AN ROINN OIDEACHAIS AGUS EOLAÍOCHTA

LEAVING CERTIFICATE EXAMINATION 2002

TECHNICAL DRAWING

PAPER 1 ORDINARY LEVEL

MARKING SCHEME

Leaving Certificate 2002 Marking Scheme

Technical Drawing Paper1 Ordinary Level

Question 1

Part (a) Elevation **18**

1. Outline Elevation _____ 8
2. Construction to locate point f _____ 4
3. Locate point e _____ 3
4. Complete elevation (3x1) _____ 3

Part (b) Plan **10**

5. Outline plan (4x1) _____ 4
6. Complete plan (3x2) _____ 6

Part (c) New Elevation **17**

7. X_1 Y_1 Parallel to A in plan _____ 2
8. Projections from plan _____ 2
9. Heights from elevation (4x1) _____ 4
10. Surface A _____ 5
11. Complete new elevation _____ 4

12. **Presentation** **5** 5

Total **50**

Leaving Certificate 2002 Marking Scheme

Technical Drawing Paper 1 Ordinary Level

Question 2

Part (a) Quadrilateral ABCD **18**

1. Draw line AB 50 long	6
2. Geometrical division of line AB	6
3. Locate points C and D	2
4. Draw quadrilateral ABCD	4

Point E **13**

5. Convert ABCD to a triangle	3
6. Draw semicircle on line CB	2
7. Draw line to locate point E	2
8. Draw lines BE and CE	6

Part (b) Area Conversion **14**

9. ABECD to a triangle	3
10. Triangle to a rectangle	4
11. Rectangle to a square	5
12. Draw square	2
13. **Presentation** **5**	5
Total	**50**

Leaving Certificate 2002 Marking Scheme

Technical Drawing Paper 1 Ordinary Level

Question 3

Part (a) **24**

1. Given elevation (cone, sphere, point P 3,3,1)	7
2. Cone in plan	5
3. Sphere in plan	6
4. Locating point P in plan	6

Part (b) **21**

5. Locating point P_2	4
6. Locating point S	4
7. Locating point S_1	4
8. Locating point S_2	3
9. Draw spheres (2,2)	4
10. Hidden detail	2
11. **Presentation** **5**	5
Total	**50**

Leaving Certificate 2002 Marking Scheme

Technical Drawing Paper 1 Ordinary Level

Question 4

Given Views	**14**	
1. Given plan (3,3)		6
2. Given Elevation (4,4)		8
Envelopment	**31**	
3. Division of circle		4
4. Project divisions to elevation		4
5. Surface development of cylinder		7
6. Projections to cylinder		3
7. Points abced on cylinder		5
8. Line ab		1
9. Points on curve		3
10. Draw curves (4x1)		4
11. **Presentation**	**5**	5
	Total	**50**

Leaving Certificate 2002 Marking Scheme

Technical Drawing Paper 1 Ordinary Level

Question 5

Part (a) Setting Up **12**

1. Given Plan _____ 5
2. Given elevation _____ 5
3. Traces VTH _____ 2

Auxiliary Elevation **9**

4. X_1Y_1 perp. H.T. _____ 2
5. Projections parallel to H.T. _____ 2
6. Edge view of plane _____ 2
7. Auxiliary view of solid _____ 3

Truncation **17**

8. Points bcdefg in plan _____ 6
9. Points abcdefg in elevation _____ 7
10. Complete plan _____ 2
11. Complete elevation _____ 2

Part (b) True Shape **7**

12. Setting up true widths and lengths (2,2) _____ 4
13. Draw true shape _____ 3

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

Total **50**

Question 6

Part (a) The Parabola **28**

1. Rectangle ABCD	6
2. Mark vertex	3
3. Division of AB	4
4. Division of AD and BC	4
5. Lines parallel to axis	3
6. Radiate lines to vertex	3
7. Locate points	3
8. Draw curve	2

Part (b) ELLIPSE **17**

9 Setting up as given (2,2,2)	6
10 Locating focus	4
11. Locating vertex	2
12. Points on curve	3
13. Draw curve	2
14. **Presentation** **5**	5
Total	**50**

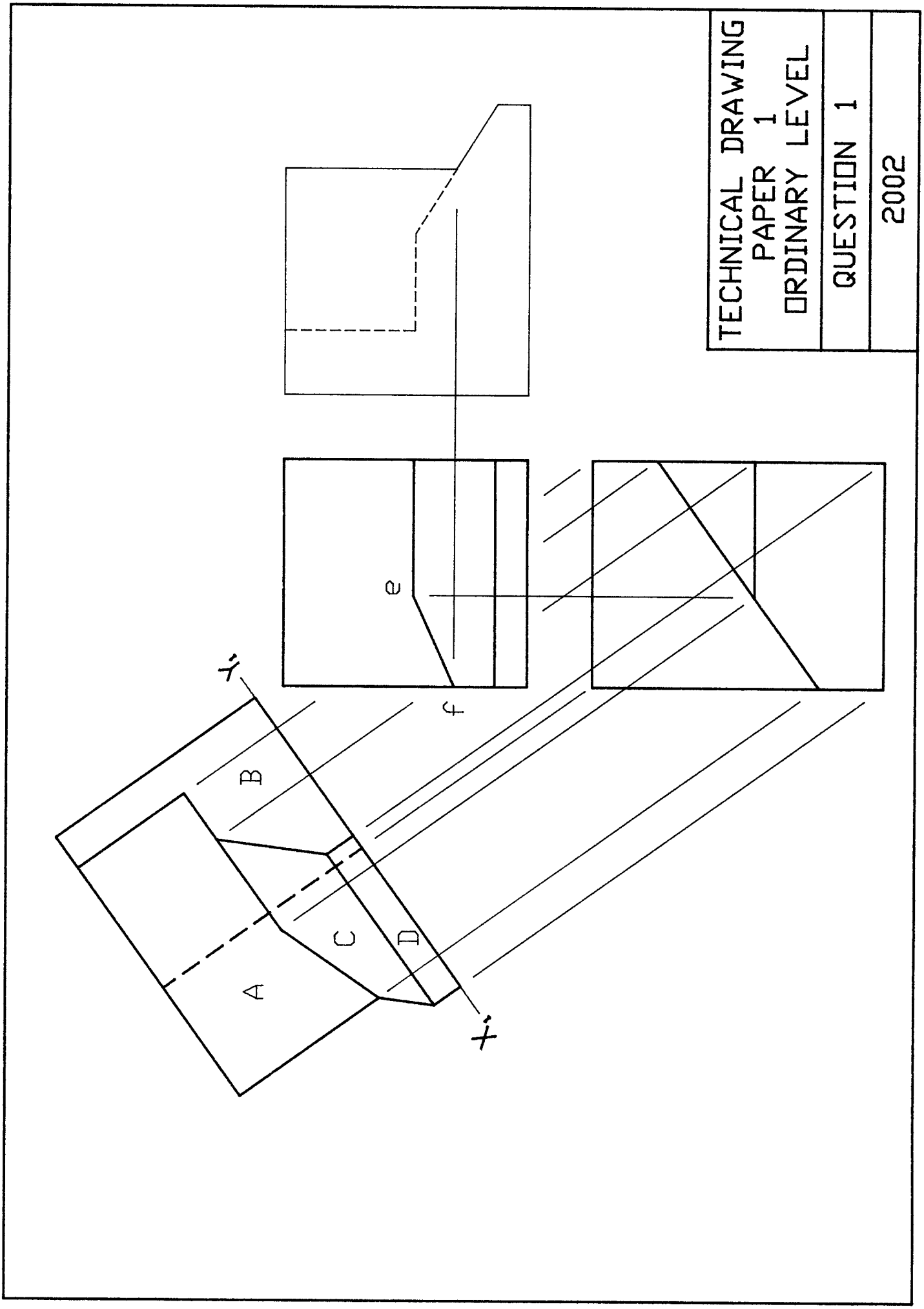
Question 7

Part (a) **16**

1. Given plan (7x1)	7
2. Given elevation	9

Part (b) End Elevation **29**

3. Prism in end elevation	6
4. Points a, b and c	6
5. Join points	3
6. Points d,e,f,g,h	5
7. Join the points	5
8. Horizontal lines (3x1)	3
9. Hidden detail	1
10. **Presentation** **5**	5


