

2005 Graphic Communication

Higher

Finalised Marking Instructions

These Marking Instructions have been prepared by Examination Teams for use by SQA Appointed Markers when marking External Course Assessments.

Higher Level Graphic Communication 2005

Section A

Marks

Question 1

(a)

Week no		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Section 1	Freehand orthographic sketches, dimensioned	■	■	■															
	Freehand pictorial sketches			■	■	■													
	Annotated thumbnail sketches for DTP				■	■	■	■											
Section 2	CAD orthographic drawings to BS 8888:2000			■	■	■	■	■	■	■									
	CAD exploded isometric drawing									■	■								
	CAD auxiliary view to clarify detail										■	■	■	■					
Section 3	Sales poster											■	■	■	■				
	DTP 3 fold leaflet													■	■	■	■	■	■

1 mark for each correctly indicated area

3

- (b) Section 1 Preliminary
 Section 2 Production
 Section 3 Promotional

1 mark for each correct answer.

3

- (c) Chart Type Gantt
 Function Planning of Events
 Any similar answer that relates to time planning.

1 mark for each correct answer.

2

Question 2

- (a) Sheet 1 – Stage: Thumbnail sketches
 Sheet 2 – Stage: Working rough

1 mark for each correct answer

2

- (b) (i) HEADLINE (ii) RULE (iii) SUB HEADING
 (iv) CAPTION (v) FOLIO/FOOTER (vi) GUTTER

1 mark for each correct answer

6

Question 3

Colour fill	Single colour within an enclosed area.
Colour gradient	One colour gradually blending into another colour.
Autotracing	The tracing (electronic) of any imported graphic.

1 mark for each correct answer 3

Notes:

Do not accept answer for 'colour gradient' that refers to shading or tinting of a colour.

Question 4

- (a) Maximum distance 137
Minimum distance 131

1 mark for each correct answer and 1 mark for correct calculation for each answer. 4

Maximum Distance $300 - (90 - 1, + 75 - 1) = 300 - 163 = 137$
Minimum Distance $299 - (90 + 1.5, + 75 + 1.5) = 299 - 168 = 131$

- (b) Reason for applying manufacturing tolerances:

- Allow an object to function
- Allows interchangeability of components
- To keep costs down.

Any of the above or similar for 1 mark 1

Question 5

- (a) Priority is given to the **hidden line**.

1 mark for correct answer 1

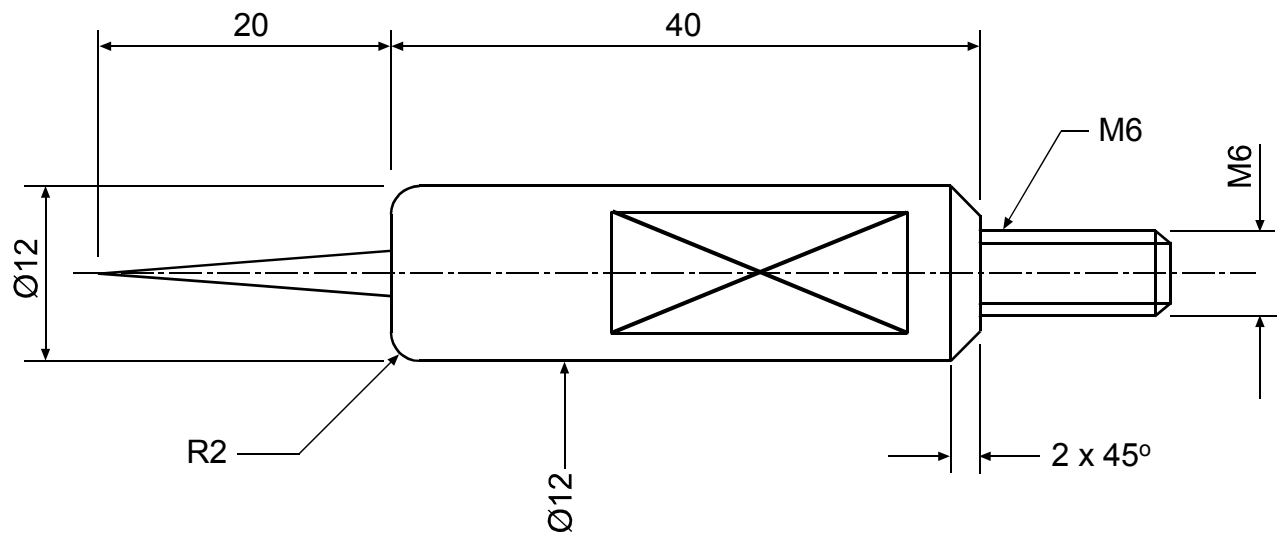
- (b) **Chain thin double dash** The limits of movement of a part,
Fold lines on a development,
Outlines and edges of adjacent parts.
Chain thin, thick at ends Cutting plane, section line
Continuous thin straight with zigzags Limits of partial or interrupted view
Continuous thin Dimensioning lines (leader),
Projection lines,
Hatching,
Outline of revolved sections.

