

GREENLAWNS HIGH SCHOOL
PRELIMINARY EXAMINATION YEAR 2022 - 2023

SUBJECT : TECHNICAL DRAWING APPLICATIONS
TIME : 3 HOURS

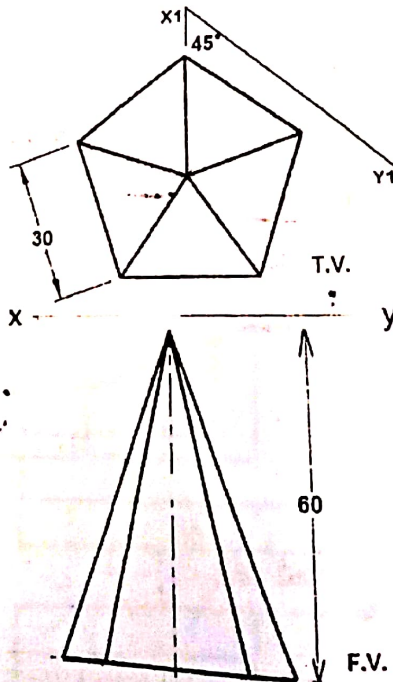
CLASS : X
MARKS : 100

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 suitable scale in which 5cm line represents 2m. Use it to draw two tangents to a circle of radius 2.65m from a point 5.08m away from its centre. (16)
- Q.2a) Figure(1) below shows two views of a Pentagonal Pyramid with axis perpendicular to Horizontal plane and parallel to Vertical plane in Third Angle Method. Draw the Auxiliary Top view when the axis is inclined at 45° to H.P. One side of the base edge is parallel to V.P. Side of base = 30mm, Axis height = 60mm. (10)

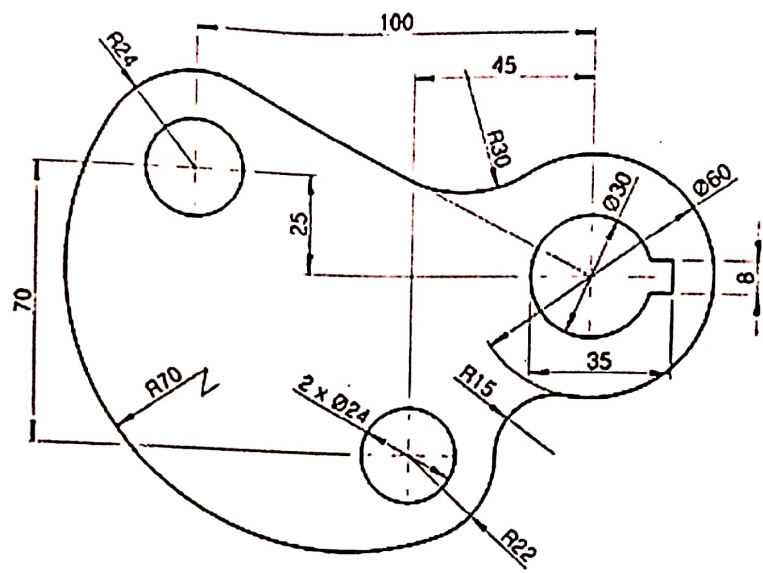


Figure[1]

- Q2b) Construct triangle of side 100mm. Draw 3 circles inside the triangle such that Each circle touches two sides of the triangle and two other circles. (6)

