Coimisiún na Scrúduithe Stáit
State Examinations Commission

Scéimeanna Marcála *Scrúduithe Ardteistiméireachta, 2005*

Líníocht Theicniúil *Gnáthleibhéal*

Marking Scheme *Leaving Certificate Examination, 2005*

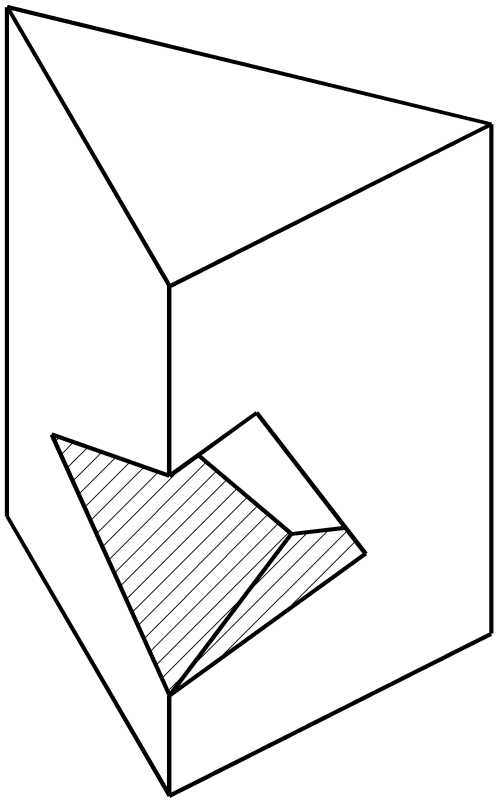
Technical Drawing *Ordinary Level*

Coimisiún na Scrúduithe Stáit
State Examinations Commission

Leaving Certificate Examination 2005

Technical Drawing

Paper 1 - Ordinary Level
(Plane & Solid Geometry)



Marking Scheme and Sample Solutions

(Other valid solutions are acceptable and marked accordingly)

Leaving Certificate 2005 Technical Drawing

Paper 1 **Ordinary Level** **Marking Scheme**

Question 1

Marks

(a) Elevation **19**

1. Outline elevation **2**
2. Locate point b **2**
3. Locate point c **2**
4. Lines R,S,T, and U **4**
5. Locate points on curve **7**
6. Draw the curve **2**

(b) Plan **4**

7. Outline plan **2**
8. Complete plan,..... **2**

(c) New Elevation **22**

9. X_1Y_1 parallel to the plan of A..... **2**
10. Projections from plan **2**
11. Heights from elevation (Excl. curve) **4**
12. Surface A **4**
13. Points on freehand curve **6**
14. Complete new elevation **4**

15. *Presentation* **5**..... **5**

Total 50

Leaving Certificate 2005 Technical Drawing

Paper 1 **Ordinary Level** **Marking Scheme**

Question 2

Marks

(a) Parallelogram ABCD **18**

1. Draw line BC 117 long **4**
2. Draw lines AB and CD at 60º **4**
3. Geometrical division of BC **4**
4. Locate points A and D **4**
5. Draw line AD **2**

Point E **12**

6. Mark altitude **4**
7. Draw semicircle on line AD **4**
8. Draw lines AE and DE **4**

(b) Area Conversion **15**

9. Convert ABCDE to a triangle **4**
10. Triangle to a rectangle **3**
11. Rectangle to a square **4**
12. Draw square **4**

13. *Presentation* **5** **5**

Total 50

Leaving Certificate 2005 Technical Drawing

Paper 1 **Ordinary Level** **Marking Scheme**

Question 3

		Marks
(a)	**Elevation** **17**	
1.	Draw cone A, cylinder B	**6**
2.	Locate point P	**3**
	Plan	
3.	Cone A	**4**
4.	Cylinder B inc. point P (3,1)	**4**
(b)	**Sphere C** **16**	
5.	Point r in elevation	**4**
6.	Point s_1 in plan	**4**
7.	Point s in elevation	**4**
8.	Draw both spheres	**4**
(c)	**Sphere D** **12**	
9.	Locating point O_1	**4**
10.	Locating point O	**4**
11.	Draw spheres	**4**
12.	*Presentation* **5**	**5**
	Total	**50**

Leaving Certificate 2005 Technical Drawing

Paper 1 Ordinary Level Marking Scheme

Question 4

		Marks
Setting up	**4**	
1.	Given lines AB and AC, Circles R and S (1,1,1,1)	**4**
Locus of P on circle R	**19**	
2.	Division of circle	**2**
3.	Centres marked on line de	**5**
4.	Project from divisions of circle	**3**
5.	Locate points on locus	**6**
6.	Draw locus	**3**
Locus of P on circle S	**22**	
7.	Division of circle	**2**
8.	Centres marked on line fg	**6**
9.	Project from divisions of circle	**4**
10.	Locate points on locus	**7**
11.	Draw locus	**3**
12.	*Presentation* **5**	**5**
	Total	**50**

Leaving Certificate 2005 Technical Drawing

Paper 1 **Ordinary Level** **Marking Scheme**

Question 5

Marks

(a) Setting **10**

1. Given plan **4**
2. Given elevation..... **4**
3. Traces VTH **2**

Auxiliary Elevation **9**

4. X_1Y_1 perp. to H.T. **2**
5. Projections from plan **2**
6. Edge view of plane **2**
7. Auxiliary view of solid..... **3**

Truncation **19**

8. Points abcde in plan..... **5**
9. Points abcde in elevation..... **5**
10. Complete plan..... **5**
11. Complete elevation..... **4**

(b) True shape **7**

12. Setting up true lengths and widths **4**
13. Draw true shape..... **3**

14. *Presentation* **5**..... **5**

Total..... 50

Leaving Certificate	2005	Technical Drawing
Paper 1	**Ordinary Level**	**Marking Scheme**

Question 6

		Marks
(a)	**Parabola** **28**	
1.	Rectangle ABCD	**6**
2.	Mark vertex	**2**
3.	Division of AB	**4**
4.	Division of AD and BC	**4**
5.	Lines parallel to the axis	**3**
6.	Radiate lines to vertex	**3**
7.	Locate points for the curve	**2**
8.	Draw the curve	**4**
(b)	**Ellipse** **17**	
9.	Set up as given (1,1,1)	**3**
10.	Locate focus	**4**
11.	Locate vertex	**3**
12.	Points on curve	**4**
13.	Draw curve	**3**
14	*Presentation* **5**	**5**
	Total	**50**

Leaving Certificate	2005	Technical Drawing
Paper 1	**Ordinary Level**	**Marking Scheme**

Question 7

Marks

(a) Given views **8**

1. Given plan **4**
2. Given elevation..... **4**

(b) End elevation **37**

3. Prism in end view **3**
4. Points a,b,c and d..... **4**
5. Join the points..... **4**
6. Points e,f,g,h, and I..... **10**
7. Join the points..... **10**
8. Horizontal lines (4x1)..... **4**
9. Hidden detail. **2**

