4.21 DRAWING AND DESIGN (449)

4.21.1 Drawing and Design Paper 1 (449/1)

1. (a)
- Size should be standard
- White colour / good colour for contract / colour
- Texture/good quality
- Paper gauge/thickness
- Ink must not run on it/ blooting factor
- The edges should be perpendicular to each other

any 4 x $\frac{1}{2}$ = 2 marks

(b) (i) A_O - 1188 x 840

(ii) A_3 - 420 x 297

2 x 1 = 2 marks

(c)
- maintain right angle between blade and stock
- maintain straightness of blade edge
- store such that the blade is in a vertical position
- avoid dropping or storing in direct sunlight
- Only use it for the intended purpose

any 2 x 1 = 2 marks

2. (a)

-	word processing	-	draw plus
-	corel draw	-	sketch up
-	Archi-CAD	-	punch card
-	Auto-CAD	-	Inviscape
-	Paint	-	Real draw
-	Mat lab	-	Auto desk
-	Adobe		

any 6 x $\frac{1}{2}$ = 3 marks

(b) Definition
- Mock-up is a scale model of the finished work made in any suitable material.
  Purpose - Mock-up is made and tested to find out weather or not the design is satisfactory
- Imperfection not seen when drawing may show up clearly in a mock-up

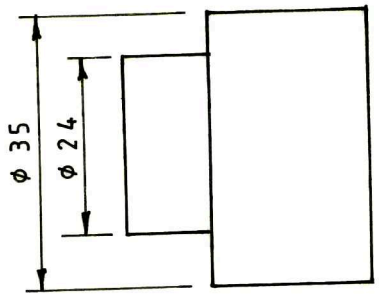
Definition - 1
Purpose - 1 (2 marks)

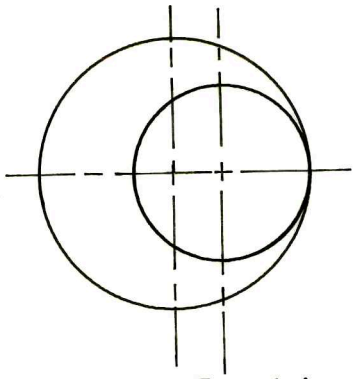
3.
- Ferrous e.g steel
- Nonferrous e.g copper, level, aluminium, silver, gold
- Alloys eg. brass, bronze solder

Naming 3 x $\frac{1}{2}$ = $1\frac{1}{2}$
Examples 3 x $\frac{1}{2}$ = $1\frac{1}{2}$
3 marks

4. (a) (i) A = 45 x 2 = 90
(ii) Angle = 25°

(i) Measuring - 1
Tabulation - 1
(ii) Angle - 1
(3 marks)





Ecentric circles = 1
Solid piece = 1
Dimensions = 1
= 3 mks

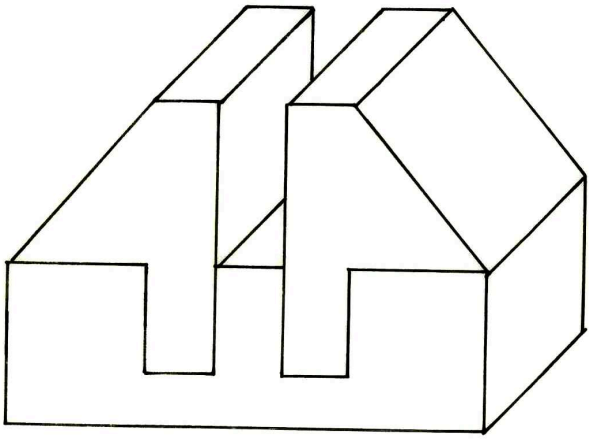
5. (a) Fixed assets are properties e.g buildings, machines, and other equipment or facilities that have monetary value. 1 mark

