

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS
International General Certificate of Secondary Education

**MARK SCHEME for the October/November 2010 question paper
for the guidance of teachers**

0445 DESIGN AND TECHNOLOGY

0445/11

Paper 1 (Design), maximum raw mark 50

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, which would have considered the acceptability of alternative answers.

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

- CIE will not enter into discussions or correspondence in connection with these mark schemes.

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Page 2	Mark Scheme: Teachers' version	Syllabus	Paper
	IGCSE – October/November 2010	0445	11

1	(a)	Accept any four additional suitable points – easy access, away from door, keeps contents dry, can be locked by postman without key, not an eyesore outside house, easy to spot, etc	(1 × 4)	[4]
	(b)	Accept drawings of any two locking devices – padlock, combination lock, self locking catch, etc	(2 × 2)	[4]
	(c)	Any suitable ideas. At least three different ideas for maximum marks. Pro rata if fewer		
		Communication		
		Simple drawings displaying a low standard or limited range of techniques	(0–2)	
		Clear drawings displaying a good standard and a range of techniques – shading/colour/annotation etc	(3–4)	
		High quality drawings using a wide range of techniques with clear annotation and detail	(5–6)	
		Suitability		
		Simplistic designs showing outlines only	(0–2)	
		Rather more detail, sensible solutions that could work	(3–4)	
		Accurate solutions, good fitness for purpose, detailed construction	(5–6)	[12]
	(d)	Evaluation of each of the ideas. At least 3 evaluations up to 2 marks each. Selection and justification (1 + 1)	(0–6) (2)	[8]
	(e)	Quality of drawing		
		Poor line quality, proportions, little detail	(1)	
		Good line work, use of colour, proportions, some detail	(2–3)	
		High standard throughout with a range of techniques that show clearly all detail	(4)	
		Dimensions 2 or 3 overall dimensions only – 1 Additional detail dimensions – 2	(2)	
		Construction details		
		A simplistic approach showing little or no detail of construction to be used	(0–2)	
		Most constructional detail may be obvious from overall views or with some annotation	(3–4)	
		All constructional detail will be clear with good annotation and additional detail drawings as necessary	(5–6)	[12]
	(f)	Suitable specific materials stated (1 + 1) Appropriate reasons for choice (1 + 1)	(2) (2)	[4]
	(g)	Suitable method stated Good detailed description of method, including: Processes Tools	(1) (3) (2)	[6]
				[Total: 50]

Page 3	Mark Scheme: Teachers' version	Syllabus	Paper
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- 2 (a) Accept any **four** additional suitable points – attracts attention, colourful, easy to read, easy for child to handle, keeps clean, hygienic, etc (1 × 4) [4]
- (b) Accept drawings of any **two** types of movement – sliding parts, slots, pivots, fold out, etc (2 × 2) [4]
- (c) Any suitable ideas. At least **three different** ideas for maximum marks.
Pro rata if fewer
- Communication**
- Simple drawings displaying a low standard or limited range of techniques (0–2)
- Clear drawings displaying a good standard and a range of techniques – shading/colour/annotation etc (3–4)
- High quality drawings using a wide range of techniques with clear annotation and detail (5–6)
- Suitability**
- Simplistic designs showing outlines only (0–2)
- Rather more detail, sensible solutions that could work (3–4)
- Accurate solutions, good fitness for purpose, detailed construction (5–6) [12]
- (d) Evaluation of each of the ideas. At least 3 evaluations up to 2 marks each. Selection and justification (1 + 1) (2) [8]
- (e) **Quality of drawing**
- Poor line quality, proportions, little detail (1)
- Good line work, use of colour, proportions, some detail (2–3)
- High standard throughout with a range of techniques that show clearly all detail (4)
- Dimensions** 2 or 3 overall dimensions only – 1
Additional detail dimensions – 2 (2)
- Construction details**
- A simplistic approach showing little or no detail of construction to be used (0–2)
- Most constructional detail may be obvious from overall views or with some annotation (3–4)
- All constructional detail will be clear with good annotation and additional detail drawings as necessary (5–6) [12]
- (f) Suitable **specific** materials stated (1 + 1) (2)
- Appropriate reasons for choice (1 + 1) (2) [4]
- (g) Suitable method stated (1)
- Good detailed description of method, including:
- Processes (3)
- Tools (2) [6]

[Total: 50]

Page 4	Mark Scheme: Teachers' version	Syllabus	Paper
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3	<p>(a) Accept any four additional suitable points – easy to move, minimal input force, safe in use, use with range of vehicles/heights, stable in use, etc</p>	(1 × 4)	[4]
	<p>(b) Accept any two mechanisms – winch, rack and pinion, block and tackle, levers, etc</p>	(2 × 2)	[4]
	<p>(c) Any suitable ideas. At least three different ideas for maximum marks. Pro rata if fewer</p> <p>Communication</p> <p>Simple drawings displaying a low standard or limited range of techniques (0–2)</p> <p>Clear drawings displaying a good standard and a range of techniques – shading/colour/annotation etc (3–4)</p> <p>High quality drawings using a wide range of techniques with clear annotation and detail (5–6)</p> <p>Suitability</p> <p>Simplistic designs showing outlines only (0–2)</p> <p>Rather more detail, sensible solutions that could work (3–4)</p> <p>Accurate solutions, good fitness for purpose, detailed construction (5–6) [12]</p>		
	<p>(d) Evaluation of each of the ideas. At least 3 evaluations up to 2 marks each. Selection and justification (1 + 1)</p>	(0–6) (2)	[8]
	<p>(e) Quality of drawing</p> <p>Poor line quality, proportions, little detail (1)</p> <p>Good line work, use of colour, proportions, some detail (2–3)</p> <p>High standard throughout with a range of techniques that show clearly all detail (4)</p> <p>Dimensions 2 or 3 overall dimensions only – 1 Additional detail dimensions – 2 (2)</p> <p>Construction details</p> <p>A simplistic approach showing little or no detail of construction to be used (0–2)</p> <p>Most constructional detail may be obvious from overall views or with some annotation (3–4)</p> <p>All constructional detail will be clear with good annotation and additional detail drawings as necessary (5–6) [12]</p>		
	<p>(f) Suitable specific materials stated (1 + 1)</p> <p>Appropriate reasons for choice (1 + 1)</p>	(2) (2)	[4]
	<p>(g) Suitable method stated (1)</p> <p>Good detailed description of method, including:</p> <p>Processes (3)</p> <p>Tools (2) [6]</p>		
			[Total: 50]