10 *Presentation* **5**..... **5**

Total..... 50

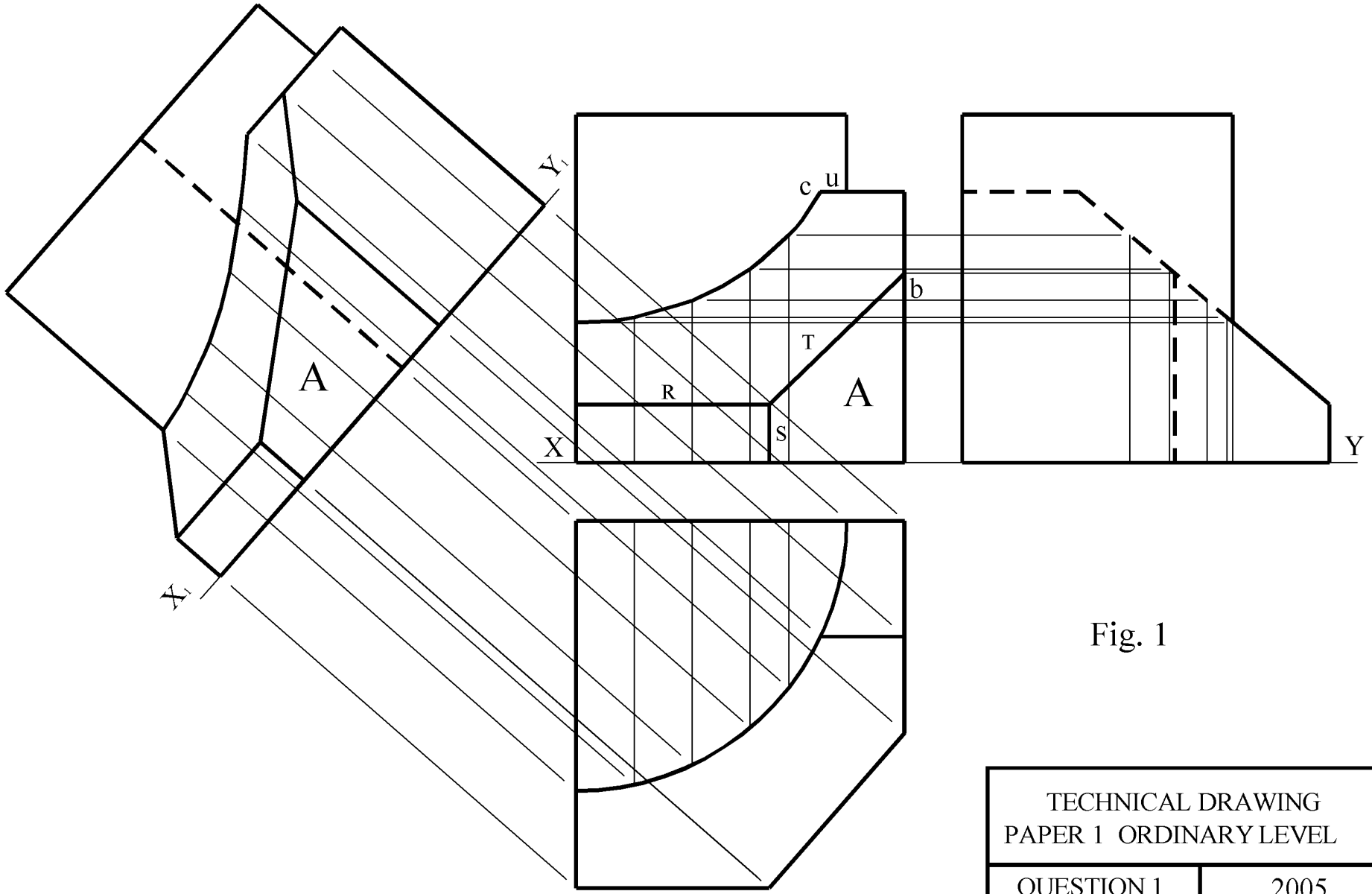


Fig. 1

TECHNICAL DRAWING PAPER 1 ORDINARY LEVEL	
QUESTION 1	2005
SCALE: N/A	

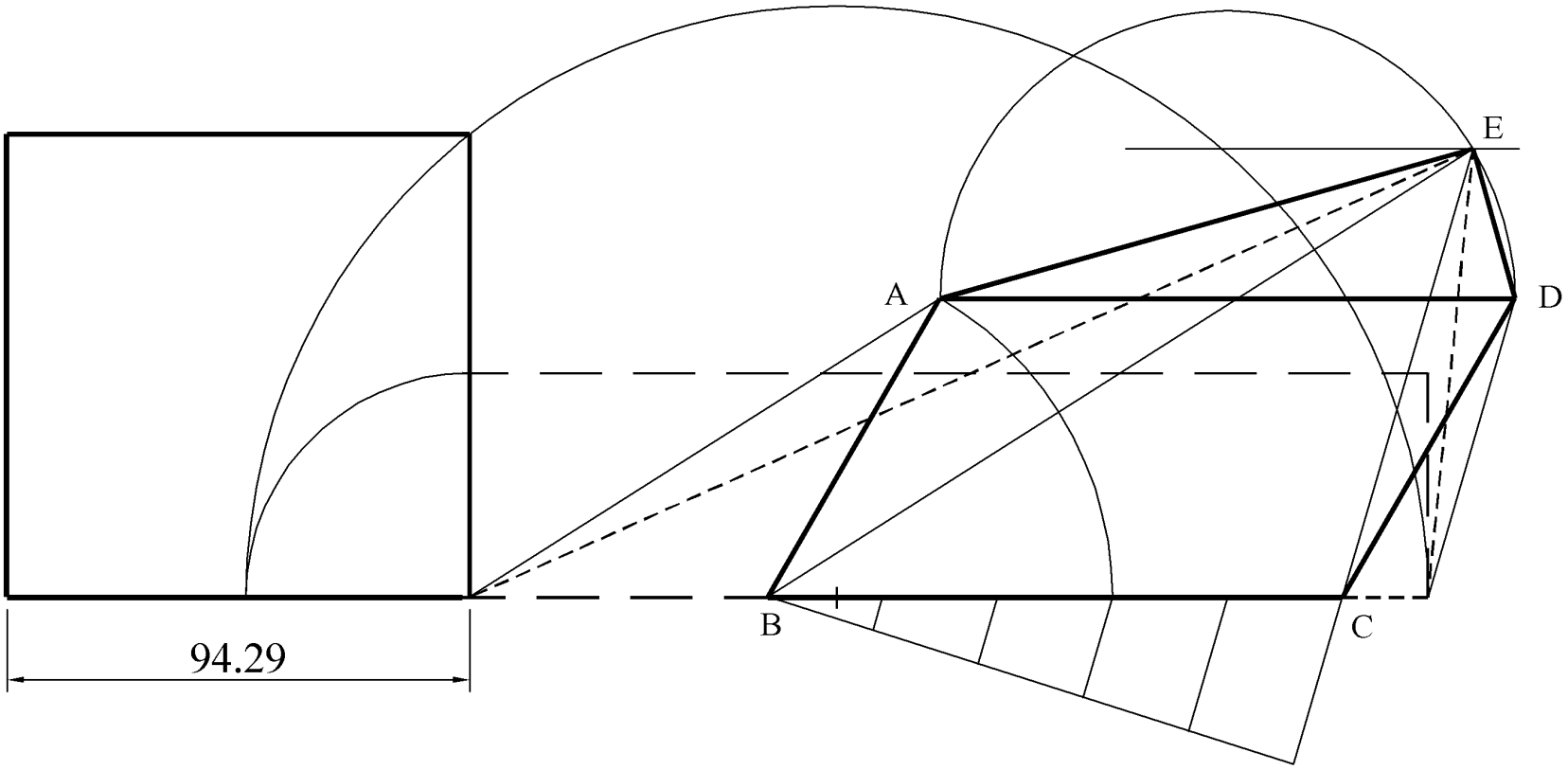


Fig. 2

TECHNICAL DRAWING PAPER 1 ORDINARY LEVEL	
QUESTION 2	2005
SCALE: N/A	