TECHNICAL DRAWING
PAPER 1
ORDINARY LEVEL
QUESTION 1
2002
e
f
i
i
A
B
C
D

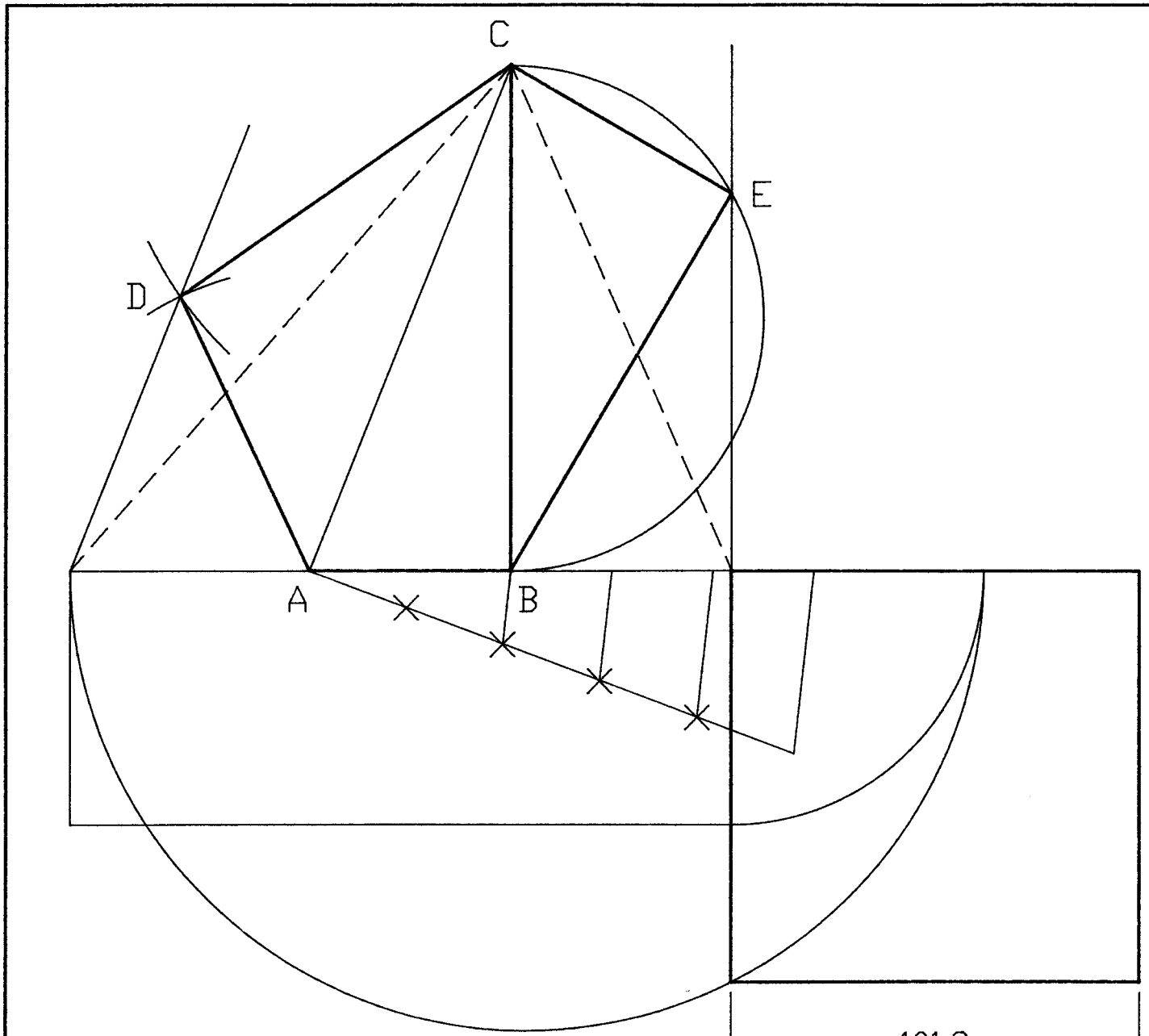


Fig. 2

TECHNICAL DRAWING
PAPER 1
ORDINARY LEVEL

QUESTION 2

2002

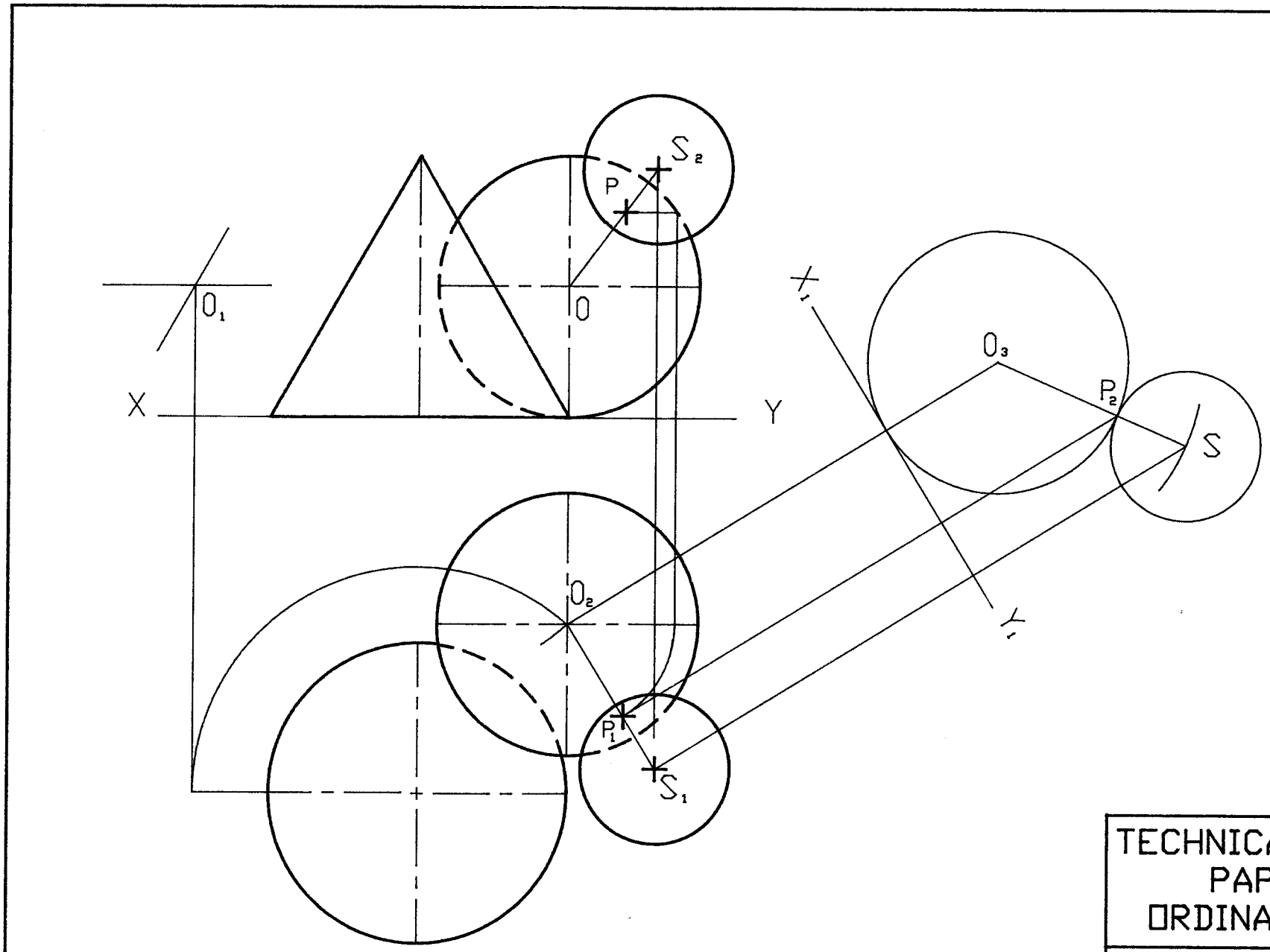
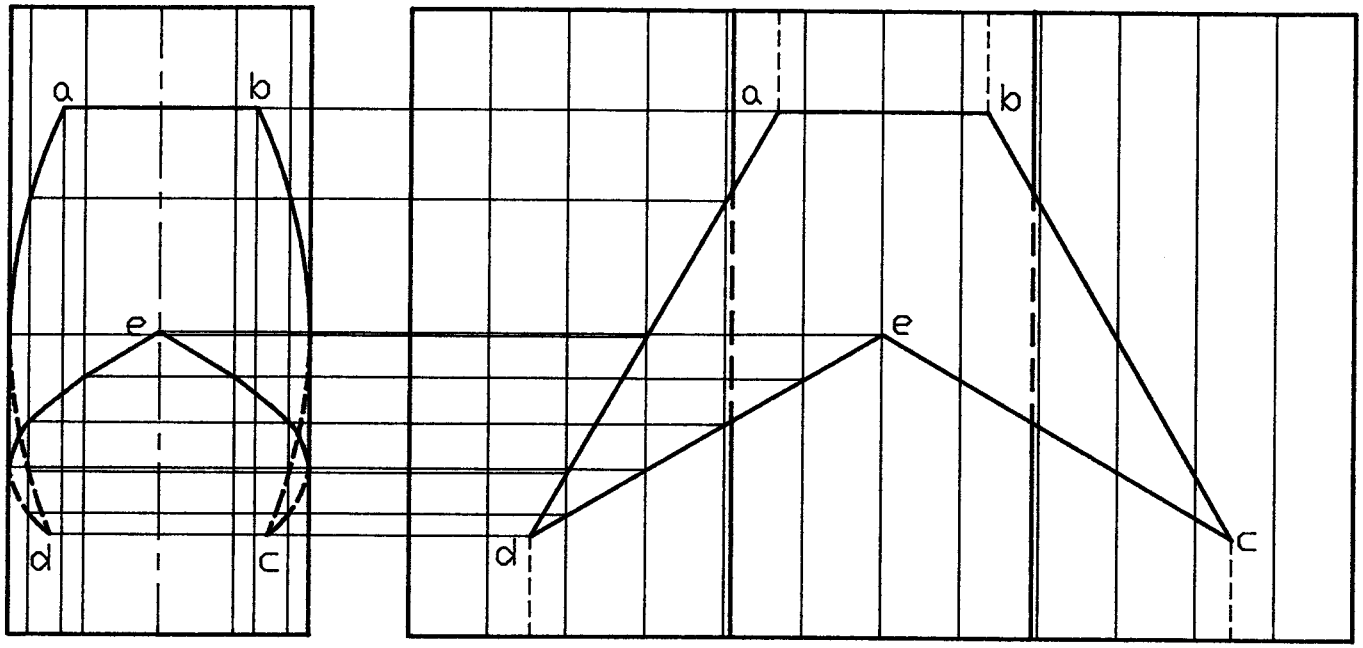
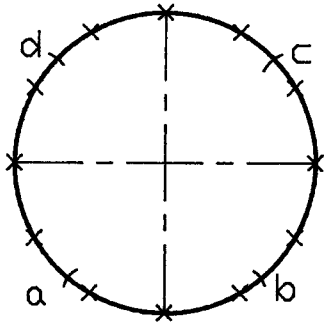