(b) Deficit is the amount by which expenditure is greater than income. 1 mark

(c) Liabilities is financial obligation 1 mark

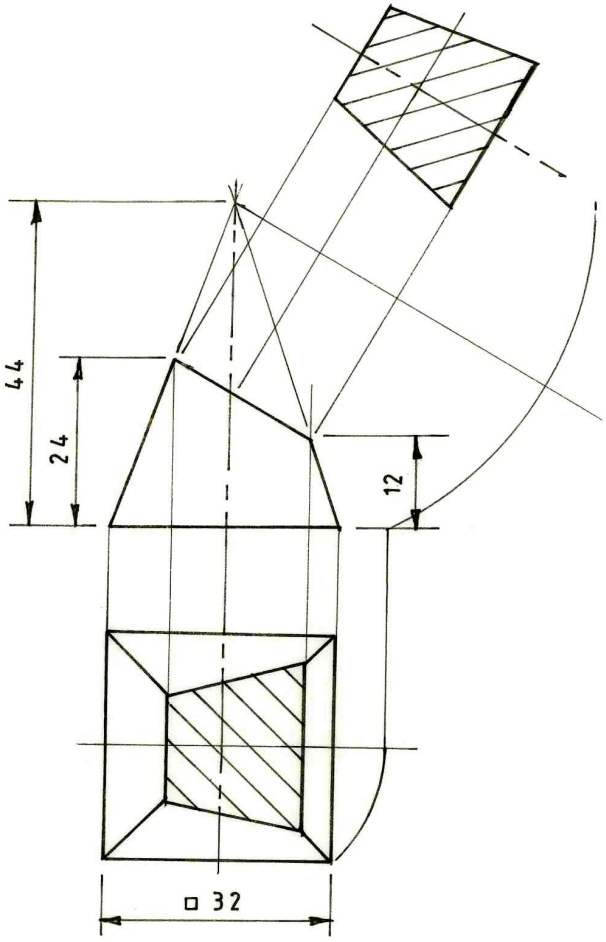
6.

SOLUTION



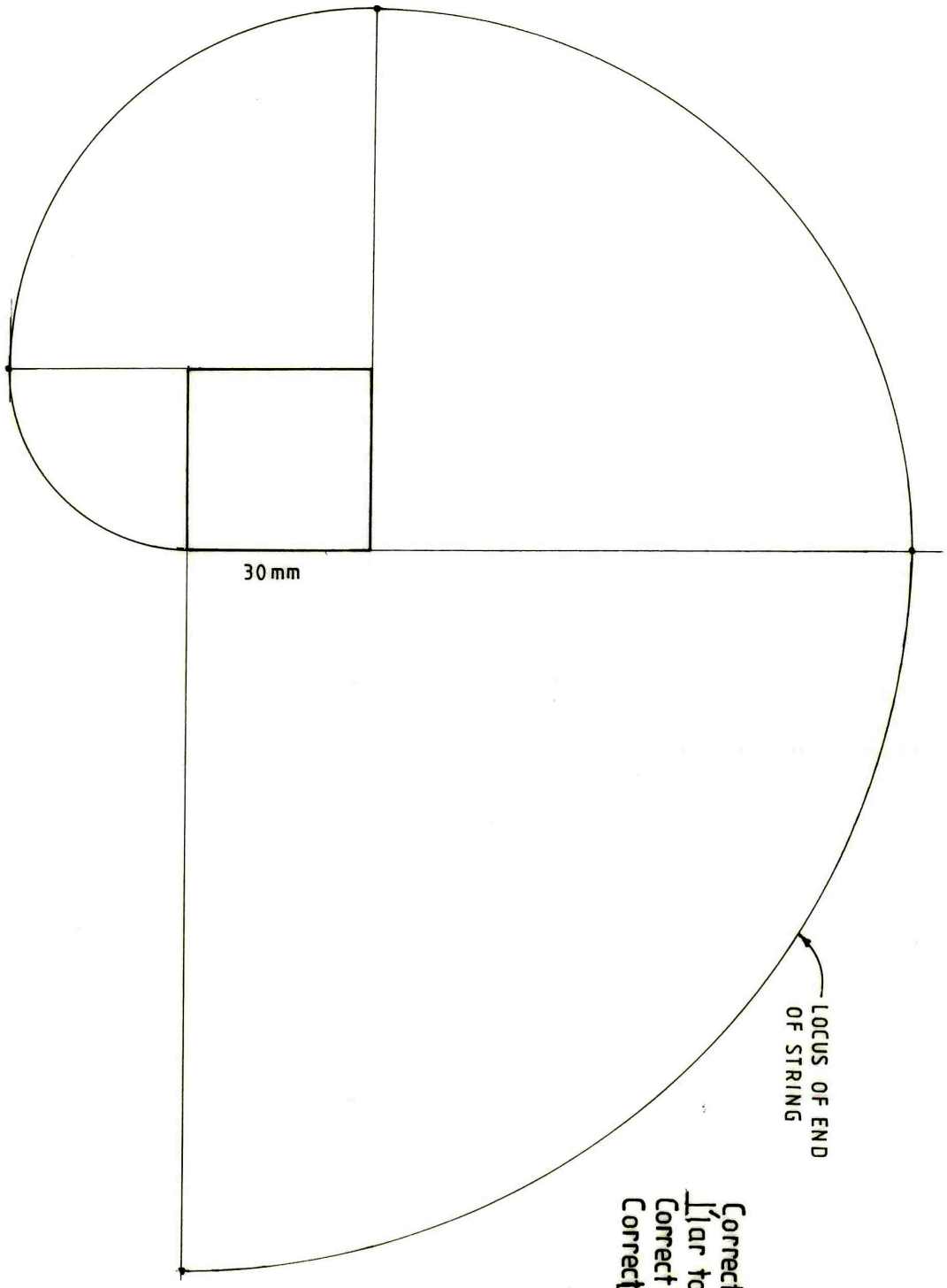
7 faces, $7 \times 1/2 = 3\,1/2$
Assembly $2 \times 1 = 2$
Oblique $= 1/2$
$= 6$ marks

