

UNIVERSITY OF CAMBRIDGE INTERNATIONAL EXAMINATIONS  
International General Certificate of Secondary Education

**MARK SCHEME for the May/June 2012 question paper  
for the guidance of teachers**

**0445 DESIGN AND TECHNOLOGY**

**0445/21**

Paper 2 (Graphic Products), 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.

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- A1 (a) Octagon**  
 Constructional square 80 A/F (2)  
 Centre determined (1)  
 Arcs drawn (1)  
 Side drawn to arc/square plot (1) [5]
- (b) Semi-circle**  
 Semi-circle to length of side (1) [1]
- (c) Triangles**  
 Two triangles equilateral (2) [2]
- [Total: 8]**
- A2 (a) Lettering**  
 Accuracy and proportion of:  
     **K** (1)  
     **Y** (1)  
 Spacing (1)  
 Height (1) [4]
- (b) Quadrilateral border**  
 vertical (1)  
 horizontal (1)  
 Repeat angle (1) [3]
- [Total: 7]**
- A3 Isometric rectangular base 50 x 80 (2)**  
 Top rectangle height 20 (1)  
 Top rectangle in line with base (1)  
 O/H to top of top rectangle 160 (1)  
 Taper sides x2 (2)  
 Semi-circle plots (1)  
 Semi-circle constructed curve (1)  
 Repeat curve to candidate thickness (1) [10]
- [Total: 10]**

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- B4 (a) *Development***  
 Extra sides shown in correct position (7)  
 2 side flaps (1)  
 Radius on side flap (1)  
 Side flaps 45 long (1)  
 Tuck-in flap 10 (1)  
 Tuck-in flaps angled (1) [12]
- (b) *Arrow-tabs***  
 Symmetrical (1)  
 Stand off (1)  
 Neck (1)  
 Slot size to match neck (1)  
 Min 4 arrow-tabs shown (4x1) [8]
- (c) *PYO added*** (1)  
 On correct face (1)  
 In correct orientation (1) [3]
- (d) *Halving slots or similar*** 0-2  
*(repeat of arrow tab/slot =0)* (2) [2]
- [Total: 25]**

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**B5 (a)** *Pie chart*

Circle (1)

6 divisions (1)

2 x correct (1 mark)

3 x correct (2 marks)

4/5 correct (3 marks)

Labels on correct segment or key (1)

Quantity shown (1)

[7]

**(b)** *Bar chart*

Three seasons correctly referenced (1)

Rising chart (winter to summer) (1)

To approximate scale (1)

[3]

**(c)** *Three dimensional bar chart*

3D (1)

*Winter*

Three blocks in 3D (2D = 0 marks) (up to 3 marks)

Correct value to scale (3x1 up to 3 marks)

Labels added and correct to value (1)

*Summer*

Three blocks in 3D (2D = 0 marks) (up to 3 marks)

Correct value to scale (3x1 up to 3 marks)

Labels added **and** correct to value (1)

[15]

**[Total: 25]**