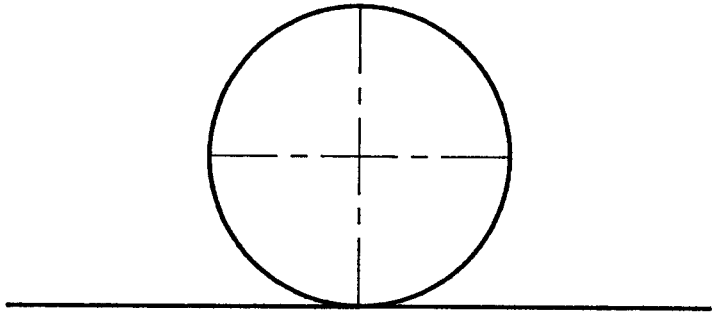
Fig. 3

TECHNICAL DRAWING PAPER 1 ORDINARY LEVEL
QUESTION 3
2002





Solution is drawn seperately for clarity



TECHNICAL DRAWING
PAPER 1
ORDINARY LEVEL

QUESTION 4

2002

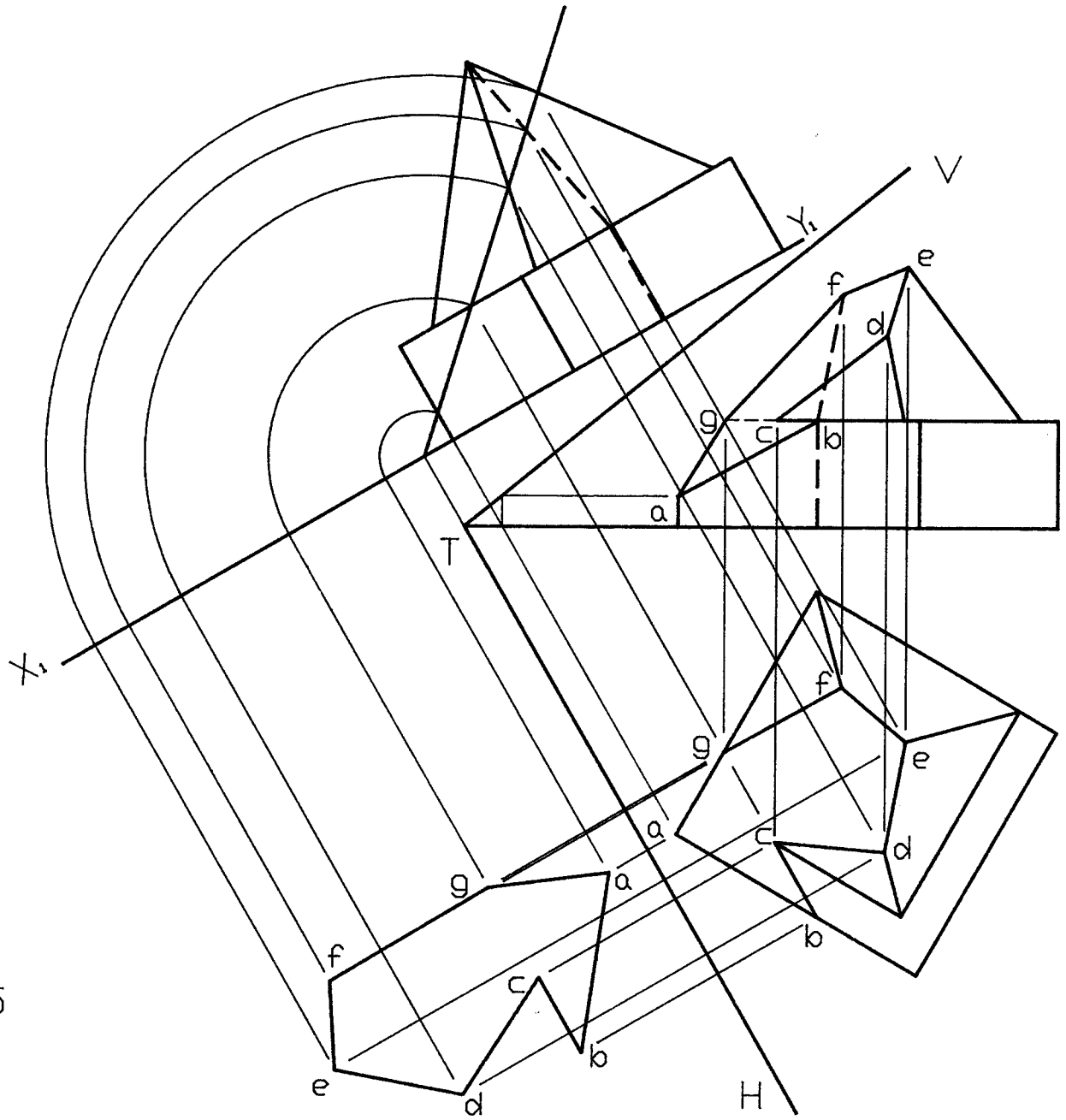


Fig. 5

TECHNICAL DRAWING PAPER 1 ORDINARY LEVEL
QUESTION 5
2002

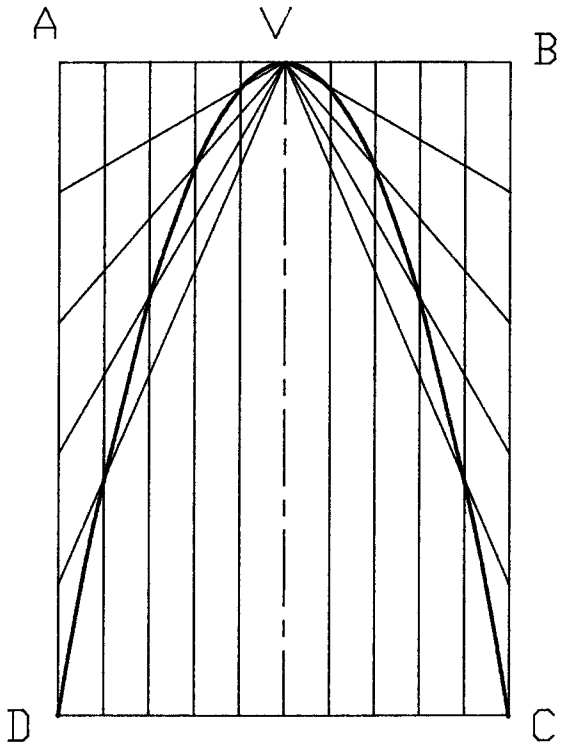


Fig. 6a

