

2006 Graphic Communication

Higher

Finalised Marking Instructions

© The Scottish Qualifications Authority 2006

The information in this publication may be reproduced to support SQA qualifications only on a non-commercial basis. If it is to be used for any other purposes written permission must be obtained from the Assessment Materials Team, Dalkeith.

Where the publication includes materials from sources other than SQA (secondary copyright), this material should only be reproduced for the purposes of examination or assessment. If it needs to be reproduced for any other purpose it is the centre's responsibility to obtain the necessary copyright clearance. SQA's Assessment Materials Team at Dalkeith may be able to direct you to the secondary sources.

These Marking Instructions have been prepared by Examination Teams for use by SQA Appointed Markers when marking External Course Assessments. This publication must not be reproduced for commercial or trade purposes.

Higher Level Graphic Communication 2006

Question 1

| | Marks |
|---|--------------|
| <p>(a) (i) reverse</p> <p>(ii) rule</p> <p>(iii) caption</p> <p>(iv) gutter</p> <p>(v) landscape</p> <p>(vi) footer</p> <p>6 responses – ½ mark for each.</p> | 3 |
| <p>(b) explore/compare/retain/record ideas for DTP or I&P document</p> | 1 |
| <p>(c) (i) <i>advantage:</i></p> <p>neat appearance</p> <p>looks tidy (or similar responses)</p> <p><i>disadvantage:</i></p> <p>uneven and arrhythmic spacing of text, varying line by line (or similar responses)</p> <p>1 mark for each</p> | 1 |
| <p>(ii) Left, right or centre (any two from these)</p> <p>top or bottom</p> <p>1 mark for each</p> | 2 |

Question 2

| | | Marks |
|------------|---|--------------|
| (a) | (i) the size of the drawing sheet the size of the object to be depicted the degree of detail required. ½ mark for each | |
| | (ii) 1:2 is half the size 2:1 is twice the size ½ mark for explanation | 2 |
| (b) | (i) 1:200 1:500 1:250 1 mark, any one | 1 |
| | (ii) North point dimensions drainage/services immediately adjoining properties scale trees contours any four from these (or acceptable alternatives) 1 mark for each | 4 |
| (c) | dimensions or scale tolerances materials finishes assembly instructions ½ mark each for any four | 2 |

Question 3

| | | | Marks |
|-----|--------------------|--|-------|
| (a) | (i) | Symmetrical (LHS) Asymmetrical (RHS) (<i>accept</i> formal; informal) 1 mark for each | 2 |
| | (ii) | portrait | 1 |
| (b) | <i>Font</i> | set of type in one size & style, <i>accept</i> type style | |
| | <i>Italic type</i> | lettering style in which the characters slope to the right/sloping version of text | |
| | <i>Serif</i> | Small terminal stroke at the end of the main stroke of a letter 1 mark for each | 3 |
| (c) | (i) | <i>Highlight in text</i> method of making the text stand out, eg colour flash, underlining, bold, italic | 1 |
| | | <i>Highlight in I & P</i> technique to show light reflection on edges and surfaces and curves 1 mark for each | 1 |

Notes: Answers to (b) by clear and correct sketches are acceptable

Question 4

- (a) *Method A:* parallel (dimensioning)
Method B: chain (dimensioning)
1 mark for each **2**
- (b) Method A avoids the accumulation of tolerances
(or similar explanation) **1**

