

MARK SCHEME for the May/June 2009 question paper
for the guidance of teachers

0445 DESIGN AND TECHNOLOGY

0445/01

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 – May/June 2009	0445	01

1 (a)	Accept any four additional suitable points – accessible, stable in use, easy to refill, roll does not pull off easily, allow roll to rotate, hygienic, portable, etc.	1 × 4	[4]
(b)	Accept drawings of any two positions – on work surface, on the wall, in a cupboard/drawer, 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 Clear drawings displaying a good standard and a range of techniques – shading/colour/annotation etc. High quality drawings using a wide range of techniques with clear annotation and detail Suitability Simplistic designs showing outlines only Rather more detail, sensible solutions that could work Accurate solutions, good fitness for purpose, detailed construction	0–2 3–4 5–6 0–2 3–4 5–6	[12]
(d)	Evaluation of each of the ideas. At least three 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 Good line work, use of colour, proportions, some detail High standard throughout with a range of techniques that show clearly all detail Dimensions two or three overall dimensions only – 1 Additional detail dimensions – 2 Construction details A simplistic approach showing little or no detail of construction to be used Most constructional detail may be obvious from overall views or with some annotation All constructional detail will be clear with good annotation and additional detail drawings as necessary	1 2–3 4 2 0–2 3–4 5–6	[12]
(f)	Suitable specific materials stated. At least two . Appropriate reasons for choice. At least two .	2 2	[4]
(g)	Suitable method stated. Detailed description of process, including: processes and 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 – stable in use, attract attention, include real produce, all round view, easy to move, etc. 1 × 4 [4]
- (b) Accept any **two** movement methods – rotation, electric/clockwork motors, pendulum, solenoid, 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 **three** evaluations up to 2 marks each. 0–6
- 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** two or three 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. At least **two**. 2
- Appropriate reasons for choice. At least **two**. 2 [4]
- (g) Suitable method stated. 1
- Detailed description of process, including: **processes** 3
- and **tools**. 2 [6]

[Total: 50]

Page 4	Mark Scheme: Teachers' version	Syllabus	Paper
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- 3 (a) Accept any **four** additional suitable points – lightweight, easy to operate, no bending down, picks up different shapes, single handed use, etc. 1 × 4 [4]
- (b) Accept any **two** suitable flexible joints – hinges, pins, bolts/nuts, rivets, dowels, 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 **three** evaluations up to 2 marks each. 0–6
- 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** two or three 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. At least **two**. 2
- Appropriate reasons for choice. At least **two**. 2 [4]
- (g) Suitable method stated. 1
- Detailed description of process, including: **processes** 3
- and **tools**. 2 [6]

[Total: 50]