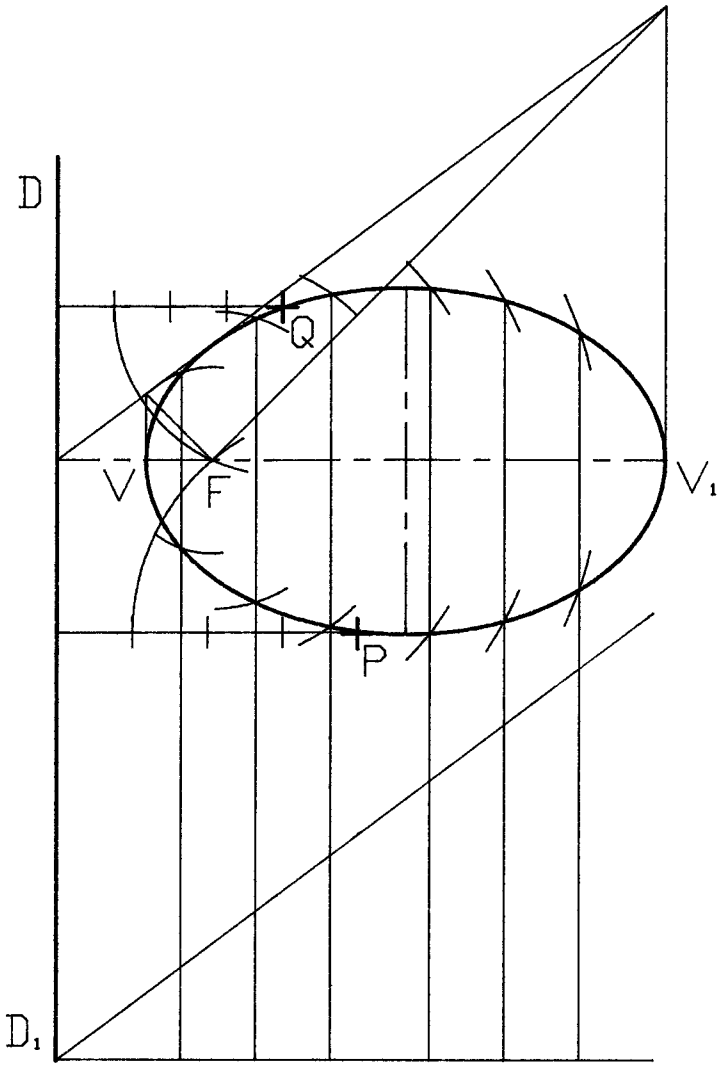


Fig. 6b

TECHNICAL DRAWING PAPER 1 ORDINARY LEVEL
QUESTION 6a & 6b
2002

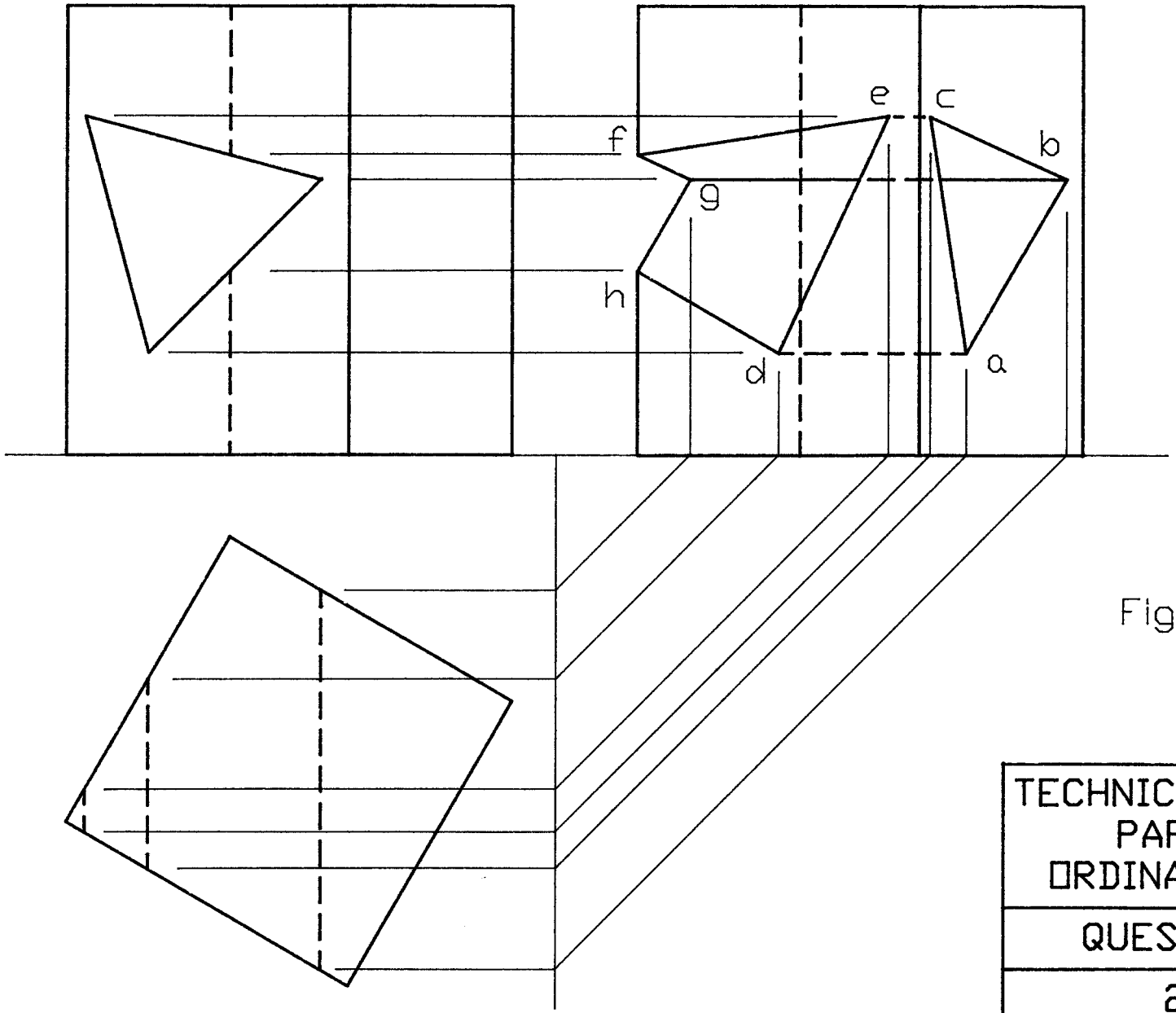


Fig. 7

TECHNICAL DRAWING
PAPER 1
ORDINARY LEVEL

QUESTION 7

2002

AN ROINN OIDEACHAIS AGUS EOLAÍOCHTA

LEAVING CERTIFICATE EXAMINATION, 2002

TECHNICAL DRAWING

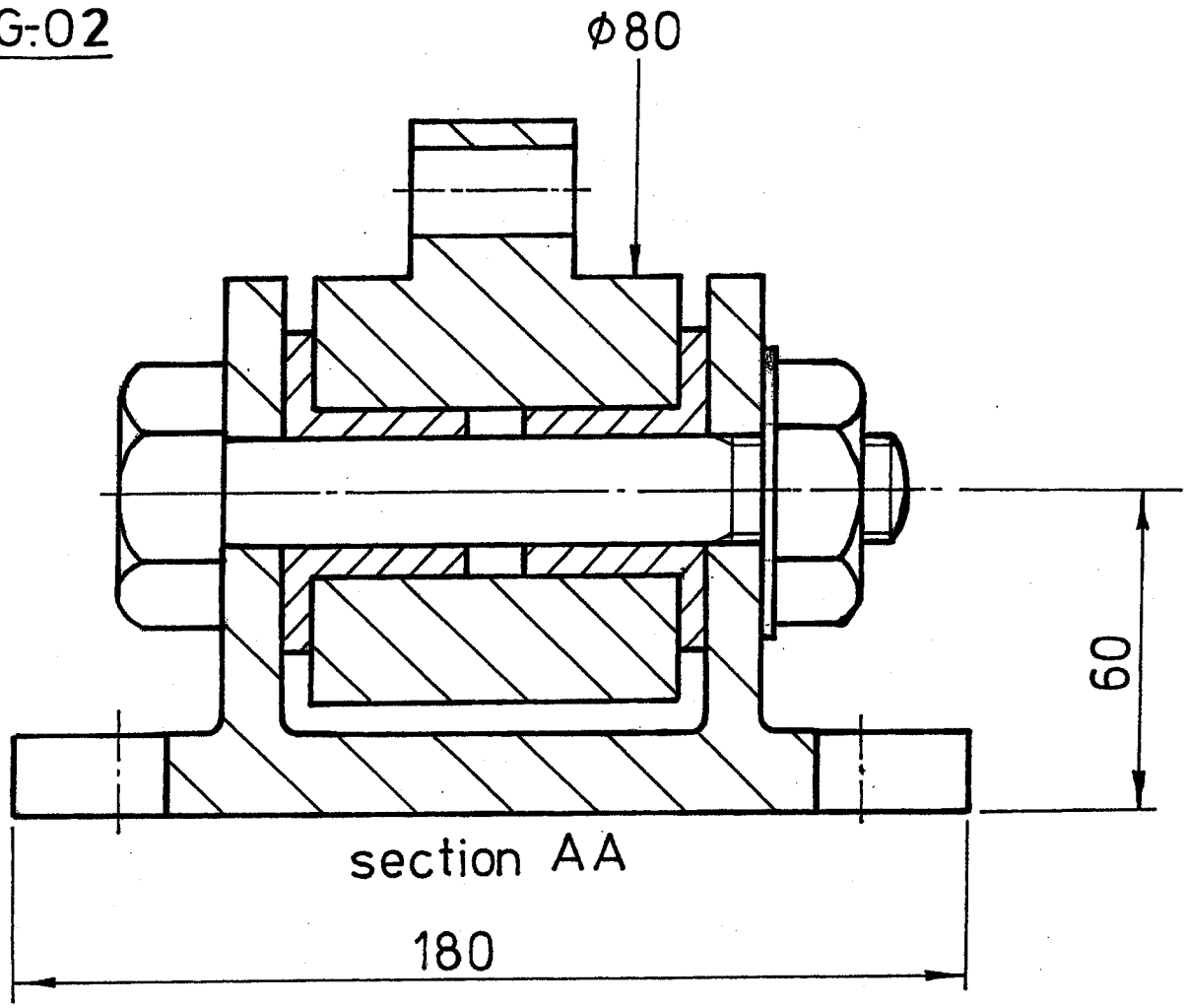
ORDINARY LEVEL

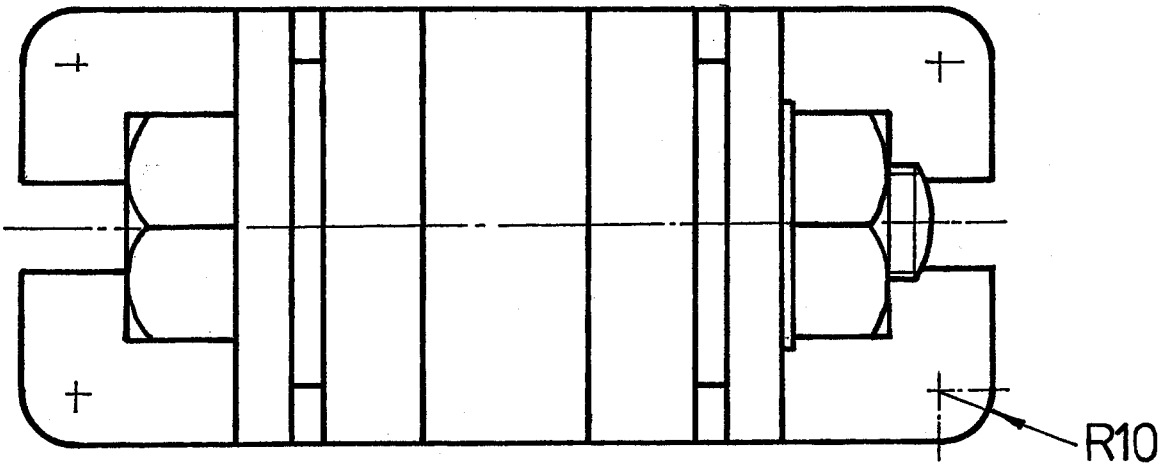
