

GCE

Design and Technology

H406/01: Principles of Product Design

A Level

Mark Scheme for June 2025

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

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, email or via the RM Assessor messaging system.
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).

When a question requires candidates to select more than one option/multiple options, then local marking arrangements need to ensure consistency of approach.

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 the annotation 'SEEN' to confirm that the work has been seen and mark any responses using the annotations in section 11.
7. There is a NR (**No Response**) option. Award NR (No Response):
 - if there is nothing written at all in the answer space
 - OR if there is a comment which does not in any way relate to the question (e.g., 'can't do', 'don't know')
 - OR if there is a mark (e.g., a dash, a question mark) which is not an attempt at the question.

Note: Award 0 marks – for an attempt that earns no credit (including copying out the question).

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.**

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:
- To determine the level** – start at the highest level and work down until you reach the level that matches the answer
 - 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
	Noted but no credit given
	Benefit of doubt
	Level 1 response
	Level 2 response
	Level 3 response
	Error carried forward
	Omission
	Not answered question
	Confused (replaces the question mark)
	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)		Possible manufacturing processes may include: - Die casting (1) Makes identical models so suitable for batch or mass production (1). Other suitable justifications could include: - Fast process with a reduction in production costs once initial investment is made (1). - Suitable for moulding the intricate detail on the car body (1) - Enables the moulding/ casting of fine details/complex shapes (1). - Produces a smooth casting requiring no machining after casting (1). Any other valid suggestion.	2	One mark for identifying a suitable manufacturing process. One mark for justification given that relates to the context in the question. Also accept Lost Wax Casting, Investment Casting or Sintering and Metal Injection Moulding (MIM) as appropriate for a batch of cars this size and complexity. Do not accept 3D printing unless reference is made to Sintering or metal powder.
	(b)		Possible ways may include: - The body can be a standard generic component where customisation/ colour through paint work (1) so the same casting can be used for different versions (1). - Standard fixings, such as the wheels & axles have been used to make it easy to repair/upgrade (1) as the consumer can purchase new parts with ease (1). - The product is easy to assemble/ disassemble with snap fittings (1) so parts can be easily repaired/ replaced/ recycled (1). - It is manufactured from a small number of parts/ moulded shell of body (1) so this will make disassembly easier at the end of life (1). Any other valid suggestion.	4	In each case: One mark for identifying a specific way that the metal toy cars have been designed for upgrades and/or recycling. One mark for a quality explanation that relates to the product, the materials used and/or context. Specific reference to the context in the question is needed for marks to be awarded.

Question			Answer	Mark	Guidance
	(c)		Possible ways may include: • Guarantees (1) to the consumer the product is fit for purpose/ provides a replacement or repair if returned within six months (1) this could include conforming to the Consumer Rights Act (2015) (1). • Companies must label products with accurate information (1) so they can be used safely/correctly (1) under the Trade Descriptions act (1968) or The Consumer Protection Act (1987) (1). • Testing must take place to ensure products meet standards (1) for example British Standards, ISO (1) to check specific materials/ electrical safety/ surface finishes or specific components (1). • Quality control checks (1) inspections on the production line help to identify problem areas in the quality of manufacture (1) such as visual checks, data comparison, checking the dimensional accuracy, weight check (1). Any other valid suggestion.	6	In each case: Up to one mark for identifying a specific way in which manufacturers protect consumers with the correct levels of product assurance related to safety. Up to two marks for quality of explanation given. Two different ways must be explained to be awarded the full marks. Specific reference to the context of children's toys in the question is needed for full marks to be awarded.
	(d)		Possible aspects may include: Reference could be made to: • IP only lasts a certain amount of time (1). Registered designs must be renewed every 5 years, which costs money (1). • IP costs money to put in place (1) so smaller companies may not have the resources to protect their designs (1). • Brand reputation can be protected with IP (1). Without IP people can create cheaper replicas of designs and sell them which could ruin brand reputation & viability (1). • The manufacturer would need permission from the original car company to use the design (1). This would need to be applied for each time a new model was produced/ they may have to pay to use the design (1). Any other valid suggestion.	6	In each case: One mark for identifying an aspect of intellectual property that the manufacturer must consider when creating designs for replica metal toy cars. One mark for explanation given. Accept other product examples as part of the explanations, such as Kiddee case and Trunki, Dyson and Vax, Apple and Samsung. Specific reference to the context of the replica cars in the question is needed for full marks to be awarded.

