

**CAMBRIDGE INTERNATIONAL EXAMINATIONS**

**Cambridge International General Certificate of Secondary Education**

## **MARK SCHEME for the October/November 2015 series**

### **0445 DESIGN AND TECHNOLOGY**

**0445/12**

Paper 1 (Product 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 should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

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- 1 (a) Accept any **four** additional suitable points – easy to carry/move, water resistant, help return to standing, won't damage plants, easy to store, comfortable for knees, include hand grip, etc. 1 × 4 [4]
- (b) Accept drawings of any **two** additional features – trowel/implement holder, seed packet holder, drinks holder, etc. 2 × 2 [4]
- 2 (a) Accept any **four** additional suitable points – attractive colour/shape/layout, simple wording, stable in use, flat pack for distribution, pictures of flowers, etc. 1 × 4 [4]
- (b) Accept drawings of any **two** waterproofing methods – any form of roof/shelter, examples of waterproof materials, waterproof constructions, whole stand or individual packets, etc. 2 × 2 [4]
- 3 (a) Accept any **four** additional suitable points – water resistant, does not damage hose, can be adjusted for different pipe lengths, freestanding/fixed to wall, method of winding/pulling in, etc. 1 × 4 [4]
- (b) Accept drawings of any **two** joining methods – quick release and holding method, snail cam, spring lever, screw thread based, over centre cam, etc. 2 × 2 [4]

### Questions 1, 2 and 3

- (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 3 evaluations up to 2 marks each  
 Selection and justification (1 + 1) 0–6  
2 [8]

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**(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 (1)	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 [4]
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**(g) Suitable method described**

Good detailed description of: processes	1
tools	0–3
	0–2 [6]

**[50]**