PAPER IIA

ENGINEERING APPLICATIONS

MODEL SOLUTIONS

1 FIG-02

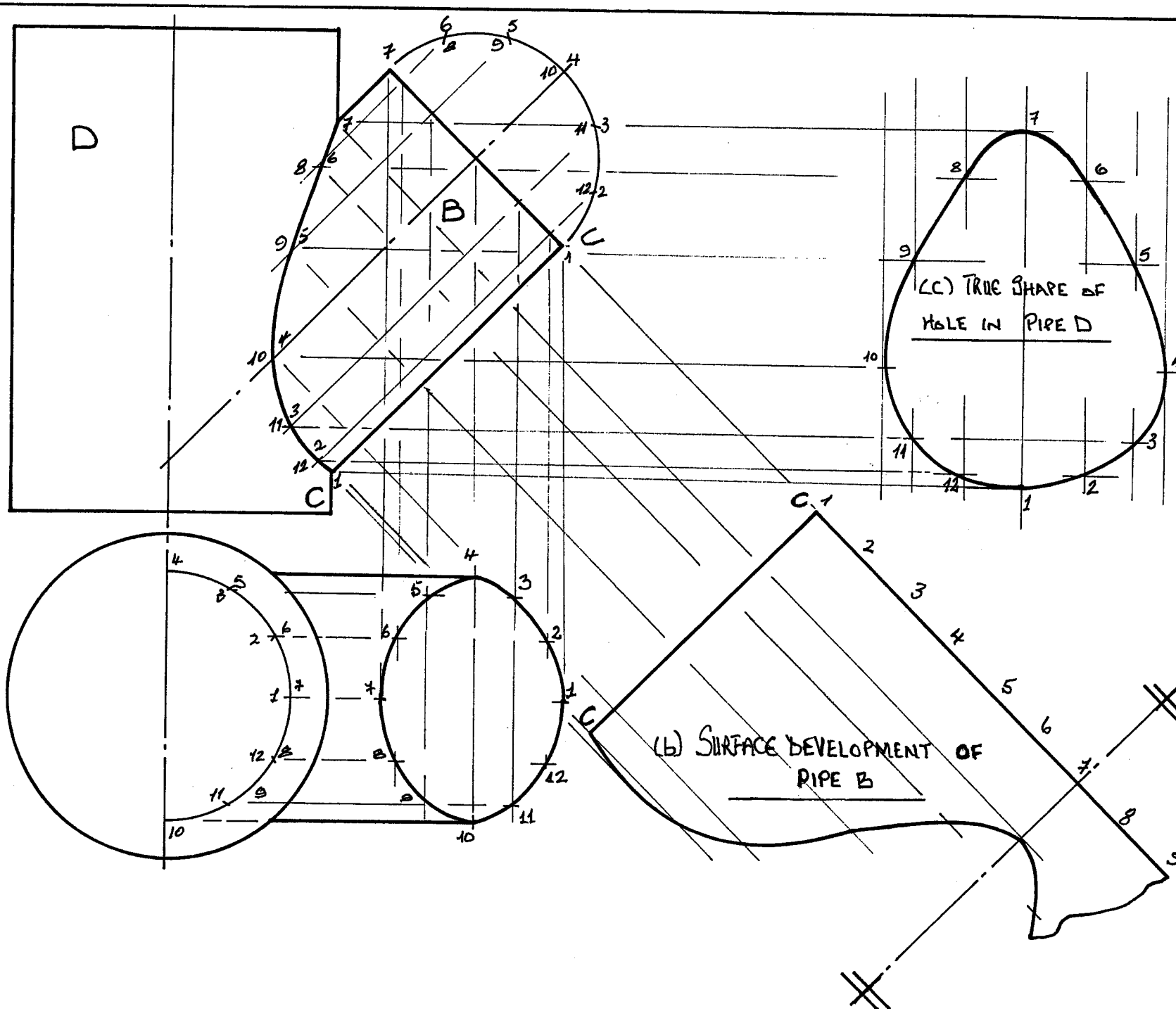




plan

ANTI-VIBRATION DEVICE	PROJECTION TEILGEAN

FIG.2-02



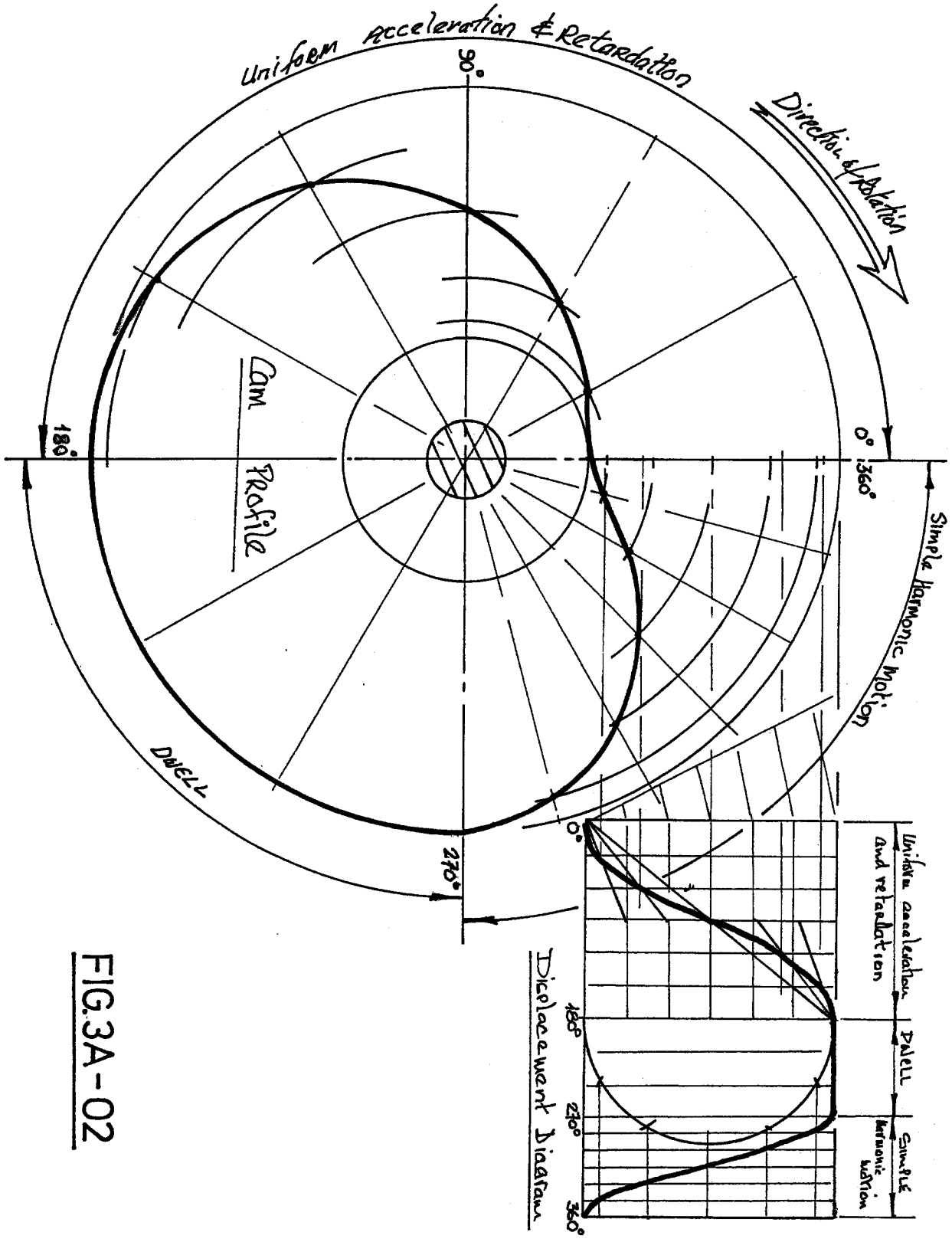


FIG.3A-02

FIG. 3B-02

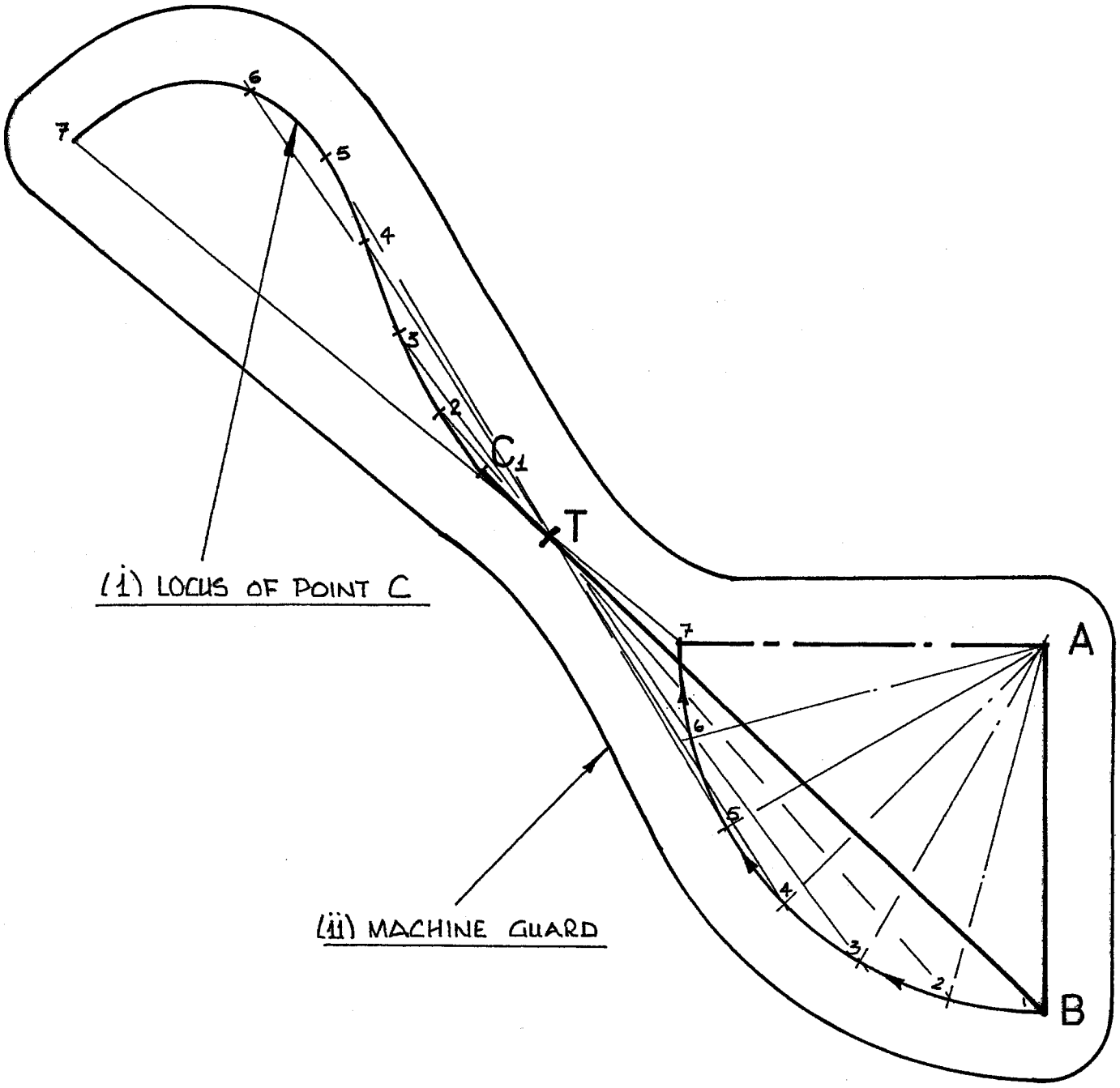


FIG.4 -02

(A)

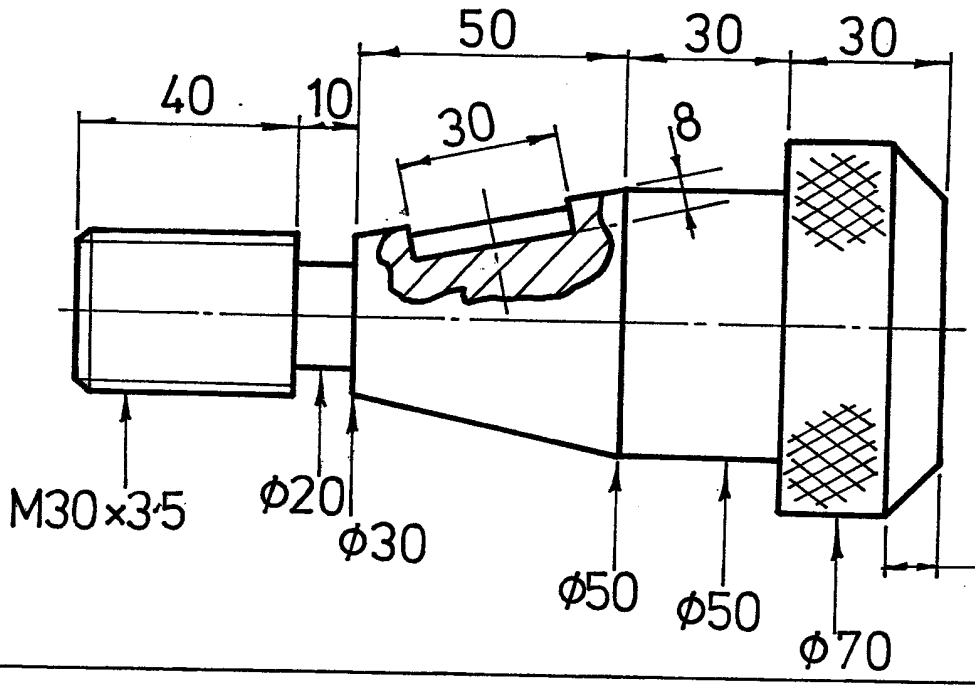
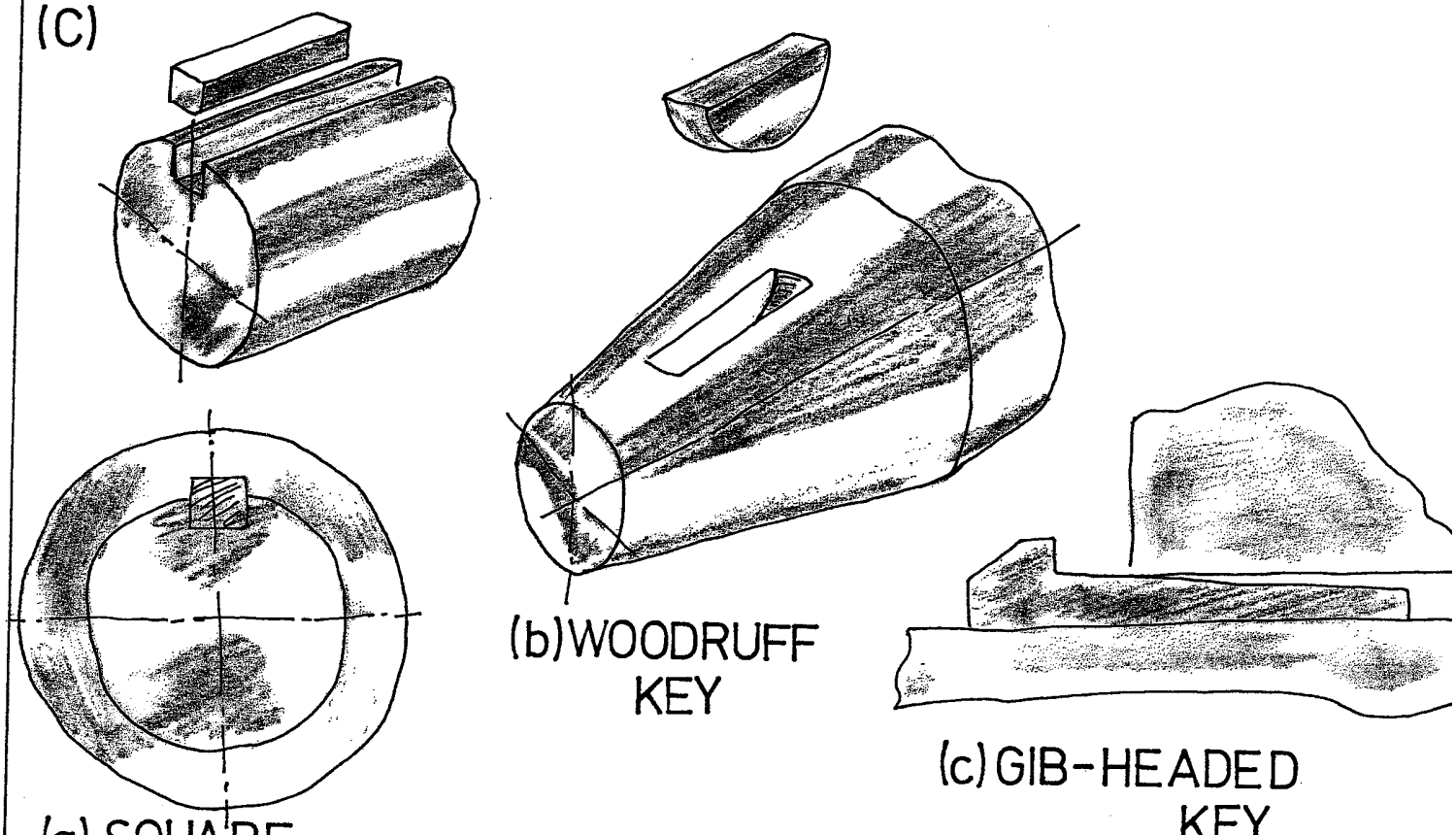