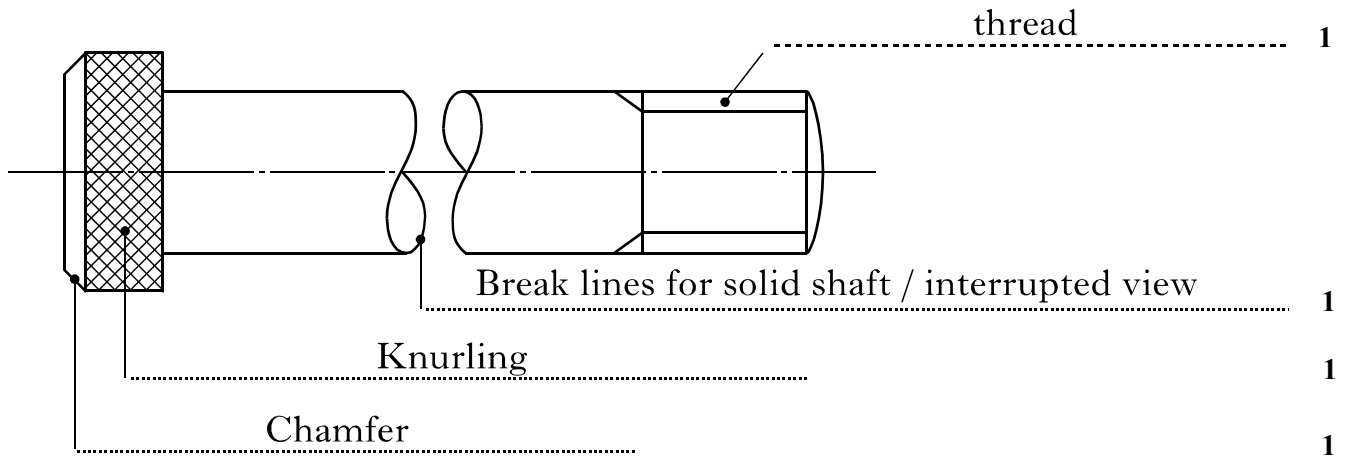
Question 5

Marks

(a) Standardisation gives universal comprehension

1

(b) *Four conventions/features*



1 mark for each

Question 6

| | | Marks |
|------------|--|--------------|
| (a) | (i) Feature – Layer | 1 |
| | (ii) Feature – Library | 1 |
| | 1 mark for each | |
| | (iii) Advantages saves (time) redrawing commonly used parts; standardises parts | 1 |
| | Any two reasonable answers | 1 |
| | 1 mark for each | |
| (b) | CD/DVD; Zip drive; Memory stick; Memory card; USB drive; flash drive | 1 |
| | | 1 |
| | 1 mark each for any two (or others agreed acceptable) | |

Question 7 – Swivel link assembly

Sectional elevation A-A

| | Marks |
|---|---------------|
| Bracket: | |
| (a) Lines: 5 horizontal, 7 vertical (3 for $\frac{1}{2}$, 6 for 1, 9 for $1\frac{1}{2}$, 12 for 2) | 2 |
| (b) Lines (webs) 1 slope, 1 horizontal (1 mark each) | 2 |
| Swivel: | |
| (c) Lines: 12 horizontal, 6 vertical (3 for $\frac{1}{2}$, 6 for 1, 9 for $1\frac{1}{2}$, 12 for 2, 15 for $2\frac{1}{2}$, 18 for 3) | 3 |
| (d) Lines: 2 horizontal, 2 vertical for outline of hole; ($\frac{1}{2}$ mark each) | 2 |
| Bush: | |
| (e) Lines: 2 vertical ($\frac{1}{2}$ mark each) | 1 |
| Link pin: | |
| (f) 2 vertical, 2 horizontal, 2 holes and 2 arcs ($\frac{1}{2}$ per pair) | 2 |
| (g) Hatching: bracket: 1 @ 1, 1 @ $\frac{1}{2}$ $1\frac{1}{2}$ Swivel: 3 @ $\frac{1}{2}$ each $1\frac{1}{2}$ Bushes: 2 @ $\frac{1}{2}$ each 1 Correct convention $\frac{1}{2}$ total for (g) | 4½ |
| (h) fillets: 11 available; (any 6 for $\frac{1}{2}$) | $\frac{1}{2}$ |

Oblique:

Swivel:

- (i) Lines: 6 horizontal, 2 vertical (3 for ½, 6 for 1, 8 for 1½) 1½
- (j) Lines at 45°: (3 for ½, 6 for 1, 7 for 1½) if cavalier, no marks 1½
- (k) Circle and part circles: 1 full, 7 part for ½ mark each 4
- (l) Holes (located and sketched, to include 2 on link pin)
3 for ½, 5 for 1 1

Retaining pin:

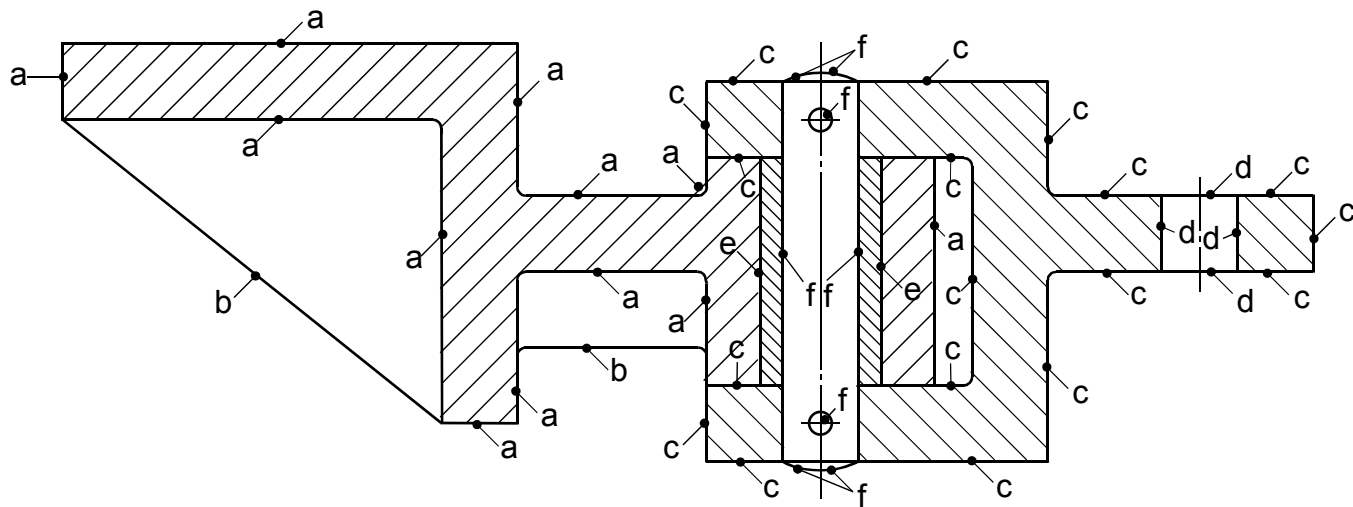
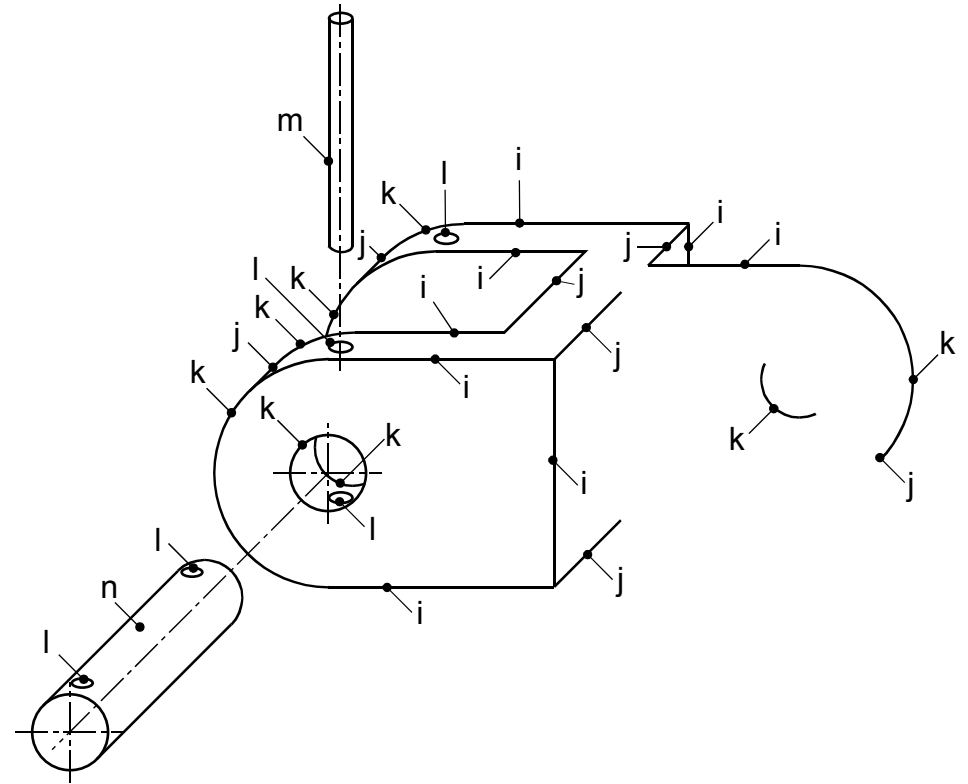
- (m) Location (must be above either hole in swivel) ½
Withdrawn ½
1 ellipse, 1 part ellipse, pair lines @ ½ each 1½ total for (l) 2½

Link pin:

- (n) as retaining pin (but location must lie along centre line) total for (m) 2½

Total for Question 7: 30 marks

Higher Level Graphic Communication 2006
 Question 7 – Section and Oblique (Swivel Bracket)

