Cambridge Assessment International Education

Cambridge International AS & A Level

DESIGN & TECHNOLOGY **9705/01**

Paper 1 AS Level Written Paper **For examination from 2025**

MARK SCHEME

Maximum Mark: 100

Specimen

This document has **26** pages. Any blank pages are indicated.

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 descriptions 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 descriptions for the question
- the specific skills defined in the mark scheme or in the generic level descriptions 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 descriptions.

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 descriptions in mind.

Guidance on using levels-based mark schemes

Marking of work should be positive, rewarding achievement where possible, but clearly differentiating across the whole range of marks, where appropriate.

The marker should look at the work and then make a judgement about which level statement is the best fit. In practice, work does not always match one level statement precisely so a judgement may need to be made between two or more level statements.

Once a best-fit level statement has been identified, use the following guidance to decide on a specific mark:

- If the candidate's work **convincingly** meets the level statement, award the highest mark.
- If the candidate's work **adequately** meets the level statement, award the most appropriate mark in the middle of the range (where middle marks are available).
- If the candidate's work **just** meets the level statement, award the lowest mark.

Annotation

- Ticks have no defined meaning for levels of response marking.
- Other annotations will be used by examiners as agreed during standardisation, and the meaning will be understood by all examiners who marked that paper.

Generic level descriptions mark schemes

Use **Tables A1** and **A2** to give marks for each candidate response for **Question 6**.

Table A1 AO2 Application and communication

Candidates should be able to:

- Apply knowledge, understanding and skills in a variety of contexts (AO2a)
- Communicate knowledge and understanding using sketches, notes and a range of graphical techniques, including conventions and specialist vocabulary (AO2b).

Level	Description	Marks
Level 3	• The modification shows application of accurate relevant knowledge. (AO2a) • The modification shows a clear application to the given context. (AO2a) • The modification is communicated with precision and clarity. (AO2b) • Sketches have detailed correct annotations, including appropriate conventions and specialist vocabulary. (AO2b)	5–6
Level 2	• The modification shows application of some relevant knowledge. (AO2a) • The modification may not all be wholly relevant to the context. (AO2a) • The modification is communicated. (AO2b) • Sketches have appropriate annotations, with some conventions and specialist vocabulary. (AO2b)	3–4
Level 1	• The modification shows application of limited relevant knowledge. (AO2a) • The modification shows a basic understanding of the context. (AO2a) • The modification is partially communicated. (AO2b) • The sketches have some annotations, with limited conventions and specialist vocabulary. (AO2b)	1–2
Level 0	• No creditable response.	0

Table A2 AO4 Analysis and evaluation

Candidates should be able to:

- Analyse, evaluate and compare products (AO4a)
- Identify and/or propose how to improve and/or modify products (AO4b)
- Analyse wider issues in design and technology (including cultural, economic, environmental and social factors) (AO4d).

Level	Description	Marks
Level 3	• The modification is based on a thorough and detailed analysis, evaluation and/or comprehensive comparison of products. (AO4a) • The modification is appropriate and fully functions as intended. (AO4b) • The modification shows a thorough analysis of a broad range of wider issues in design and technology. (AO4d) • The modification successfully meets the needs of the user(s)/context. (AO4d)	5–6
Level 2	• The modification is based on an analysis, evaluation and/or comparison of products. (AO4a) • The modification is appropriate and mostly functions as intended. (AO4b) • The modification shows some evidence of analysis of a few wider issues in design and technology. (AO4d) • The modification mostly meets the needs of the user(s)/context. (AO4d)	3–4
Level 1	• The modification shows little or incomplete analysis, evaluation and/or comparison of products. (AO4a) • The modification is mostly appropriate and partially functions as intended. (AO4b) • The modification shows little or incomplete analysis of any wider issues in design and technology. (AO4d) • The modification meets the needs of the user(s)/context in a limited way. (AO4d)	1–2
Level 0	• No creditable response.	0

Use **Tables B1** and **B2** to give marks for each candidate response for **Question 7**.

Table B1 AO1 Knowledge and understanding

Candidates should be able to:

- Demonstrate knowledge and understanding of the impact of design and technology on society (including cultural, economic, environmental and social factors) (AO1c).