One application for each description for 1 mark 4

Question 6

- (a) To show more detail, To aid clarity, To reduce clutter
Description for 1 mark **1**
- (b) Section in more than one plane, Section in two parallel planes, Stepped section
Type of view produced for 1 mark **1**
- (c) Part section, Local section
Type of view produced for 1 mark **1**
- (d) Revolved section
Type of view produced for 1 mark **1**

Question 7



- (a) 1 mark for each correct dimensioning to BS.
 ½ mark for the leader and dimension line.
 ½ mark for placement of text. **6**
- (b) 1 mark for correct convention. **1**

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Section B

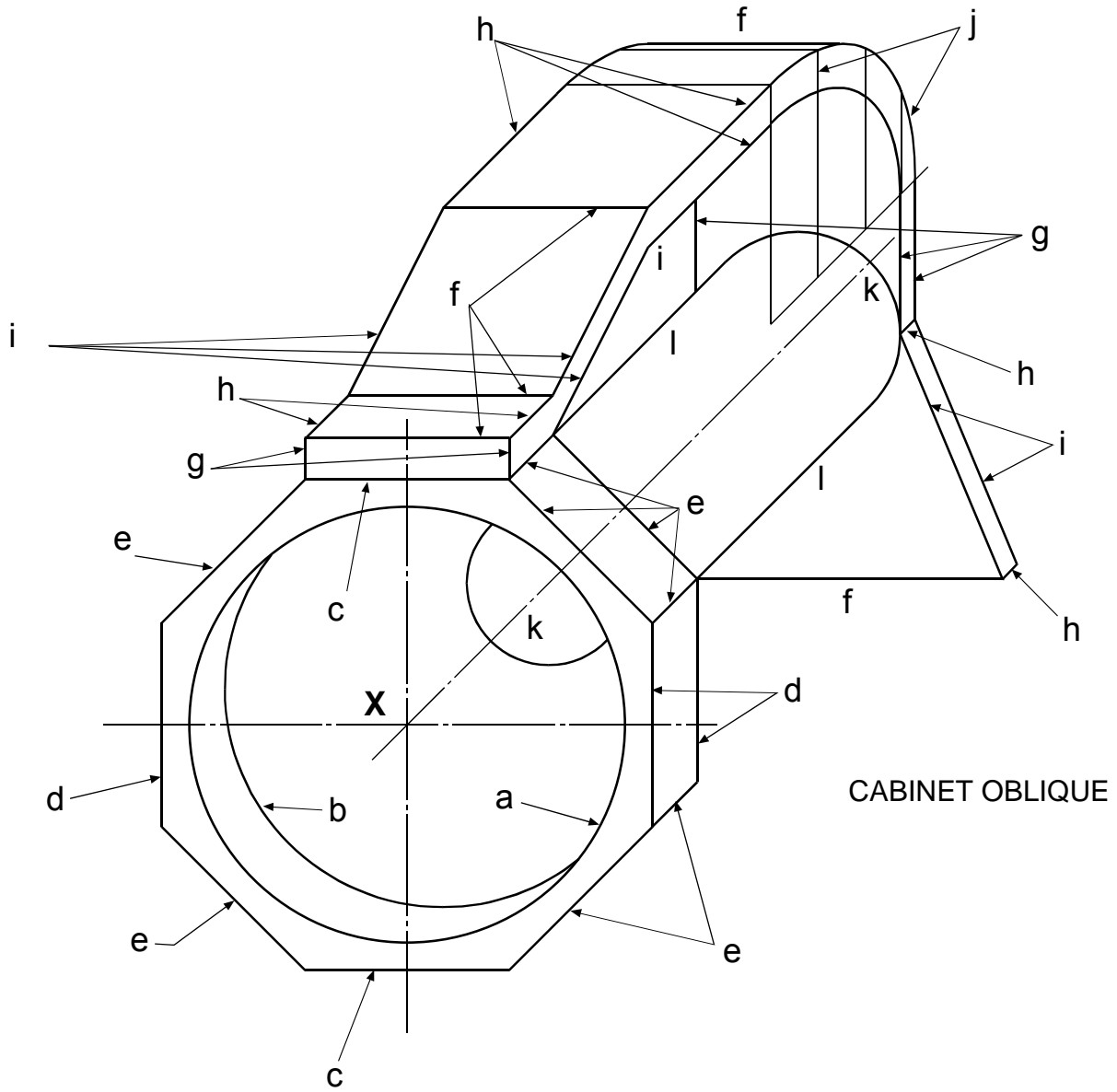
Question 8 – Oblique Torch

Octagon			Marks
(a)	Circle	½ mark	½
(b)	Arc	½ mark	½
(c)	Horizontal lines	2 for ½ mark	½
(d)	Vertical lines	3 lines (2 for ½)	1
(e)	45° lines	8 lines (6 for 2½, 5 for 2, 4 for 1½, 3 for 1, 2 for ½)	3
Handle			
(f)	Horizontal lines	5 lines (4 for 1½, 3 for 1, 2 for ½)	2
(g)	Vertical lines	5 lines (4 for 1½, 3 for 1, 2 for ½)	2
(h)	45° lines	7 lines (6 for 2½, 5 for 2, 4 for 1½, 3 for 1, 2 for ½)	3
(i)	Sloping lines	5 lines (4 for 1½, 3 for 1, 2 for ½)	2
(j)	Curves	Each curve 4 points for 1 mark (2 for ½). Fair curves for a ½ each, projection for 2nd curve ½.	3½
Cylinder			
(k)	2 arcs	½ mark each	1
(l)	45° lines	2 lines ½ mark each	1

Total Marks 20

Notes:

Isometric view drawn; mark vertical (d), (g), sloping (i) lines and (j) curves only.
Cavalier projection; mark to scheme, no marks awarded for (h) and (l). 3 lines not marked at (e).