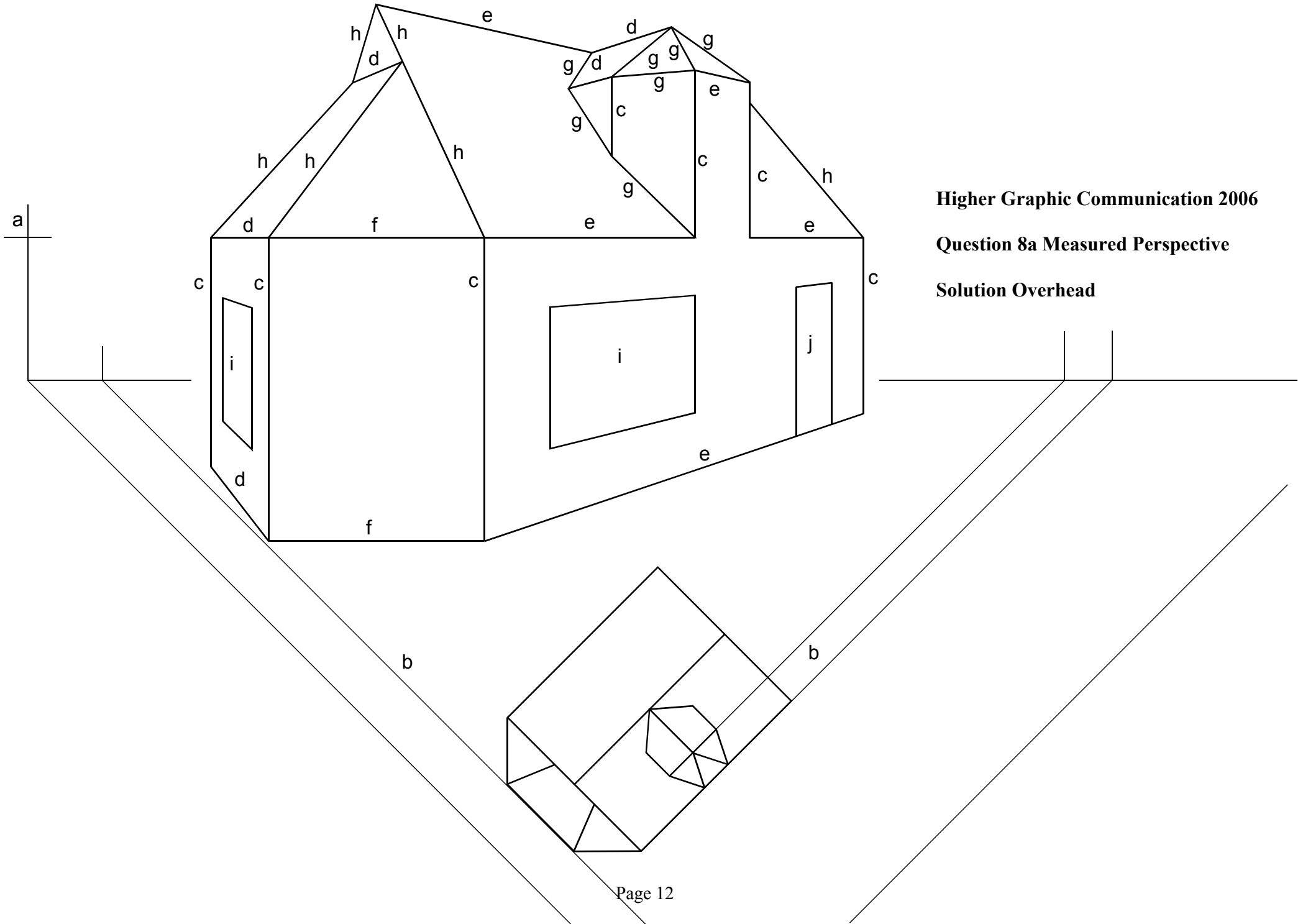


g: hatching – see scheme
 h: fillets – see scheme

Question 8 (a) – Measured perspective

| | | | Marks |
|-----|--------------------|---|--------------|
| (a) | VP left and right | ½ mark each | 1 |
| (b) | Height line | (any one, correctly positioned, with appropriate heights) | 2 |
| (c) | Vertical lines | 7 lines, ½ mark each | 3½ |
| (d) | Lines to left VP | 5 lines, ½ mark each | 2½ |
| (e) | Lines to right VP | 5 lines, ½ mark each | 2½ |
| (f) | Horizontal lines | 2 lines, ½ mark each | 1 |
| (g) | Dor sloping lines | 7 lines, ½ mark each | 3½ |
| (h) | Rest sloping lines | 6 lines, ½ mark each | 3 |
| (i) | 2 windows | ½ mark each for position of verticals and height | 2 |
| (j) | 1 door | ½ mark for position of verticals and height | 1 |