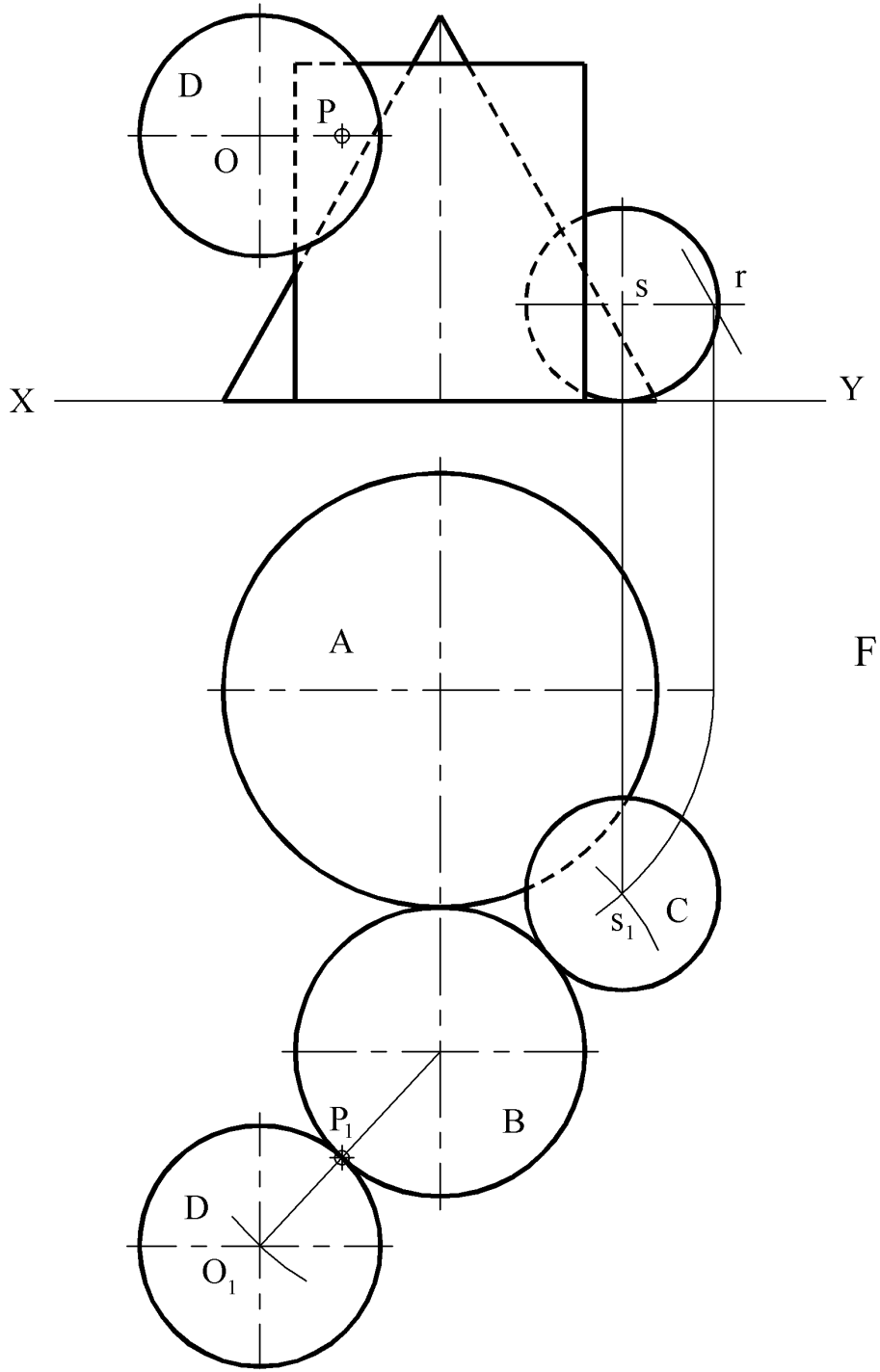


Fig. 3

TECHNICAL DRAWING PAPER 1 ORDINARY LEVEL	
QUESTION 3	2005
SCALE: N/A	

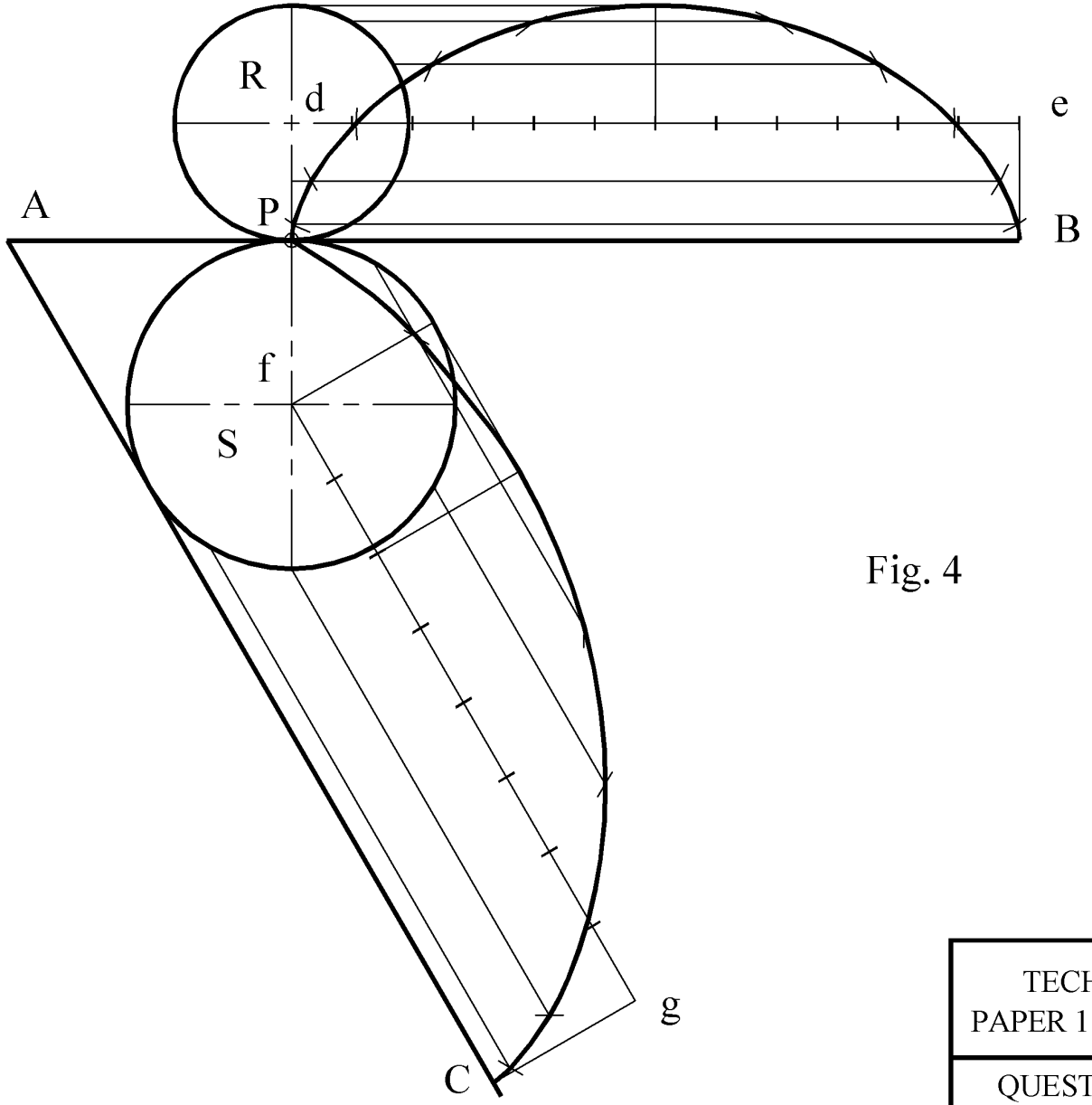


Fig. 4

TECHNICAL DRAWING PAPER 1 ORDINARY LEVEL	
QUESTION 4	2005
SCALE: N/A	

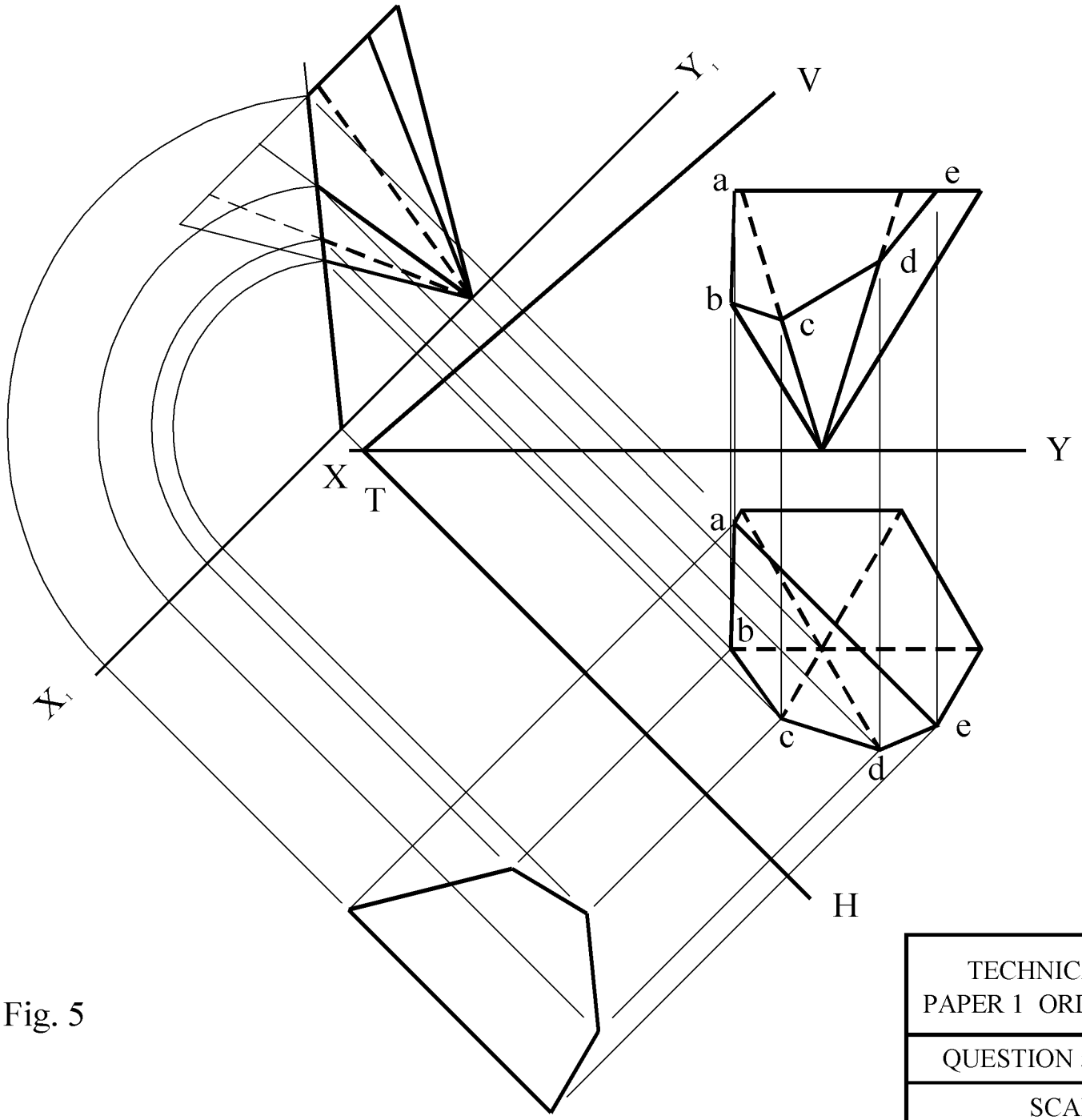


Fig. 5

