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**DESIGN AND TECHNOLOGY**

**0445/21**

Paper 2 Graphic Products

**October/November 2016**

MARK SCHEME

Maximum Mark: 50

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**Published**

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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Page 2	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – October/November 2016	0445	21

- A1 (a)** Isometric window added to right panel [1]  
 Isometric window to right to overlay [1]  
 Isometric window added to left panel [1]  
 Isometric window to left to overlay or candidate solution [1]  
 Inside detail correctly shown (to overlay or candidate solution) [1] [5]
- (b) Front**  
 Rectangle complete [1]  
 Diagonal line TL-BR [1]  
**Plan**  
 Diagonal line TR-BL [1]  
**End**  
 Diagonal line TR-BL [1] [4]
- A2 (a) (i)** Acceptable answers include:  
 Acetate, cellophane, acrylic, polypropylene... [1]
- (ii)** Acceptable reasons: (maximum 2 marks)  
 Easy to cut [1]  
 See through (not clear as this is in the question) [1]  
 Tough [1]  
 Can be folded into shape [1] [3]
- (b)** Sketch shows clear sheet overlaps the opening in the package [1]  
 Notes show fixing method such as glue or double sided tape [1] [2]
- A3 (a) To overlay**  
 40 mm diameter base circle [1]  
 40 mm diameter top of base circle [1]  
 Height of base 10 mm (regardless of diameter) [1]  
 30 mm base of cup [1]  
 60 mm top of cup [1]  
 80 mm height of cup from upper surface of base [1] [6]
- (b) To Overlay**  
 Circle drawn [1]  
 Circle divided into three [1]  
 One mark for each sector the correct size [max 2 marks]  
 Appropriate colours or labels used [1] [5]

**[Total: 25]**

<b>Page 3</b>	<b>Mark Scheme</b>	<b>Syllabus</b>	<b>Paper</b>
	<b>Cambridge IGCSE – October/November 2016</b>	<b>0445</b>	<b>21</b>

**Section B**

- B4 (a)** Right side of bottle added [1]  
Right side of bottle to overlay [1]
- Label completed on left side (top, bottom and two sides) [1]  
Label completed to overlay [1]
- Top of bottle completed by adding:  
line to VP1 [1]  
line to VP2 [1]  
(lines may only be partly seen due to cap)
- Mid-point of each side established in perspective [1 × 4]  
Bottom diamond drawn (overlay of candidate solution) [1]  
Top diamond drawn (overlay or candidate solution) [1]
- Height of cap 8 mm – 14 mm [1]  
Cap correctly lined in [1]  
Top of bottle correctly lined in [1]
- [15]
- (b) (i)** Acceptable answers include:  
Font [1]  
Size [1]  
Style (bold, italic etc.) [1]  
Colour [1]
- [2]
- (ii)** Notes and/or sketches show:  
Lettering will change [1] colour [1] due to a change in temperature [1]
- [3]
- (c) (i)** Top layer of paper/card drawn [1]  
Corrugations drawn [1]  
Bottom layer of paper/card drawn [1]  
(hatching not required)
- [3]
- (ii)** Acceptable answers include:  
Gives protection to the bottle [1]  
Smooth surface for printing [1]  
Easy to cut (in one direction) and fold [1]  
Can be recycled [1]
- [2]
- [Total: 25]**

Page 4	Mark Scheme	Syllabus	Paper
	Cambridge IGCSE – October/November 2016	0445	21

### Section B

**B5 (a)** At least two points projected back from the enlargement through the original to the centre for enlargement [1 × 2]

Bottom left box enlarged [1]

Bottom left box correct to overlay [1]

Bottom right box enlarged [1]

Bottom right box correct to overlay [1]

Top left box enlarged [1]

Top left box correct to overlay [1]

Top right box enlarged [1]

Top right box correct to overlay [1]

Gap between bottom right and top left box correct to overlay [1]

Logo correctly lined in [1]

[12]

**(b)** Key stages in the process (tick to identify) :

1 Frame [1]

2 Mesh/screen [1]

3/4 Stencil [1]

5 Position screen over tee shirt [1]

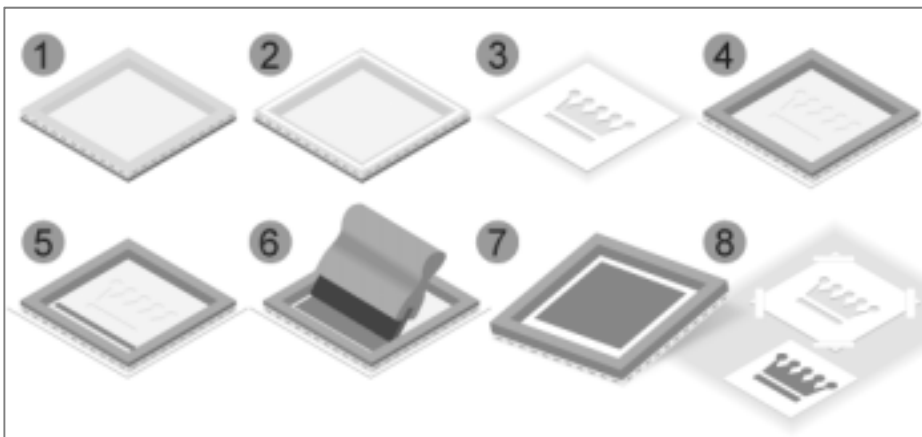
6 Ink [1]

7 Draw squeegee across tee shirt [1]

8 Logo shown on tee shirt [1]

Any five of the above [5 × 1] Correct order [1] Quality of comm.[1]

[7]



Award similar marks for industrial screen printing methods

**(c)** Some thick and thin line added [1]

Thick line added to outer edges [1]

Thick lines added to internal 'triangle' [1]

[3]

<b>Page 5</b>	<b>Mark Scheme</b>	<b>Syllabus</b>	<b>Paper</b>
	<b>Cambridge IGCSE – October/November 2016</b>	<b>0445</b>	<b>21</b>

- (d) 100 mm [1]  
150 mm [1]  
500 mm [1]

[3]

**[Total: 25]**