GCE

Design and Technology

H006/01: Principles of product design

AS Level

Mark Scheme for June 2023

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

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MARKING INSTRUCTIONS

PREPARATION FOR MARKING

RM ASSESSOR

1. Make sure that you have accessed and completed the relevant training packages for on-screen marking: RM A*ssessor Online Training*; *OCR Essential Guide to Marking*.

2. Make sure that you have read and understood the mark scheme and the question paper for this unit. These are posted on the RM Cambridge Assessment Support Portal http://www.rm.com/support/ca

3. Log-in to RM Assessor and mark the **required number** of practice responses ("scripts") and the **number of required** standardisation responses.

   YOU MUST MARK 10 PRACTICE AND 10 STANDARDISATION RESPONSES BEFORE YOU CAN BE APPROVED TO MARK LIVE SCRIPTS.

MARKING

1. Mark strictly to the mark scheme.

2. Marks awarded must relate directly to the marking criteria.

3. The schedule of dates is very important. It is essential that you meet the RM Assessor 50% and 100% (traditional 40% Batch 1 and 100% Batch 2) deadlines. If you experience problems, you must contact your Team Leader (Supervisor) without delay.

4. If you are in any doubt about applying the mark scheme, consult your Team Leader by telephone or the RM Assessor messaging system, or by email.

5. **Crossed Out Responses**
   Where a candidate has crossed out a response and provided a clear alternative then the crossed out response is not marked. Where no alternative response has been provided, examiners may give candidates the benefit of the doubt and mark the crossed out response where legible.

Rubric Error Responses – Optional Questions
Where candidates have a choice of question across a whole paper or a whole section and have provided more answers than required, then all responses are marked and the highest mark allowable within the rubric is given. Enter a mark for each question answered into RM assessor, which will select the highest mark from those awarded. *(The underlying assumption is that the candidate has penalised themselves by attempting more questions than necessary in the time allowed.)*

Multiple Choice Question Responses
When a multiple choice question has only a single, correct response and a candidate provides two responses (even if one of these responses is correct), then no mark should be awarded (as it is not possible to determine which was the first response selected by the candidate).

Contradictory Responses
When a candidate provides contradictory responses, then no mark should be awarded, even if one of the answers is correct.

Short Answer Questions (requiring only a list by way of a response, usually worth only **one mark per response**)
Where candidates are required to provide a set number of short answer responses then only the set number of responses should be marked. The response space should be marked from left to right on each line and then line by line until the required number of responses have been considered. The remaining responses should not then be marked. Examiners will have to apply judgement as to whether a 'second response' on a line is a development of the 'first response', rather than a separate, discrete response. *(The underlying assumption is that the candidate is attempting to hedge their bets and therefore getting undue benefit rather than engaging with the question and giving the most relevant/correct responses.)*

Short Answer Questions (requiring a more developed response, worth **two or more marks**)
If the candidates are required to provide a description of, say, three items or factors and four items or factors are provided, then mark on a similar basis – that is downwards (as it is unlikely in this situation that a candidate will provide more than one response in each section of the response space.)

Longer Answer Questions (requiring a developed response)
Where candidates have provided two (or more) responses to a medium or high tariff question which only required a single (developed) response and not crossed out the first response, then only the first response should be marked. Examiners will need to apply professional judgement as to whether the second (or a subsequent) response is a 'new start' or simply a poorly expressed continuation of the first response.

6. Always check the pages (and additional objects if present) at the end of the response in case any answers have been continued there. If the candidate has continued an answer there then add a tick to confirm that the work has been seen.

7. Award No Response (NR) if:
   - there is nothing written in the answer space.

   Award Zero '0' if:
   - anything is written in the answer space and is not worthy of credit (this includes text and symbols).

   Team Leaders must confirm the correct use of the NR button with their markers before live marking commences and should check this when reviewing scripts.

8. The RM Assessor **comments box** is used by your team leader to explain the marking of the practice responses. Please refer to these comments when checking your practice responses. **Do not use the comments box for any other reason.**
   If you have any questions or comments for your team leader, use the phone, the RM Assessor messaging system, or e-mail.