TECHNICAL DRAWING PAPER 1 ORDINARY LEVEL	
QUESTION 5	2005
SCALE: N/A	

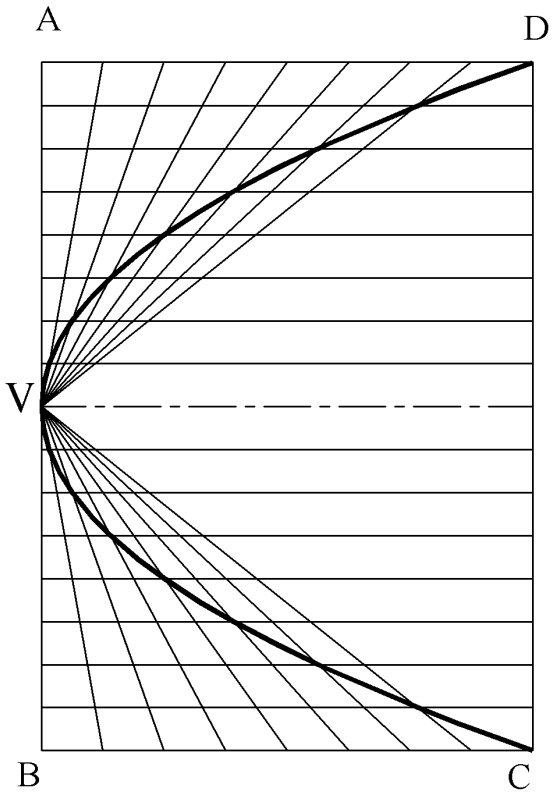


Fig. 6a

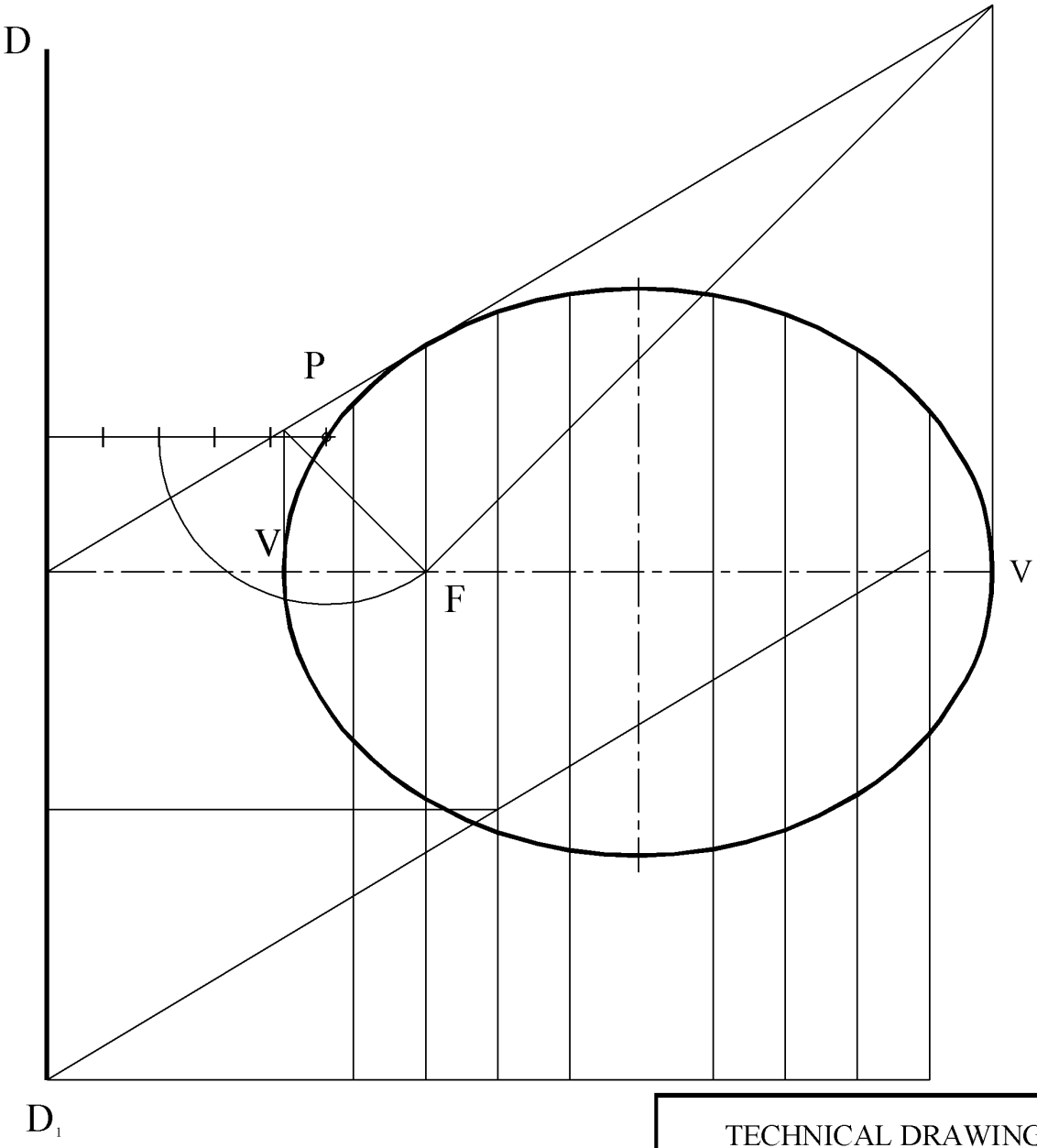


Fig. 6b

TECHNICAL DRAWING PAPER 1 ORDINARY LEVEL	
QUESTION 6	2005
SCALE: N/A	

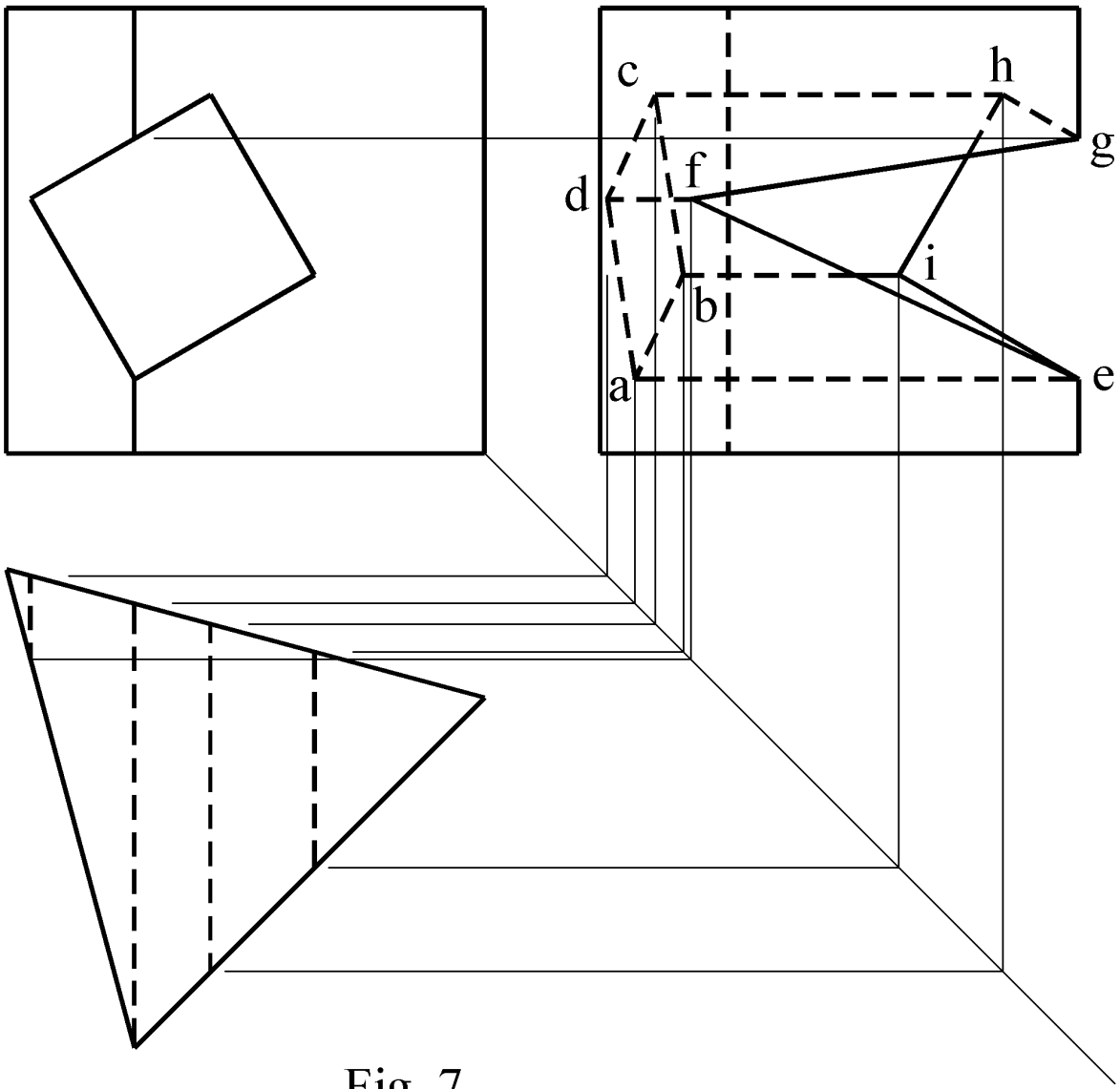


Fig. 7