Level	Description	Marks
Level 3	• The response thoroughly demonstrates accurate and relevant knowledge of the topic. (AO1c) • The response shows thorough understanding of the impact on society and uses relevant examples and supporting evidence. (AO1c)	5–6
Level 2	• The response includes some accurate and relevant knowledge of the topic. (AO1c) • The response shows some understanding of the impact on society and includes examples and supporting evidence some of which may not be relevant to the topic. (AO1c)	3–4
Level 1	• The response shows limited knowledge of the topic and some points may not be relevant. (AO1c) • The response shows limited understanding of the impact on society. There is limited use of examples and supporting evidence which may be of limited relevance. (AO1c)	1–2
Level 0	• No creditable response.	0

Table B2 AO4 Analysis and evaluation

Candidates should be able to:

- Analyse, evaluate and compare products (AO4a)
- Analyse wider issues in design and technology (including cultural, economic, environmental and social factors) (AO4d).

Level	Description	Marks
Level 3	• The response thoroughly analyses, evaluates and/or compares products with relevant and detailed supporting evidence. (AO4a) • Detailed discussion of more than two wider issues in design and technology. The analysis is well supported with relevant and detailed information. (AO4d)	5–6
Level 2	• The response analyses, evaluates and/or compares products with supporting evidence which is not always relevant. (AO4a) • Discussion of at least two wider issues in design and technology. The analysis is supported with relevant information. (AO4d)	3–4
Level 1	• The response shows little or incomplete analysis, evaluation and/or comparison of products. (AO4a) • Description of at least one wider issue in design and technology. The description is supported with limited relevant information. (AO4d)	1–2
Level 0	• No creditable response.	0

Question	Answer	Marks	Guidance
1(a)(i)	**Name <u>one</u> specific composite material that could be used for the base of the tray.** Exemplar answers: • Chipboard • Engineered wood • Plywood • Blockboard • Medium density fibreboard (MDF) • Glass fibre reinforced plastic (GRP) Accept all valid responses.	**1**	
1(a)(ii)	**Name <u>one</u> specific type of hardwood that could be used for the sides of the tray.** Exemplar answers: • Oak • Beech • Walnut Accept all valid responses.	**1**	

Question	Answer	Marks	Guidance
1(a)(iii)	**Explain <u>one</u> property of the hardwood named in part <u>(a)(ii)</u> that makes it suitable for the use.** Exemplar answers: <u>Property for oak:</u> • It will last a long time [1] in damp weather conditions [1] • It is dense and non-porous [1] making it water resistant [1] <u>Property for beech:</u> • It is a close-grained wood [1] that does not splinter [1] • It has a glossy appearance [1] that makes it aesthetically pleasing [1] <u>Property for walnut:</u> • It is a very strong and stable wood [1] which is easy to work with for turning and carving [1] • It is very durable/long-lasting [1] making it highly resistant to tear and wear [1] Accept all valid responses.	**2**	Award two marks for a clear explanation. Allow for the wrong hardwood in **1(a)(ii)** but the correct properties given in **1(a)(iii)**.
1(b)(i)	**Name a smart material.** Exemplar answers: • Photochromic ink [1] • Thermochromic ink [1] • Shape memory alloys [1] • Hydrogels [1] Accept all valid responses.	**1**	Accept misspellings as long as the meaning is clear.

Question	Answer	Marks	Guidance
1(b)(ii)	**Describe how the smart material named in part <u>(b)(i)</u> could be used in a product.** Exemplar answers: • Use of photochromic ink on a T-shirt to warn people not to stay out in the sun for too long [1]. A message will be revealed on the T-shirt [1] when exposed to direct sunlight [1] • Use of thermochromic ink on a baby feeding spoon to show when the food is too warm [1]. The spoon will change colour [1] if the food is too warm [1] • Use of shape memory alloys on an eye glasses frame so that it can return back to shape if the glasses are sat on [1]. The glasses can be bent back and forth and retain their shape [1] without getting damaged [1] • Use of hydrogels on nappies so that they can absorb a lot of liquid while maintaining their structure [1]. The hydrogels work to make the nappy swell up to absorb the liquid [1] avoiding leaks and keeping the structure of the nappy [1] Accept all valid responses.	**3**	Award one mark for the identification of an appropriate product and how the smart material could be used in the product. Award up to two additional marks for the description.