FIG. 4

FÍOR4

(B) (i) diaphragm regulator(valve.... etc etc)
(ii) 1.diaphragm 2. spring 3.screw 4. body

(C)

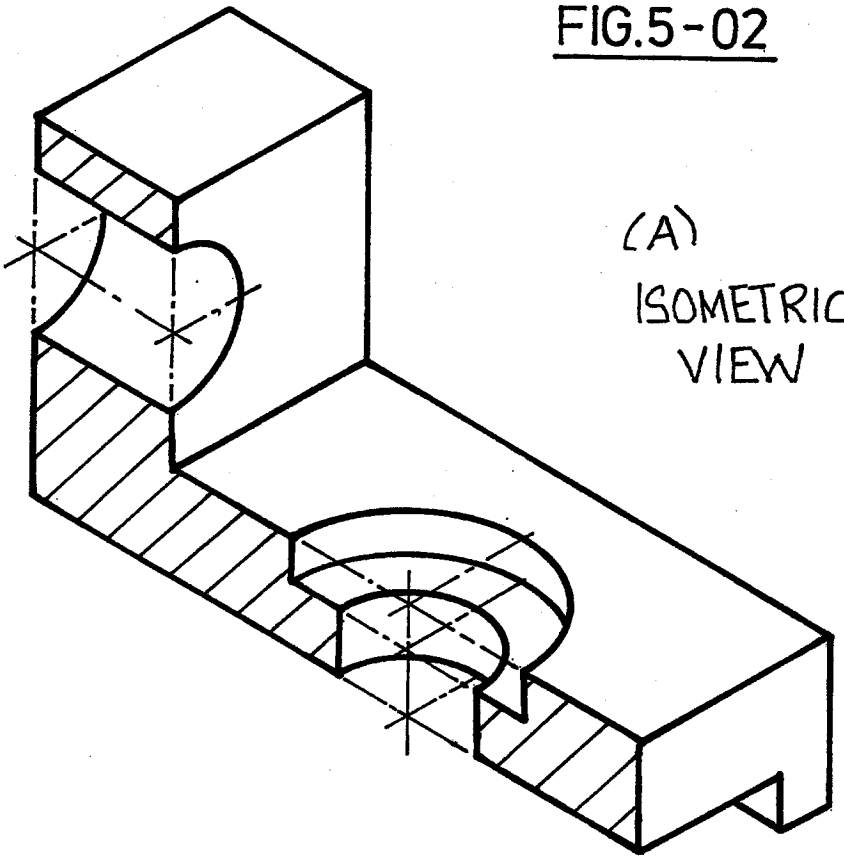


(a) SQUARE KEY

(b) WOODRUFF KEY

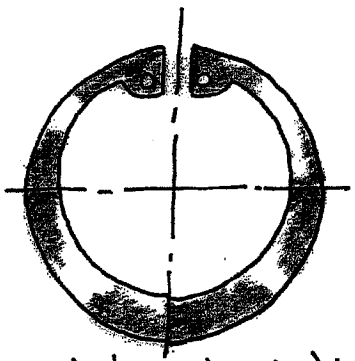
(c) GIB-HEADED KEY

FIG.5-02

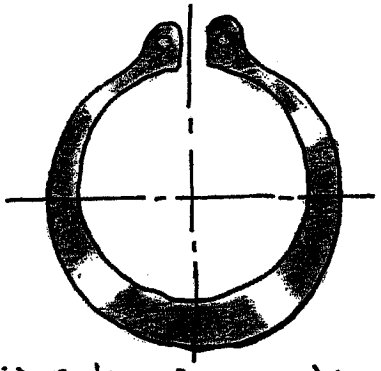


(A)
ISOMETRIC
VIEW

(B)



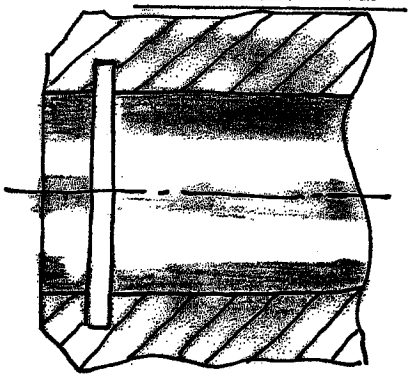
(i) Internal Circlip



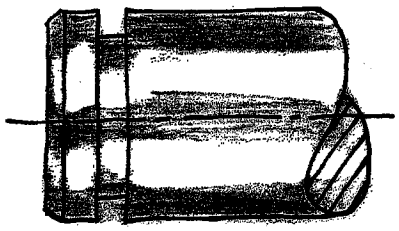
(ii) External Circlip

LOCATING GROOVES

(i) Internal



(ii) External



QUESTION 5 **SECTION B** **50 Marks**

(a) Linetype - crosshatch - fillet - trim - circle - break - copy - zoom etc. etc. 6 x 2 12 marks

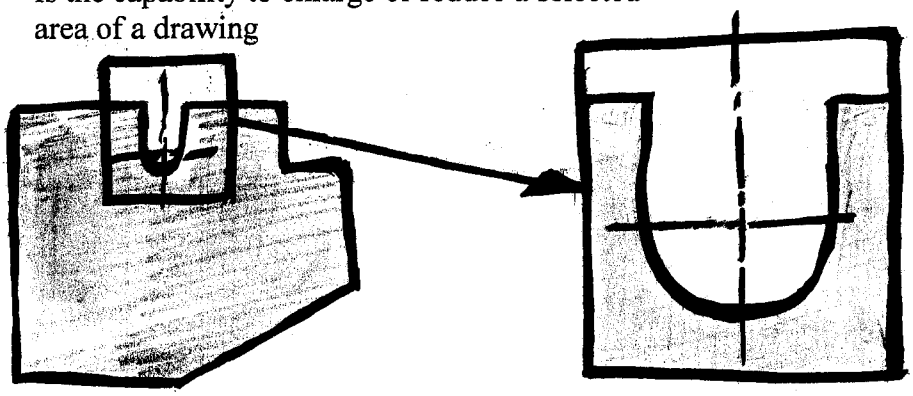
(b) 1) Keyboard: 2) Scanner: 3) Mouse: 4) Digitiser 3 x 4 12 marks

(c) (i) Plotter 6 marks

(d) (v) 4 5 marks

(e) (i) Zoom 5 marks

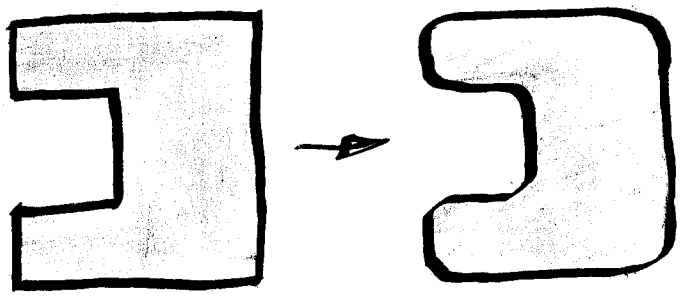
Is the capability to enlarge or reduce a selected area of a drawing



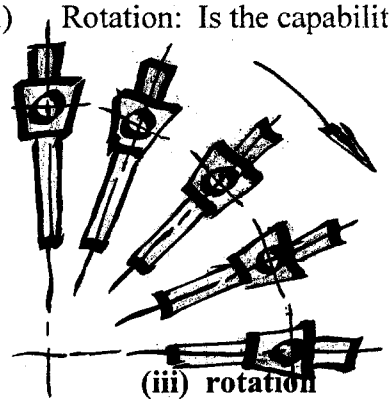
(i) zoom

(ii) Fillets: Arcs blending together into intersecting lines lines or curves 5 marks

(ii) fillets



(iii) Rotation: Is the capability of rotating the features about a selected centre and redrawing them at the new angular position. 5 marks