TECHNICAL DRAWING PAPER 1 ORDINARY LEVEL	
QUESTION 7	2005
SCALE: N/A	

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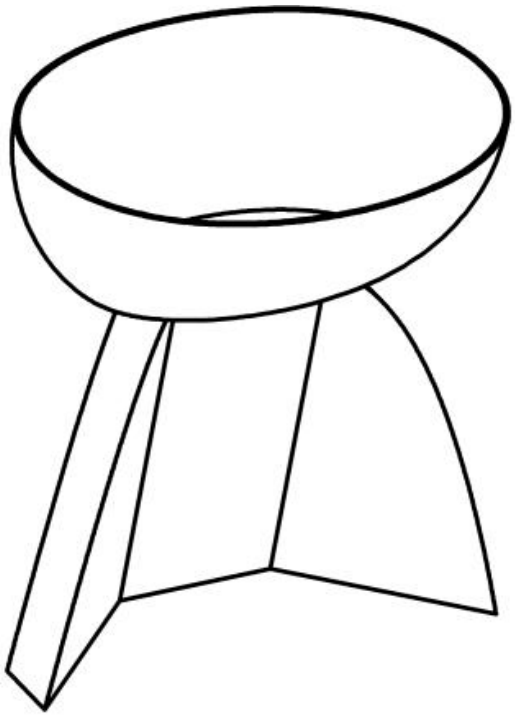
State Examinations Commission

Leaving Certificate Examination 2005

Technical Drawing

Paper II(B) – Ordinary Level (Building Applications)

