

CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge Ordinary Level

MARK SCHEME for the October/November 2015 series

7048 CDT: DESIGN AND COMMUNICATION

7048/01

Paper 1, maximum raw mark 80

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Page 2	Mark Scheme	Syllabus	Paper
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- 1 (a) (i) Diameter of cap correct to overlay [1]
 Width of cap correct to overlay [1]
 Length of gap between tube and cap [1]
 Diameter of gap between tube and cap to overlay [1]
 Overall length of tube and cap correct to overlay [1]
 Tapered part of tube (length and diameter) correct [1]
 Flat end of tube added (overlay or candidate solution) [1] [7]
- (ii) Circle added to show the cap [1]
 Circle of the correct size (30 mm) [1]
 Lines added to the left to show tube widening at the end (correct to overlay) [1] [3]
- (b) Specification points must be for the **material** used to make the **tube**, not the toothpaste.
 They might include:
- Must be flexible so it can be squeezed
 - Must be able to print on it
 - Must contain the paste (accept waterproof)
 - Must be hygienic
 - Mouldable
 - Can be recycled
- One mark for each appropriate point [1 × 2] [2]
- (c) Toothpaste shown coming out of tube [1]
 Bristles added to the brush [1]
 Style the same as that given (basic outline drawing) [1] [3]
- (d) Circle drawn of any size [1]
 Circle correct to overlay Ø60 mm [1]
 Top circle correct to overlay Ø60 mm or candidate response [1]
 Distance between top and bottom circle correct (20 mm) [1]
 (90° / 60° / 45° / 30°)
 Two lines added to join top and bottom circles [1] [5]
- (e) Two similar size sides (to the ones given) added [1] + [1]
 Top, of an appropriate size [1] added in the correct position [1]
 A glue tab added to the long side of the given surface [1]
 At least one fold in flap added to the bottom [1]
 At least three fold in flaps added to the top [1]
 Correct use of fold lines - - - - - and solid lines----- [1] [8]
- (f) One mark for the **reason** and one mark for the **explanation**. For example:
- Use recycled card [1] so that less trees are cut down [1]
 - Add a recycling symbol [1] so that people put the card in a recycling bin and it is used to make something else [1]
 - Biodegradable (non-toxic) [1] does not pollute soil [1]
 - Vegetable ink [1] renewable source [1]
- Do **not** accept 'use less card' [2]

[Total: 30]

Page 3	Mark Scheme	Syllabus	Paper
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- 2 (a) *Length of isometric bottle (80 mm) [1]
 *Width of isometric bottle (30 mm) [1]
 *Height of isometric bottle (80 mm) [1]
 25 mm taper [2]
 Square cap (any size) [1]
 Square cap centrally positioned [1]
 Cap 25 mm high [1]
 *No marks for 2D drawings and only award the first three marks for non-isometric 3D drawings [8]
- (b) Ø40 mm circle drawn [1]
 Top point correct to overlay (from given centre lines) [1]
 R80 joins 40 mm circle to top point (award to overlay or candidate solution) [1]
 R60 joins 40 mm circle to top point (award to overlay or candidate solution) [1] [4]
- (c) Acceptable answers include:
- *Manufacturer's name / trademark*
 - *Manufacturer's contact details (website, address, phone number...) / country of origin*
 - *Recycling symbols*
 - *Fragrance / flavour*
 - *Alcohol content*
 - *Contents (ml or fl.oz.)*
 - *Slogan / logo for men / for women*
- One mark for each point [1 × 2] [2]
- (d) Digital printing
No marks for ticking two boxes. X instead of a tick is acceptable [1]
- (e) Part b drawn the correct shape (square at 90° to part a) [1]
 Slot of appropriate size added to part b [1]
 Slot in part b in alignment with tab on part a [1]
 Outside shape of part c drawn [1]
 Outside shape of part d drawn at right angles to part c [1]
 Part c and d slot together (regardless of shape) [1]
 Part b drops into a recess in parts c and d [1]
 Part b aligned with recesses in part c and d [1]
No marks if not exploded [8]
- (f) Reasonable attempt to add thick lines to the outer edge [1]
 Thick lines to shoulder [1]
 And bottom edge of tenon [1] [3]
- (g) Craft knife / Stanley knife / scalpel [1]
 Safety rule / metal rule / steel rule [1] [2]
- (h) The two marks are for **what** and **how**. For example:
You could check the size of each piece [1] by measuring it with a rule [1]
You could check the finish on the edges [1] by looking at them closely [1] [2]

