

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
GCE Advanced Subsidiary Level and GCE Advanced Level

MARK SCHEME for the October/November 2008 question paper

9705 DESIGN AND TECHNOLOGY

9705/01

Paper 1 (Written 1), maximum raw mark 120

This mark scheme is published as an aid to teachers and candidates, to indicate the requirements of the examination. It shows the basis on which Examiners were instructed to award marks. It does not indicate the details of the discussions that took place at an Examiners' meeting before marking began.

All Examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes must be read in conjunction with the question papers and the report on the examination.

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- 1 (a)** Suitable sheet material named
 e.g. acrylic, polystyrene, stainless steel, aluminium (1)
 Suitable reason for choice given
 e.g. does not require a surface finish (1) [2]
- (b) (i)** Cutting and finishing described (0–3)
 Details of tools, equipment and safety precautions (if necessary) (0–3) [6]
- (ii)** Appropriate method of bending described (0–3)
 Details of tools, equipment and safety precautions (if necessary) (0–3) [6]
- (iii)** Joining method described (0–3)
 Details of tools, equipment and safety precautions (if necessary) (0–3) [6]
- [Total: 20]**
- 2 (a)** Suitable material named
 e.g. mild steel, aluminium, galvanised steel (1)
 Suitable reason for choice given
 e.g. easily shaped, low cost (1) [2]
- (b) (i)** Cutting and finishing described (0–3)
 Details of tools, equipment and safety precautions (if appropriate) (0–3) [6]
- (ii)** Use of bending jig described (0–3)
 Details of tools, equipment and safety precautions (if necessary) (0–3) [6]
- (iii)** Method of attachment described (0–3)
 Details of tools, equipment and safety precautions (if necessary) (0–3) [6]
- [Total: 20]**
- 3 (a)** Suitable card named
 e.g. corrugated cardboard (1)
 Suitable reason for choice given
 e.g. related to strength of material (1) [2]
- (b)** Appropriate scale used (1)
 Base (1)
 Sides (2)
 Back (1)
 Front with hole (1) [6]

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	(c) (i) Any slot shown	(1)	
	Any tab shown	(1)	
	Locking tab	(1)	
	Slot smaller than tab	(1)	
	Description of method	(0–2)	[6]
	(ii) CAM described	(0–4)	
	Details of equipment (including software)	(0–2)	[6]
			[Total: 20]
4	(a) Appropriate explanation e.g. related to stopping legs from bending out	(0–2)	[2]
	(b) Problem 1 described	(0–2)	
	Problem 2 described	(0–2)	[4]
	e.g. problems related to corrosion and material getting hot in the sun		
	(c) Explanation of how problem 1 could be overcome	(0–3)	
	Explanation of how problem 2 could be overcome	(0–3)	[6]
	e.g. surface finish needs to be applied, possible use of alternative materials, padding put on seat		
	(d) Situation has been analysed and relevant issues/points identified	(0–3)	
	Explanation of why issues/points are considered relevant	(0–3)	
	Specific example or evidence used to support answer	(0–2)	[8]
			[Total: 20]
5	(a) Appropriate explanation e.g. Related to fixing the packaging together	(0–2)	[2]
	(b) Problem 1 described	(0–2)	
	Problem 2 described	(0–2)	[4]
	e.g. related to handle cut out being too small and bottle being able to fall out of the ends of the packaging		
	(c) Explanation of how problem 1 could be overcome	(0–3)	
	Explanation of how problem 2 could be overcome	(0–3)	[6]
	e.g. solutions related to making the handle cut out a suitable shape and size and some form of ends added to packaging		
	(d) Situation has been analysed and relevant issues/points identified	(0–3)	
	Explanation of why issues/points are considered relevant	(0–3)	
	Specific example or evidence used to support answer	(0–2)	[8]
			[Total: 20]

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- 6 (a) Appropriate explanation
e.g. related to strengthening the bracket (0–2) [2]
- (b) Problem 1 described (0–2)
Problem 2 described (0–2) [4]
e.g. problems related to shelf bending/breaking
fixing methods being pulled apart
- (c) Explanation of how problem 1 could be overcome (0–3)
Explanation of how problem 2 could be overcome (0–3) [6]
e.g. solutions related to increasing thickness of wood
providing more and or better support
- (d) Situation has been analysed and relevant issues/points identified (0–3)
Explanation of why issues/points are considered relevant (0–3)
Specific example or evidence used to support answer (0–2) [8]
- [Total: 20]**
- 7 (a) One pre-conceived idea presented (0–3)
OR
The development and selection of a range of ideas into a single design proposal
which would appear to work but lacks some technical detail (4–7)
OR
The development and selection of a range of ideas into a single design proposal that
includes sufficient technical detail to show that the proposed solution would clearly work (8–10)
Clarity and quality of sketching and explanatory notes (0–3)
Evaluation (reasons for selection) (0–3) [16]
- (b) As for part (a) [16]
- (c) As for part (a) [16]
- (d) As for part (a) [16]

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- (e) The drawing will exhibit a reasonable standard of outcome and show some of the required design features (0–3)
- OR**
- The drawing will exhibit a good standard of outcome and show most of the design features required to make the product function as intended (4–7)
- OR**
- The drawing will be completed to a high standard of outcome and fully show the design features required to make the product function as intended (8–10)
- Some use made of colour and tone to enhance the visual impact of the drawing (0–2)
- OR**
- Good use has been made of colour and tone to enhance the visual impact of the drawing (3–4)
- OR**
- Very good use has been made of colour, tone and material representation to enhance the visual impact of the drawing (5–6) [16]

[Total: 80]