Cambridge Assessment International Education

Cambridge IGCSE™

DESIGN AND TECHNOLOGY **0445/53**

Paper 5 Graphic Products **May/June 2022**

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.

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

Cambridge International will not enter into discussions about these mark schemes.

Cambridge International is publishing the mark schemes for the May/June 2022 series for most Cambridge IGCSE, Cambridge International A and AS Level and Cambridge Pre-U components, and some Cambridge O Level components.

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Generic Marking Principles

These general marking principles must be applied by all examiners when marking candidate answers. They should be applied alongside the specific content of the mark scheme or generic level descriptors for a question. Each question paper and mark scheme will also comply with these marking principles.

GENERIC MARKING PRINCIPLE 1:

Marks must be awarded in line with:

- the specific content of the mark scheme or the generic level descriptors for the question
- the specific skills defined in the mark scheme or in the generic level descriptors for the question
- the standard of response required by a candidate as exemplified by the standardisation scripts.

GENERIC MARKING PRINCIPLE 2:

Marks awarded are always **whole marks** (not half marks, or other fractions).

GENERIC MARKING PRINCIPLE 3:

Marks must be awarded **positively**:

- marks are awarded for correct/valid answers, as defined in the mark scheme. However, credit is given for valid answers which go beyond the scope of the syllabus and mark scheme, referring to your Team Leader as appropriate
- marks are awarded when candidates clearly demonstrate what they know and can do
- marks are not deducted for errors
- marks are not deducted for omissions
- answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.

GENERIC MARKING PRINCIPLE 4:

Rules must be applied consistently, e.g. in situations where candidates have not followed instructions or in the application of generic level descriptors.

GENERIC MARKING PRINCIPLE 5:

Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

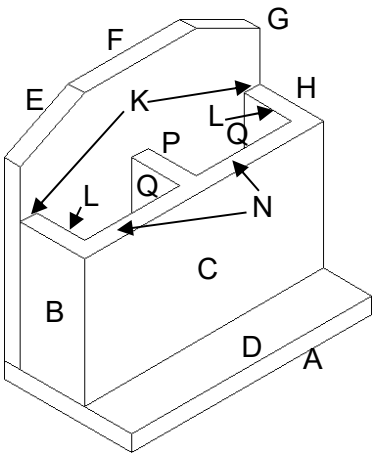
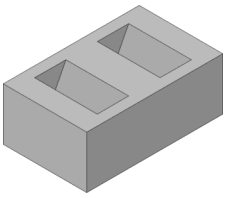
GENERIC MARKING PRINCIPLE 6:

Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

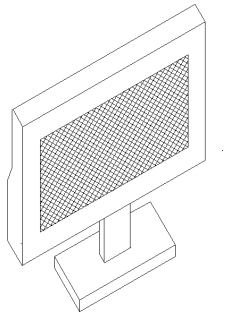
Section A

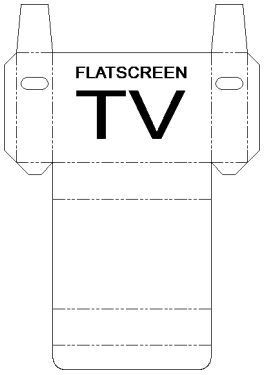
Question	Answer	Marks
A1(a)	One button correct size (1) Both buttons drawn correct size (1) In correct position (1)	**3**
A1(b)	Rectangle 55 × 20 (1) Second button projected correctly from given buttons (1)	**2**
A1(c)	Height 105 / projected from plan (1) 20 deep at base (1) 10 deep at top (1) Vertical line from base 40 mm (1) Sloping line 20 mm (1) Buttons 3 mm deep (1) Buttons projected correctly from front view (1)	**7**
A2	Hacksaw/coping saw/bandsaw/hotwire cutter (1) Do not accept 'saw' on its own or any type of knife File/sandpaper/sanding block (1) PVA glue/double sided tape (1)	**3**
A3(a)	Rectangle drawn same size as existing (1) In correct position (1)	**2**
A3(b)	Outer arc radius 20 mm in centre (1) Inner arc radius 16 mm in centre (1) Line to end of circles (1)	**3**
A3(c)	Any octagon drawn (1) Any regular octagon drawn (1) Octagon drawn to correct size and position (1)	**3**
A3(d)	Two sides drawn on triangle are equal (1) Equilateral triangle drawn – 20 mm sides (1)	**2**

Section B

Question	Answer	Marks
B4(a)	 Front face of base ‘A’ (1) End of holder section ‘B’ (1) Front of holder section ‘C’ to candidate solution (1) Top face of base ‘D’ to candidate solution (1) Sloping face of backboard ‘E’ (1) Horizontal top face of backboard ‘F’ (1) Sloping face of backboard ‘G’ (1) Back edge of holder ‘H’ (1) Two back edges of left and right ends ‘K’ (1) Two Internal top edges ‘L’ (1) Two internal top edges of front ‘N’ (1) Centre divider ‘P’ in centre and 5mm thick (1) Two internal vertical lines ‘Q’ (1)	**13**
B4(b)	 Top face lightest (1) Two side faces have different tone shown (1) Internal sloping faces medium (1) Internal vertical faces dark (1) High Quality communication (1)	**5**
B4(c)	 Letters T and V added to correct height (projected from HC) (1) Both letters 30 mm wide (1) Letters 10 mm thick (1) Spaced evenly apart and from edges by 10 mm (1)	**4**

Question	Answer	Marks
B4(d)	Any three stages from: Create label design on computer (1) Export to laser cutter or vinyl cutter (1) Set up laser cutter/vinyl cutter (1) Cut out on thin acrylic / self adhesive vinyl (1)	**3**

Question	Answer	Marks
B5(a)	 Screen: Top face 10 mm width in planometric – 45º (1) Top section to top face width and 25 mm high (1) Bottom section 15 mm width and 25 mm high (1) Sloping section added between top and bottom (1) Base: Centre stand 15 mm width 20 mm below screen (1) Centre stand 5 mm deep (1) Base 55 mm long (1) Base 25 mm wide (1) Base 5 mm deep (1) In centre of stand (1)	**10**

Question	Answer	Marks
B5(b)(i)	 Front face 65 × 45 (1) Right side 45 × 15 (1) Base 15 mm deep (1) Back 45 mm deep (1) Lid 15 mm deep (1) Lid flap 10 mm deep (1) Right top flap as given left one (1) Side flap 5 mm thick as given one (1) Bottom flap 5 mm thick as given one (1) Dotted / dashed fold lines correct (1)	**10**
B5(b)(ii)	Good strength to weight ratio (1) Easy to cut / fold (1) Rigid in one direction (1) High impact resistance / resistance to damage (1)	**1**
B5(c)(i)	Flexography (1) Screen printing (1) or AOVR	**1**
B5(c)(ii)	Die cutting (1)	**1**
B5(d)	Recycle / recycleable (1) Handle with care / fragile (1)	**2**