Question		Answer	Mark	Guidance
	(e)	Indicative content: Reference could be made to: • Arts and Crafts movement • Art Nouveau • Modernism and Post Modernism • Futurism • Bauhaus • Streamlining • Art Deco • Hi-tec. Examples could include: • Retro products that replicate the image of designs from the past with more modern technology e.g. Bakelite phones that look the same but use wireless digital technology to work. • The Mid- Century modern and Scandi design influence on IKEA, Habitat and other furniture companies, seen in the choice of materials, use of colour and minimalist design style. The influence on furniture from Mid Century style of Eames and use of bent plywood and the Bauhaus form follows function principles and designers such as Marcel Breuer's use of bent tubular steel and the influence of architecture e.g. Huf Haus pre-fabricated houses and other designs such as the angle poise lamp. • Form follows function in Apple products and the influence of Braun and Dieter Rams, less is more approach. Apple adopting the ten principles of good design and Jon Ive designing the first iPod. • Chrysler building in New York was inspired by art deco design movement with its clean streamlined shapes and geometric forms. • Arts and crafts show a resurgence of decorative arts as a reaction to the rise of mass production, e.g. William Morris inspiring a whole new generation of designers. Any other valid suggestion.	8	Level 3 [6-8 marks] The candidate has a clear understanding of the influence of key historical movements on the development of designs. They produce a thorough discussion in relation to the question. The explanation of reasons is clear and well-developed and a number of examples are used to exemplify the points being made. Level 2 [3-5 marks] The candidate has a reasonable understanding of the influence of key historical movements on the development of designs. They produce a reasonable discussion in relation to the question. The explanation of examples is sufficient although one or two opportunities are missed in referring to different examples. Level 1 [1-2 marks] The candidate has a basic knowledge of the influence of key historical movements on the development of designs. Any reference to this issue is descriptive in nature and has little appreciation of the issues. The response contains no analysis or evaluation. 0 marks No response or no response worthy of credit.

Question			Answer	Mark	Guidance
2	(a)		Possible ways may include: - As the business starts to grow they could have created commercial partnerships (1) to share ideas/gain access to new technologies and markets (1). - Through venture capitalists investing in the product (1) to provide finances/backing to commercialise the product (1). - Crowdfunding could be used to ask a large number of people for small donations through social media (1). This helps to raise awareness of the product/gives the consumers interest in the success of the product (1). - Collaboration with other companies (1) such as paper/ cartridge/ WiFi providers could have improved the design/ increased trust/ visibility of the brand (1). Any other valid suggestion.	4	In each case: One mark for identifying a way in which the printer manufacturer could have used enterprise to drive the development of its product. One mark for description given. Specific reference to the context in the question is needed for marks to be awarded.
	(b)	(i)	105 (1)	1	One mark for stating the median number of pages that could be printed from the cartridges.
		(ii)	An outlier/an anomaly (1)	1	One mark for stating what the black dot represents.
		(iii)	$4100/4$ or $4100 \times 0.25 = 1025$ (1) $1025 \times 3 = 3075$ (1) If candidates use 4100×0.75 the correct answer will be achieved	2	Award two marks as follows: One mark for calculating the value of one quartile. One mark for calculating how many cartridges printed at least 80 pages.