Question	Answer	Marks	Guidance
2(a)	**Explain <u>two</u> advantages of introducing CAD to a design studio.** Exemplar answers: • Wider range of drawings can be produced [1] including 2D, 3D, rendered or animation [1] • Direct transfer of CAD drawings [1] to manufacturing (CAM), e.g. laser cutter [1] • Increased capacity [1] to share and/or store documents [1] • Improved efficiency [1] in terms of producing and editing design proposals [1] • Staff can work remotely [1] so office space/costs can be reduced [1] • Fewer [1] but more highly trained/paid staff required [1] • Gives the company a more modern image [1] that will attract customers [1] Accept all valid responses.	**4**	Award two marks for each advantage that is clearly explained. Award a maximum of two marks for each advantage.
2(b)(i)	**Identify the presentation technique shown in Fig. 2.2.** • Isometric [1]	**1**	Accept misspellings as long as the meaning is clear.
2(b)(ii)	**Name <u>one</u> other presentation technique that could used by designers. Explain <u>one</u> reason why this presentation technique would be used by a designer.** Exemplar answers: • Presentation technique: Exploded sketch [1] Reason: It allows us to see the individual parts [1] and how they fit together [1] • Presentation technique: Two-point perspective [1] Reason: A two-point perspective drawing gives a more realistic view of the product [1] as the lines converge at the vanishing points [1] Accept all valid responses.	**3**	Award one mark for correctly naming the presentation technique. Award two marks for a clear explanation of the reason. Do not award marks for repeating the answer given in **2(b)(i)**.

Question	Answer	Marks	Guidance
3(a)	**Use sketches and notes to describe a method of making the card box from a single sheet of card. Include a method of attaching the clear polymer window.** **In your response, you should give details of any tools, equipment and processes involved and the safety precautions undertaken.** Award marks for each of the following stages: 1 Understanding of the shape required to make the package **EITHER** Correct shape development (net) with 6 surfaces, drawn in good proportion [2] **OR** Incomplete development (net) shown with only 3–5 surfaces [1] 2 Method of marking out the shape, e.g. hand-drawn or CAD [1] 3 Method of cutting out the shape: Method clearly shown, e.g. by hand or CAM [1] Tools, safety and equipment, e.g. craft knife, cutting mat, safety rule or cutter plotter, wear eye/hands protection, check safety catches/guards/ screens are in place [1] 4 Method of attaching the polymer window, e.g. glue or double-sided tape (make sure gloves are worn to prevent sticking or burning fingers and wear goggles to protect the eyes) [1] 5 Method of folding and joining: Method of folding, e.g. scoring lines [1] Method of joining, e.g. glue tabs with double-sided tape or glue [1] Accept all valid responses.	**8**	Hand or CAD methods are equally appropriate for making the prototype model. Award marks for the responses communicated either in sketches or notes.

Question	Answer	Marks	Guidance
3(b)	**Explain <u>two</u> features that would need to be considered when designing the former required to make the vacuum formed polymer tray.** Exemplar answers: • Sloping sides [1] so shape can be removed from the former [1] • Rounded corners [1] to avoid weak corners [1] • High quality surface finish [1] so there are no unsightly blemishes in the tray [1] • Material for the former must be strong enough [1] to withstand the pressure of vacuum forming [1] • Air vents [1] must be added to the former to prevent webbing [1] Accept all valid responses.	**4**	Award two marks for each correct feature that is clearly explained: • one mark for the feature • one mark for explaining what needs to be considered. Award a maximum of two marks for each feature.
3(c)(i)	**Explain why the designer would have considered the following when designing the package for cookies.** **research** Exemplar answers: • The designer would have completed research on different ways to stack the cookies [1] to maximise stability (so the cookies do not fall and crush)/to minimise materials in the packaging [1] • The designer would have completed research to collect information about costs of materials and suitability [1] before deciding on the materials to be used for the package [1] Accept all valid responses.	**2**	Award one mark for showing knowledge and understanding of the term research and one mark for the explanation of why it applies to the package for cookies. Accept reference to primary and secondary research.

Question	Answer	Marks	Guidance
3(c)(ii)	**sustainability** Exemplar answers: • The designer would have chosen sustainable materials manufactured locally [1] to reduce the distance the materials need to travel [1] • The designer would have designed the packaging to be as airtight as possible [1] to extend the life of the cookies and prevent food waste [1] • The designer would have specified a material for the polymer window that is compostable/recyclable [1] to reduce material that needs to go to landfill [1] • The designer would have specified the use of recycled card for the outer packaging that does not come in contact with the cookies [1] as this would save felling trees to make new card [1] • The designer would have included a recycling symbol on the card packaging [1] to inform consumers that the card can be widely recycled after use [1] Accept all valid responses.	**2**	Award one mark for showing knowledge and understanding of the term sustainability and one mark for the explanation of why it applies to the package for cookies.
3(c)(iii)	**aesthetics** Exemplar answers: • The designer would have selected a colour scheme for the graphics on the package [1] that would attract customers to purchase the product [1] • The designer would have selected a colour scheme to reflect the brand of cookies [1], e.g. a gold colour might be used if the cookies are high quality [1] • The designer would have chosen a style of packaging to reflect the brand/messaging of the cookie company [1], e.g. simple to imply home-made, modern to reflect nutritional value or luxurious for high quality [1] Accept all valid responses.	**2**	Award one mark for showing knowledge and understanding of the term aesthetics and one mark for the explanation of why it applies to the package for cookies.