Total marks 22



Higher Graphic Communication 2006

Question 8a Measured Perspective

Solution Overhead

Question 8 (b) – Auxiliary plan

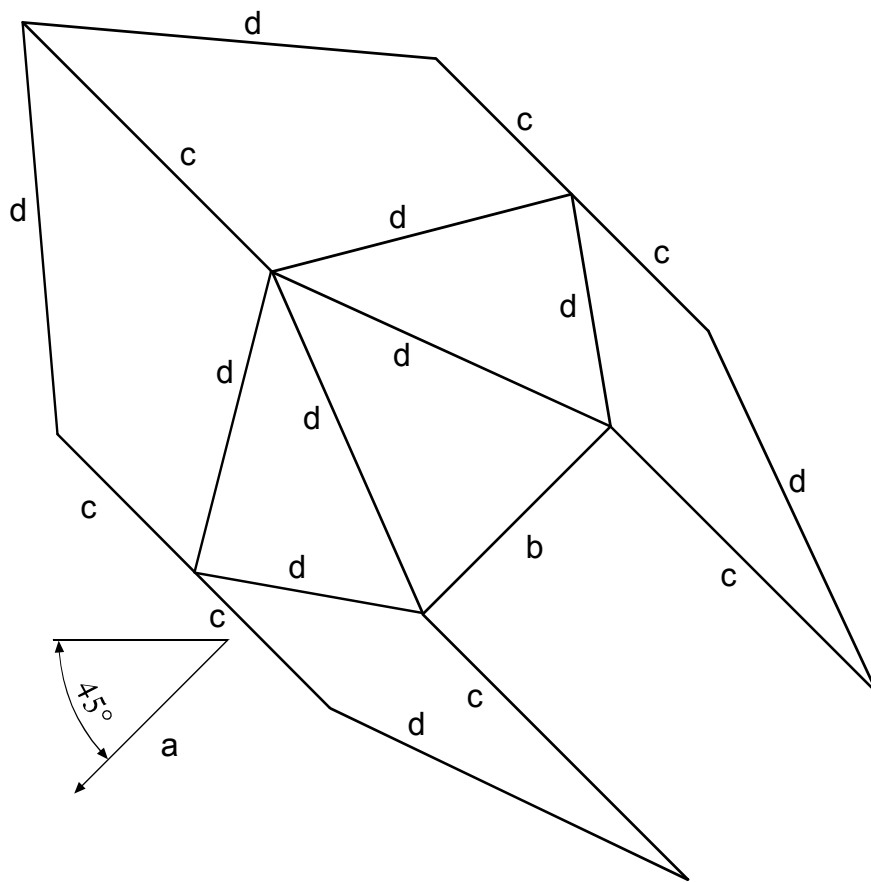
| | | | Marks |
|-----|--------------------|--|--------------|
| (a) | Correct projection | 45° to show true shape of opening | 1 |
| (b) | Line 45° to right | | 1 |
| (c) | Lines 45° to left | 7 lines, (5 for 2, 3 for 1½, 2 for 1, 1 for ½) | 2½ |
| (d) | Sloping lines | 10 lines, (8 for 3, 7 for 2½, 5 for 2, 3 for 1½, 2 for 1, 1 for ½) | 3½ |

Total marks 8

Higher Graphic Communication 2006

Question 8b Auxiliary Plan

Solution Overhead



AUXILIARY PLAN

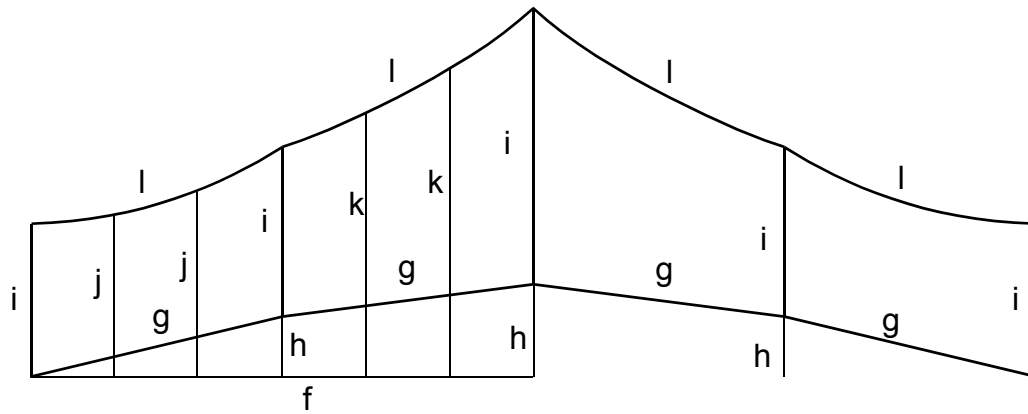
Question 9 – Tunnel Tent

| | | | Marks |
|---------------------|---------------------------------------|--|-----------------------|
| Plan: | | | |
| (a) | 2 half ellipses | For each, start, centre and finish for ½ mark, 4 intermediate points for ½ mark, fair curve for ½ mark | 3 |
| (b) | Lines: | 5 lines, 3 horizontal, 2 vertical (2 for ½, 4 for 1, 5 for 1½) | 1½ |
| (c) | 2 curves: | Start and finish (3 points) for 1 (2 for ½), minimum 4 intermediate points for 1 (2 for ½), 2 fair curves for ½ each | 3 |
| (d) | 2 curves: | Starts (2) for ½, minimum 4 intermediate points for 1, 2 fair curves for ½ each | 2½ |
| (e) | Lines: | 10 lines, 1 horizontal, 5 vertical, 4 sloping (2 for ½, 4 for 1, 6 for 1½, 8 for 2, 10 for 2½) | 2½ |
| Development: | | | |
| (f) | Overall length: | ± 2mm | 1 |
| (g) | Sloping lines: | 4 lines (2 for ½, 4 for 1) | 1 |
| (h) | Critical heights: | 3 for ½ mark each | 1½ |
| (i) | Vertical lines: | 2 outlines for ½ mark, 3 fold (double dash) lines for ½ mark | 1 |
| (j) | Construction of intermediate heights: | ½ mark each | 1 |
| (k) | Construction of intermediate heights: | ½ mark each | 1 |
| (l) | Fair curves: | 4 curves (2 for ½, 4 for 1) | 1 |
| | | | Total marks 20 |

