



ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Mark scheme

June 2003

GCSE

Design and Technology

Graphic Products

3543 (Full Course)

Higher

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Design and Technology Graphic Products

Full Course Higher Tier

Question 1 Data Representation

(a)	Bars	Correct height of missing bars 3-D on missing bars	2 x 1 mark 2 x 1 marks	
	Colour	All, good quality, in borders, 3D effect Not completed – even block No attempt	2 marks 1 mark 0 marks	(6 marks)

Total 6 marks

Question 2 Designing

Letter Style (Font) – *not single line letters*

		Two or more discrete ideas	1 mark	
		Evidence of some development of ideas	1 mark	(2 marks)
Evaluation:		Critical, relevant	2 marks	
		Superficial, self congratulatory, descriptive	1 mark	
		Process not product	0 marks	(2 marks)

Logo

		Two or more discrete ideas	1 mark	
		Evidence of some development of idea	1 mark	
		Animal Theme	1 mark	(3 marks)
Evaluation:		Critical, relevant	2 marks	
		Superficial, self congratulatory, descriptive	1 mark	
		Process not product	0 marks	(2 marks)

Ventilation

		Two or more discrete ideas	1 mark	
		Evidence of some development of idea	1 mark	(2 marks)
Evaluation:		Critical, relevant	2 marks	
		Superficial, self congratulatory, descriptive	1 mark	
		Process not product	0 marks	(2 marks)

Sketching (Best Evidence)

Very Effective:	consistent e.g. sharp and faint, straight	5-4 marks	
Satisfactory:	some differences in line, communicates idea	3 marks	
Adequate:	poor pencil/line work – blunt, lacks quality	2 marks	
Poor:	an attempt, little evidence, scribble	1 mark	
	no attempt	0 marks	(5 marks)

Colour: (Accept pencil, notes, swatches etc for logo/lettering)

Correct number:	Black, one colour (+ white) in combination	1 mark	
	Consistently applied in all sectors	1 mark	
	Not used	0 marks	(2 marks)

Total 20 marks**Question 3 Presentation**

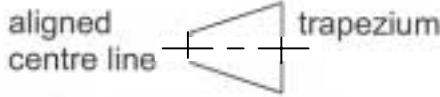
- (i) Use of spec: *pro rata, one mark per criteria*
Letter style (font) – *Not single line letters*
Logo – animal theme
Ventilation openings
Colours – *black plus one other* 4 x 1 marks (4 marks)
- (ii) Quality of Drawing:
Very good line quality, clear, neat etc 5-4 marks
Satisfactory, some sharp, neat etc 3 marks
Adequately drawn, some reasonable
lines 2-1 marks
Not attempted 0 marks (5 marks)
- (iii) Layout:
Very effective, consistently good, e.g. spacing,
proportion, line, good use of space 4-3 marks
Satisfactory, sense of composition,
adequate spacing, some imperfections 2 marks
An attempt but lacks clarity and/or
poorly spaced, crowded 1 mark
Unrecognisable or not attempted 0 marks (4 marks)
- (iv) Colouring:
Good quality, enhanced drawing the achieves visual
impact e.g. good block colouring 3 marks
Satisfactory, controlled use of media,
Monochrome Max 2 marks
An attempt at colouring, untidy 1 mark
No colour – line drawings only 0 marks (3 marks)

Total 16 marks

Question 4 Evaluation and modifications

- | | | | |
|-----|---|-------------------------------------|-----------|
| (a) | Has <u>Strength and Comfort</u> been addressed? | 2 x 1 marks | |
| | Sketches: | Clear, neat communicates ideas well | 2 marks |
| | (2+) | Not clear, some confusion | 1 mark |
| | | No attempt | 0 marks |
| | Notes: | Good explanation/reasoned | 2 marks |
| | | Labels | 1 mark |
| | | No attempt | 0 marks |
| | | | (6 marks) |
| (b) | Design related to sketch | 1 mark | |
| | Position: | Down, minimum 1sq | 1 mark |
| | | Length, minimum 6sq | |
| | | (symmetrical) | 1 mark |
| | Not attempted | 0 marks | (3 marks) |
| (c) | Scale only accept 1:2 <u>no alternatives</u> | | (1 mark) |