CABINET OBLIQUE

Question 9 – Drilling Table

Plan		Marks	
(a)	Firm circle and arcs	3 for ½ mark each	1½
(b)	Hidden circles and arc	3 for ½ mark each	1½
(c)	Firm lines	4 horizontal, 3 vertical, (7 for 2, 5 for 1½, 3 for 1, 1 for ½)	2
(d)	Broken lines	8 horizontal, 5 vertical (13 for 3½, 11 for 3, 9 for 2½, 7 for 2, 5 for 1½, 3 for 1, 1 for ½)	3½
(e)	Sloping lines	2 lines broken, 2 firm (4 for 1, 2 for ½). Clear tangents required*	1
(f)	Thread detail	8 broken lines, (8 for 2, 6 for 1½, 4 for 1, 2 for ½)	2

Notes:

* Broken section depends on circle (a) being drawn.

Sectional Elevation

(g)	Horizontal lines	20 lines (20 for 5, 18 for 4½, 16 for 4, 14 for 3½, 12 for 3, 10 for 2½, 8 for 2, 6 for 1½, 4 for 1, 2 for ½)	5
(h)	Vertical lines	24 lines (24 for 6, 22 for 5½, 20 for 5, 18 for 4½, 16 for 4, 14 for 3½, 12 for 3, 10 for 2½, 8 for 2, 6 for 1½, 4 for 1, 2 for ½)	6
(i)	Web	1 line for ½ mark	½
(j)	Arc	½ mark for position, ½ mark for radius	1
(k)	Thread detail (section)	4 lines (4 for 1, 2 for ½)	1
(l)	Tapping	1 full circle for ½, 1 arc for ½.	1