7.



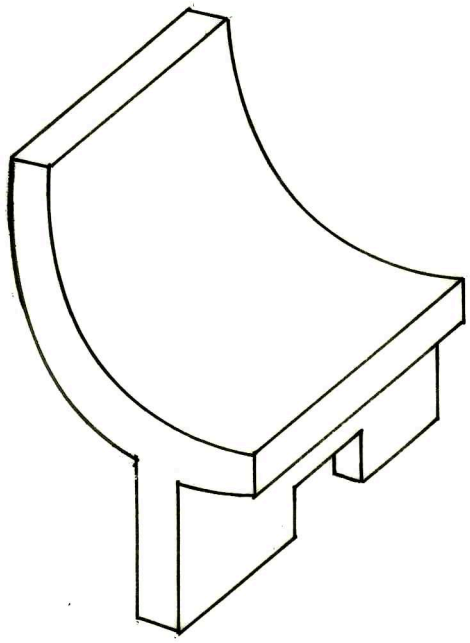
Plan = 1
Hatching = 1
Projection = 1
Plotting points = 1
True shape = 1
= 5 marks

8.



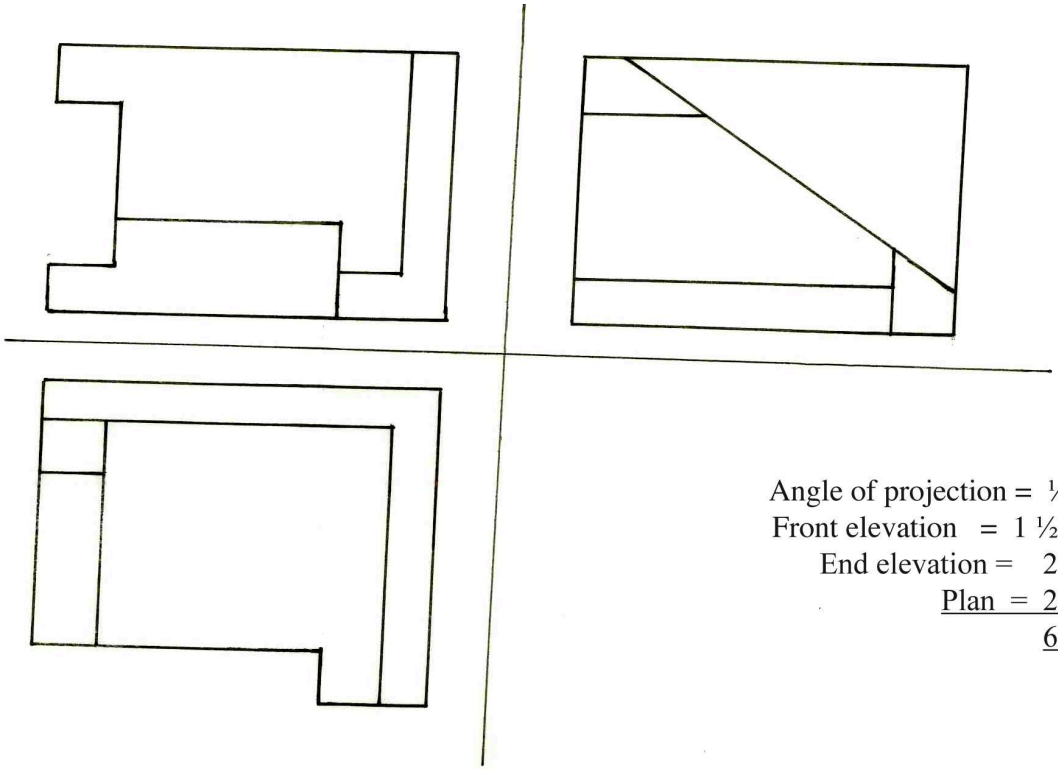
Correct square = 1
Lar to square 3 × ½ = 1½
Correct points 3 × ½ = 1½
Correct locus = 2
= 6 mks