9. Assistant Examiners will send a brief report on the performance of candidates to their Team Leader (Supervisor) via email by the end of the marking period. The report should contain notes on particular strengths displayed as well as common errors or weaknesses. Constructive criticism of the question paper/mark scheme is also appreciated.

10. For answers marked by levels of response:
    a. **To determine the level** – start at the highest level and work down until you reach the level that matches the answer
    b. **To determine the mark within the level**, consider the following:

Descriptor	Award mark
On the borderline of this level and the one below	At bottom of level
Just enough achievement on balance for this level	Above bottom and either below middle or at middle of level (depending on number of marks available)
Meets the criteria but with some slight inconsistency	Above middle and either below top of level or at middle of level (depending on number of marks available)
Consistently meets the criteria for this level	At top of level

11. **Annotations**

Annotation	Meaning
	Blank Page – this annotation must be used on all blank pages within an answer booklet (structured or unstructured) and on each page of an additional object where there is no candidate response.
	Tick
	Cross
	Confused (replaces the question mark)
	Benefit of doubt
	AO1 – Knowledge and understanding
	AO2 – Apply knowledge and understanding
	AO3 - Analyse
	AO4 - Evaluation
	Omission
	Not answered question
	Noted but no credit given
	Too vague
	Own figure rule
	Repetition

12. Subject Specific Marking Instructions

INTRODUCTION

Your first task as an Examiner is to become thoroughly familiar with the material on which the examination depends. This material includes:

- the specification, especially the assessment objectives
- the question paper
- the mark scheme.

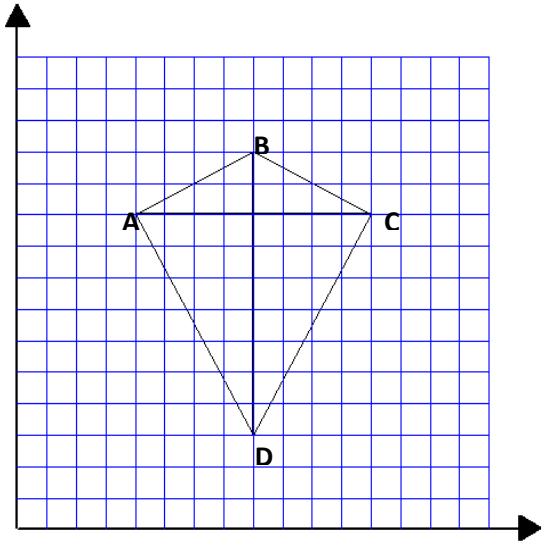
You should ensure that you have copies of these materials.
You should ensure also that you are familiar with the administrative procedures related to the marking process. These are set out in the OCR booklet Instructions for Examiners. If you are examining for the first time, please read carefully Appendix 5 Introduction to Script Marking: Notes for New Examiners.

Please ask for help or guidance whenever you need it. Your first point of contact is your Team Leader.

