Cambridge Assessment International Education

Cambridge IGCSE™

DESIGN & TECHNOLOGY **0445/53**

Paper 5 Graphic Products **May/June 2021**

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 2021 series for most Cambridge IGCSE™, Cambridge International A and AS Level components and some Cambridge O Level components.

[Turn over

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:

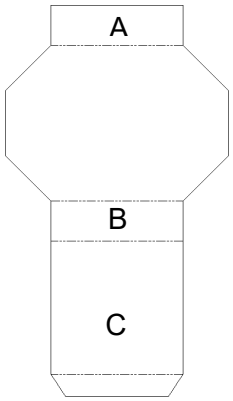
Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).

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.

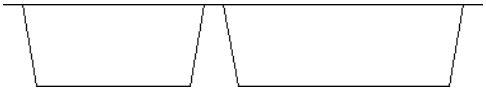
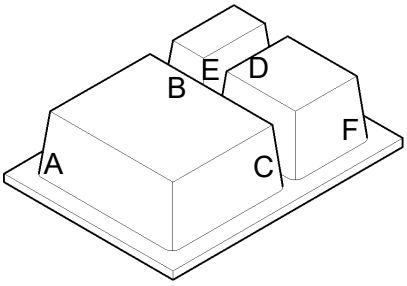
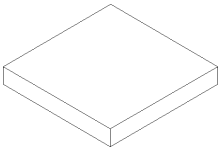
Section A

Question	Answer	Marks
A1(a)	Outline 200 mm wide × 140 high (1) Any 45° lines to corners (1) 45° lines drawn in correct positions (1) Complete outline correctly positioned on centre lines (1)	**4**
A1(b)	Circle R60 (1) In correct position (1)	**2**
A1(c)	Any hexagon (1) Any regular hexagon (1) Hexagon correct to overlay (1)	**3**
A1(d)	Isosceles triangle drawn (1) To correct width and depth and in correct position (1)	**2**
A1(e)	Letters D and A added (1) To correct size and proportion (1)	**2**

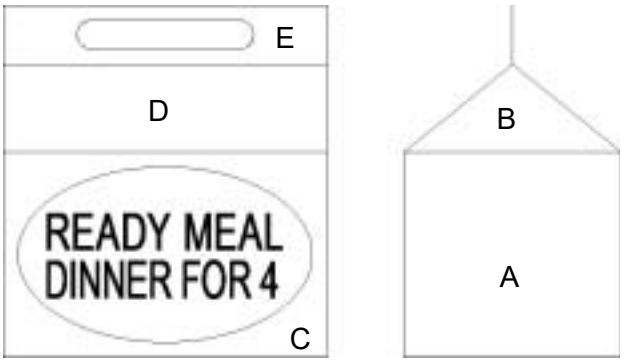
Question	Answer	Marks
A2(a)	 Side ‘A’ above given face (1) 18 mm long × given width (correct to overlay) (1) Side ‘B’ below given face (1) 18 mm long × given width (correct to overlay) (1)	**4**
A2(b)	Back face ‘C’ to given width (1) 60 mm long (1) Dotted/dashed fold lines to each end (1)	**3**
A2(c)	Glue flap drawn to any size / width on either end (1) Glue flap drawn to given width on correct end (1)	**2**

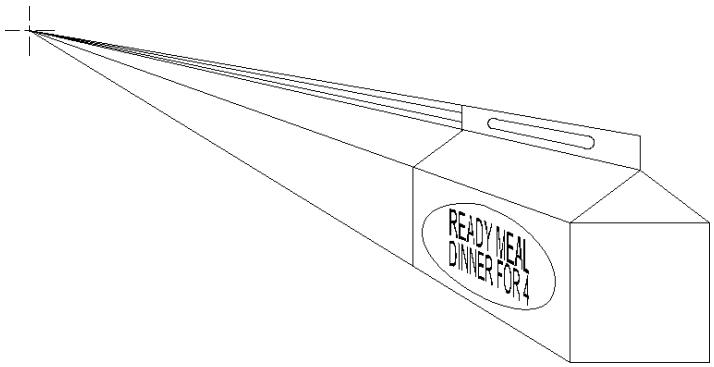
Question	Answer	Marks
A3	Any modification shown to the development (net) (1) Modification to stop the tray sliding out of the sleeve (1) High quality sketches and notes showing clear solution that will work (1)	**3**

Section B

Question	Answer	Marks
B4(a)	 Top of left tray 38 mm wide (1) Depth of left tray 17 mm (1) Top of right tray 50 mm wide (1) Depth of right try 17 mm (1) Sides of trays sloping inwards at same angles (1) Right hand top lip 4 mm (1) Centre section 4 mm (1) Horizontal line – top back edge (1)	**8**
B4(b)	 Outer edge (1) Line ‘A’ extended to base (1) Back edge of large section ‘B’ (1) Line ‘C’ (1) Back edge of medium size section ‘D’ (1) Line ‘E’ (1) Line ‘F’ extended to base (1) Do not award mark if extra lines added to an adjacent face.	**7**
B4(c)(i)	 Left hand edge added correctly (1) Top face completed correctly (1)	**2**
B4(c)(ii)	Plastic film added between lid and tub (1) Plastic film in line with lid and tub (1) Plastic film same size as tub top face and lid (1)	**3**
B4(d)(i)	Design drawn on computer / CAD (1) Design saved and downloaded to CAM machine (1) Design printed onto paper (1) Printed paper inserted into vinyl cutter/STIKA (1) Label shape cut out using CAM (1) Any three of the above stages	**3**

Question	Answer	Marks
B4(d)(ii)	Images / text / fonts can be produced/altered (1) quickly and easily (1) Images can be saved (1) so easy to retrieve/won't get lost/damaged (1) Images can be emailed (1) saving time (1) Design can be copied/reproduced accurately (1) many times (1) Any of the above or any other valid response For generic answers e.g. 'quicker', 'easier', 'more accurate' with no explanation award one mark only.	**2**

Question	Answer	Marks
B5(a)(i)	 **Side view** Square 'A' 70 × 70 (1) Triangle 'B' above A and same width (1) Triangle 'B' 30 mm high (1) Handle at point of triangle (1) Handle 20 mm long (1)	**5**
B5(a)(ii)	**Front view** Rectangle 'C' 100 × 70 (1) Sloping side 'D' – rectangle correct to width of 'C' (1) Sloping side 'D' projected correctly from side view 'B' (1) Handle 'E' – same width as 'D' (1) Handle height projected from side view (1)	**5**
B5(a)(iii)	Major axis 100 mm (1) Minor axis 60 mm (1) Some construction (1) Six or less points plotted (1) Seven or more points plotted (2) Ellipse profile correct to overlay (1)	**6**

Question	Answer	Marks
B5(b)	 Bottom and right end lines and handle added correctly on end view (1) Bottom line from LH bottom corner to VP (1) Top line on LH top edge from corner to VP (1) Line from apex of triangle on end view to VP (1) Vertical back edge in proportion (1) Sloping back edge parallel to front edge (1) Vertical back edge on handle (1)	**7**
B5(c)	Scalpel / craft knife / stanley knife / exacto knife (1) – Any suitable knife Allow laser cutter. Do not allow: scissors, box cutter, die cutter PVA glue or any other suitable adhesive (1) Allow hot glue gun and trade names if adhesive is suitable	**2**