Total 10 marks**Question 5 3rd Angle Orthographic drawing & B.S.**

- (a) *All lines to be in the correct position and the correct length*
- | | | | | |
|-------------------|-----------|--------------------------------------|-------------|-----------|
| Plan | Flap | Inclined lines | 2 x 1 marks | |
| (copy of LH side) | | Vertical lines | 1 mark | (3 marks) |
| | Centre | Horizontal lines (between flaps) | 3 x 1 marks | (3 marks) |
| | Lock Flap | Horizontal lines (length) | 3 x 1 marks | |
| | | Three short vertical lines (aligned) | 1 mark | (4 marks) |
- (b) **3rd Angle convention**
- | | | |
|---|--------|-----------|
|  | 1 mark | |
| | 1 mark | (2 marks) |
- (c)(i) BS correct features identified 3 x 1 marks (3 marks)
- (ii)
- | | | |
|--|--------|-----------|
| Most leaders gap to outline | 1 mark | |
| Consistent, neat and correct arrowheads | 1 mark | |
| Dimension lines solid, parallel | 1 mark | |
| Dimension lines touching leaders | 1 mark | |
| All numbers, above line, centre position | 1 mark | |
| Correct numbers given (400, 240, 360) | 1 mark | (6 marks) |

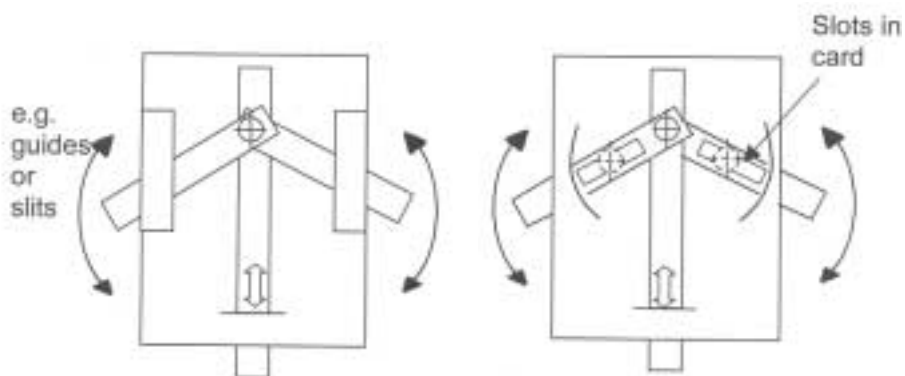
Total 21 marks

Question 6 Materials

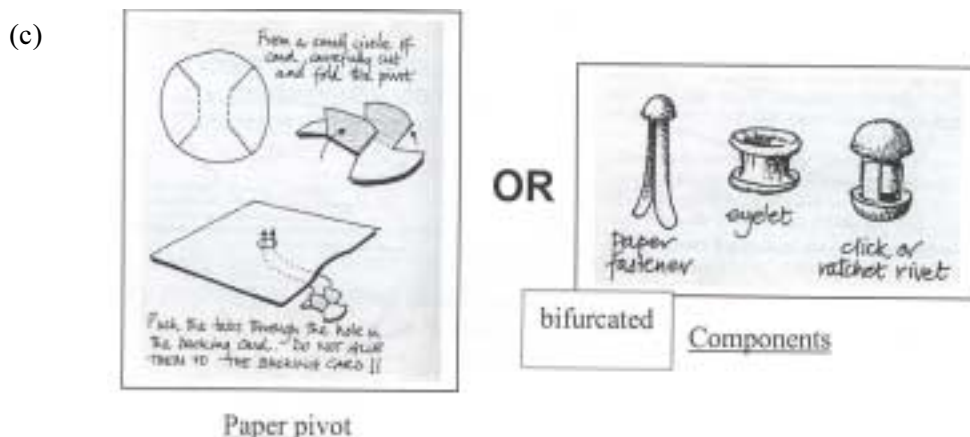
(a)	Sketch	correct structure e.g. in proportion, all layers in contact with facings	2 marks	
		an understanding of material structure e.g. some inaccuracies	1 mark	(2 marks)
		confused, incomprehensible	0 marks	
	Notes	An attempt, incorrect	1 mark	(1 marks)
		No attempt	0 marks	
(b)	Advantages	<i>pro rata</i>		
		Reasoned statement relating to; Weight, cost, availability, safety, ease of processing, bio-degradable etc	2 x 2 marks	
		Some understanding but confused	1 mark	
		One word answers	0 marks	
	Disadvantages	Reasons statement relating product to; wet strength, damages easily, 'edible' etc	2 marks	
		Some understanding but confused	1 mark	
		One word answers	0 marks	(6 marks)
(c)	Corner Join Sketch <i>showing staples, stitching, 2 locking tabs etc</i>	Good, informative e.g. showing overlap, Thickness, good line, exploded, aligned etc	3 marks	
		Adequate, some minor inaccuracies, untidy	2 marks	
		An attempt, recognisable	1 mark	
		confused scribble – use of glue	0 marks	(3 marks)
	Annotation	Reasoned notes	2 marks	
		Labels	1 mark	
		No attempt	0 marks	(2 marks)
(d)	Smart material (e.g. that which reacts in predictable way given external stimulus)	(i)	Full clear understanding	3 marks
			Some understanding	2 marks
			An attempt	1 mark
		Confused, wrong, no answer	0 marks	(3 marks)
	(ii)	<i>(e.g. colour change due to temperature change)</i>		
		full, clear understanding	2 marks	
		some understanding	1 mark	
		wrong, no answer	0 marks	(2 marks)
	(iii) Use	e.g. wine/beer bottle label, postage stamp T-shirts, or other clothes, mugs etc		
		Using temperature sensitive / decorative quality	1 mark	(1 mark)