9.

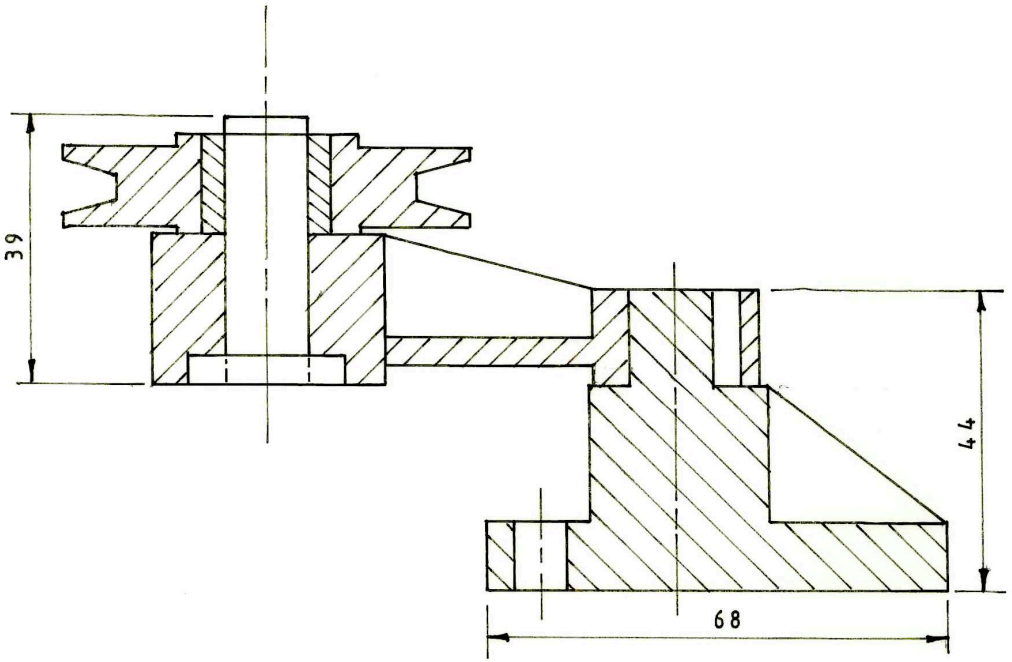


6 faces, $6 \times 1/2 = 3$
Oblique $= 1$
$= 4$ marks

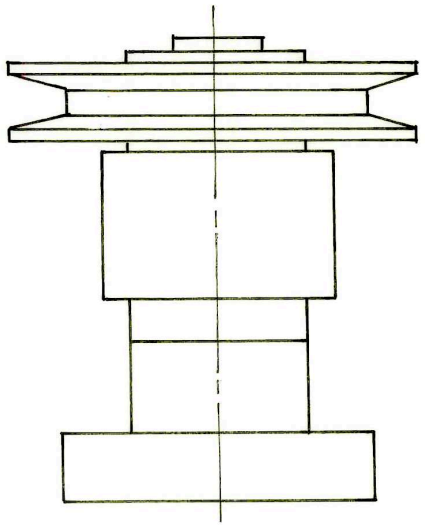
10.



Angle of projection = ½ mark
Front elevation = 1 ½ marks
End elevation = 2 marks
Plan = 2 marks
6 marks



SECTIONAL FRONT ELEVATION



END ELEVATION

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11.