Question			Answer	Mark	Guidance
					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. *Allow error carried forward (ECF) where correct working out is shown.
		(iv)	140 (1)	1	One mark for stating the 3 rd quartile value of the number of pages that could be printed from the cartridges.
	(c)	(i)	Adjustability 1% = $0.01 \times 6500 = 65$ (1) Speed 9% = $0.09 \times 6500 = 585$ (1) $65^* + 585^* = 650$ (1) Alternative method: $1\% + 9\% = 10\%$ (1) $0.1^* \times 6500$ (1) = 650 (1)	3	Award three marks as follows: One mark for calculating the adjustability value. One mark for calculating the speed value. One mark for calculating the number of people that selected adjustability or speed as their most important feature. 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. *Allow error carried forward (ECF) where correct working out is shown.

Question			Answer	Mark	Guidance
		(ii)	$6/100 = 0.06$ $0.06 \times 360 (1) = 21.6^\circ (1)$ Accept 22°	2	Award two marks as follows: One mark for determining that the percentage value needs to be multiplied by 360°. One mark for calculating the angle of the noise segment of the pie chart. 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. *Allow error carried forward (ECF) where correct working out is shown.
		(iii)	$0.30\% \times 6500 = 1950$ $1950 \div 6500 (1)$ $39:130$ $3:10 (1)$ OR $30\%:100\% (1)$ $3:10 (1)$	2	Award two marks as follows: One mark for determining starting point for simplification process. One mark for calculating the ratio of the people that selected quality to the total number of people asked. 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.

Question			Answer	Mark	Guidance
					Check for error carried forward (ECF) if 1950 worked out incorrectly.
		(iv)	$0.54 \times 6500 = 3510$ $3510 \div 6500$ (1) $351/650$ $27/50$ (1) OR $54/100$ (1) and simplify $27/50$ (1)	2	Award two marks as follows: One mark for determining starting point for simplification process. One mark for calculating the fraction of people that selected reliability. 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. Check for error carried forward (ECF) if 3510 worked out incorrectly.

Question		Answer	Mark	Guidance
3	(a)	Biodegradable materials could include: • PLA (1) • Biopolymer (1) • Rice starch polymer (1) • Biopol (1) • Bamboo (1) • Cork (1) Advantages: • Given the correct conditions biopolymers can degrade quickly causing less waste to go to landfill (1). • They can be non-toxic meaning that they can be used for food products with no contamination (1). • Reduction in carbon emissions reducing impact on global warming (1). Disadvantages: • They need the correct conditions to decompose otherwise they will not breakdown (1). • They are not easy to separate from normal polymers so may become contaminated (1). • Many of these materials grow - plantations need to be sustainable/ growing crops for Biopolymers can affect habitats and wildlife (1). • Growing these materials can result in the use of pesticides which can create pollutants and irritants when harvested (1). Any other valid suggestion.	3	One mark for the named material. • Allow Notpla, Potatopak, mushroom packaging, Plantbottle, Myco composite, wood, cotton, paper and cardboard. One mark for explaining an advantage of using this material in a product. One mark for explaining a disadvantage of using this material in a product. Specific reference to the context in the question is needed for marks to be awarded.

