



**Cambridge International Examinations**  
Cambridge International General Certificate of Secondary Education

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**DESIGN AND TECHNOLOGY**

**0445/01**

Paper 1 Product Design

**For Examination from 2015**

SPECIMEN MARK SCHEME

**1 hour 15 minutes**

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**MAXIMUM MARK: 50**

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This document consists of **4** printed pages.

- 1 (a) Accept any **four** additional suitable points – easy to assemble/fold, stable in use, lightweight, easy to transport, comfortable to sit on, etc. (1 × 4) [4]
- (b) Accept drawings of any **two** suitable pivots or sliding mechanisms – hinges, screw/bolt pivots, rods, pins, rivets, sliders, notches, 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, construction detail (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** 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: processes (0–3)
- tools. (0–2) [6]

[Total: 50]

- 2 (a) Accept any **four** additional suitable points – compact, secure, weather resistant, easy to carry, access to contents, protects contents, etc. (1 × 4) [4]
- (b) Accept drawings of any **two** suitable types of handle – cord/rope, ribbon/strap, case type, 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, construction detail (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** 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: processes (0–3)
- tools. (0–2) [6]

[Total: 50]

- 3 (a) Accept any **four** additional suitable points – weather resistant, firm fixing, little maintenance, transportable, creates movement, makes a noise, etc. (1 × 4) [4]
- (b) Accept drawings of any **two** power sources – windmill, solar panels, water power from river/stream, clockwork, battery powered motor, 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, construction detail (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** 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: processes (0–3)
- tools. (0–2) [6]

[Total: 50]