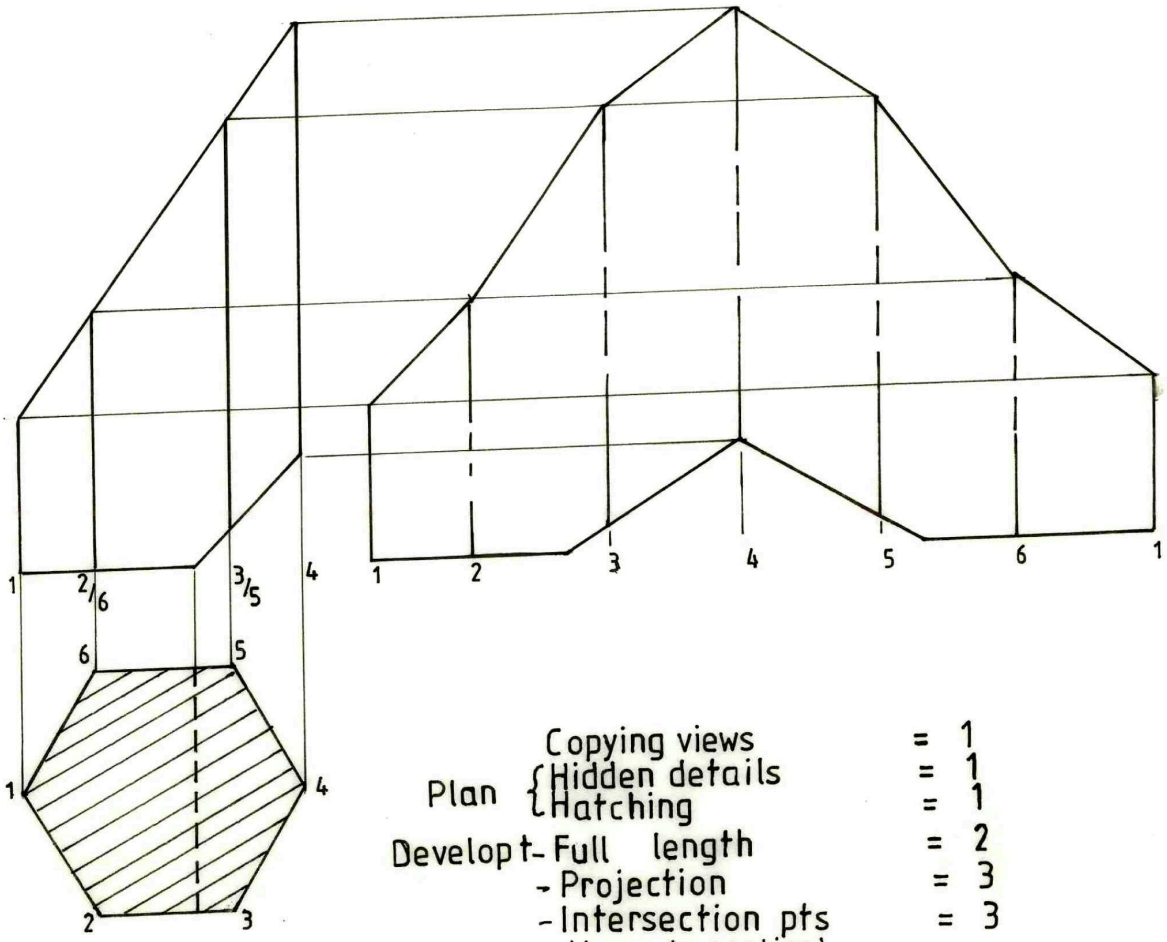
FRONT ELEV.

6 parts positioned	6×1	6 =	6
4 faces sectioned	4 × ½	=	2
5 faces unsectioned	5 × ½	=	2½
3 dimensions shown	3 × ½	=	1½

END ELEV.