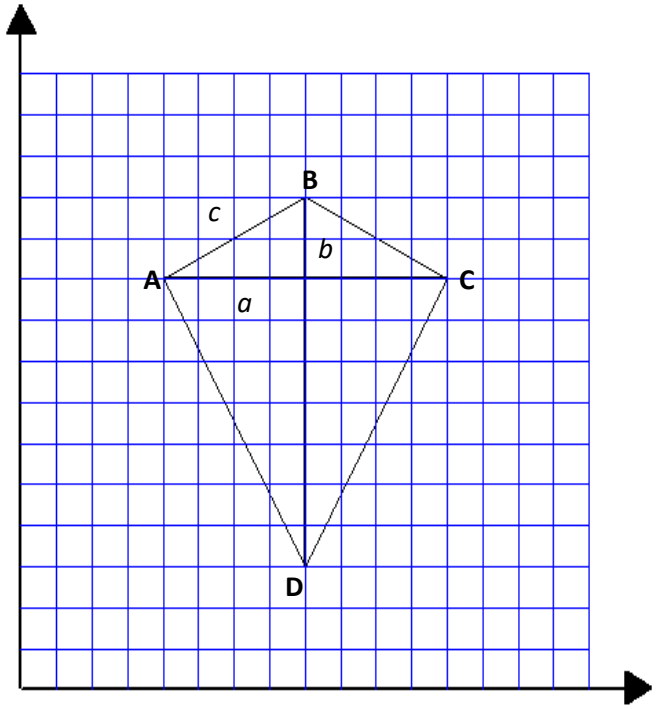
Question			Answer	Mark	Guidance
1	(a)	(i)	Possible reasons may include: • Smaller/in two pieces (1) so it can be transported more easily when not in use (1). • Will fit any sized face (1) as the position of the components are not fixed (1). • Costs less as it is a simpler product (1) so more likely to be purchased for a holiday (1). • Any other valid suggestion. .	4	In each case: Up to one mark for stating a reason why the user might prefer a separate mask and snorkel. Up to one mark for justifying why the user might prefer this option. Specific reference to the context in the question is needed for marks to be awarded. No marks for listing features. Must be an advantage to the user. Must be a comparison to Fig. 1.4
		(ii)	Possible reasons may include: • Easier for children to use (1) as you do not have to hold the snorkel in your mouth/can breathe through mouth and nose (1) • Panoramic view (1) as the user can see through a curved large window (1). • Snorkel is central (1) so less likely to get knocked into the water/ drop down and fill with water (1). • Any other valid suggestion.	4	In each case: Up to one mark for stating a reason why the user might prefer a full face snorkel. Up to one mark for justifying why the user might prefer this option. Specific reference to the context in the question is needed for marks to be awarded. No marks for listing features. Must be an advantage to the user. Must be a comparison to Fig. 1.2

	(b)	**(i)**	Possible responses may include: • Focus Groups (1) of user's representative from different backgrounds and careers to share thoughts/feelings/ideas about the design of the full-face snorkel (1). • Qualitative observations (1) to get a large sample of opinions/feedback on the new/old design (1). • Market research (1) to identify opportunities to update products such as the full face snorkel (1). • Use of forecasting companies (1) to identify technological trends/ fashion trends that could be used in the new design (1). • Any other valid suggestion	**4**	In each case: One mark for identifying a method that could be used to investigate stakeholder requirements. One mark for describing how this method could contribute the development of the full face snorkel. Specific reference to the context in the question is needed for marks to be awarded.
		(ii)	Possible tools may include: • Mathematical modelling (1) could be used to optimise the materials of the face mask, reducing the waste/cost (1). • Digital simulation (1) could be used to check that the function on the mask work effectively e.g. that it won't steam up (1). • CAD modelling (1) could be used to communicate rendered images of the end snorkel to get opinions/funding from stakeholders (1). • 3D printing (1) could be used test different iterations of the mask shape with the users, checking fit (1). • Any other valid suggestion.	**4**	In each case: One mark for identifying a different digital modelling tool. One mark for describing how this tool could be used in the development of the full face snorkel. Specific reference to the context in the question is needed for marks to be awarded.