(iii) rotation

AN ROINN OIDEACHAIS AGUS EOLAÍOCHTA

LEAVING CERTIFICATE EXAMINATION 2002

TECHNICAL DRAWING

ORDINARY LEVEL

PAPER 11 B

MARKING SCHEME

QUESTION 1

Marks

(1) **3 ---- Draw the given plan**

(2) **5 ---- Position spectator, P.P., V.P.1 and V.P.2 in plan (1, 2, 2)**

(3) **5 ---- Ground line, horizon line and V.P.'s in elevation (1, 2, 2)**

(4) **2 ---- Projection lines from S to plan**

(5) **4 ---- Perspective of base lines ob block A**

(6) **4 ---- Perspective of base lines of block B**

(7) **4 ---- Measure heights 1 and 2 for block A (1, 3)**

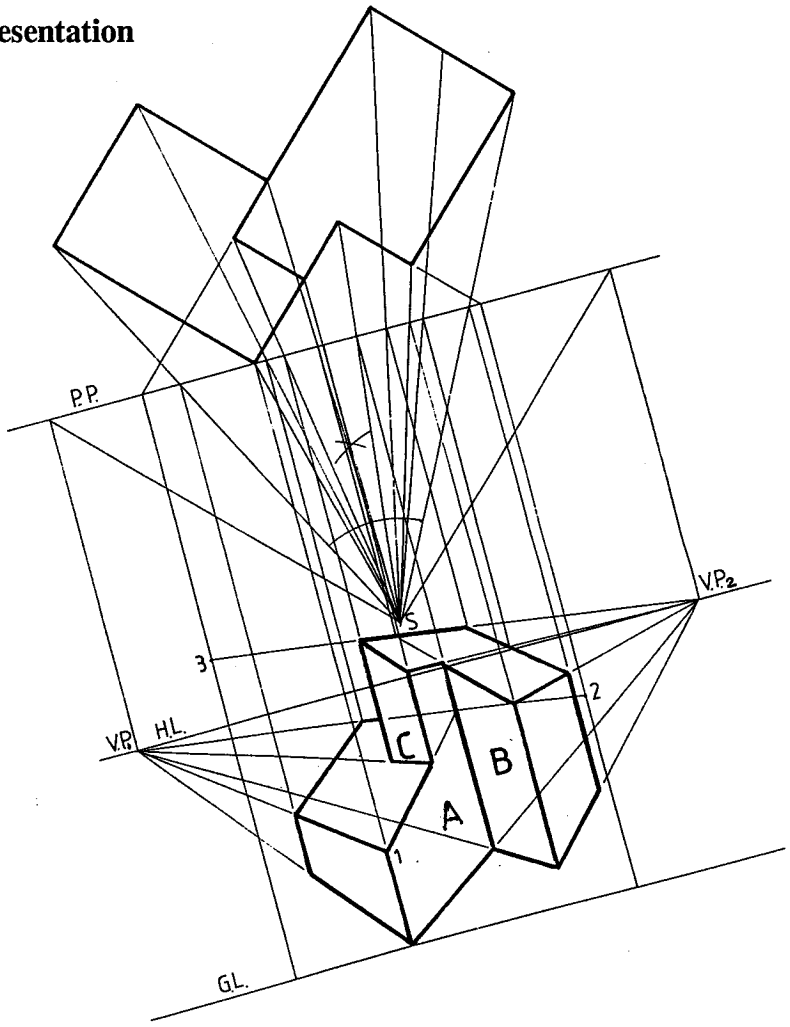
(8) **5 ---- Heights 2 and 3 for Block B (2, 3)**

(9) **6 ---- Completion of block A, line C**

(10) **7 ---- Completion of Block B**

(11) **5 ---- Presentation**

Total 50



QUESTION 2

Marks **Plan and Elevation**

(1) **4 ---- Draw roof perimeter in plan**

(2) **4 ---- Draw surfaces C and D in elevation**

(3) **5 ---- Draw edge view of surface B, measure height, draw elevation (3, 1, 1)**

(4) **2 ---- Draw lines of intersection between surface B and surfaces C and D**

(5) **4 ---- Construction to determine line of intersection between A and B in plan**

(6) **3 ---- Complete plan and elevation (1, 2)**

Development of surface D

(7) **4 ---- Determine true widths**

(8) **5 ---- Draw the development of surface D**

Dihedral angle between surfaces A and B

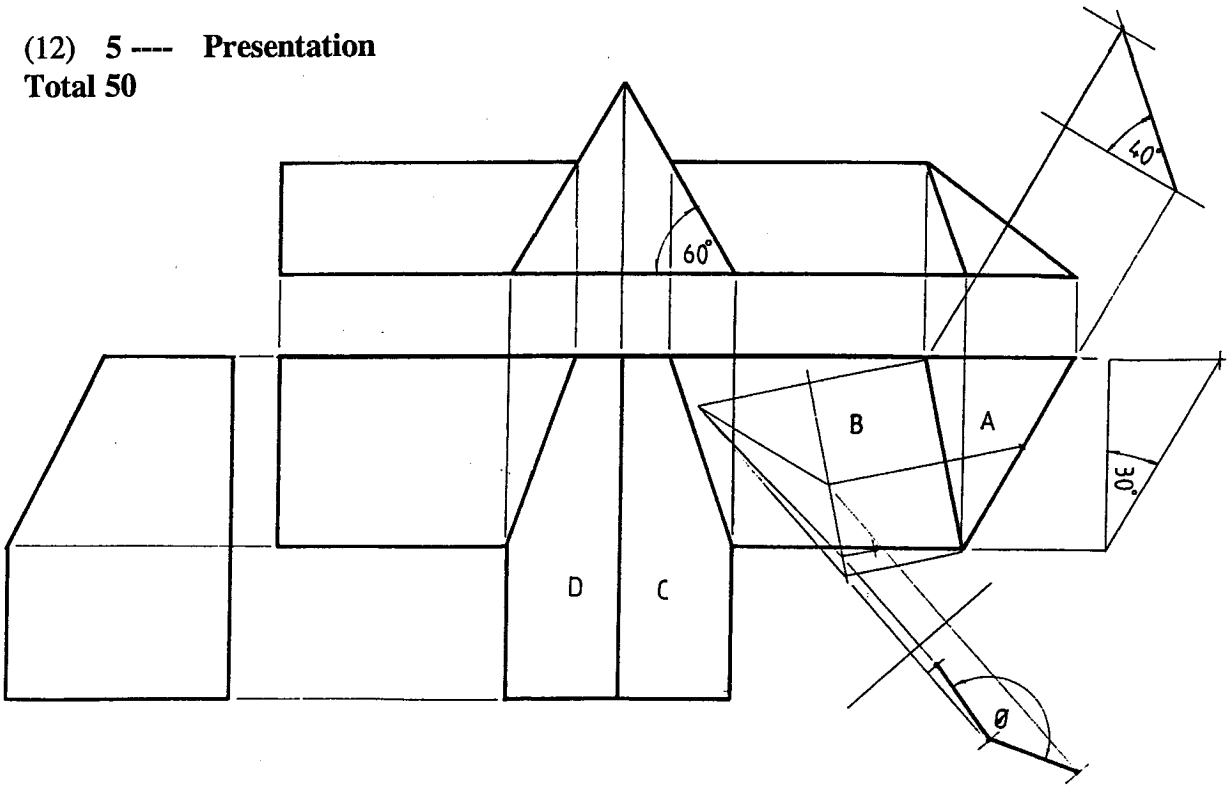
(9) **6 ---- True length of line of int. between surfaces A and B**

(10) **6 ---- Construction to determine dihedral angle**

(11) **2 ---- Dihedral angle between surfaces A and B**

(12) **5 ---- Presentation**

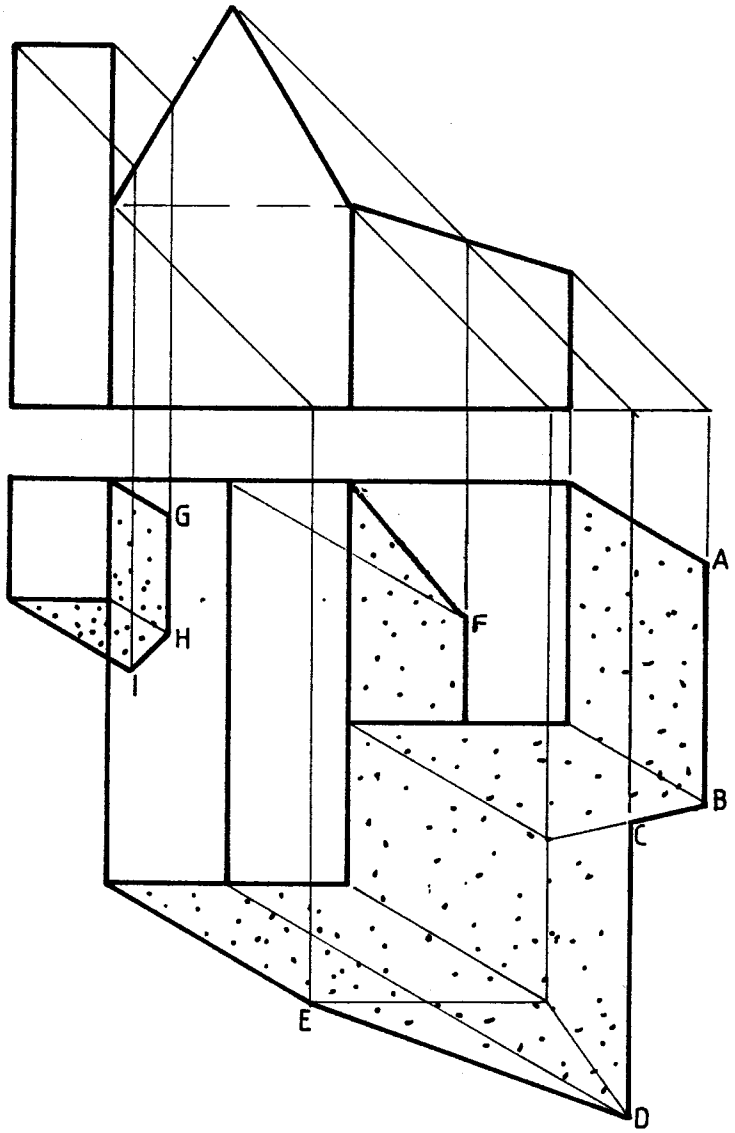
Total 50



QUESTION 3

	Marks	
(1)	6 ----	**Draw the given plan and elevation**
(2)	4 ----	**Lines at appropriate angles in plan and elevation**
(3)	15----	**Determine points a, b, c, d and e on the ground (5x3)**
(4)	7 ----	**Complete shadow cast by the building on the ground (7x1)**
(5)	6 ----	**Determine points g, h and i on the roof (3x2)**
(6)	4 ----	**Complete shadow cast by chimney on roof**
(7)	2 ----	**Determine point f on roof**
(8)	2 ----	**Complete shadow cast by main building on roof of annex**
(9)	4 ----	**Presentation**

Total 50



QUESTION 4

Plan and Elevation

Marks

(1) 8 ---- Draw the given plan, including the elements

(2) 6 ---- Project outline elevation

(3) 8 ---- Draw the elements in elevation

True shape of section SS

(4) 5 ---- Draw section line in plan, projection lines at right angles, XY line (1, 2,2)