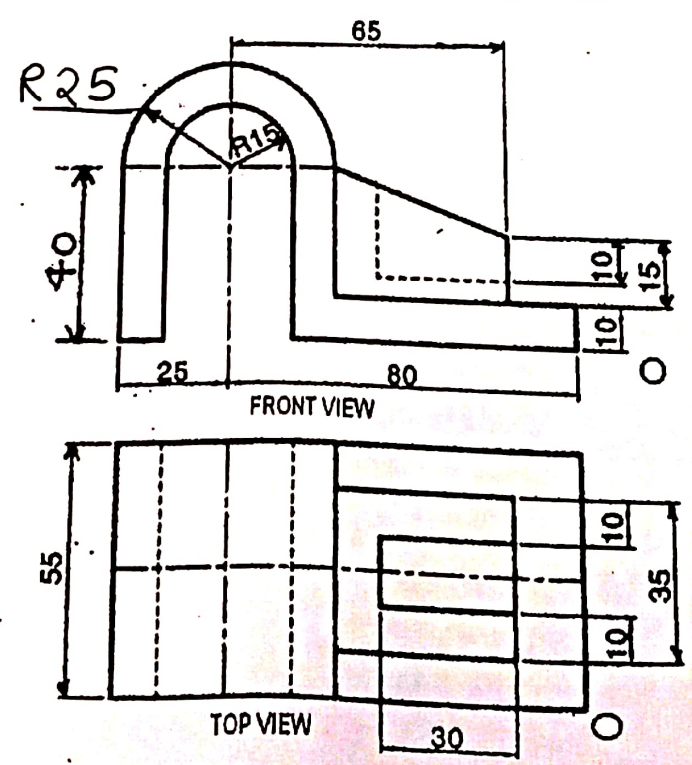
p.t.o

- Q.3a) Construct a Parabola by OBLONG method . Given Base length = 100mm and Minor axis = 70mm. (8)
- b) Construct a quadrilateral ABCD . Given Perimeter of quadrilateral = 215mm 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 area of quadrilateral. (8)
- Q.4 Refer Figure (2) . Copy the given template (Insert any six dimensions) . (16)



Figure(2)

- Q.5 Refer Figure (3). It shows F.V and T.V of an object .Draw the oblique view (16) when the receding axis is inclined at 45° to the horizontal.



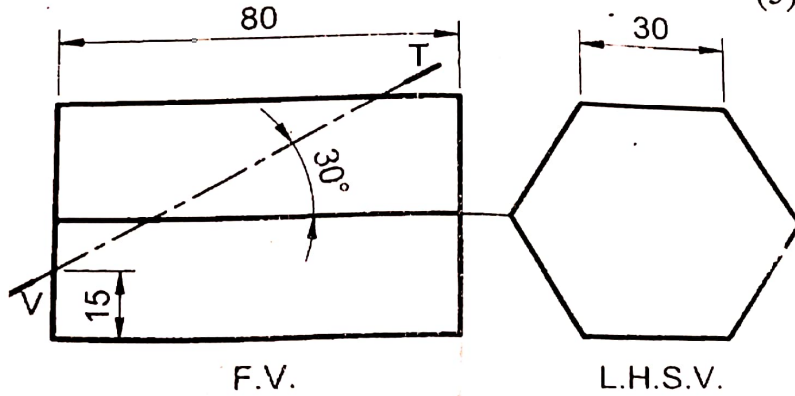
Figure(3)

SECTION B (52 Marks)

(Attempt any two questions)

Q.6a) Refer Figure(4). It shows F.V and L.H.S.V of a Hexagonal prism with its axis parallel to H.P and parallel to the V.P. in First angle method of projection. It is cut by a cutting plane inclined at 30° to the H.P. and perpendicular to the V.P. as shown in the figure. Draw the (12)

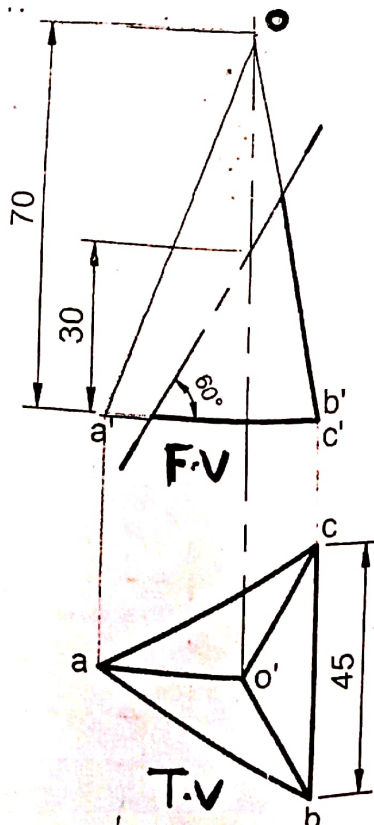
- i) Front View (2)
- ii) Sectional Top View (5)
- iii) Sectional Left Hand Side View (5)



Figure(4)