	(c)		**Indicative content:** Aspects could include: • The desire to have an exclusive/new/ updated or fresh look to a product. • A new aesthetic to complement fashion trends or tastes. • An additional functional need for lifestyle changes or need in society. • Environmental needs and awareness Possible examples could include: • Integrated cameras onto mobile phone. People wanted cameras that could view photographs instantly and were small enough to transport. Digital cameras were developed, and the technology was then developed to make them small enough to put into mobile phones and be portable. The selfie culture then helped to push through the development of the forward-facing camera. • Watches used to just tell the time, a push in fitness and healthy living lead to the desire for people to "count steps" which pushed the development of fitness bands that could count steps and tell the time. People then expressed interest in developing this further and heart rate monitors were then included. • Tesla Electric/ Hybrid cars. People's desire to reduce their carbon footprint/ emissions has led to alternative fuel for cars. • Shopping bags/ low energy light bulbs and increased awareness of social responsibility creating the need for re-useable bags to reduce the waste from disposal ones. This also includes the use of sustainably sources materials in products and the users desire to promote and live a less wasteful lifestyle. • Cordless headphones. People's desire for a more discrete earphone that do not get tangled when running or in clothes. • Any other valid suggestion.	**6** For MB3 to be awarded there will be two examples given and explained. If candidate does not provide an analytical/evaluative response then only L1 can be awarded. Spec: 2.1a various, 2.3aii, 2.4a, 3.1aiv	**Level 3 [5-6 marks]** The candidate has a clear understanding of how the development of new products is often influenced by market pull. They produce a thorough explanation in relation to the question by explaining a number of products where market pull has influenced their evolution and produced clear and well-developed and different perspectives to exemplify the points being made. **Level 2 [3-4 marks]** The candidate has a reasonable understanding of how the development of new products is often influenced by market pull. They produce a sound explanation in relation to the question by explaining at least one product where market pull has influenced their evolution. The explanation is sufficient although one or two opportunities are missed in providing different perspectives. **Level 1 [1-2 marks]** The candidate has a basic knowledge of how the development of new products is often influenced by market pull. Any reference is largely descriptive in nature. The response contains no analysis or evaluation.

					0 marks No response or no response worthy of credit.
2	**(a)**	**(i)**		**1**	One mark for accurately plotting the four co-ordinates.

		(ii)	Gradient = $\frac{\text{Change in Y}}{\text{Change in x}}$ or use of co-ordinates: Change in Y = 12-10 Change in X = 8-4 [1] Gradient of line AB = $\frac{2}{4}$ or 0.5 [1]	**2**	Award two marks as follows: One mark for recalling the correct formula or use of co-ordinates. One mark for calculating the correct gradient. If correct answer is given without working out shown award full marks. Where an incorrect answer is given marks can be awarded for recall of formula. If candidate has the answer to part (a) (i) incorrect then one mark can be awarded if correct formula or use of co-ordinates is shown (i.e. process).

		(iii)	 Pythagoras theory: $a^2+b^2 = c^2$ [1] $\sqrt{(4^2+2^2)}$ = c [1] c = 4.47 cm [1]	3	Award three marks as follows: One mark for recalling the correct formula. One mark for applying the formula. One mark for calculating the length of line AB to 2 decimal places. If correct answer is given without working out shown award full marks. Where an incorrect answer is given working out should be used to credit appropriate marks. If candidate has the answer to part (a) (i) incorrect then up to two marks can be awarded if correct formula recalled and applied.

		(iv)	Surface area = (b x h)/2 [1] Upscaled surface area (90 x 80 [1]) / 2 [1] = 7200/2 = 3600 cm^2 [1]	**4**	Award four marks as follows: One mark for recalling the formula for the surface area. One mark for upscaling the measurements. One mark for application of the formula One mark for calculating the scaled surface area of the kite in cm^2 . If correct answer is given without working out shown award full marks. Where an incorrect answer is given working out should be used to credit appropriate marks. If candidate has the answer to part (a) (i) incorrect then up to three marks can be awarded if correct formula recalled and applied.
	(b)	**(i)**	Issue A + Issue B = Issue A or B 0.06 + 0.009 = 0.069 [1]	**1**	One mark for calculating the stated probability.
		(ii)	1000 x 0.06 = 60 kites [1]	**1**	One mark for calculating number of kites.

		(iii)	**EITHER – assuming that there are exactly 60 faulty kites in the batch** P(all ten faulty given that the first is faulty) = 59/999 x 58/998 x 57/997 x ..... x 51/991 = 4.77×10^{-12} **OR – assuming that the probability that each kite is faulty is 0.6** P(ten all faulty given first is faulty) = P(nine in a row being faulty) = 0.06^9 = 1.01×10^{-11}	**2**	Candidates may have taken a number of approaches to respond to this question. Award two marks if any of stated answers are given. One mark to be awarded if mathematical reasoning is evident which could have led to valid answer.