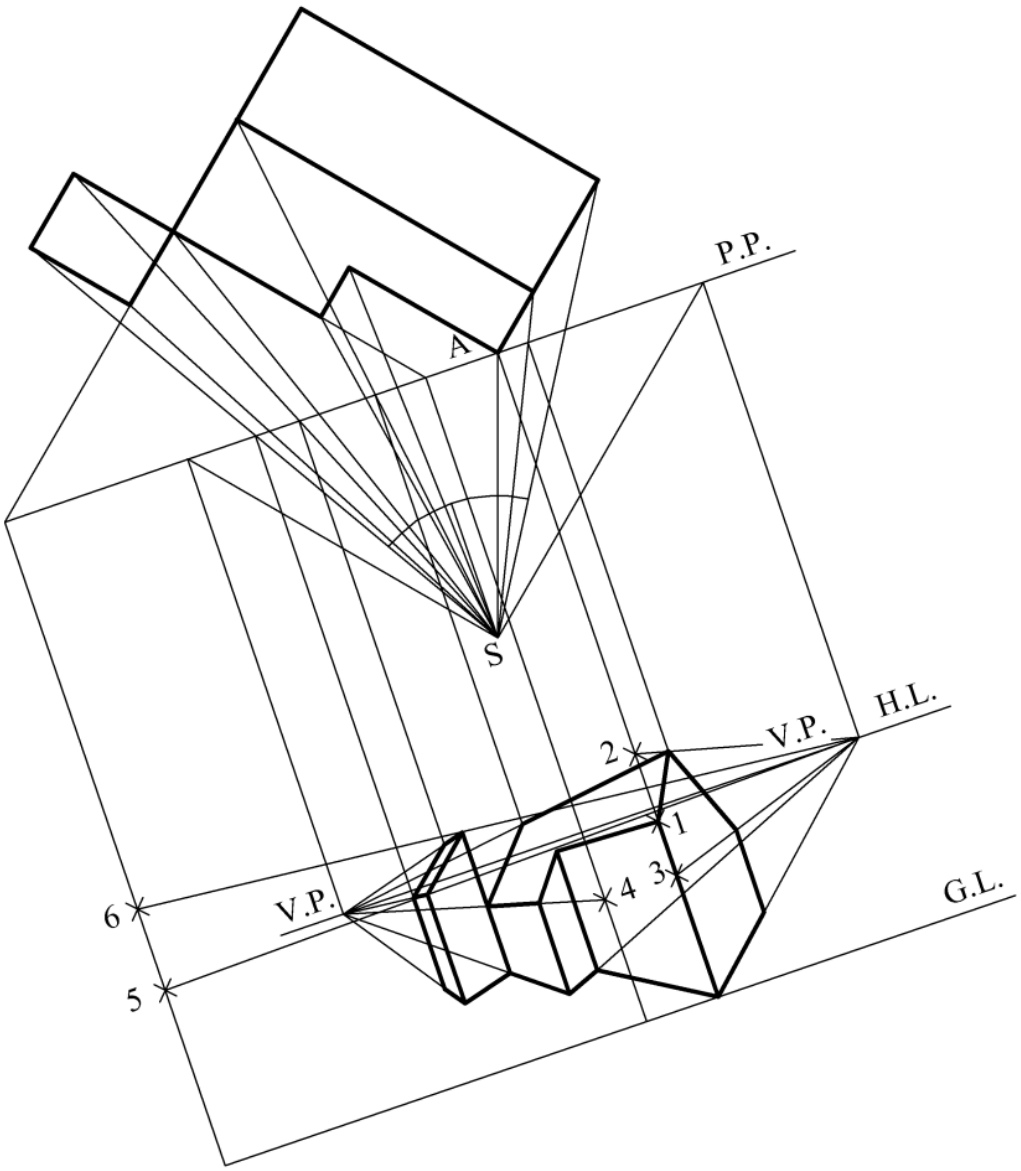
(200 Marks)



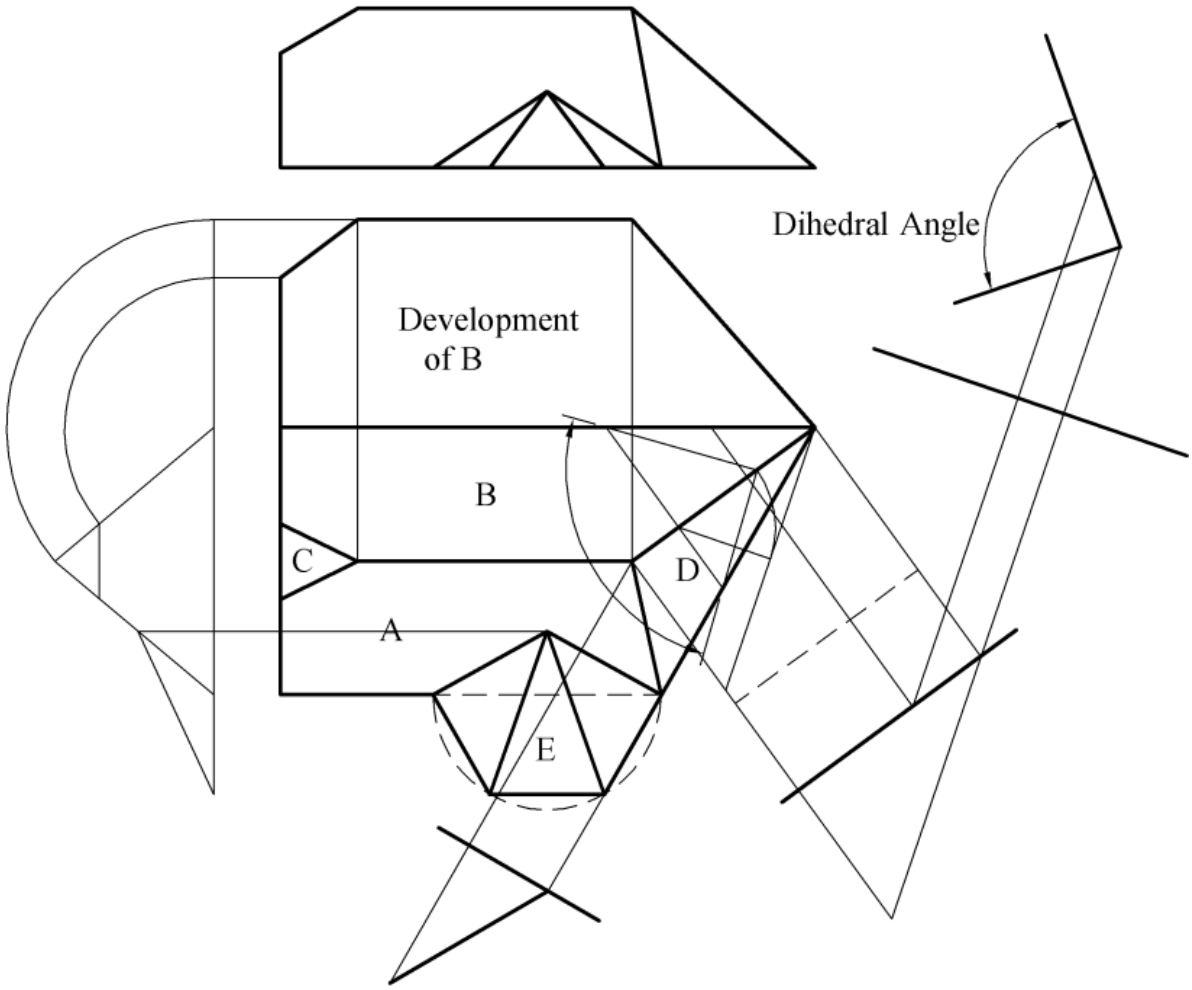
Marking Scheme & Solutions

(Other valid solutions are acceptable and marked accordingly)