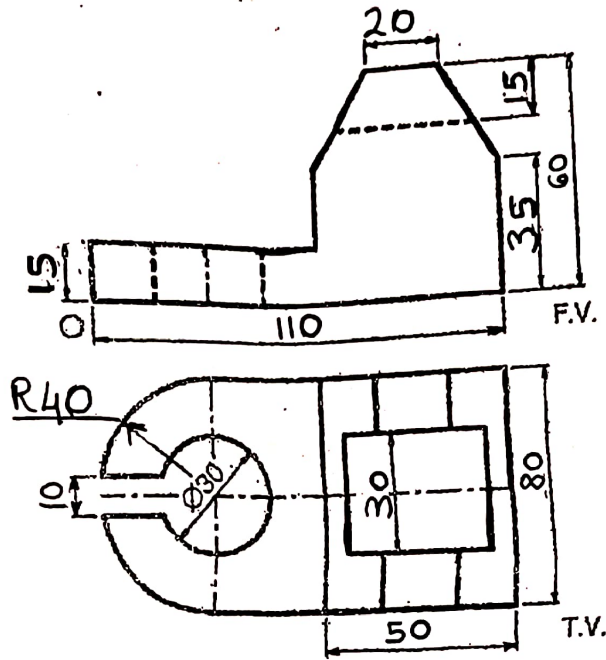
b) Refer Figure (5). It shows F.V and T.V of a triangular pyramid in the FIRST angle method of projection. It is cut by a cutting plane inclined at 60° to H.P. as shown in the figure. Given : Side of base = 45mm, Axis height = 70mm Draw the (14)

- i) Front View (2)
- ii) True Shape (6)
- iii) Lateral surface Development of the retained portion (6)



Figure(5)

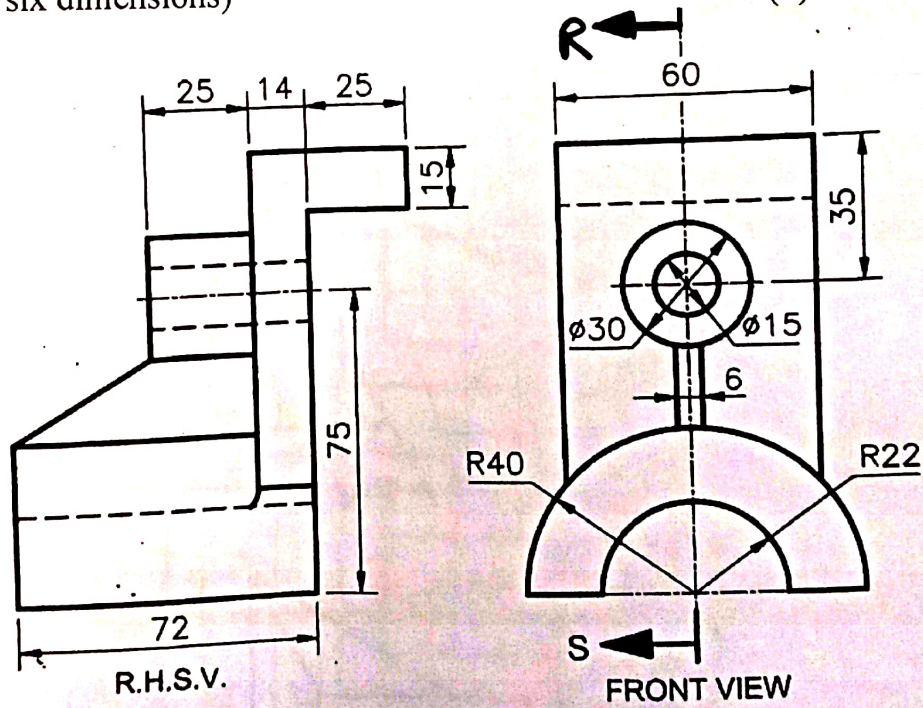
Q.7 Refer Figure (6). It shows the F.V and T.V of an object in FIRST angle method (26) of projection. Draw its Isometric view. (Do not insert any dimensions).



Figure(6)

Q.8 Refer Figure(7). It shows two views of a machine part. Draw in First angle method of projection (26)

- a) Front View (8)
 - b) Top View (8)
 - c) Sectional Right hand side view along R-S (8)
- (Insert any six dimensions) (2)



FIGURE(7)