## **CAMBRIDGE INTERNATIONAL EXAMINATIONS**

**Cambridge International General Certificate of Secondary Education** 

## MARK SCHEME for the October/November 2015 series

## 0445 DESIGN AND TECHNOLOGY

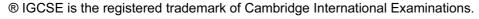
**0445/21** Paper 2 (Graphic Products), maximum raw mark 50

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.

Mark schemes should be read in conjunction with the question paper and the Principal Examiner Report for Teachers.

Cambridge will not enter into discussions about these mark schemes.

Cambridge is publishing the mark schemes for the October/November 2015 series for most Cambridge IGCSE<sup>®</sup>, Cambridge International A and AS Level components and some Cambridge O Level components.





Pá	age 2	Mark Scheme Cambridge IGCSE – October/November 2015	Syllabus 0445	Paper 21
<b>A</b> 1	(a)	Some thick lines added to outside of part A (1) Thick lines added to upright and header of rectangular hole (1)		
		* thin if both surfaces that make up a corner can be seen, thick if only one surface can be seen		[2]
<b>A</b> 1	(b)	Top corner removed from part B (either side) (1) Thickness of material shown correctly (1) Slope added to part C (1)		
		Slope added in good proportion and in isometric (1)		[4]
A2	Par Par	nt view  A added in correct position (rectangle regardless of size) (1) A correct to overlay (1) B correct to overlay (1)		
		izontal line added 30 from top of part C (1)		[4]
		A correct to overlay (1)		
	Par	den detail shown correct (1) B correct to overlay including horizontal line (1) C Horizontal line 20 from top (1)		[4]
А3	(a)	One mark for each line added that matches the overlay Left upright (1) Line between wall and roof (1)		
		Roofline to length (1) Left hand angle of roof (1)		[4]
	(b)	Suitable methods of adding colour by hand include: <ul><li>crayons</li><li>felt tipped pens</li><li>brush paint</li></ul>		
		<ul> <li>spray paint</li> <li>One mark for each correct answer (1 × 2)</li> </ul>		[2]
	(c)	Sketch shows a partly cut line (typically a series of lozenges) (1) Notes (or label) clearly indicate part of the line is cut (1)		[2]
		e.g. series of holes all the way though the card with a small gap between Do <b>not</b> award marks for scoring.	en each hole	;

Page 3	Mark Scheme Cambridge IGCSE – October/November 2015	Syllabus 0445	Paper 21
(d)	Reasons might include:  • too much space around the design  • no recycling instructions/symbol  • uses 'virgin' card  • does not tessellate  (Do not accept 'uneconomical')		[1
	<ul> <li>Problems might be <b>overcome</b> by:</li> <li>print the design on a smaller piece of card (1) or redesign the net of than one can fit on a sheet of card with minimum space between exput a recycling symbol on the design (1) so that people will know the recycling bin (1)</li> </ul>	each design	(1)
34 (a)	Any circle drawn on the given centre lines (1) Circle of correct size (50 mm) (1) Drawing in planometric ( $45^{\circ} \times 45^{\circ}$ or $60^{\circ} \times 30^{\circ}$ ) (1) Top strip 25 mm (1) $\times$ 80 mm (1) Front 25 mm or to width of top (1) $\times$ 30 mm high (1) Bottom strip to overlay or matches candidate top (1) Back strip to overlay or matches candidate front (1) Shape correctly lined in (1)		[10
(b)	Two more sides added similar to those given (1) + (1) End glue tab (1) Second top flap added (1) in the correct position (1) Bottom drawn to size (SQ) (1) (or with two half surfaces to size) Bottom in position (1) with glue tabs or closing method (1) All fold lines correctly shown (1)		[9
(c)	<ul> <li>(i) Lithography or digital printing         <i>Not Laser, photocopying or screen</i></li> <li>(ii) Acceptable answers include:         <ul> <li>ABS</li> </ul> </li> </ul>		[1

- HIPS
- PET
- Polystyrene
- Polypropylene
- PVC...

Accept other thermoplastics but **not** acrylic

[1]

Page 4	Mark Scheme Syll			Paper
		Cambridge IGCSE – October/November 2015	0445	21
(	(iii)	Sketches and notes show: Concept of a <b>former</b> (1) Flat sheet being <b>heated</b> (1) <b>Suction</b> forces the softened sheet to take on the shape of the form Very well explained (notes and sketches) (1)	er (1)	[4] [Total 25]
35 (a)	sha Inn sha Re	ter surface shaded with some different tones (1) or outer surface aded with graduated tones to appear round/shiny (2) her surface shaded with some different tones (1) or inner surface aded with graduated tones to appear round/shiny (2) ndering enhances tube producing a high quality outcome (1) ward the last mark for really high quality work		[max 5]
(b)	Ho Inr Ha Ha Ha	eak line added to top of name board (1) rizontal line added to top of tube (1) ler part of tube added to the right (1) tching (45/60 degrees) added to the name board (1) tching (45/60 degrees) added to only the walls of the tube (1) tching of adjacent parts in opposite directions (1) acing between hatching consistent (1)		[7]
(c)	Min So Six (Tr (4	arcs method (1) mark only) pse profile correct to overlay (1)		[max 7]
(d)	(i)	Circle drawn of any size (1) Two sectors the correct size (160, 80 and 120 degrees) (1 $\times$ 2) Colour added to enhance the pie chart (1) Labels correctly identify the sectors (1)		[5]
	(ii)	<ul> <li>Acceptable answers include:</li> <li>can reach a wider group of customers</li> <li>data can be entered directly into a database</li> <li>data can be manipulated and printed in different forms</li> <li>data can be stored and transferred electronically</li> <li>saves time/money over manually sorting data</li> </ul>		[1]

[Total 25]