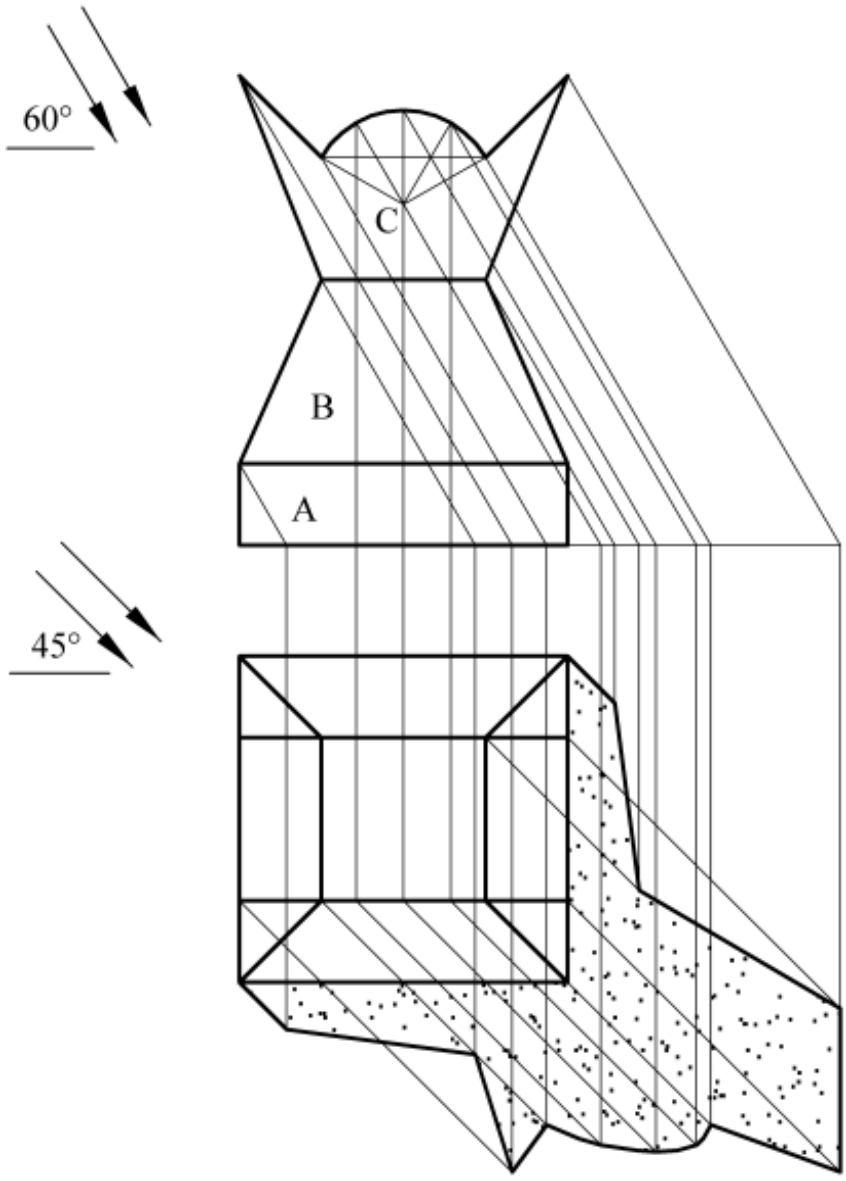
QUESTION 1		Marks
1)	Draw the given plan	4
2)	Position spectator, P.P., V.P.1 and V.P.2 in plan. (1,2,2)	5
3)	Ground line, horizon line and V.P.'s in elevation. (1,1,1,1)	4
4)	Projection lines from S to plan	2
5)	Perspective of base lines of block A. (2,2)	4
6)	Apply H1 for block A	1
7)	Apply H2, H3 and complete block A (1,1,1x6)	8
8)	Establish base of block B (1,1)	2
9)	Apply H4, and complete block B. (1,6X1)	7
10)	Establish base of block C. (1,1)	2
11)	Apply H5, H6 And complete block C (1,1,4)	6
12)	Presentation	5
	Total	**50**



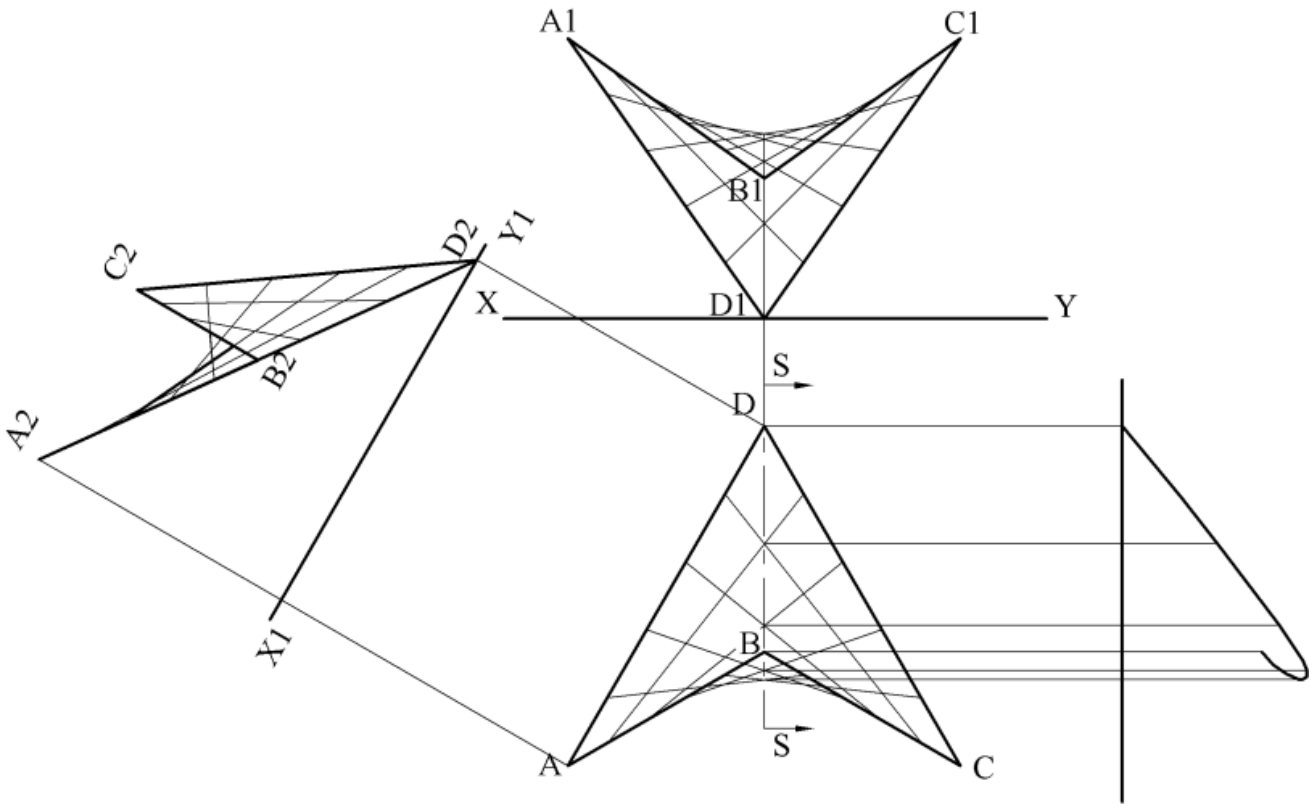
QUESTION 2		Marks
1)	Draw roof perimeter A,B and D in plan.	4
2)	Draw edge view of surfaces A and B, measure height and draw in elevation. (1x4)	4
3)	Draw edge view of surfaces D, project to plan and determine lines of intersection. (2,1,2)	5
4)	Draw semi- hexagon in plan (1,1,1)	3
5)	Draw edge view of surface E and project to plan. (2,1)	3
6)	Constructions to determine surface C and project to plan. (1x4)	4
7)	Complete the plan and elevation (1,1)	2
8)	**Development of surface B** Determine true widths (2,2)	4
9)	Draw the development of surface B (1X5)	5
10)	**Dihedral angle between B and D** True length of line of intersection. (1x4)	4
11)	Construction to determine dihedral angle. (1x6)	6
12)	Dihedral angle between surfaces B and D	1
13)	Presentation	5
	Total	**50**