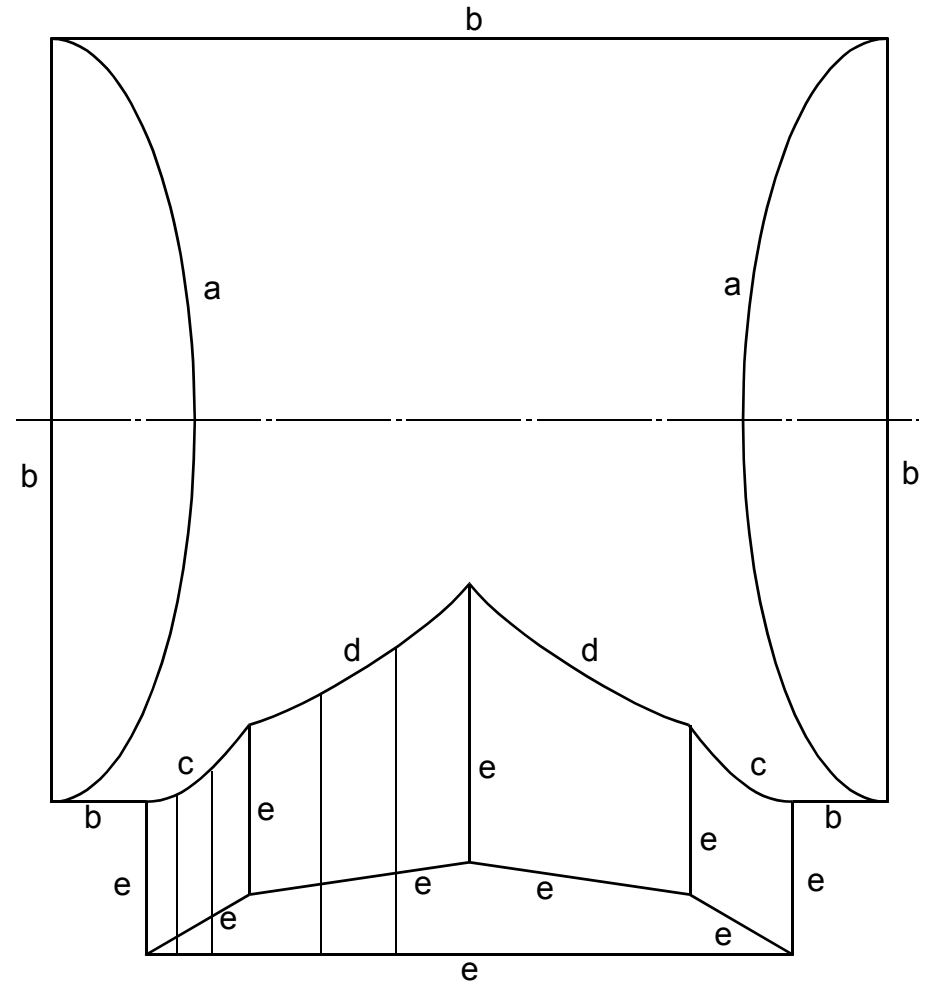
Higher Graphic Communication 2006

Question 9 Tunnel Tent

Solution Overhead



DEVELOPMENT



PLAN

Question 10 – Isometric

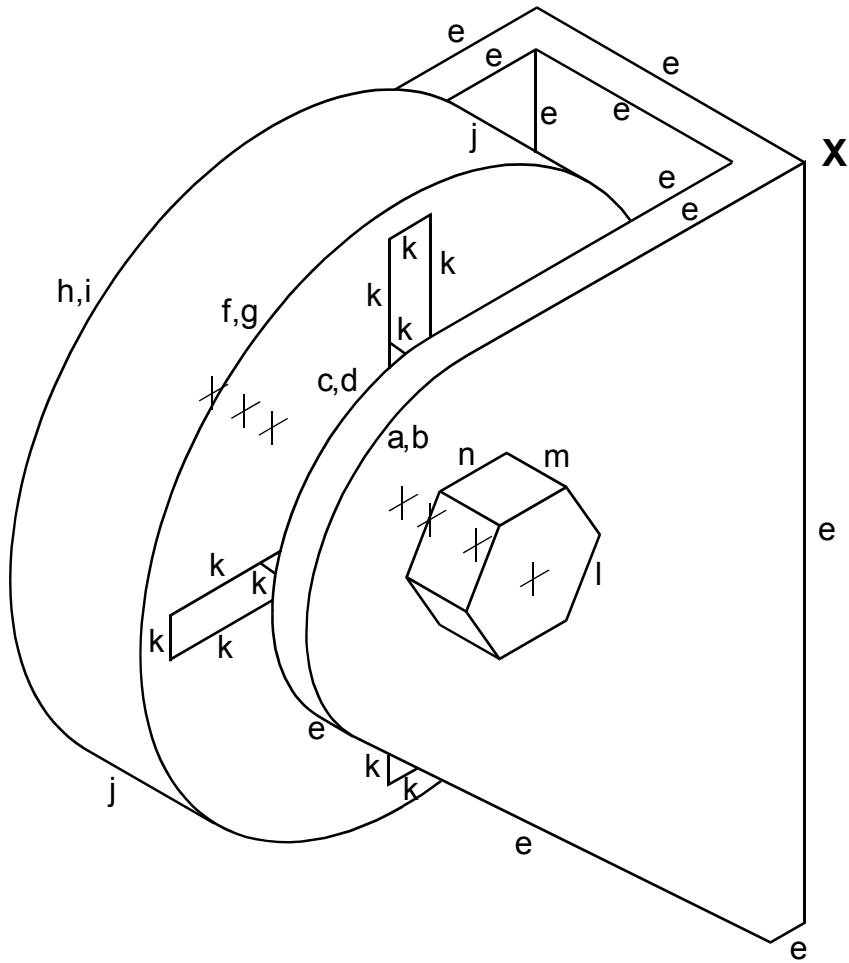
| | | Marks |
|-------------------|------------------------------|--|
| Bracket: | | |
| (a) | Construction for front arc: | 6 points (2 for ½, 3 for 1, 5 for 1½, 6 for 2) 2 |
| (b) | Fair curve: | for ½, 1 1 |
| (c) | Construction for second arc: | 5 points (2 for ½, 5 for 1) 1 |
| (d) | Fair curve: | for ½ ½ |
| (e) | Lines 11: | 2 vertical, 5 @ 30° right, 3 @ 30° left, 1 sloping (2 for ½, 3 for 1, 5 for 1½, 7 for 2, 9 for 2½, 11 for 3) 3 |
| Wheel: | | |
| (f) | Construction of front arc: | 9 points (2 for ½, 3 for 1, 5 for 1½, 6 for 2, 8 for 2½, 9 for 3) 3 |
| (g) | Fair curve: | for ½, 1 1 |
| (h) | Construction of second arc: | 8 points (4 for ½, 8 for 1) 1 |
| (i) | Fair curve: | for ½ ½ |
| (j) | Tangent lines: | for ½ mark each 1 |
| (k) | Lines 10: | 4 vertical, 4 @ 30° right, 2 @ 30° left (2 for ½, 3 for 1, 5 for 1½, 7 for 2, 9 for 2½, 10 for 3) 3 |
| Bolt head: | | |
| (l) | Hexagon: | 6 lines (2 for ½, 3 for 1, 5 for 1½, 6 for 2) 2 |
| (m) | Projected lines: | 4 lines for ½ mark ½ |
| (n) | Part hex: | 3 lines for ½ mark ½ |

