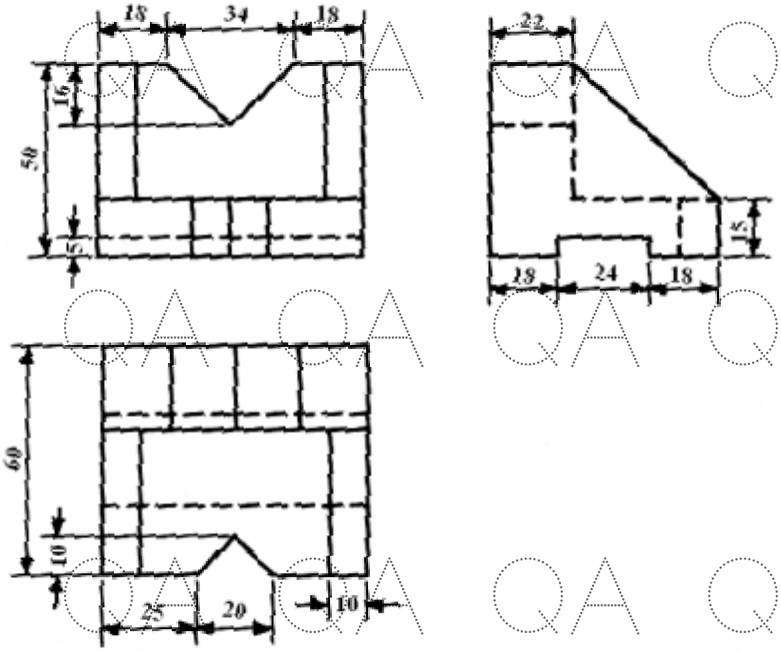

Figure 2

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