Cambridge O Level

Cambridge Assessment International Education
Cambridge Ordinary Level

CDT: DESIGN AND COMMUNICATION **7048/01**

Paper 1 **October/November 2017**

MARK SCHEME

Maximum Mark: 80

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.

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

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Question	Answer	Marks
A1(a)(i)	**Side view** P correct to format given [1] Detail for handle correct to overlay [1] Hidden detail shown by a dashed line [1]	**3**
A1(a)(ii)	**End view** Any rectangle for the handle added to the end view [1] Rectangle correct to overlay [1] Detail for handle correct to overlay [1] Hidden detail shown by a dashed line [1]	**4**
A1(a)(iii)	**Plan view** Rectangle added to the plan view correct to overlay [1] Hidden detail shown by a dashed line [1]	**2**
A1(b)	Any two from: Try square, set square, Rule Stencil, template Marker Pen, felt tip pen, (do not accept pencil / pen)	**2**
A1(c)	Some thick and thin lines added [1] Thick lines applied to the outside edges [1] Thick and thin line technique applied correctly to the hole [1]	**3**
A1(d)	Second large side added [1] Side the same size as that given (ignore slots) [1] Second smaller end added [1] End the same size as that given (ignore slots) [1] --- Bottom drawn (correct size to fit inside or on the bottom of the mug) 3 × 3 blocks or 5 × 5 blocks [1] Slot or space shown for handle [1] **Please note:** There are a number of different positions that the parts can be placed on the grid – accept any positions as long as the parts do not overlap	**6**
A1(e)	Isometric drawing (30 degrees) [1] *Height of front box correct to overlay (84) [1] *Width correct to overlay (50) [1] *Depth correct to overlay (54) [1] --- Hanging surface correct to overlay (40 × 50) [1] Hole **B** included in the hanging surface [1] Some inner detail added [1] Inner detail correct to overlay or candidate solution [1] * must be an isometric drawing of a cuboid	**8**
A1(f)(i)	Hole A is for the handle to go through [1]	**1**
A1(f)(ii)	Hole B is for hanging the package on a rack [1]	**1**

Question	Answer	Marks
B2(a)(i)	Outer rectangle correct to overlay [1] Inner rectangle correct to overlay [1] Inner rectangle in the middle of the outer rectangle [1]	**3**
B2(a)(ii)	Major axis 100 mm [1] Minor axis 60 mm [1] Some evidence of ellipse construction [1] Clear evidence of construction with min four points plotted [1] Five or more points plotted [1] Ellipse profile correct to overlay [1]	**6**
B2(a)(iii)	Any hexagon drawn [1] Any regular hexagon drawn [1] Hexagon correct to overlay [1]	**3**
B2(b)	Material marked out to be folded in some way [1] Foam board folded into a square shape [1] Some understanding of how to cut and fold foam board [1] Clear understanding of how the outer skin of foam board Is preserved for folding [1] One cutting tool named (for example, a Stanley knife) [1] two other pieces of equipment required to cut the foam board named (mat and safety rule) [1] Joining method named (double sided tape, PVA Epoxy PATTEX) [1]	**7**
B2(c)(i)	Specification points must be justified (*what* and *why)*. Acceptable answers include: *The model must stand on a flat surface [1] so that it does not wobble in use [1]* *The model must have a flat top [1] so cups and ornaments can sit on it [1]* *The top and the bottom must be firmly joined to the base [1] so they do not fall apart in use [1]* *The base would be made of wood [1] so that it is strong enough to hold the weight of cups and ornaments [1]* *No one-word answers* [2 × 2]	**4**
B2(c)(ii)	Appropriate method [1] of evaluating a specification point [1]. For example: *You could check if people think it looks nice [1] by showing them a photograph of the table and getting them to fill in a questionnaire [1]* *You could check how strong it is [1] by loading it with weights until it collapses [1]*	**2**

Question	Answer	Marks
B3(a)	Some corrugations added [1] Square or sine wave corrugations added correctly [1]	**2**
B3(b)(i)	N, T and H added in any style [1] N, T, and H added in capital letters with thickness [1] Height of letters consistent [1] Spacing of letters to overlay or candidate solution [1]	**4**
B3(b)(ii)	Five more squares added [1] At least one square the correct size [1] --- One mark for each square correct to overlay (size and position) 5 × 1 [1] [1] [1] [1] [1]	**7**
B3(c)	Sketch shows a method [1] Notes or labels name a method [1] --- Clear evidence of the joining method allowing the circle to rotate [1]	**3**
B3(d)	Identify the following stages: Letters drawn out on the self-adhesive vinyl **or** on a computer screen [1] Letters cut out (by hand **or** by cutter plotter) [1] Letters weeded (middle of letters removed) [1] Letters peeled off the sheet (either individually or on transfer sheet) [1] Letters applied to the sign by pressing in place [1]	**5**
B3(e)	Sketched and notes show: An idea for holding the sign in an upright position [1] It is unlikely to fall over (stability) [1] Idea clearly communicated by sketches [1] Notes clearly explain the idea [1]	**4**

Question	Answer	Marks
B4(a)	Right side of box (a) completed and in proportion [1] Left side of box (b) completed and in proportion [1] Inner corner (c) of box completed [1]	**10**
	Correct shape (d) added to the given flap [1]	
	Flap 2 drawn [1] Correct to overlay [1] Flap 3 drawn [1] Correct to overlay [1] Flap 4 drawn [1] Correct to overlay [1]	
B4(b)	Three dimensional bar chart [1] Three bars drawn [1] Scale applied to the cost (vertical) axis [1]	**8**
	One mark for correctly plotting each of the three bars against the scale [1] + [1] + [1] Appropriate colour / shading added [1] Appropriate labels added [1]	
B4(c)(i)	Reasons must include an explanation. e.g. More material used (1) and materials are expensive (1) Made from different materials (1) costs of materials vary (1) Different construction methods used [1] and in some cases this might involve expensive adhesives (1) [1] + [1] [1] + [1]	**4**
B4(c)(ii)	Example given of the use of colour in packaging (red lettering) [1] Appropriate example of the use of colour in packaging (red for a warning sign) [1] Reason why the use of colour is important (the colour stands out) [1]	**3**