DESIGN AND TECHNOLOGY **0445/23**

Paper 2 Graphic Products **October/November 2019**

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 October/November 2019 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

Cambridge Assessment International Education

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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.

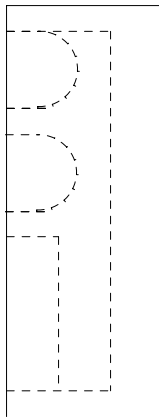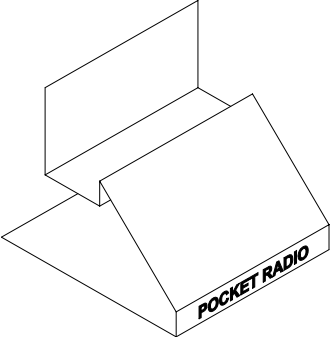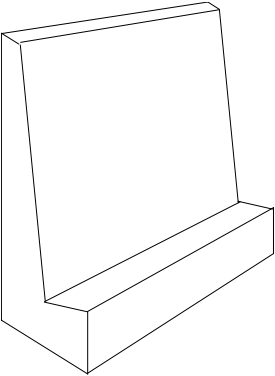| |
|---|
| GENERIC MARKING PRINCIPLE 1:

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

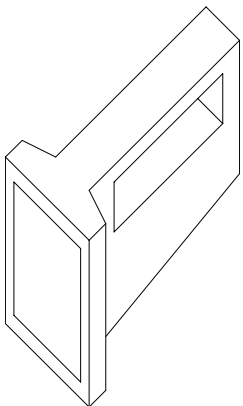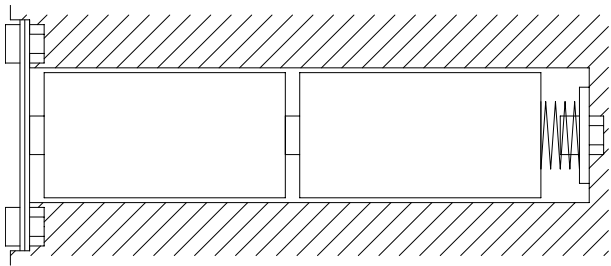| Question	Answer	Marks
A1(a)	Back face of net 100 × 30 (1) Top face of net 100 × 80 with window (1) Front face of net 100 × 30 with lettering (1) Base of net 100 × 80 (1) Fold lines drawn correctly as dotted/dashed (1)	**5**
A1(b)	Glue flap added 10 mm wide to top or bottom (1) To bottom face of base (1)	**2**
A1(c)	Window 70 × 45 correct orientation (1)	**1**

Question	Answer	Marks
A2(a)(i)	PVA glue	**1**
A2(a)(ii)	Hot melt glue, double sided tape, UHU	**1**
A2(b)	Acetate, polythene sheet, cellophane, LDPE	**1**

Question	Answer	Marks
A3(a)(i)	Side View Large rectangular hole 70 × 20 in correct position (1) Hidden detail (1) Circular hole 30 × 10 in correct position (1) Hidden detail (1)	**4**

Question	Answer	Marks
A3(a)(ii)	Front View Outline 100 × 30 (1) Large rectangular hole 45 × 20 in correct position (1) Hidden detail (1) Circular hole 30 × 10 in correct position (1) Hidden detail (1) Rectangle for battery holes 30 × 15 (1) Hidden detail (1)	**7**
A3(b)(i)	2:1 (1)	**1**
A3(b)(ii)	Letter 'C' added to appropriate size (1) Letter 'A' added to appropriate size (1)	**2**

Section B

Question	Answer	Marks

B4(a)	
	
	1 Front vertical edge 70 wide × 10 high (1)
	2 Front sloping edge 35 mm back and 35 mm up (1)
	     to make 45° line (1)
	3 R/H sloping back edge to candidate solution (1)
	     and top edge to candidate solution (1)
	4 Vertical inside front edge 10 mm (1)
	5 Horizontal top platform 25 × 70 (1) (line disappears behind front slope)
	6 Vertical back 25 × 70 (1)
	7 Base front edge 80 mm (1)
	8 Base rear edge disappearing behind (1)
	9 Inside corner line disappearing behind sloping edge (1)
		11

B4(b)	Grain added to sloping edge (1) Grain added to front edge (1) End grain added to end view (1) Grain lines on front and end views align (1)	4
B4(c)	 1 Vertical line – front corner 15 mm (1) 2 Top horizontal line 5 mm long (1) 3 Sloping line from front lip to bottom of sloping line (1) 4 Sloping line from top corner to correct position (1) 5 Lines from 5 corners of front face to VP (1) 6 Base line drawn between 45 and 55 mm long (1) 7 Vertical front back edge (1) 8 Sloping back edge of lip (1) 9 Sloping long back edge (1) 10 Top back edge (1)	10

Question	Answer	Marks
B5(a)	Front view completed 50 × 50 (1) Side face of front lens 50 × 10 (1) Glass width (1) Glass height (1) Vertical back edge of handle 40mm long (1) Sloping bottom edge correct (1) Handle hole 65 × 15 (1) On correct side of torch (1) Hole 5 down from top (1) Hole 10 from end (1) Inside corner of handle (1)	11
B5(b)	Some variation in darkness of shading from left to right on battery body or terminal (1) Dark at both edges gradually fading to light in the middle on body and terminal (1) Vertical shading lines parallel with two vertical edges on body and terminal (1)	3
B5(c)	Negative contact washer in correct position and diameter 20 mm (1) Negative contact washer 2 mm thick inside spring (1) Bolt head on negative contact Ø8 mm (1) Bolt head on negative contact 4 mm thick (1) Battery main body 50 × 26 (1) Battery positive terminal 8 × 3 mm (1) Positive contact 48 wide (1) Positive contact 2 thick (1) Battery cover 48 × 2 (1) Two Bolt heads 8 × 4 (1) Bolt heads in correct positions (1)	11