Question	Answer	Marks	Guidance
3(d)(i)	**Define what is meant by good design.** Exemplar answers: • A good design meets the needs of the users [1] • A good design is innovative [1] • A good design makes the product useful [1] • A good design is simple. Less is more [1] • A good design makes the product understandable [1] • A good design is aesthetic/visually pleasing [1] Accept all valid responses.	1	
3(d)(ii)	**Give <u>one</u> example of how the package for cookies shows good design.** Exemplar answers: • The cookies fit tightly into the polymer tray [1] so that they do not move around and get damaged [1] • The tray allows half the cookie to be seen [1] so that it attracts customers to purchase/allows for easy removal of a cookie [1] • The cookies can be seen through the clear polymer window [1] to entice customers to purchase the cookies [1] • The end of the card box can easily be opened and closed [1] allowing just one cookie to be removed from the polymer tray [1] • The shape of the tray and box allows for efficient use of resources [1] allowing more cost-effective transport and storage [1] • The design of the packaging keeps the cookies fresher for longer [1] extending the expiry date of the product [1] Accept all valid responses.	2	

Question	Answer	Marks	Guidance
4(a)	**Explain <u>two</u> ways in which the safety of the user has been considered in the design of the child's trolley.** Exemplar answers: • No sharp edges [1] that might cut/graze/injure a child [1] • Minimises small parts [1] that a child might swallow [1] • Non-toxic materials used for the handle [1] to prevent harm if the child chewed the handle [1] • Stable [1] so that it does not fall over and injure the child [1] • Wheels securely fixed [1] so that they do not fall off with repeated use or when hitting a surface [1] Accept all valid responses.	**4**	Award two marks for each way that is clearly explained: one mark for the correctly identified way and one mark for the explanation. Award a maximum of two marks for each way.
4(b)	**Explain how a designer would use an iterative approach when designing a product such as the child's trolley.** Exemplar answers: • To continually improve the design of the child's trolley [1], such as completing further research on a specific feature or function/trying out alternatives in a protoype [1] • To keep trying to improve the design of the child's trolley [1], such as using alternative materials that are more sustainable/resilient [1] Accept all valid responses.	**2**	Award one mark for showing knowledge and understanding of the term iterative approach and one mark for the explanation of how it applies to the child's trolley. Accept other ways of expressing the idea of continual improvement. Accept examples for another product other than the trolley.

Question	Answer	Marks	Guidance
4(c)(i)	**Use sketches and notes to describe <u>one</u> temporary and <u>one</u> permanent method of joining corner <u>A</u> of the child's trolley.** **temporary joining method** <u>Method</u> Exemplar answers: • Screws [1] • Knock-down fittings [1] • Nuts and bolts [1] <u>Communication of method</u> Method clearly communicated, e.g. an exploded sketch correctly labelled [2] **OR** Method partially communicated, e.g. a sketch with some labels [1] Accept all valid responses.	**3**	Award one mark for the correctly identified method and up to two additional marks for the communication of the method. For two temporary joining methods award a maximum of three marks. Award marks for the responses communicated either in sketches or notes.
4(c)(ii)	**permanent joining method** <u>Method</u> Exemplar answers: • Dowel joint [1] • Lap joint [1] • Dovetail joint [1] <u>Communication of method</u> Method clearly communicated, e.g. an exploded sketch correctly labelled [2] **OR** Method partially communicated, e.g. a sketch with some labels [1] Accept all valid responses.	**3**	Award one mark for the correctly identified method and up to two additional marks for the communication of the method. For two permanent joining methods award a maximum of three marks. Award marks for the responses communicated either in sketches or notes.