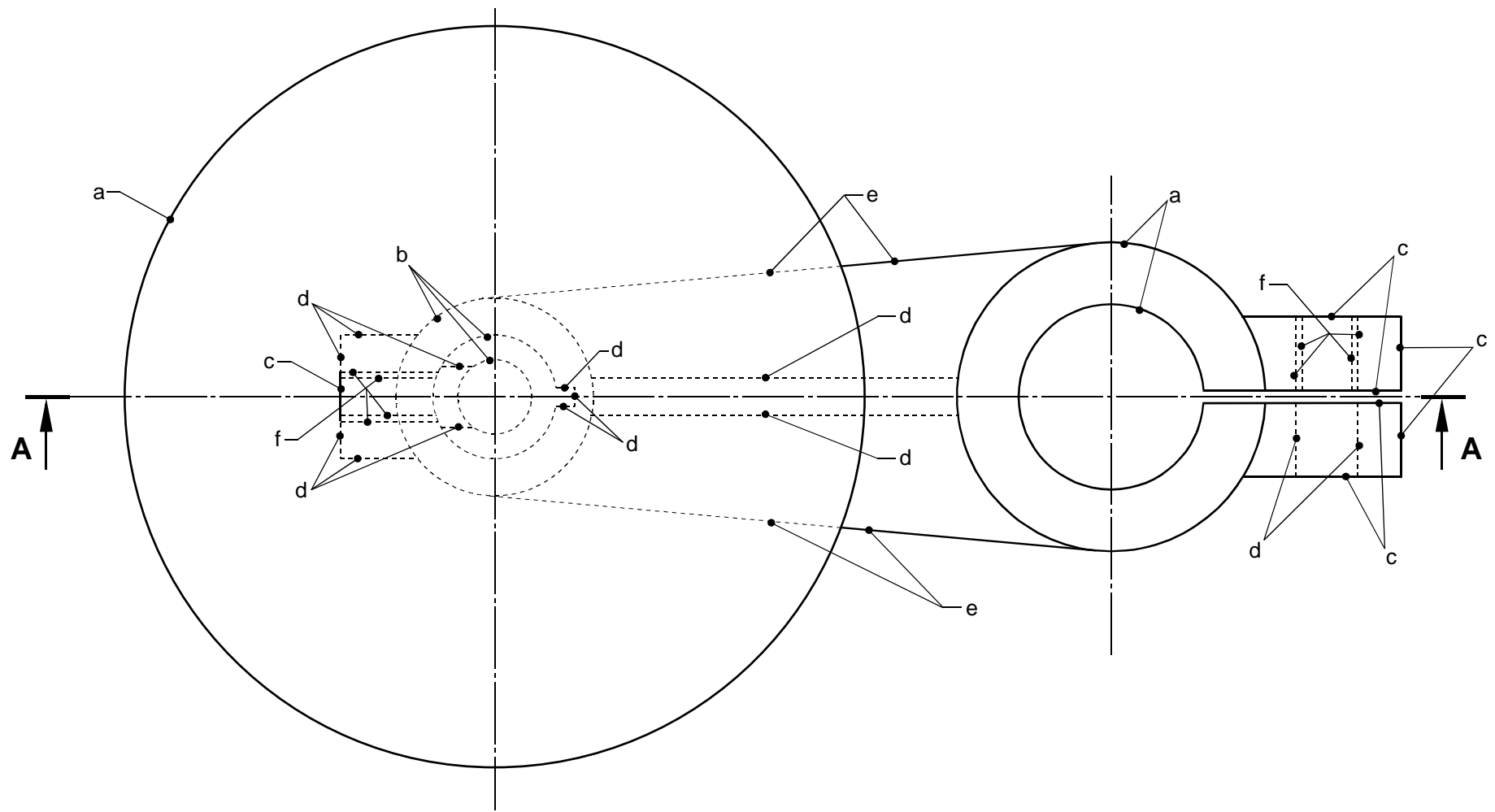
Hatching

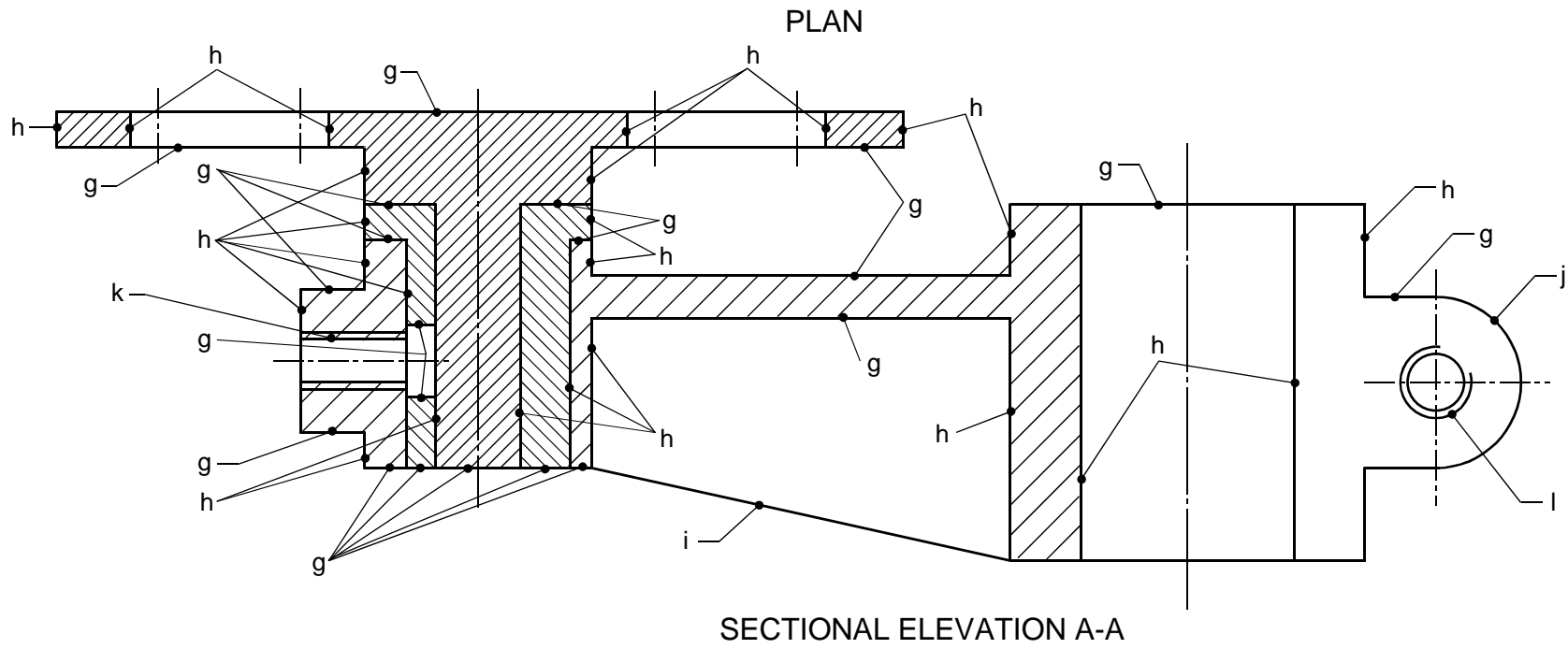
(m)	Table Bush	3 areas for ½ mark, 45° for ½ mark 3 areas for ½ mark, 45° at different space or angle to table for ½ mark	2
(n)	Arm	3 areas for ½ mark, 45° at different space or angle to table and bush for ½ mark, correct convention at thread for 1 mark	2

Notes:

Total Marks 30

Deduct 1 mark at (g) and (h) if incorrectly assembled





Question 10a

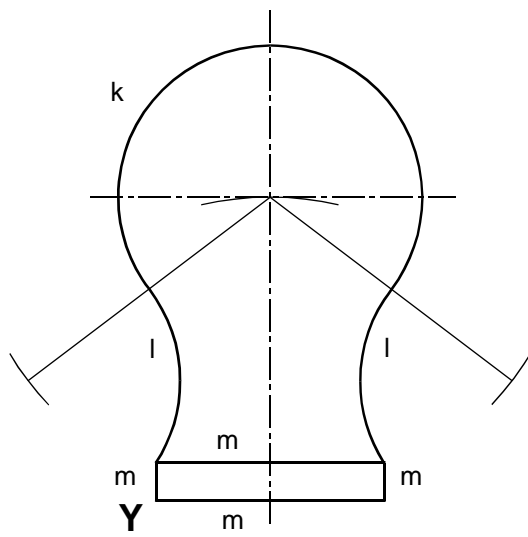
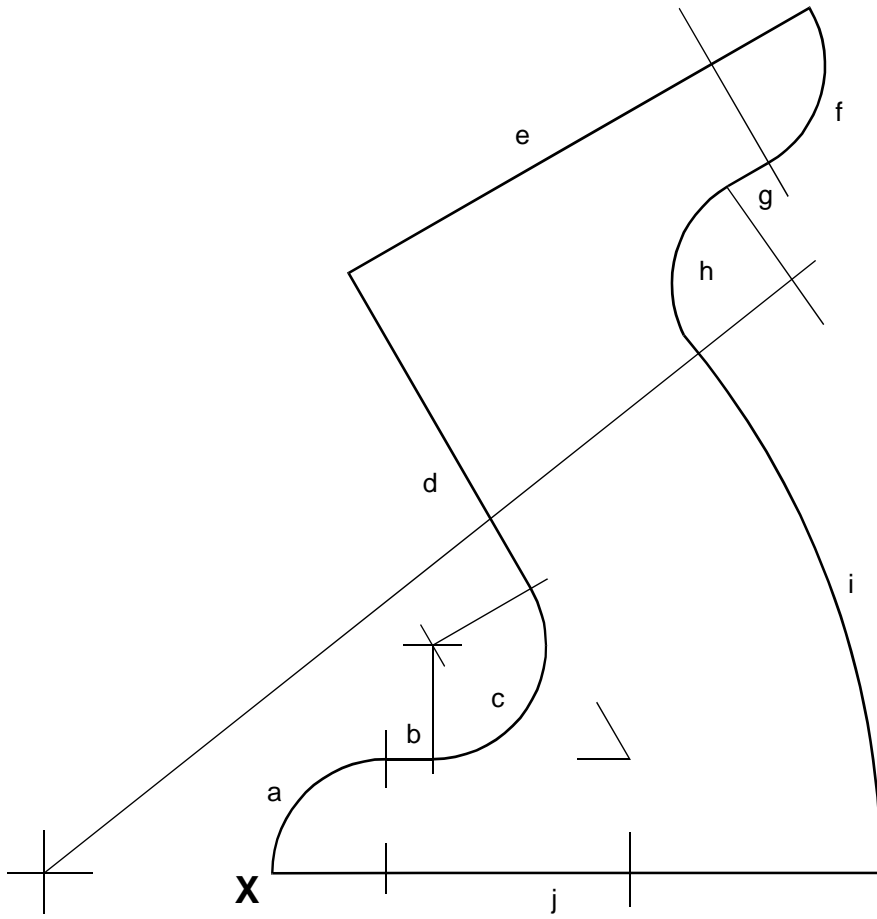
Tangency – Plane Components

	Marks
(a) Arc R15: centre $\frac{1}{2}$, arc for $\frac{1}{2}$, smooth link for $\frac{1}{2}$	1½
(b) Straight line for $\frac{1}{2}$	½
(c) Arc R15: as (a)	1½
(d) Straight line for $\frac{1}{2}$	½
(e) Straight line for $\frac{1}{2}$	½
(f) Arc R15: as (a)	1½
(g) Straight line for $\frac{1}{2}$	½
(h) Arc R15: as (a)	1½
(i) Arc R110: as (a)	1½
(j) Straight line for $\frac{1}{2}$	½
(k) Arc R20: as (a) (must have centre lines)	1
(l) Arc R20 – 2: centres for $\frac{1}{2}$ each, arcs $\frac{1}{2}$ each, smooth links $\frac{1}{2}$ each	3
(m) Lines: 2 vertical for $\frac{1}{2}$, 2 horizontal for $\frac{1}{2}$	1

Total Marks 15

Notes:

Basis for marking all arcs (part circles) is identical. Clear construction showing (eg) 2 arcs, arc and line, 2 lines intersecting etc to obtain centre, $\frac{1}{2}$ mark; clear part circle with correct radius drawn for $\frac{1}{2}$ mark; consistent quality of drawing, smooth link with adjacent element and no firm tails for $\frac{1}{2}$ mark.