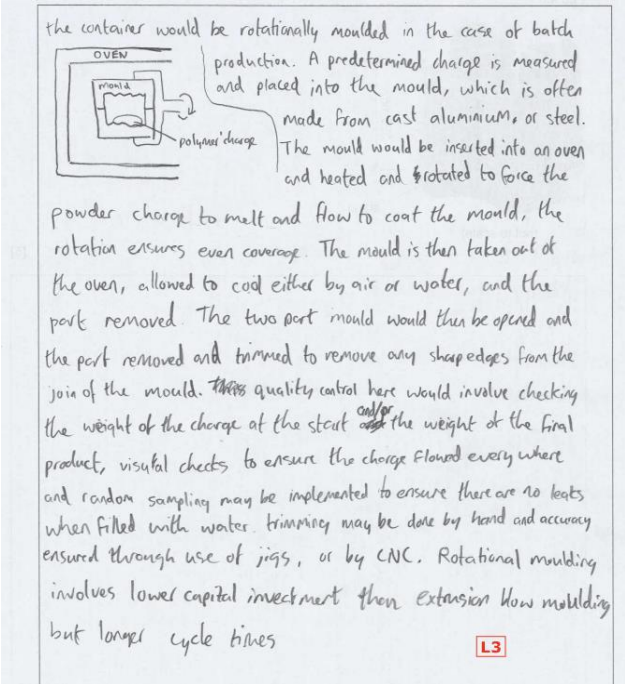
Question		Answer	Mark	Guidance
	(b)*	Indicative content: Opportunities: • Huge environmental benefit, less harmful waste that can biodegrade easily under the right conditions. • Many sustainable materials are fast growing materials e.g. bamboo 1m per day so can be replaced. • Can help to conserve finite materials such as oil and fossil fuels. • Raises consumer awareness of sustainability issues. • Reduces waste from disposable polymer products going to landfill and ending up in oceans and rivers creating microplastics (polymer packaging). Polymers do not break down easily and affect the environment causing toxins and leachates in landfill– packaging is often single use, bottles often left as rubbish/waste. • Use of materials such as Mycelium is being used to make moulded packaging that is 100% biodegradable. It can biodegrade naturally in a compost within weeks and is being used by IKEA to eliminate the plastic inserts and create lightweight small products. Notpla biodegrades in 4-6 weeks, made of seaweed used for ooho edible water pods, condiment sachets and for food packaging (partnered with Just eat) Implications: • Some biodegradable materials need to be disposed of in right conditions.	8	Level 3 [6-8 marks] The candidate has a clear understanding of the implications and opportunities of use of sustainable materials in products. They produce a thorough discussion in relation to the question. The explanation of reasons is clear and well-developed and a number of examples are used to exemplify the points being made. <i>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.</i> Level 2 [3-5 marks] The candidate has a reasonable understanding of the implications and opportunities of the use of sustainable materials in products. They produce a reasonable discussion in relation to the question. The explanation of examples is sufficient although one or two opportunities are missed in referring to different examples. <i>There is a line of reasoning presented with some structure. The information presented is for the most part relevant and supported by some evidence.</i> Level 1 [1-2 marks] The candidate has a basic knowledge of the implications and opportunities of the use of sustainable materials in products. Any reference to this issue is descriptive in nature and has little appreciation of the issues. The response contains no analysis or evaluation. <i>The information has some relevance and is presented with limited structure or detail. The information is supported by limited evidence.</i> 0 marks No response or no response worthy of credit.

Question			Answer	Mark	Guidance
			• Products may not last as long as they could be less durable. • People might not be happy with the drop in quality e.g. paper straws getting soggy. • Areas of land being used to create crops for biopolymers might harm eco-systems and involve the clearance of land. • Sometimes there can be a cost increase for the consumer. • Increased use of natural materials such as wood helps to create new trends and is fashionable and increase sales and gives companies a good name. Any other valid suggestion.		