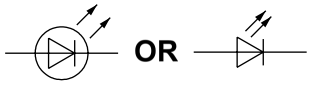
Question	Answer	Marks	Guidance
4(d)	**Suggest a suitable finish for the mild steel handle of the child's trolley. Justify your choice of finish giving reasons for your choice.** Exemplar answers: • Finish: paint [1] Justification: Paint is available in a wide range of bright colours [1] that will be attractive to children [1] and paint offers protection so the mild steel will not rust/corrode if the trolley is used outdoors [1] • Finish: textured plastic coating [1] Justification: Textured plastic coating is available in a range of bright colours [1] that will make the trolley visually appealing to children [1] and textured plastic coating will provide a hygienic surface that can easily be wiped clean to prevent the spread of germs [1] Accept all valid responses.	**4**	Award one mark for an appropriate named finish and a maximum of three further marks for the justification of the finish: • Award one mark for at least one valid reason. • Award two marks for some explanation of at least one reason. • Award three marks for a fully developed response with at least two reasons fully justified.

Question	Answer	Marks	Guidance
4(e)	**Explain <u>two</u> ways a safe working environment could be maintained during the manufacture of the child's trolley.** Exemplar answers: • Eye protection/ear defenders [1] should be worn when using a pillar drilling machine to drill the holes in the mild steel handle [1] • When sanding down the wooden parts of the trolley [1] a face mask/ respirator and eye protection should be worn and/or work in a well-ventilated room [1] • When cutting out the wooden parts of the trolley on a circular saw [1] the machine operator should have had training on how to use the machinery and all safety guards should be in place/the operator should avoid wearing lose clothing/hair should be tied up and they should wear a face mask/respirator/ear defenders/eye protection [1] • When cutting the joints at corner **A** with a tenon saw [1] the work must be held firmly in a bench vice to avoid injury [1] • When gluing and applying finishes such as varnish [1] gloves should be worn to protect the hands [1] Accept all valid responses.	**4**	Award two marks for each way that is clearly explained: • one mark for knowledge and understanding of the way (usually personal protective equipment, use of a vice or training) • one mark for explaining how this applies to the manufacture of the trolley. Award a maximum of two marks for each way.

Question	Answer	Marks	Guidance
5(a)(i)	**Explain why the power drill:** **has a range of speeds** Exemplar answers: • The speed the drill bit rotates can be changed [1] to be appropriate for the material being drilled [1] • The speed the drill bit rotates can be changed [1] to match the diameter of the drill bit [1] • The speed the drill bit rotates can be changed [1] to match the type of drill bit being used [1] Accept all valid responses.	**2**	Award two marks for a clear explanation.

Question	Answer	Marks	Guidance
5(a)(ii)	**is powered by a rechargeable battery** Exemplar answers: • The battery pack can be used where there is no mains electricity [1] making it more convenient to use outdoors or on building sites [1] • The battery pack can be recharged many times [1] making it a cost-effective method of powering portable tools [1] • The battery is convenient [1] because one battery can be charged while another battery is in use [1] • The battery is convenient [1] as it can be used when there is a power cut [1] • The battery pack can be used with other power tools [1] making it a cost-effective method of powering portable tools [1] • The battery pack is safer to use [1] as there is no power cable to trip over [1] Accept all valid responses.	**2**	Award two marks for a clear explanation.
5(a)(iii)	**has a case made from a polymer.** Exemplar answers: • Polymer is easy to mould to shape [1] so the case can be mass-produced [1] • Polymer can easily be coloured [1] so different brands or models can be different colours [1] • Polymer can be injection moulded or compression moulded [1] so complex shapes can easily be produced [1] • Polymer is flexible [1] so it can absorb impact without cracking or causing stress damage [1] • Polymer is a good insulator [1] so it reduces the chances of electric shocks [1] • Polymer can be moulded into different textures [1] to improve grip [1] Accept all valid responses.	**2**	Award two marks for a clear explanation.

Question	Answer	Marks	Guidance
5(b)(i)	**State the form of energy needed as an input for the power drill.** Electrical energy [1]	**1**	
5(b)(ii)	**Describe the output of the power drill.** The rotary motion of the drill [1]	**1**	
5(b)(iii)	**Explain how amplification is important to drill through different materials.** • Amplification is important because it allows the speed of the motor/drill to be changed [1]; the speed must match the diameter of the drill bit or material being drilled [1] • Amplification is important because it allows us to increase the speed of the drill [1] by controlling the flow of the current and/or the switching on/off of the drill/amount of pressure used on the switch to change the torque [1] • Amplification is important because it enables the drill to have different speeds to get through different materials [1] with lower speeds for harder materials and faster speeds for softer materials [1] Accept all valid responses.	**2**	
5(b)(iv)	**Name <u>one</u> component that can be used in the amplification.** Motor [1] Accept all valid responses.	**1**	