3	**(a)**	**(i)**	Possible thermoplastics may include: • PE (1) • PP (1) • Any other valid suggestion.	**1**	One mark for naming a suitable thermoplastic. Specific reference to the context in the question is needed for marks to be awarded.
		(ii)	Possible responses may include: If PE is chosen: • PE is relatively low cost (1) therefore it is suitable for a small children's toy which will only be used for a short time before they outgrow it (1). • It is readily available in thermoplastic powder (1) which can be blown and successfully moulded into the shapes needed (1). • It is durable and hardwearing (1) therefore it can withstand knocks and bumps of a child riding it (1). • It can be drilled without cracking and snapping (1) this enables the holes to be drilled post moulding into the wheels without damaging the integrity of the product (1). • Any other valid suggestion. A similar level of response would be expected if a different thermoplastic was given.	**2**	One mark for identifying a property of the thermoplastic. One mark for justifying the property that has been given. Specific reference to the context in the question is needed for marks to be awarded.
	(b)		Possible processes may include: • Rotational moulding (1). • Roto moulding (1). • Any other valid suggestion.	**1**	One mark for naming a suitable process. Specific reference to the context in the question is needed for marks to be awarded. Accept injection moulding.

	(c)		**Indicative content:** **The candidate is expected to demonstrate their understanding of the process involved through a series of annotated sketches and/or notes. There may be variations to the process as indicated but to get into L3 candidates must demonstrate a clear understanding of the end to end process.** Rotational moulding Process: • **Polymer powder** is measured and added to **the mould.** • The powder is heated and the mould is rotated through a biaxial rotation**.** • Plastic particles melt on the inner surface of the mould and fuse in layers until all the powder has melted and desired wall thickness obtained. • Cooled • An insert could be added for the wheels and handles so the holes for the poles are integrated into the mould. • Mould are opened and moulding removed. Any burr removed from edges. • Holes would need to be drilled if not integrated • Parts assembled • The process is repeated.	**8** All processes demonstrated must relate to the toy motorcycle. If candidate does not provide an analytical/evaluative response then only L1 can be awarded.	**Level 3 [6-8 marks]** The candidate demonstrates a good level of detail of the process needed to manufacture the toy motorcycle using technical terms and considering any relevant manufacturing processes and assembly methods. Sketches, if used will be clear and supported with relevant notes. The process includes all relevant stages. **Level 2 [3-5 marks]** The candidate will demonstrate a sound level of detail of the process needed to manufacture the toy motorcycle using some technical terms and there will be some consideration of any relevant manufacturing processes and assembly methods.. Sketches, if used, will for the most part be clear and supported with notes most of which are relevant. The process includes some relevant stages. **Level 1 [1-2 marks]** The candidate will demonstrate a limited level of detail of the process needed to manufacture the toy motorcycle with a limited use of technical terms and there will be a basic consideration of any relevant manufacturing processes and assembly methods. Sketches, if used, will be unclear with only basic

					notes to accompany them. Few relevant stages are included. **0 marks** No response or no response worthy of credit.
	(d)		Possible advantages could include: • Cost: You would not have to pay people to do low skilled jobs (1) so you would save on labour and therefore production cost (1). • Reliability: You would not have people calling in sick, holidays or leave (1) so you can guarantee that the work force will be there (1). • Safety: Machines can work in environments that may not be safe for humans (1) with chemicals/dust or high/low temperatures, machines are unaffected by these conditions so can be used without negative consequences (1). • Sterile: Machines could work in a sterile environment (1) which would be especially beneficial for medical supplies that need to avoid contamination for safety (1). • Consistent quality: Robotic arms do not get tired (1) so are less likely to make mistakes (1). • 24-hour production: Machines do not need to sleep or have breaks (1) so can work 24/7 increasing productivity (1). • Any other valid suggestion. Possible disadvantages could include: • Cost: To purchase the equipment is expensive (1) and if there is a problem repairs will have to be done by specialist and be an additional cost. (1) • Unemployment: Local low skill labour will not be needed (1) so this will have a negative effect on the community as there will be less jobs. (1) • Specialised workforce that may need regular training (1) to keep up to date with the technology (1) • Any other valid suggestion.	**6**	In each case: Up two marks for explaining an advantage/disadvantage of using robotic arms and automated systems in the production process of the toy motorcycle. Specific reference to the context in the question is needed for marks to be awarded.