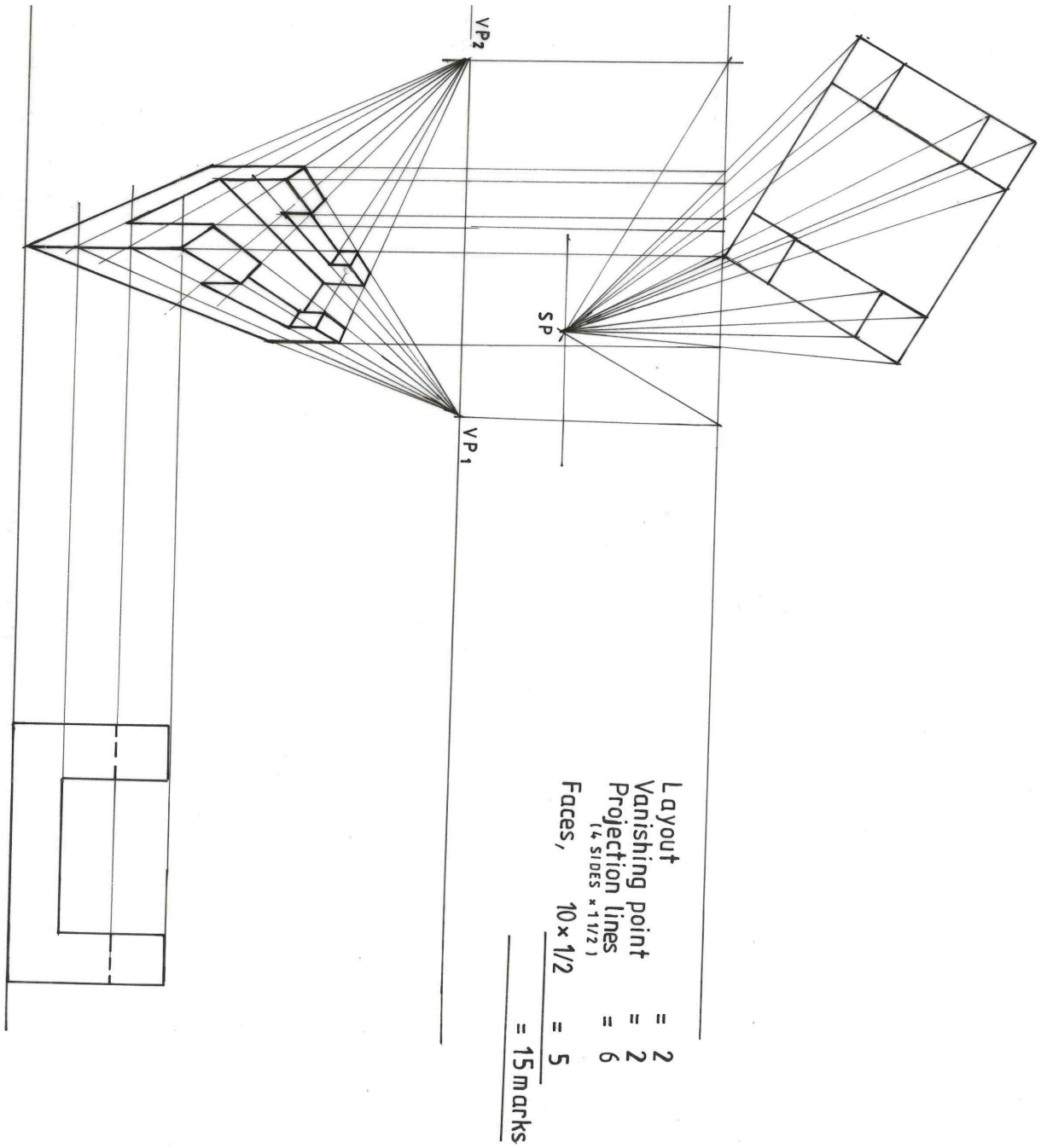
13 faces shown	13 × ½	=	6½
Linework and neatness		=	1½
		=	20 marks

12.



Plan	Copying views	= 1
	Hidden details	= 1
	Hatching	= 1
Develop	Full length	= 2
	Projection	= 3
	Intersection pts (lower truncation)	= 3
	Intersection pts	= 1
	Folding lines	= 1
	Compete development	= 2
		= 15 marks

13.


VP2
SP
VP1
Layout = 2
Vanishing point = 2
Projection lines = 6
(4 SIDES × 1 1/2)
Faces, 10 × 1/2 = 5
= 15 marks

14.

FRONT ELEV.

Intersection point lines	= 2
Faces of slanting tube	= 2
Correct Front elev	= 1
	= 5 mks

PLAN

Faces of slanting tube	= 4
Correct Plan view	= 1
	= 5 mks

DEV. OF TUBE

Faces $4 \times {}^{1}/_{2}$	= 2
Correct hole	= 2
Correct develop't	= 1
	= 5 marks