Total 20 marks

Question 7 Mechanisms



- | | | | |
|-----|--|---|-----------|
| (a) | Will it work?
Continuation of pull tab within rectangle
Guides/slits/pivots in approx. places
Arms in proportion to pull tab | 1 mark
1 mark
3x1 3 marks
1 mark | (6 marks) |
| (b) | Good explanation of moving parts (related to their design)
An attempt, some confusion or details omitted
No understanding, not attempted | 2 marks
1 mark
0 marks | (2 marks) |



- | | | | |
|--------|---|---|-----------|
| Sketch | Clear, card/fastener aligned/assembled (include hole)
Mostly correct, details missing
An attempt, confused
Use of glue, incorrect | 3 marks
2 marks
1 mark
0 marks | (3 marks) |
| Parts | Accept: split pin, butterfly pin, brass fasteners, star binders, paper fasteners, crimped eyelet.
Related to sketch
Correct name for featured component(s)
Identifiable name matches sketch
Incorrect, not attempted | 2 marks
1 mark
0 marks | (2 marks) |

Total 13 marks

Question 8 Environmental, Cultural, Social Issues

- (a) *e.g. some have moral or religious significance, offensive etc*
- | | | |
|----------------------------------|---------|-----------|
| reasoned response, clear concise | 2 marks | |
| partial response, confused | 1 mark | |
| incorrect, no attempt | 0 marks | (2 marks) |
- (b) (i) *e.g. products are seen, room for graphics, hanging slot, product tamper proof etc.*
- | | | |
|----------------------------------|---------|-----------|
| reasoned response, clear concise | 2 marks | |
| partial response, confused | 1 mark | |
| incorrect, no attempt | 0 marks | (2 marks) |
- (ii) *e.g. products are seen, buy as seen, compares to consumers wants etc*
- | | | |
|----------------------------------|---------|-----------|
| reasoned response, clear concise | 2 marks | |
| partial response, confused | 1 mark | |
| incorrect, no attempt | 0 marks | (2 marks) |
- (iii) *e.g. excessive packaging, use of non-renewable materials, bulky for transport etc*
- | | | |
|----------------------------------|---------|-----------|
| reasoned response, clear concise | 2 marks | |
| partial response, confused | 1 mark | |
| incorrect, no attempt | 0 marks | (2 marks) |
- (iv) Oil
- | | | |
|--|--------|----------|
| | 1 mark | (1 mark) |
|--|--------|----------|
- (c) (i) *e.g. large hole in ground for domestic/industrial waste, bury and forget, disused quarries, sand pits etc.*
- | | | |
|--------------------------------|---------|-----------|
| clear concise correct response | 2 marks | |
| partial response, confused | 1 mark | |
| incorrect, no attempt | 0 marks | (2 marks) |
- (ii) *e.g. materials decompose relatively quickly, gives limited protection to product.*
- | | | |
|--------------------------------|---------|-----------|
| clear concise correct response | 2 marks | |
| partial response, confused | 1 mark | |
| incorrect, no attempt | 0 marks | (2 marks) |
- (d) Focus on graphic products/social responsibility - not working practice
e.g. use less materials – smaller, thinner containers, biodegradable, re-use – recycled materials, refillable containers, used components, reduce packaging, avoid hazardous materials etc.
- | | | | | |
|----------|--------------------------------------|-----|---------|-----------|
| pro-rata | clear concise reason and explanation | 3x2 | 2 marks | |
| | some understanding | | 1 mark | |
| | confused, incorrect, no attempt | | 0 marks | (6 marks) |

Total 19 marks**Total 125 marks**