4	**(a)**		Possible advantages may include: • It can be programmed to work independently so it can be used by people with mobility problems (1) giving them more independence as they do not have to have help with cleaning/ have to struggle with a heavier vacuum cleaner (1). • Can work while the homeowner is out (1) saving them time as they no longer have to spend their time vacuuming (1). • Can access hard to reach spots (1) as it is small/ cordless so can slide under sofas or beds, ensuring a more thorough clean (1). • It is a smaller size than an upright cleaner so it is good for people with less storage space (1) as it can be kept in a drawer or discretely at the changing point (1). • Any other valid suggestion.	**6**	In each case: One mark for identifying an advantage of using the robotic vacuum cleaner. One mark for justifying why this is an advantage. Specific reference to the context in the question is needed for marks to be awarded. No marks awarded for repeating information in the stem.
	(b)	**(i)**	Possible responses may include: • Potential problem: How the device would be powered. The designer couldn't use cables as these would get tangled and a battery powered device could potentially run out mid clean (1). Potential solution: A wireless battery powered device could be programmed to return to a docking station when the battery was getting low and self-charge (1). • Potential problem: The device would have to avoid stairs otherwise it could fall and land the wrong way up or break (1). Potential solution: The user could program the device to know where the stairs are or with a sensor at the front of the device that detected if a surface was falling away (1). • Potential problem: The device would have to navigate different surfaces moving from different rooms, e.g. tiled kitchen to the hall carpet. And get stuck (1). Potential solution: This could be solved by the front wheel being a large roller ball that lifts the device up and can access alternative surfaces (1). • Potential problem: The dust compartment may fill up in use (1).	**6**	In each case: One mark for identifying a potential problem relating to the functionality of the design that the designer had to solve. One mark or suggesting how the designer could have solved each problem. Specific reference to the context in the question is needed for marks to be awarded.

			Potential solution: There is an alert on the users device when it is getting full to empty or it could be programmed to self-empty (1). • Potential problem: Pets playing or resting on the surface of the device (1). Potential solution: a solution could be to ensure that it could still function with the weight of the pet with a more powerup motor or it played a high-pitched noise when it detected a pet to deter the animal (1). • Any other valid suggestion.		
		(ii)	Possible explanations given may include: • Replaceable parts could be offered for the wheels or the dust compartment (1) to extend the end of life of the product (1). • The parts could be easily separated and labelled (1) so that the different pieces could be recycled, re-used or repurposed (1). • The programming software could be upgradable (1) so the cleaner could have extra capacity for future developments (1). • Any other valid suggestion.	**4**	In each case: Up to two marks for explaining how the designer of the vacuum cleaner considered its end of life. Specific reference to the context in the question is needed for marks to be awarded.

	(c) *		**Indicative content:** The candidate could focus on the implication for the homeowner or a wider range of issues. Implications: • Convenience: The devices are often able to be used or programmed remotely. This is more convenient for the user, as they can check the settings from any location and saves money and waste. E.g., heating and lights can be turned on remotely. • Security: Homeowners can feel safer as they can use smart technology to monitor their homes for example, external cameras can be used to record or monitor activity outside the house. The negative implication of this is lack of privacy. • Reliability: Increased use of video doorbells can be used to interact remotely, enabling reliability for Parcel delivery and monitoring. • Reduction in waste: e.g. energy efficient devices that can switch off when not in use etc • Environmental benefits: As the energy is being used more efficiently, for example dimming light bulbs and things only being put one when needed, it has a positive effect on the amount of unnecessary waste. • Cost: The systems are expensive to install and maintain so the homeowner needs to be able to afford to run the systems. • Privacy: Data about personal life being stored and used to feedback into the system. This could be intrusive to a person's life. • More independence: People with mobility issues being able to control things in their home from one place, gives then more control over their home and life, enabling more independence. • De-skilling people: People will rely more on technology to run their homes and have less understanding when it goes wrong, which can instil frustration. • Any other valid suggestion.	**8** If candidate does not provide an analytical/evaluative response then only L1 can be awarded.	**Level 3 [6-8 marks]** The candidate has a clear understanding the implications of smart technology. They produce a thorough discussion in relation to the question by explaining the implications of smart technologies in the home. The discussion of implications is clear and well-developed and a number of examples are used to exemplify the points being made. *There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated with the use of examples.* **Level 2 [3-5 marks]** The candidate has a reasonable understanding of the implications of smart technology. They produce a reasonable discussion in relation to the question by explaining the implications of smart technologies in the home. The explanation of implications is sufficient although one or two opportunities are missed in referring to different examples. *There is a line of reasoning presented with some structure. The information presented is for the most part relevant and supported by some evidence.*