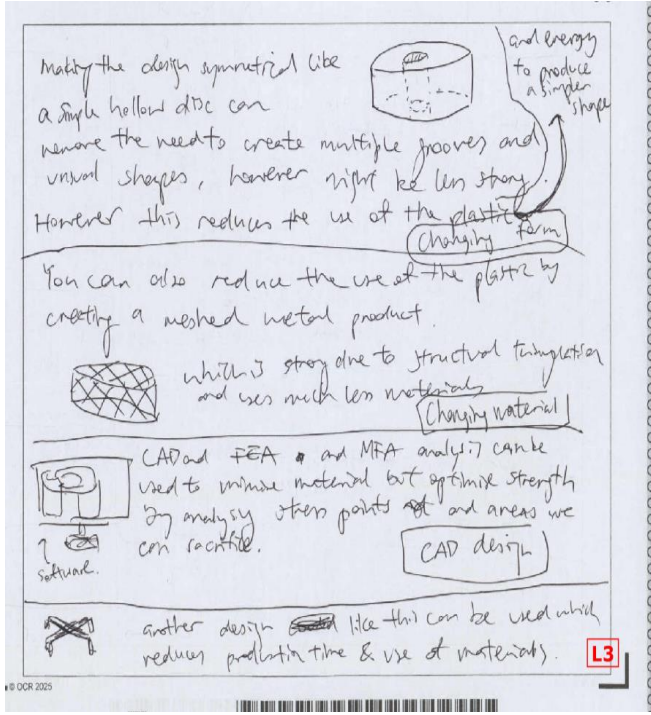
Question			Answer	Mark	Guidance
4	(a)	(i)	Possible thermopolymers may include: • PP (1). • PE (1). • HIPS (1). • LDPE (1). • PVC (1) Any other valid suggestion.	1	One mark for identifying a suitable thermopolymer for the rainwater container. Specific reference to the context in the question is needed for marks to be awarded. Acrylic and PLA are not suitable.
		(ii)	Possible responses may include: Use of UV Stabilisers/fillers/additives/absorbers are mixed into the material/ polymer when it is manufactured (1) to prevent it degrading in the sunlight (1). Any other valid suggestion.	2	Up to two marks for describing how the damage could be prevented. Max 1 mark for paint or barrier coatings such as latex or silicone sprays as protection. Accept providing a cover/shelter for the product 1 mark.

Question			Answer	Mark	Guidance
	(b)	(i)	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. Mould is created in the shape of the rainwater container, this is likely to be made of cast aluminium alloy as it has good heat transfer and excellent mould definition or fabricated from mild steel sheet. • A pre-determined amount of polymer powder and any additives are added to the mould which is then closed and locked. • The mould is loaded onto an arm and into the oven, where the polymer is heated and softened (approx. 260 degrees) as it heats the mould is rotated about 2 axis and the polymer melts and coats the inside of the mould building up an even layer/ wall thickness. • The mould is removed from the heater and cooled when still rotating, this can be air water or a combination of them both. • The mould is then opened, product removed, and process repeated. Any excess material that is cut from a finished component and recycled immediately. Hollow shapes can be moulded without seams and less material wasted. QC checks could include:	8 Blow Moulding from a parison/ polymer tube is an appropriate process for the size and complexity of the rainwater container.	Level 3 [6-8 marks] The candidate demonstrates a good level of detail of the process needed to manufacture the rainwater container using technical terms and considering any relevant specialist tooling and quality control checks. 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 rainwater container using some technical terms and there will be some consideration of any relevant specialist tooling and quality control checks. 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 rainwater container with a limited use of technical terms and there will be a basic consideration of any relevant specialist tooling and quality control checks. 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.

Question			Answer	Mark	Guidance
			• checking the weight of the finished container to ensure it is the correct thickness and dimensions. • Checking wall thickness of the moulding. • Visual checks for imperfections in material or moulding. • Checking calibration of sensors. • Checking temperature during moulding. • Pressure checks to ensure the rainwater container has no weak areas where the water will escape. • Checking mould for damage after every 50 uses. Any other valid suggestion.		

Question			Answer	Mark	Guidance
			Example of a level 3 response  the container would be rotationally moulded in the case of batch production. A predetermined charge is measured and placed into the mould, which is often made from cast aluminium, or steel. The mould would be inserted into an oven and heated and rotated to force the powder charge to melt and flow to coat the mould, the rotation ensures even coverage. The mould is then taken out of the oven, allowed to cool either by air or water, and the part removed. The two part mould would then be opened and the part removed and trimmed to remove any sharp edges from the join of the mould. the quality control here would involve checking the weight of the charge at the start and ^{and/or} the weight of the final product, visual checks to ensure the charge flowed everywhere and random sampling may be implemented to ensure there are no leaks when filled with water. Trimming may be done by hand and accuracy ensured through use of jigs, or by CNC. Rotational moulding involves lower capital investment than extrusion blow moulding but longer cycle times L3		

