Code No: 151AD

JAWAHARLAL NEHRU TECHNOLOGICAL UNIVERSITY HYDERABAD
B.Tech I Year I Semester Examinations, May/June - 2019
ENGINEERING GRAPHICS
(Electronics and Communication Engineering)

Time: 3 hours
Max Marks: 75

Answer all five questions
All questions carry equal marks

1.a) Two straight lines OA and OB are at right angles to each other. A point Q is 40 mm from OA and 60 mm from OB. Draw a rectangular parabola from Q within 10 mm distance from each line.
  b) A circle of 40 mm diameter rolls on a horizontal line for a half revolution and then on a vertical line for another half revolution. Draw the curve traced out by a point Q on the circumference of the circle. [6+9]

OR

2.a) Draw an epicycloid when the diameters of generating circle and directing circle are 40 mm and 120 mm respectively. Draw a tangent and a normal to the epicycloid at any point.
  b) Draw a diagonal scale of 1:3 showing centimeters and millimeters to measure up to a length of 30 cm. Show a distance of 19.5 cm. [7+8]

3. A line PQ is 70 mm long and its end P is 20 mm above the H.P. and 30 mm in front of the V.P while its other end Q is 40 mm above the H.P. and 60 mm in front of the V.P. Draw the projections of PQ and determine the inclinations with the H.P. and the V.P. [15]

OR

4. A regular hexagon of 20 mm has its one of its sides in the horizontal plane and makes an angle of 30^0 with the vertical plane. Draw the projections of the plane when its surface makes an angle of 60^0 with the horizontal plane. [15]

5. A pentagonal pyramid, of base side 30 mm long and height 80 mm, has one of its triangular faces perpendicular to the horizontal plane and inclined at 45^0 to the vertical plane. Draw its projections when the base side of the triangular face is parallel to the horizontal plane. [15]

OR

6. A cone of 50 mm diameter and 70 mm long is resting on the ground on its base. It is cut by a plane inclined at 30^0 to the horizontal plane and perpendicular to the vertical plane and intersects the axis at 20 mm above the base. Draw its front view and sectional top view. [15]

7. A square pyramid of base side 30 mm and height 70 mm long is resting on the ground on its base with the two opposite sides of the base parallel to the vertical plane. It is cut by a plane which is perpendicular to the vertical plane and inclined at 60^0 to the horizontal plane at a height of 40 mm above the ground. Draw the development of the lateral surface of the bottom portion of the pyramid. [15]

OR

8. A circular hole of 25 mm diameter is cut through a vertical cylinder of 80 mm diameter such that the axis of the hole is horizontal and parallel to the vertical plane and 8 mm away from the axis of the cylinder. Draw the projections of the cylinder showing the holes in it. [15]

9. Draw the a) front view b) both side views and c) top view to the full scale for the pictorial view shown in the figure 1. All dimensions are in mm. [15]
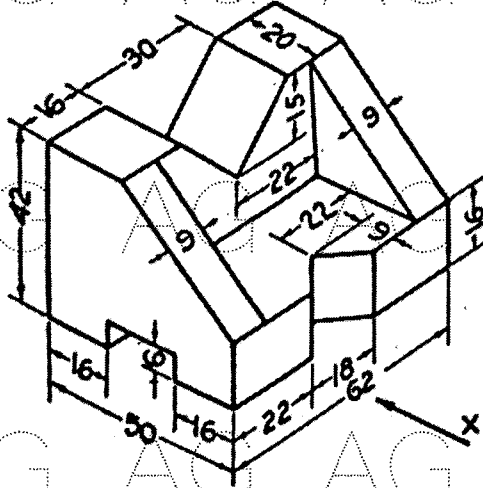

Figure: 1

OR

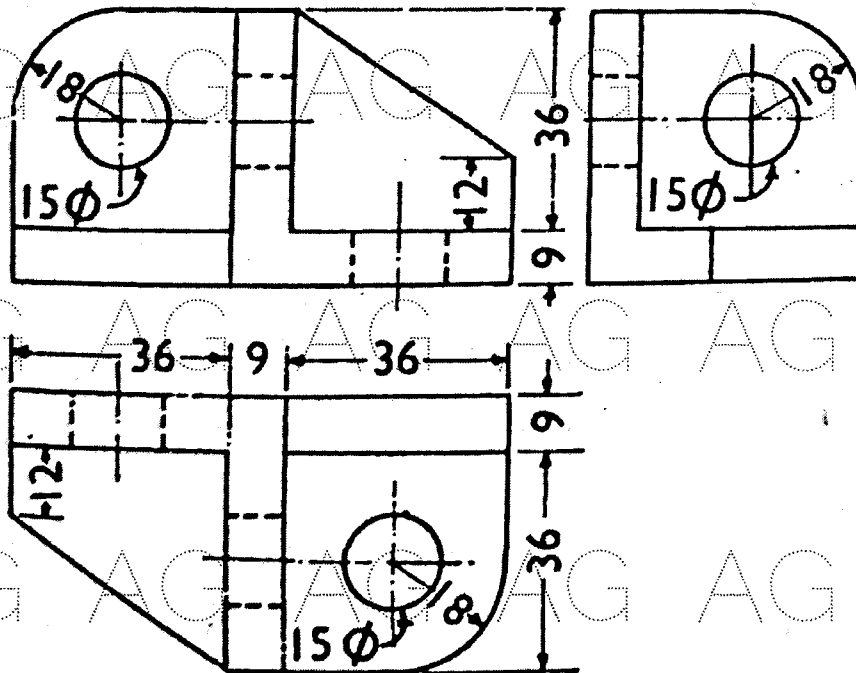10. Draw the isometric view of the casting shown in the figure 2. All dimensions are in mm. [15]

Figure: 2

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