Question 10b**Planing Iron Views****Marks****Auxiliary True Shape**

- | | |
|---|---|
| (a) Outline: 6 lines – 6 for 1, 3 for ½ | 1 |
| (b) 2 arcs (fillets) for ½ | ½ |
| (c) Blade edge line for ½ | ½ |
| (d) Semi-circle for ½ | ½ |
| (e) Part circle for 1 | 1 |
| (f) Slot: 2 lines for ½ | ½ |

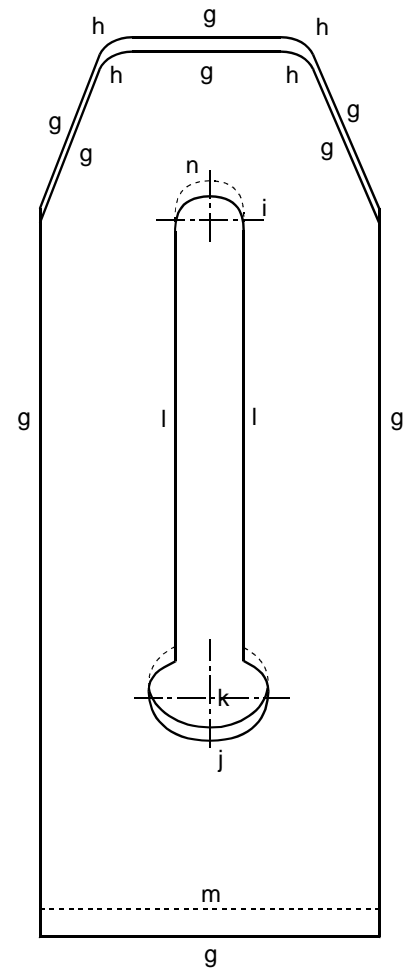
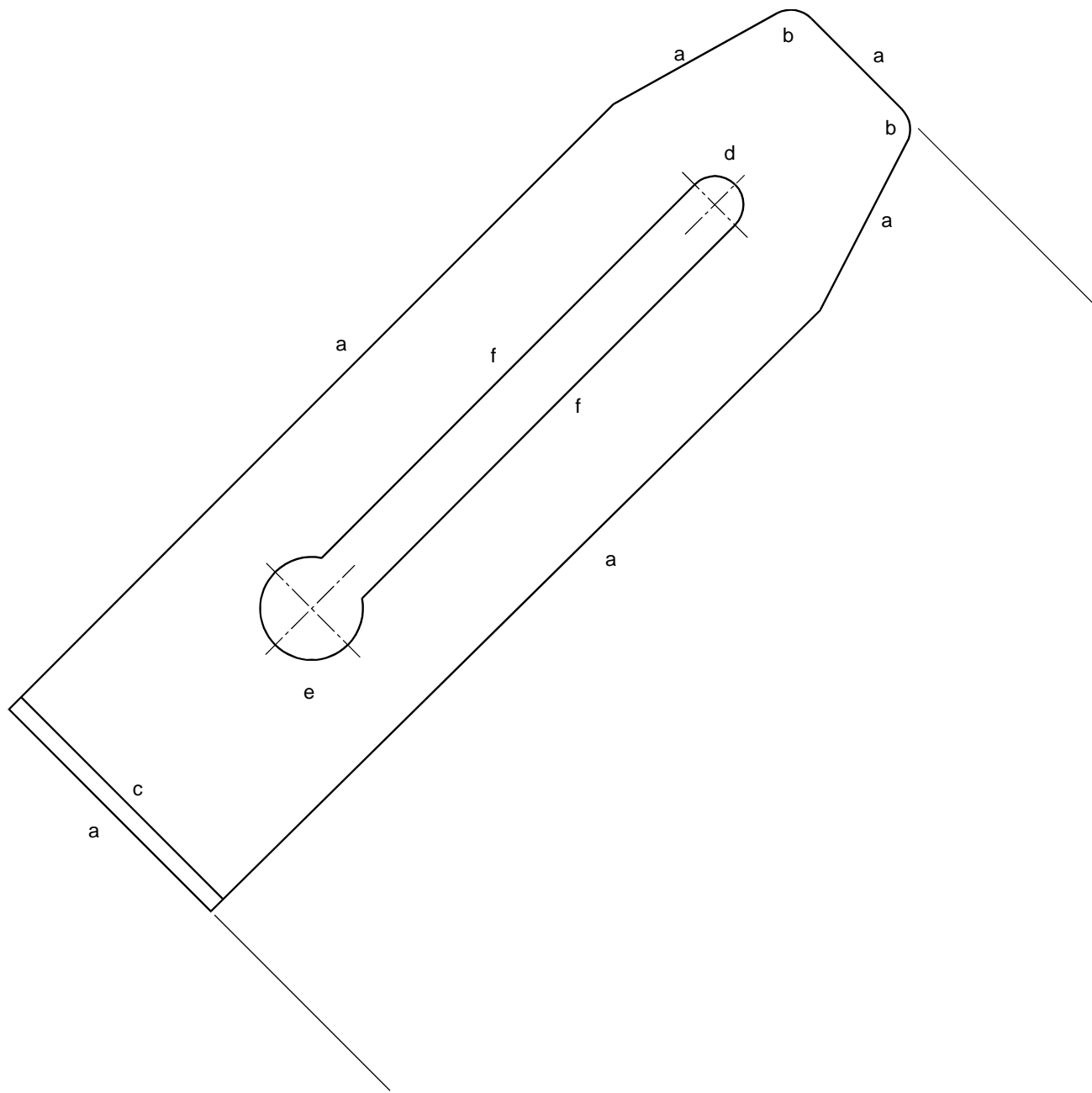
End Elevation

- | | |
|--|----|
| (g) Outline and end: 9 lines – 9 for 1½, 6 for 1, 3 for ½ | 1½ |
| (h) 3rd angle projection | 1 |
| (i) Curve: 5 points (5 for 1, 3 for ½), fair curve for ½ | 1½ |
| (j) Curve: 7 points (7 for 1½, 5 for 1, 3 for ½), fair curve for ½ | 2 |
| (k) Curve: 7 points (7 for 1½, 5 for 1, 3 for ½), fair curve for ½, hidden for ½ | 2½ |
| (l) Slot: 2 lines for ½ | ½ |
| (m) Blade edge hidden line for ½ | ½ |
| (n) Curve hidden: 5 points (5 for 1, 3 for ½), fair curve for ½ | 1½ |

Total Marks 15

Notes:

No marks at (a) and (b) if angle or datum is incorrect.