Question			Answer	Mark	Guidance
		(ii)	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 optimisation. Students could include reference to: • Reduction of the wall thickness and weight of the product. • The addition of internal webbing to support the shell structure that then enables thinner walls. • Change of materials. • Use of computer software to aid optimisation (generative design uses AI to create a design that minimises material and retains strength). • FEA could be used to identify areas of strength and weakness enabling reinforcement of weak areas and removal of unnecessary material. • Change in shape and material layout (topology) • Reduce parts of the stand to reduce the material e.g. remove centre section. Any other valid suggestion.	5	Level 3 [4-5 marks] The candidate has a clear understanding of design optimisation. They produce a thorough response in relation to the question. The explanation of choices is clear and well-developed and a number of examples are used to exemplify the points being made. Level 2 [2-3 marks] The candidate has a reasonable understanding of design optimisation. They produce a reasonable response in relation to the question. The explanation of examples is sufficient although one or two opportunities are missed. Level 1 [1 mark] The candidate has a basic knowledge of design optimisation. Any reference to this issue is descriptive in nature and has little appreciation of the issues. The response contains no analysis or evaluation. 0 marks No response or no response worthy of credit.

Question	Answer	Mark	Guidance
	Example of a L3 response:  making the design symmetrical like a simple hollow disc can remove the need to create multiple grooves and unusual shapes, however might be less strong. However this reduces the use of the plastic. <u>Changing form</u> You can also reduce the use of the plastic by creating a meshed metal product. <u>Changing material</u> CAD and FEA and MFA analysis can be used to minimise material but optimise strength by analysing stress points and areas we can reinforce. <u>CAD design</u> another design like this can be used which reduces production time & use of materials. L3		

Question		Answer	Mark	Guidance
	(c)	So radius is 17.5 (1) Volume of a cylinder = $\pi r^2 h$ $3.142 \times (17.5)^2 \times 3$ (1) = 2886.71 = 2887 (1) Variation in answer possible depending if candidates use 3.14, 3.142 or π on calculator. Three possible answers – 2885, 2886 and 2887.	3	Award three marks as follows: One mark for determining radius. One mark for inserting values into correct formula. One mark for calculating the total volume of material in mm^3 that is removed to the nearest cubic millimetre. 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. *Allow error carried forward (ECF) where correct working out is shown.

Question		Answer	Mark	Guidance
	(d)	Indicative content: • A responsibility to ensure employees are safe through: ○ Making sure risk assessments are completed for the equipment and activities taking place in the workplace. ○ Ensuring the rotational moulding machinery is well maintained and serviced annually ○ Providing first aid arrangements and protocols. ○ Providing necessary PPE for employees and that it is used and guarding on machinery. ○ Providing training for equipment. ○ Ensuring safety signs are provided and maintained. ○ Ensuring the correct storage and use of any chemicals, mould release agents etc. COSHH. • This will have an implication of cost & time for the manufacture. • Social responsibility and employee recruitment and retention. • Trust in the brand. • Legal responsibility and the consequences of not following the HASAW Act. Any other valid suggestion.	6	Level 3 [5-6 marks] The candidate has a clear understanding of the implications of the Health and Safety at Work Act on the manufacturer of the rainwater container They produce a thorough discussion in relation to the question. The explanation of reasons is clear and well-developed and a number of examples are used to exemplify the points being made. Level 2 [3-4 marks] The candidate has a reasonable understanding of the implications of the Health and Safety at Work Act on the manufacturer of the rainwater container. They produce a reasonable discussion in relation to the question. The explanation of examples is sufficient although one or two opportunities are missed. Level 1 [1-2 marks] The candidate has a basic knowledge of the implications of the Health and Safety at Work Act on the manufacturer of the rainwater container Any reference to this issue is descriptive in nature and has little appreciation of the issues. The response contains no analysis or evaluation. 0 marks No response or no response worthy of credit.

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