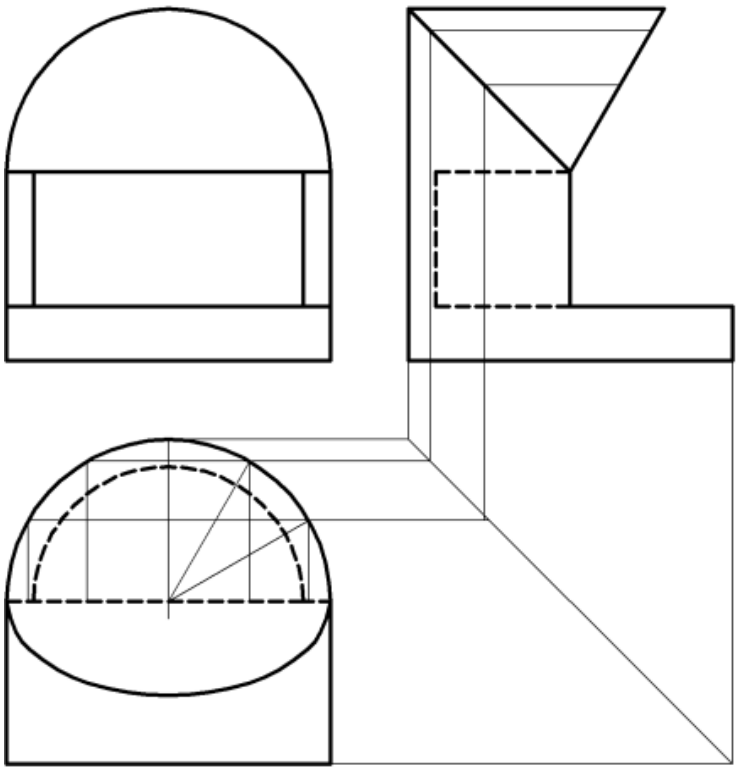
	QUESTION 3		Marks
1)	Draw the given plan and elevation	(4,4)	8
2)	Lines at appropriate angles in plan and elevation	(2,2)	4
3)	Determine shadow cast by block A	(2x4)	8
4)	Determine shadow cast by block B	(4X2)	8
5)	Shadow cast by sloping lines of block C	(1x10)	10
6)	Method to determine shadow cast by curved surface of block C		4
7)	Draw curve in plan		2
8)	Identify shadow cast.		1
9)	Presentation		5
		Total	**50**

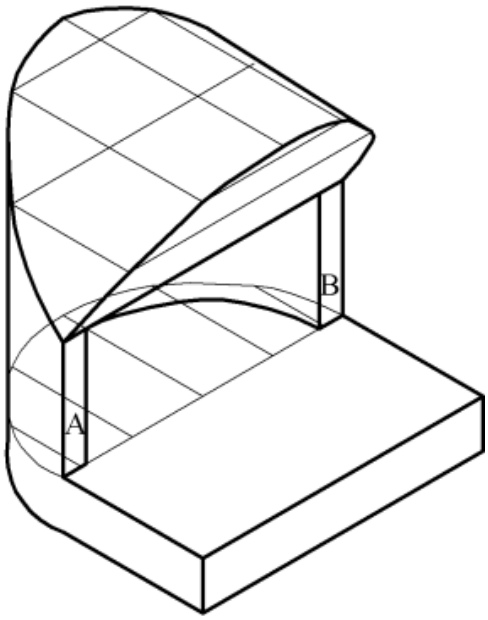


QUESTION 4		Marks
1)	**Plan and elevation** Draw the given plan, including the elements. (4,4)	8
2)	Project outline elevation and measure heights. (2,3)	5
3)	Draw outline elevation. (1x4)	4
4)	Draw elements in elevation. (2,2)	4
5)	**True shape of section** New X Y line parallel to SS	1
6)	Project intersections from plan (1x6)	6
7)	Measure heights in auxiliary elevation (1x5)	5
8)	Draw the true shape	2
9)	**New Elevation** X1Y1 parallel to AD and project at right angles (2,2)	4
10)	Determine points A2,B2 C2 and D2 (1x4)	4
11)	Complete new elevation	2
12)	Presentation	5
	Total	**50**

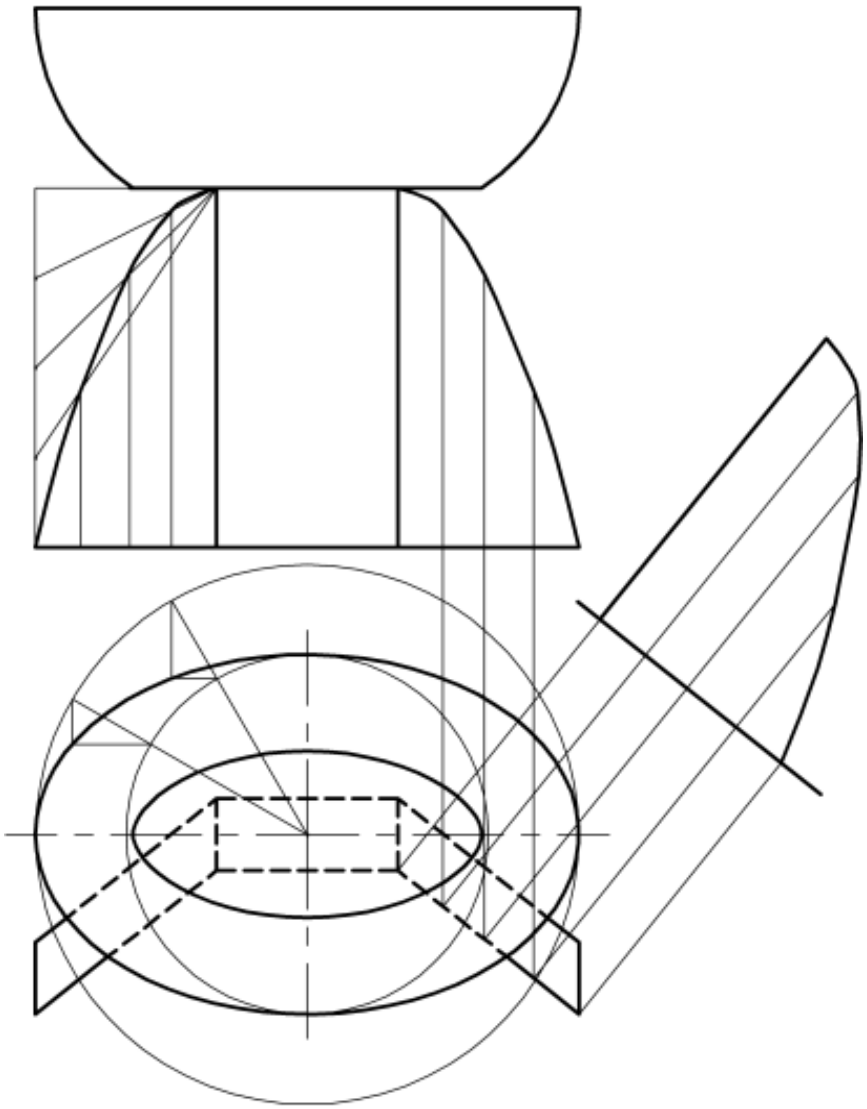


QUESTION 5			Marks
1)	Draw the given views	(2,3,5)	10
2)	Grid on orthographic views	(2,2)	4
3)	Outline of base in isometric	(1x7)	7
4)	Grid for base curves in isometric		5
5)	Draw base curves	(3x2)	6
6)	Grid for curve of intersection.		3
7)	Draw curve of intersection.		1
8)	Grid for canopy in isometric		3
9)	Draw canopy		2
10)	Surfaces A and B in isometric	(2x2)	4
11)	Presentation		5
		Total	**50**





QUESTION 6		Marks
1)	Determine major and minor axis in plan (2x2)	4
2)	Draw ellipse (any method).	8
3)	Draw stand in plan	4
4)	Project outline elevation	5
5)	Construction for semi parabola in elevation	6
6)	Draw semi parabolic curves in elevation	4
7)	Draw arcs in elevation and project to plan	4
8)	Draw parallel curve in plan	2
9)	True shape New XY line and project at right angles	4
10)	Heights from elevation and complete new elevation.	4
11)	Presentation	5
	Total	**50**



QUESTION 7		Marks
1)	**Profile** Measure heights and draw horizontal sections.	5
2)	Projections from intersections of line DE with contours to profile	5
3)	Draw outline profile	8
4)	**Dip and strike** Join points A, B and C in plan.	3
5)	Draw triangle in elevation	6
6)	Horizontal line in elevation	2
7)	Strike in plan	3
8)	New XY line, viewing direction for dip	2
9)	Determine dip	2
10)	**Tower**. Join FG and extend. (1,2)	3
11)	Project intersection of contours at right angles to FG , Measure heights and draw profile (1x3)	3
12)	Draw tangent, determine minimum height (2,1)	3
13)	Presentation	5
	Total	**50**