Question 11

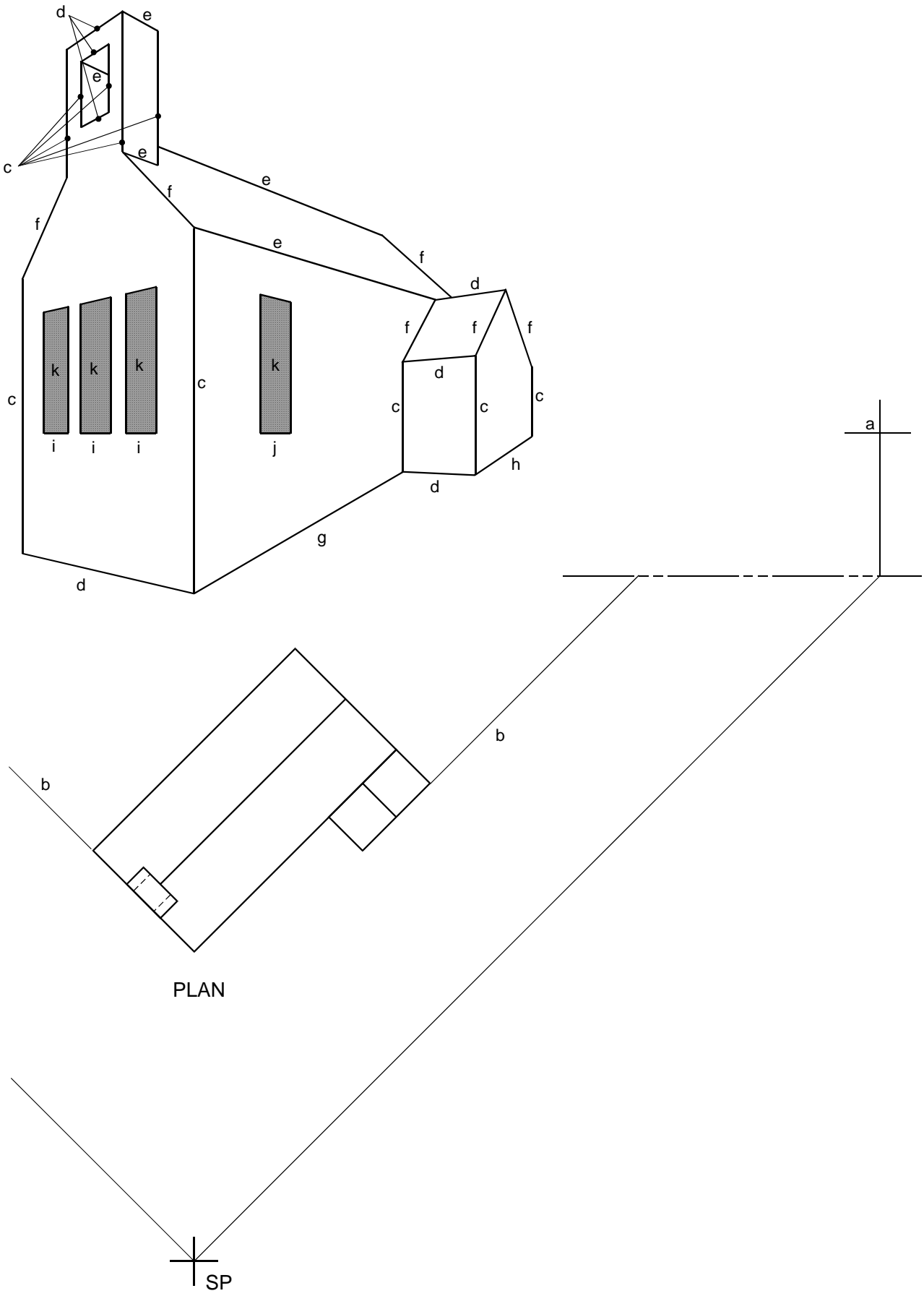
2-point Perspective of Church

	Marks
(a) VP left and VP right: $\frac{1}{2}$ mark each	1
(b) Height line: (any one appropriate, correctly positioned and used)	2
(c) Vertical lines: 10 lines, $\frac{1}{2}$ each for location	5
(d) Lines to left VP: 7 lines (5 for $1\frac{1}{2}$, 4 for 1, 2 for $\frac{1}{2}$)	2
(e) Lines to right VP: 5 lines (5 for $1\frac{1}{2}$, 4 for 1, 2 for $\frac{1}{2}$)	1½
(f) Lines sloping: 6 lines (2 for $\frac{1}{2}$)	1½
(g) Line: special slope for 1	1
(h) Line: special slope for 1 – to match with (g)	1
(i) 3 windows each window worth 1 mark	3
(j) 1 window ($\frac{1}{2}$ for vertical position, $\frac{1}{2}$ for vanishing)	1
(k) Lattice sketched (1, $\frac{1}{2}$, 0)	1

Total Marks 20

Notes:

If sloping ground ignored and lines (g) and (h) go to right VP, deduct marks for (g) and (h), marking to scheme. Maximum available 18 marks.