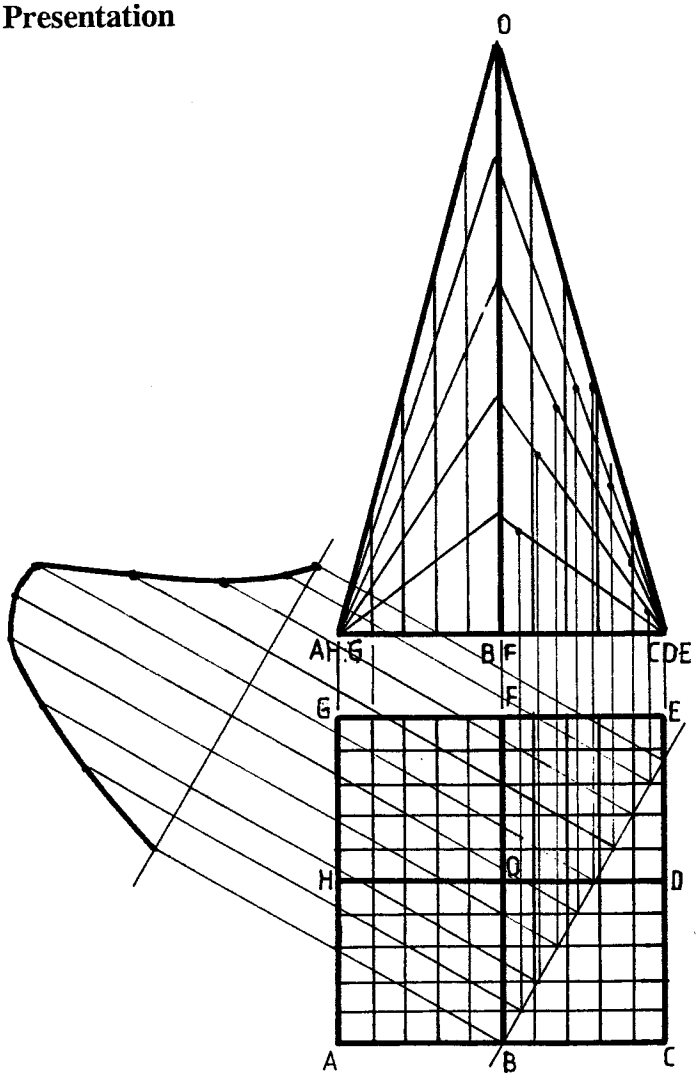
(5) 7 ---- Method for determining heights for section

(6) 5 ---- Measure heights in auxiliary elevation

(7) 6 ---- Draw true shape of section

(8) 5 ---- Presentation

Total 50



QUESTION 5

Marks

(1) **3 ---- Draw the given plan**

(2) **4 ---- Draw the given elevation**

(3) **8 ---- Draw outline isometric view of block A**

(4) **6 ---- Method for determining base of block B on block A (3 x2)**

(5) **7 ---- Draw outline isometric view of straight parts of block B**

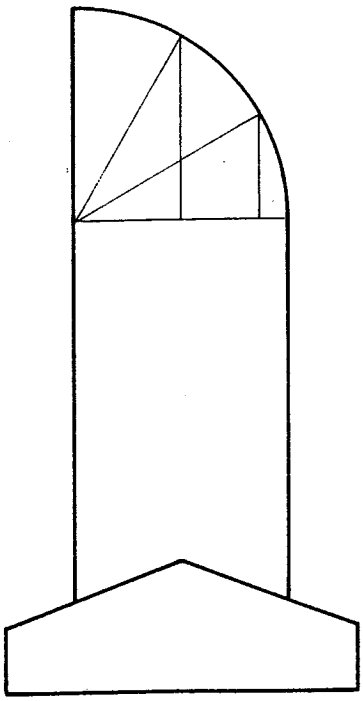
(6) **4 ---- Grid for curves in orthographic**

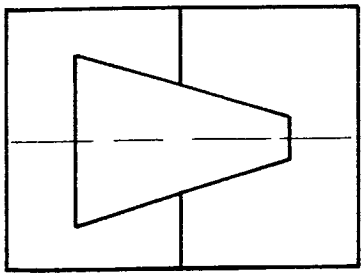
(7) **7 ---- Grid drawn in isometric**

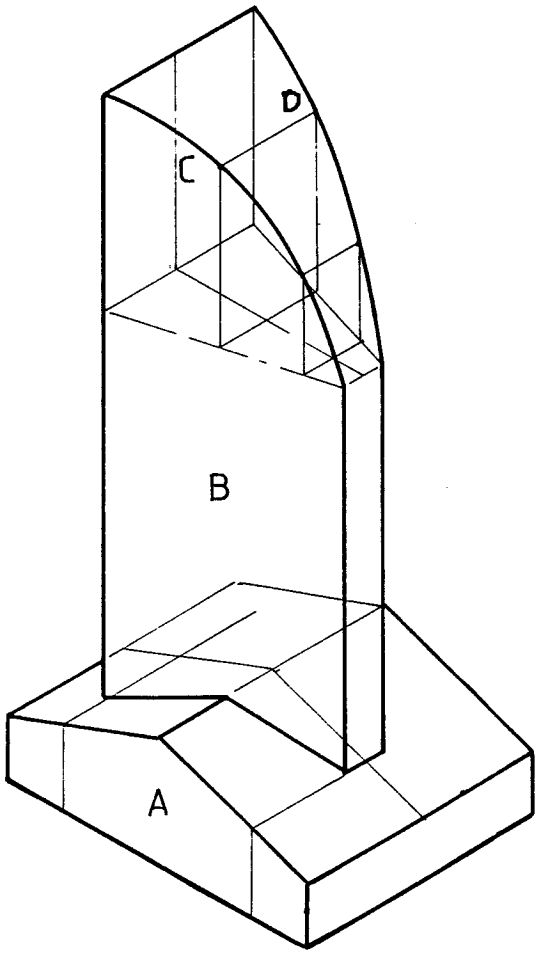
(8) **6 ---- Draw curves C and D in isometric**

(9) **5 ---- Presentation**

Total 50







QUESTION 6

Marks

Plan

(1) **2 ---- Set up outline of axes of ellipse**

(2) **6 ---- Construction to determine points on ellipse**

(3) **5 ---- Draw ellipse and complete plan (4, 1)**

Elevation

(4) **3 ---- Set up widths and heights for elevation**

(5) **6 ---- Construction for parabola**

(6) **5 ---- Draw parabolic curve and complete elevation (4, 1)**

End Elevation

(7) **2 ---- Projections from plan and elevation for end elevation of main building**

(8) **3 ---- Draw outline of straight parts of main building in end elevation**

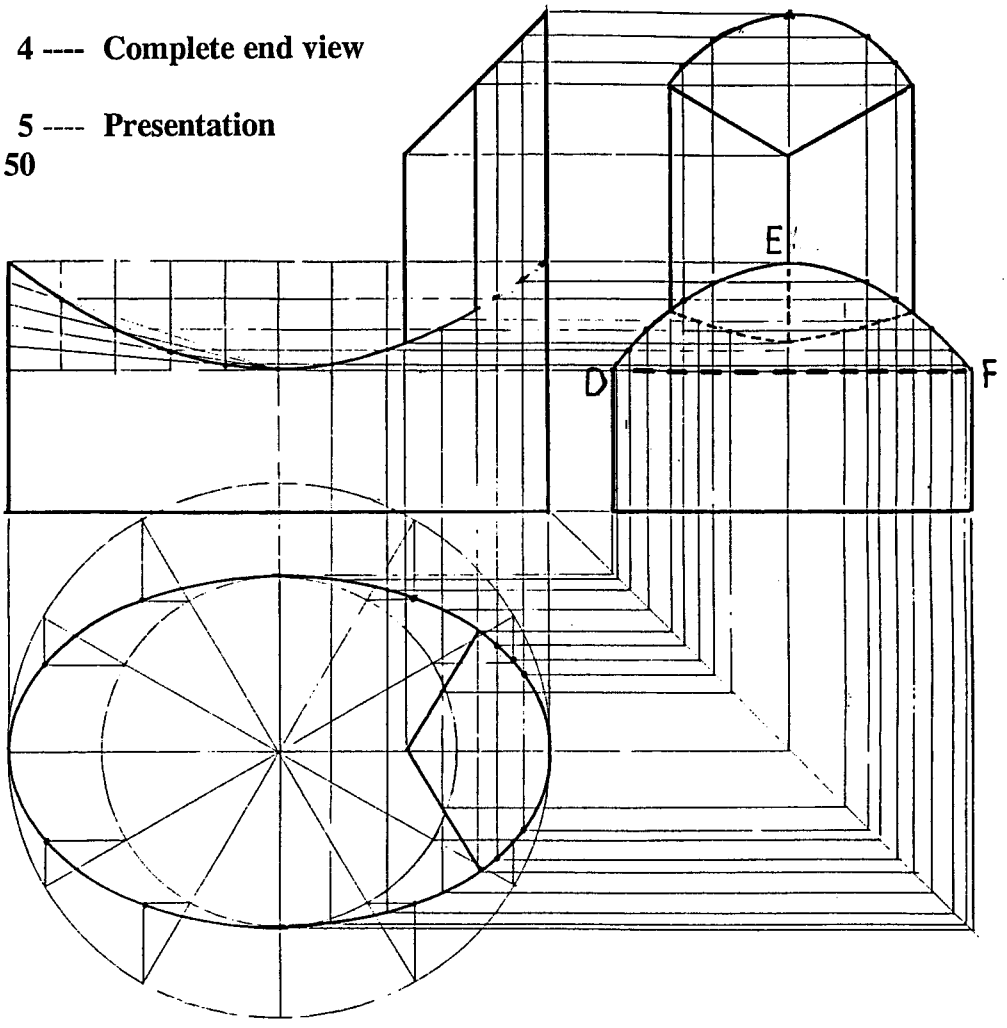
(9) **4 ---- Construction for curve DEF, Draw curve (2, 2)**

(10) **5 ---- Construction to determine end view of tower**

(11) **4 ---- Complete end view**

(12) **5 ---- Presentation**

Total 50



QUESTION 7

Marks **Part (a)**

(1) **6 ---- Measure heights, draw horizontal section lines**

(2) **6 ---- Projections from intersections of line DE with contours to profile**

(3) **8 ---- Draw outline of profile**

Part (b)

(4) **3 ---- Join points A, B and C in plan**

(5) **3 ---- Draw triangle in elevation**

(6) **2 ---- Horizontal line in elevation**

(7) **4 ---- Strike in plan**

(8) **2 ---- New XY line, viewing direction for dip**

(9) **4 ---- Determine dip**

Part (c)

(10) **3 ---- Method for determining strike**

(11) **2 ---- New XY line, viewing direction for dip**

(12) **2 ---- Determine dip**

(13) **5 ---- Presentation**

Marks 50