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Instructions:

- You must attempt three questions from Section A and two questions from Section B.

- Each Section must be answered on separate sheet.

- All construction lines must be shown.

- All dimensions are in mm.

- The intended marks for questions are given in brackets.

## SECTION A (48 Marks)
### (Attempt any 3)

Q.1 Construct a Diagonal scale in which 5cm line represents 2m. Use it to draw two      (16)
two tangents to a circle of radius 2.65m from a point 5.08m away from its
Centre.

Q.2a) Construct a Parabola by OBLONG method . Given Base length = 150mm and      (10)
Axis height = 100mm.

b) Inscribe a five pointed star inside a circle of radius 55mm.                 (6)

Q.3  Refer **Figure 1** . Copy the given template ( Insert any six dimensions) .     (16)
Use scale 2:1
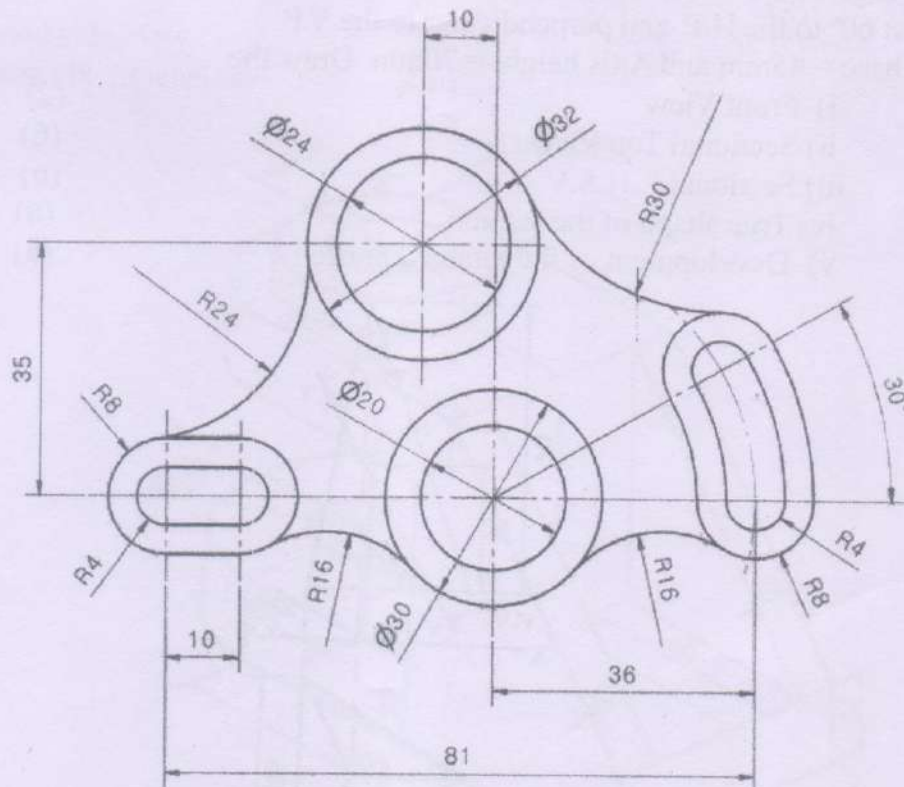


Figure(1)                                                                p.t.o

Q4.a) Construct a quadrilateral ABCD. Given Perimeter of quadrilateral = 195mm     (8)
   and ratio of sides AB: BC:CD: DA = 2:3:1:2, Angle BCD = 120°.Convert it into
   a triangle whose area is equal to the area of quadrilateral ABCD.

  b) Construct a hexagon of side 60mm. Draw three circles inside the hexagon such     (8)
    that each circle touches two sides of the hexagon and two other circles.

Q.5  Refer **Figure 2**. It shows F. V and R.H.S.V of an object. Draw the oblique view     (16)
    when the receding axis is inclined at 45° to the horizontal.
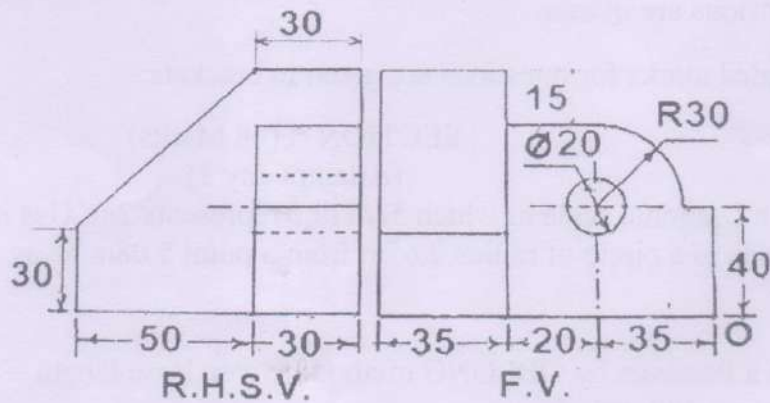    Do not insert any dimensions.

**Figure 2.**

SECTION B (52 Marks)
(Attempt any two questions)

Q.6 Refer **Figure 3.**.It shows F.V and T.V of a triangular pyramid resting on its base     (26)
    with one edge of the base perpendicular to the V.P. It is cut by a cutting plane
    inclined at 60⁰ to the H.P. and perpendicular to the V.P.
    Side of base = 45mm and Axis height = 70mm  Draw the

        i)  Front View                         (2)
        ii) Sectional Top View             (6)
        iii) Sectional L.H.S.V              (6)
        iv) True shape of the section        (6)
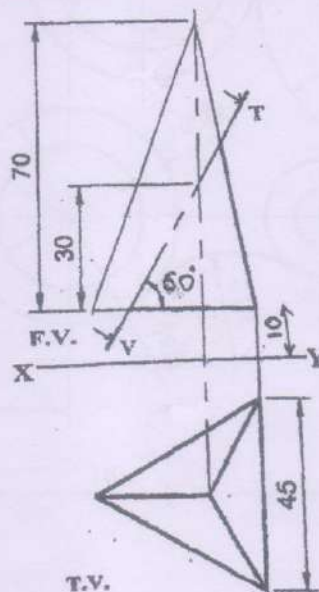        v)  Development of the retained portion     (6)

**Figure 3.**

p.t.o

Q.7 Refer **Figure 4.** Copy the given isometric view. Do not insert dimensions. (26)



**Figure 4**

Q.8 Refer **Figure (5)**. It shows a pictorial view of an object. Draw in First angle (26) method of projection
   a) Sectional Front View along P-Q (10)
   b) Top View (8)
   c) Right hand side view (8)
    (Insert any six dimensions)



FIGURE (5)