Total marks 20

Higher Graphic Communication 2006

Question 10 Isometric

Solution Overhead



Question 11 – Assembly

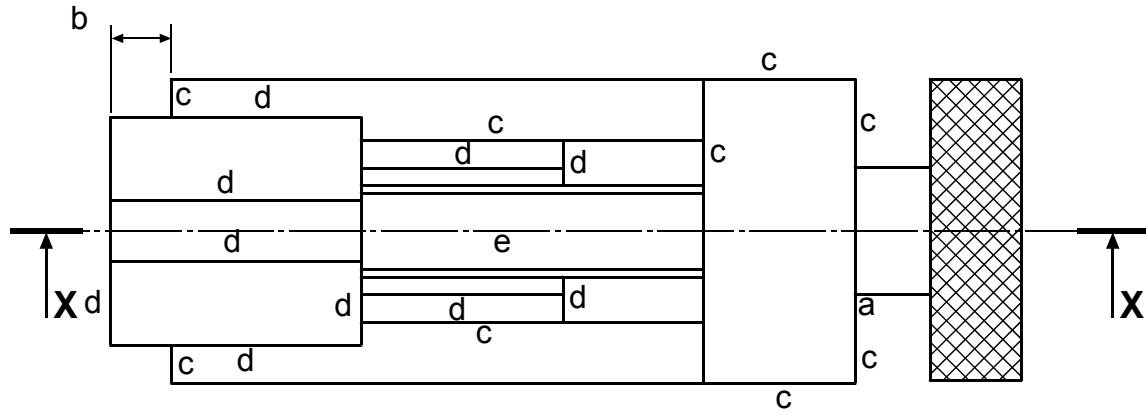
| | | Marks |
|----------------------------------|--|----------------------------------|
| Plan Body: | | |
| (a) | Correct position of A and B touching | $\frac{1}{2}$ |
| (b) | Correct distance between D and C | $\frac{1}{2}$ |
| (c) | Lines 9: 4 horizontal, 5 vertical (7 for $1\frac{1}{2}$, 5 for 1, 2 for $\frac{1}{2}$) | 2 |
| Slide: | | |
| (d) | Lines 10: 6 horizontal, 4 vertical (7 for $1\frac{1}{2}$, 5 for 1, 2 for $\frac{1}{2}$) | 2 |
| Screw: | | |
| (e) | Lines 4: horizontal (2 for $\frac{1}{2}$) | 1 |
| Sectional Elevation Body: | | |
| (f) | 2 circles: Each circle, $\frac{1}{2}$ mark for position, $\frac{1}{2}$ mark for radius | 2 |
| (g) | 3 arcs: $\frac{1}{2}$ mark each | $1\frac{1}{2}$ |
| (h) | Lines 20: 10 horizontal, 8 vertical, 2 sloping (17 for $3\frac{1}{2}$, 15 for 3, 12 for $2\frac{1}{2}$, 10 for 2, 7 for $1\frac{1}{2}$, 5 for 1, 2 for $\frac{1}{2}$) | 4 |
| Slide: | | |
| (i) | 1 circle: $\frac{1}{2}$ mark for position, $\frac{1}{2}$ mark for radius | 1 |
| (j) | 1 arc: $\frac{1}{2}$ mark for radius | $\frac{1}{2}$ |
| (k) | Lines 9: 3 horizontal, 4 vertical, 2 sloping (7 for $1\frac{1}{2}$, 5 for 1, 2 for $\frac{1}{2}$) | 2 |
| (l) | Thread detail: 4 lines | $\frac{1}{2}$ |
| Hatching: | | |
| (m) | 4 areas for 1 (2 for $\frac{1}{2}$): Correct angle for $\frac{1}{2}$, opposite direction for $\frac{1}{2}$, thread hatched for $\frac{1}{2}$ | $2\frac{1}{2}$ |

Total marks 20

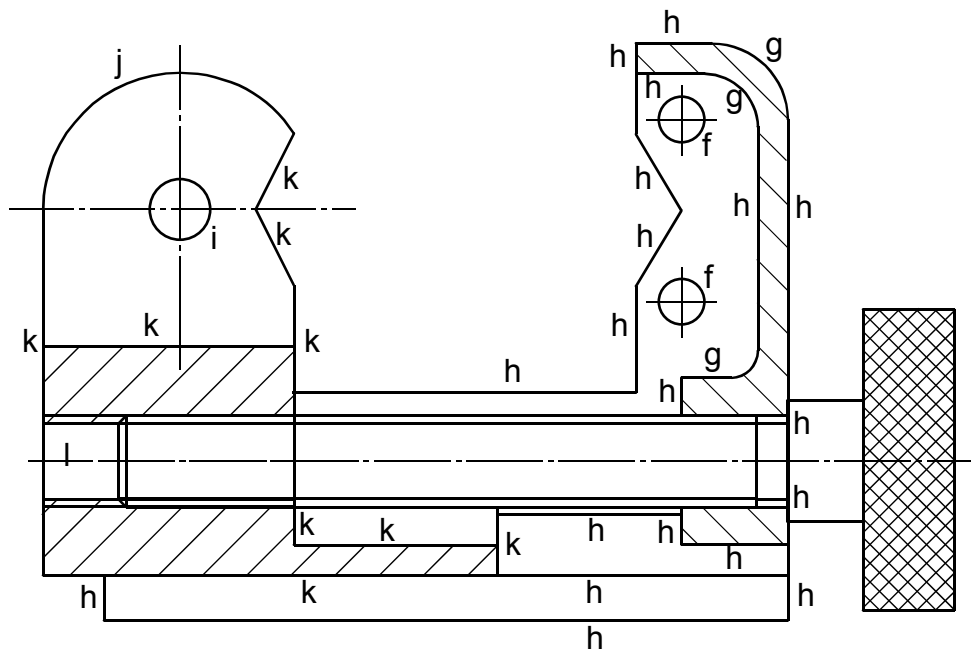
Higher Graphic Communication 2006

Question 11 Assembly

Solution Overhead



PLAN



SECTIONAL ELEVATION ON X - X

[END OF MARKING INSTRUCTIONS]