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- 3 (a) Semi octagon drawn of any size [1]
Horizontal top (40 mm) to overlay [1]
Right 45 degree line any length [1]
Left 45 degree line any length [1]
Right and left uprights to given end of bed [1]
Base line added to candidate solution [1]
Half octagon shape lined in [1] [7]
- (b) **P1**
Arc drawn [1]
Arc of the correct size and from the correct centre [1] [2]
- P2**
Arc drawn [1]
At least three positions on the arc correctly shown (linked to right part) [1]
Points plotted project the correct path down to horizontal position [1]
P2 Joined with a smooth curve [1] [4]
- (c) **Side view**
Major axis of 60 mm [1]
Minor axis of 40 mm [1]
Some construction evident [1]
Four points correctly plotted [1]
Or more than four points correctly plotted [1]
Profile correct to overlay [1] [6]
- Left angled end added [1]
Left angled end matches the plan [1] [2]
- Plan**
Right horizontal and vertical line of ellipse [1]
Left horizontal and vertical line of ellipse [1]
Right (crease) angled edge [1]
Centre lines (×2) made solid [1] [4]
- [Total: 25]

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- 4 (a) Appropriate colour or pencil used (grey or blue) [1]
 Some shading added [1]
 Shading shows a reflective, transparent surface [1] [3]
- (b) (i) Lines projected back at approximately 45 degrees [1]
 Outer parallelogram completed with rounded corners [1]
 Two parallelogram pots added to the top surface [1]
 Ellipse added to top surface [1]
 Inside detail of circle [1] and rectangles shown [1] [6]
- (ii) **Plan**
 Three circles added [1]
 Three circles in the correct position [1]
 Triangle added [1]
 Equilateral triangle [1]
 Triangle in the correct position [1] [5]
- Side view**
 Horizontal line for side view (length matches the plan) [1]
 Two rectangles drawn in good proportion beneath the horizontal line [1] [2]
- (c) Appropriate scales used on the X and Y axis [1]
 Appropriate labels used on the X and Y axis [1]
 Points correctly plotted:
 • One point [1]
 • Two points [1]
 • Three points [1]
 • Four points [1]
 Points joined together with a line [1] [7]
Bar Chart = first two marks only
Pie Chart = Zero (0)
- (d) **Meaning**
 The symbol identifies a plastic (PVC) [1]
 (Accept it is PVC)
Why?
 It is needed so that the type of plastic can be identified for recycling [1] [2]

[Total: 25]

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- 6 (a) At least three process boxes of the correct shape [1]
 Five process boxes of consistent shape and width with start box [1]
 1 mark for number of stages in the correct places:
 • One stage in the correct place [1]
 • Two stages in the correct places [1]
 • Three stages in the correct places [1]
 • Four / five stages in the correct places [1]
 End (or finish) box added of correct shape [1]
Number / Green button can be reversed [7]
- (b) (i) Rectangle completed of correct length [1] and height [1]
 Two diagonals added [1]
 R10 curve added [1]
 Gaps between diagonals and R10 arc [1] [5]
- (ii) Circle of correct size (R35 mm) added [1]
 Two arcs added (R40 mm – estimated length) [1]
 Two 45 degree lines added from centre of circle [1]
 Horizontal line added to base (overlay of candidate solution) [1] [4]
- (c) Front in perspective [1] and proportion [1]
 Side in perspective [1] and proportion [1]
 Screen in perspective [1] and proportion [1]
 Buttons 3 × 5 in rectangle [1]
 Buttons reducing in size [1]
 Rounded corners [1] [9]

[Total: 25]