					Level 1 [1-2 marks] The candidate has a basic knowledge of the implications of smart technology. Any reference to this issue is descriptive in nature and has little appreciation of the implications of smart technology in the home. The response contains no analysis or evaluation. *The information has some relevance and is presented with limited structure or detail. The information is supported by limited evidence.* **0 marks** No answer or answer not worthy of credit.

5	(a)		Possible responses could include: The ecological footprint measures the human demand on the earth's ecological capacity (1) in the UK we demand more from out ecology than we can generate so we have to "borrow" from countries like Brazil that have a positive capacity because of their forests (1) while the social footprint measures a company's effect on people and communities (1) for example noise level, waste disposal, child labour, workers rights and fair pay.	4	Up to three marks for explaining difference between a social footprint and an ecological footprint. The candidate should refer to examples for the full four marks.
	(b) *		**Indicative content:** The candidate should discuss how synthetic and natural materials are selected with consideration of their social and ecological footprints. This could include: • Shipping materials and products across large distances increases ecological footprint. The selection and use of locally sourced natural materials to manufacture products reduces this impact. e.g. local wool v synthetic fabric for jumpers. People can then be encouraged to shop locally. • Plastic waste increases ecological footprint as it is non-biodegradable. The use of biodegradable/ natural materials for disposable products e.g. paper straws or bamboo cutlery. • Materials that need less processing/ can be used more in their natural forms should be considered, this then means they need less sorting or disassembly at the end of life, for example glass. It's natural lack of permeability and rigidity make it ideal for drinks containers as it can be cleaned and re-used with minimal energy. • If natural resources are being depleted too quickly the use of alternative synthetic materials can be used to preserve animal habitats areas of nature. For example, the reduction in the use of hardwood as it cannot be re-grown at a fast rate, and the implementation of the use of manufactured boards and laminates. • The processing of new materials both natural and synthetic has a negative effect on the footprint of a product, the re-use/re-cycling of materials should be considered where possible to reduce the footprints	8	**Level 3 [6-8 marks]** The candidate has a clear understanding of how synthetic and natural materials are selected with consideration of their social and ecological footprints. They produce a thorough discussion in relation to the question. The discussion is clear and well-developed, and a number of examples are used to exemplify the points being made. *There is a well-developed line of reasoning which is clear and logically structured. The information presented is relevant and substantiated with the use of examples.* **Level 2 [3-5 marks]** The candidate has a reasonable understanding of how synthetic and natural materials are selected with consideration of their social and ecological footprints. They produce a reasonable discussion in relation to the question. The

			e.g. use of old car tyres for pencil cases and play equipment safety mats. • Any other valid suggestion.		explanation of implications is sufficient although one or two opportunities are missed in referring to different examples. *There is a line of reasoning presented with some structure. The information presented is for the most part relevant and supported by some evidence.* **Level 1 [1-2 marks]** The candidate has a basic knowledge of how synthetic and natural materials are selected with consideration of their social and ecological footprints. Any reference to this issue is descriptive in nature. The response contains no analysis or evaluation. *The information has some relevance and is presented with limited structure or detail. The information is supported by limited evidence.* **0 marks** No answer or answer not worthy of credit.

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