Question 12

Isometric of Connecting Rod

Marks

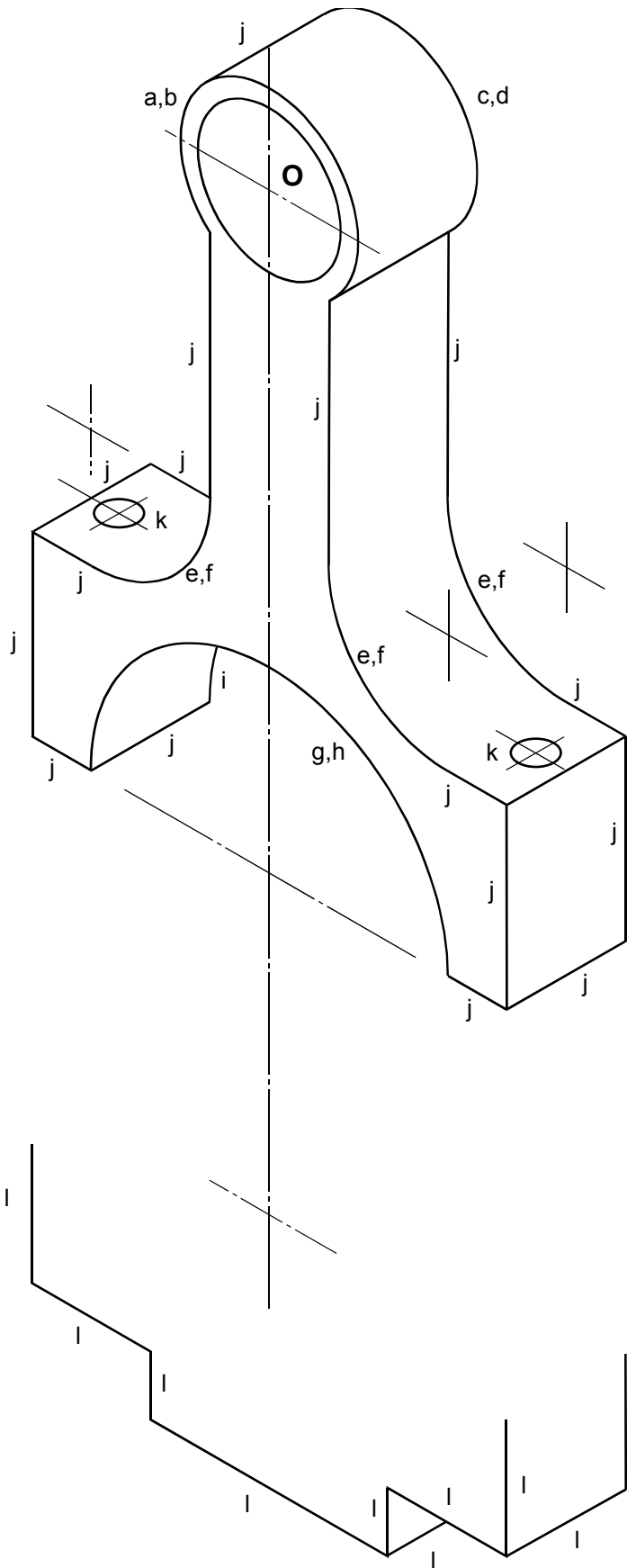
Upper Part

- | | |
|--|----|
| (a) Construction for part circle: top and start/end (9 for 2, 7 for 1½, 5 for 1, 3 for ½) | 2 |
| (b) Fair curve (1, ½, 0) | 1 |
| (c) Construction for back curve: (5 for 1, 3 for ½) | 1 |
| (d) Fair curve (1, ½, 0) | 1 |
| (e) Quarter circles: (4 for 1, 2 for ½) each x 3 | 3 |
| (f) Fair curves: (1, ½, 0) each x 3 | 3 |
| (g) Construction for semi-circle (7 for 1½, 5 for 1, 3 for ½) | 1½ |
| (h) Fair curve (1, ½, 0) | 1 |
| (i) Arc: no construction needed for ½ | ½ |
| (j) Lines: 6 vertical, 6 @ 30° right, 6 @ 30° left (18 for 3, 14 for 2½, 12 for 2, 9 for 1½, 6 for 1, 3 for ½) | 3 |
| (k) 2 small elliptical holes: ½ for locations, ½ for fair curves | 1 |

Lower Part

- | | |
|---|---|
| (l) Lines: 5 vertical, 2 @ 30° right, 3 at 30° left (10 for 2, 9 for 1½, 3 for ½) | 2 |
|---|---|

Total Marks 20



[END OF MARKING INSTRUCTIONS]