Cambridge International Examinations
Cambridge International General Certificate of Secondary Education

DESIGN AND TECHNOLOGY **0445/21**

Paper 2 Graphic Products **May/June 2017**

MARK SCHEME

Maximum Mark: 50

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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Section A

Question	Answer	Marks
A1(a)	**Side view** Right side completed [1] Right side correct (including hidden detail) [1] **Plan** Outer circle drawn [1] Outer circle correct [1] Two inner circles drawn [1] Both inner circles the correct [1] At least one inner circle drawn with a dashed line [1]	**7**

Question	Answer	Marks
A2(a)(i)	Vacuum forming / Blow moulding [1] Accept injection moulding	**1**
A2(a)(ii)	45 degree line drawn [1] Straw drawn [1] Straw the same width as the given bottom part [1] End of straw drawn with break convention [1]	**4**
A2(c)	The cup is wider at the top than the bottom so the sides of the cup are sloping [1] as result of moulding. Does not slip through a person's hand [1]	**2**

Question	Answer	Marks
A3(a)	Any Hexagon drawn [1] Hexagon correct [1] Thickness of hexagon shown [1] Thickness of hexagon correct (13/14) [1] At least one circle drawn [1] Two circles correct [1] Thickness of at least one circle correctly shown [1]	**7**
A3(b)	Sketches [1] and notes/labels [1] clearly show a method of attaching the face to the cup. For example: *A clip around the parallel part of the cup* *Glue / PVA* *A rubber band* *Velcro* Do **not** accept answers that pierce the cup.	**2**
A3(c)	Acceptable answers include: *Will appeal* [1] *to young children* [1] *Adds interest* *Looks nicer* *Can be used for advertising* [1 × 2]	**2**
	Total:	**25**

Section B

Question	Answer	Marks
B4(a)(i)	**Surface above the given surface** Rectangle correct [1] **Surface below the given surface** Any side completed [1] Width correct [1] **Lower Face** Outer rectangle completed [1] Rectangle correct (length and width) [1] Any curved corner [1] Curved corner in the correct position (top right) [1] Curved corner to candidate solution [1] 2 × Fold lines correct [1]	**9**
B4(a)(ii)	Missing glue tab added in the correct position (top) [1] Angled ends of glue tab correct [1]	**2**
B4(a)(iii)	SH and RU added in any style [1] Consistent height for all letters [1] Consistent spacing for all letters [1]	**3**
B4(b)	Key stages include: <u>Die cutting Process</u> Blade (shape or cutter) Pressure Cut lines Fold lines Removal of waste material Fully detailed description including most of the key stages [5 or 6] A description including some of the key stages [3 or 4] Limited details including one or two key stages [1 or 2]	**6**
B4(c)	Sketch shows the apple shape raised or pressed in [1] Notes/label states the shape is raised or pushed in [1]	**2**
B4(d)	Understanding that the symbol shows it can be recycled [1] Number identifies specific plastic (polystyrene) [1] Enables sorting during recycling [1]	**3**
	Total:	**25**

Question	Answer	Marks
B5(a)	A. Front left vertical completed [1] B. Front top added by drawing to VP1 [1] C. Bottom corner of window completed [1] D. Front surface and window lined in correctly [1] E. End right vertical extended [1] F. End triangle added [1] G. Centre of triangle in perspective [1] H. End and triangle lined in correctly [1] I. Right closure upright added [1] J. Closure upright projected to VP1 [1] K. Left closure upright added [1] Circular hole added [1] Circular hole in perspective (ellipse) [1] Some inner detail added [1] Inner detail correct to candidate solution [1] High quality drawing correctly lined in [1]	**16**
B5(b)(i)	Acceptable answers include: Acetate, cellophane or polypropylene, Polystyrene, PET, HIPS	**1**
B5(b)(ii)	Tick (✓) to show the award of marks **Making** Sketch shows marking out and cutting out the shape [1] Tool for cutting (such as scissors) [1] **Attaching** Sketch shows the plastic sheet is larger than the opening in the package [1] Method of joining the window to the package named (for example, double sided tape or glue) [1]	**4**
B5(c)(i)	Acceptable answers include: Bar code Product name Recycle after use Made from recycled paper Does not contain nuts Estimated weight [1 × 2]	**2**
B5(c)(ii)	The hole is cut in the package so it can hang [1] on a rack [1] **or** handle [1] for lifting [1]	**2**
	Total:	**25**