Question	Answer	Marks	Guidance
5(c)(i)	**Use sketches and notes to show <u>two</u> examples of how ergonomics has been used in the design of the power drill.** **example 1** Exemplar answers: • Example: Shape of the handle [1] Explanation: (Sketches and notes) show the handle is designed to give good grip [1] when held in one hand [1] Accept all valid responses.	**3**	Award one mark for the example shown as a sketch and up to a maximum of two additional marks for the explanation: • One mark for a partial explanation with limited detail with limited use of supporting notes or labels. • Two marks for an explanation with detail and supporting notes or labels.
5(c)(ii)	**example 2** Exemplar answers: • Example: Position of the on/off switch [1] • Explanation: (Sketches and notes) show the switch is positioned so that it can be operated (pressured/squeezed) by a finger [1] on the hand that is holding the drill [1] Accept all valid responses.	**3**	Award one mark for the example shown as a sketch and up to a maximum of two additional marks for the explanation: • One mark for a partial explanation with limited detail with limited use of supporting notes or labels. • Two marks for an explanation with detail and supporting notes or labels. Do not award marks for material already used in example 1 in **5(c)(i)**.
5(d)(i)	**Sketch the symbol that would be used to show an LED in a circuit diagram.**  **OR**	**1**	

Question	Answer	Marks	Guidance
5(d)(ii)	**State <u>one</u> reason why an LED is suitable for indicating a battery is being charged.** Exemplar answers: • Less likely to break than a bulb [1] • Uses less electricity than a bulb [1] • Available in a range of colours [1] • Low cost compared with a bulb [1] Accept all valid responses.	**1**	

Question	Answer	Marks	Guidance
6	**Use sketches and notes to describe how the design of <u>one</u> other product could be modified to be more inclusive, allowing it to be used by a wider range of users.** Use the level descriptions in **Tables A1** and **A2** to mark candidates' responses to this question. Responses may include some of the following ideas, but all valid material must be credited. • Understanding that a more inclusive product is adapted for a wider range of users • Examples of suitable products could be a kettle, bath taps, labels or a doorbell • Understanding of the specific needs of a person with an impairment such as limited movement, poor grip, reduced sight or hearing loss • Modifications to the product to accommodate the impairment such as a kettle pouring device, bath taps with a lever turn, enlarged text or braille on labels or a doorbell with visual display	**12**	The answer can be structured as freehand sketches with annotations.

Question	Answer	Marks	Guidance
7	**Discuss how design movements have impacted on the development of products used in society.** Use the level descriptions in **Tables B1** and **B2** to mark candidates' responses to this question. Responses may include some of the following ideas, but all valid material must be credited. • Reference to design movements such as Bauhaus Streamlining, Minimalism, Modernism and Postmodernism • Characteristics of Bauhaus products, such as simple, easy to mass produce, materials used in their honest and natural form and not altered and streamlined aesthetics • Characteristics of postmodernist products such as bold colours and outrageous patterns, transforms the ordinary and everyday, form does not follow function, turns cheap materials into expensive objects, use of humour and irony • Postmodernism principles have influenced designers to reinvent existing products by interpreting them in a modern way, redesigning them with more modern materials and technologies. Postmodernism, encourages designers to break away from the rules, to design something that catches the attention rather than blends into the background • Minimalism has influenced the design of products with its 'less is more' principle, by making design simple, stripping it down to the essentials, removing unnecessary components or features. Minimalist designs are good for the environment and can cost less as they focus only on the essentials using fewer resources • Modernism has influenced the design of products by promoting sleek, clean lines and eliminating decorative additions only used for the embellishment of the product. It results in the design of products that prioritise practicality and usefulness over beauty and excess. Modernism encourages designers to break away from the conventions of the past, to break stereotypes and to experiment	**12**	The answer must be structured in paragraphs with whole sentences.

Question	Answer	Marks	Guidance
7	• Technology has also had an impact on design movements. The current Maker design movement is a reaction to rapid technologising. It encourages a do-it-yourself focus and desire for authenticity, in the impersonal high-tech world. It is a cultural trend that places value on the individual's ability to be a creator of things as a well as a consumer of things • Design movements can be a reflection of the society that the designer lives in or a reaction to the society the designer lives in. The Arts and Crafts design movement was an international design movement that reacted against mass production, both the low quality of design and the demeaning conditions in which the products were mass produced. The movement started as a reaction to the Industrial Revolution and promoted the use of natural materials and the importance of decoration and beauty • Examples of how products are impacted by a design movement, such as furniture, architecture, electrical products or lighting		