

**MARK SCHEME for the May/June 2011 question paper
for the guidance of teachers**

0445 DESIGN AND TECHNOLOGY

0445/13

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.

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

Cambridge is publishing the mark schemes for the May/June 2011 question papers for most IGCSE, GCE Advanced Level and Advanced Subsidiary Level syllabuses and some Ordinary Level syllabuses.

Page 2	Mark Scheme: Teachers' version	Syllabus	
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- 1 (a) Accept any **four** additional suitable points – easy to clean, stable in use, weather proof, lightweight, easy to carry, folds flat, appropriate height, etc. (1x4)
- (b) Accept drawings of any **two** suitable construction methods – wooden frames, bent tube, welded tube, push together frames, folding carcasses, etc. (2x2) [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 (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** 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. (2)
- Appropriate reasons for choice. (2) [4]
- (g) Suitable method stated. (1)
- Good detailed description of: processes (3)
- tools. (2) [6]

[Total: 50]

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- 2 (a) Accept any **four** additional suitable points – will attract attention, compact, colourful, reflect 'lightweight' and 'waterproof', include name of phone, etc. (1x4)
- (b) Accept any **two** temporary joining methods – slots, 'velcro', rubber bands, metal clips, tabs, etc. (2x2) [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 (0–6)
- Selection and justification. (1+1) (2) [8]
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- All constructional detail will be clear with good annotation and additional detail drawings as necessary (5–6) [12]
- (f) Suitable **specific** materials stated. (2)
- Appropriate reasons for choice. (2) [4]
- (g) Suitable method stated. (1)
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- 3 (a) Accept any **four** additional suitable points – easy to attach, stable in use, safe for person to use, no damage to bicycle, easy to store, fits all sizes, etc. (1x4)
- (b) Accept any **two** fixing places in a garage – on a bench, on the floor, on a wall, from the ceiling/joists, etc. (2x2) [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 (0–6)
- Selection and justification. (1+1) (2) [8]
- (e) **Quality of drawing**
- Poor line quality, proportions, little detail (1)
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- 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. (2)
- Appropriate reasons for choice. (2) [4]
- (g) Suitable method stated. (1)
- Good detailed description of: processes (3)
- tools. (2) [6]

[Total: 50]