



Oxford Cambridge and RSA

December 2018 Practice Paper – Set 1

A Level Design and Technology: Product Design

H406/01 Principles of Product Design

Duration: 1 hour 30 minutes

MAXIMUM MARK 80

Last updated 27/11/2018

This document consists of 21 pages

MARKING INSTRUCTIONS**PREPARATION FOR MARKING ON 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 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 **required number** of standardisation responses.
4. After the standardisation meeting: **YOU MUST MARK 10 PRACTICE AND 10 STANDARDISATION RESPONSES BEFORE YOU CAN BE APPROVED TO MARK LIVE SCRIPTS.**

MARKING INSTRUCTIONS – FOR MARKING ON SCREEN

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 50% 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 additional 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.
 - a. Where generic answer booklets are used, all pages must contain an annotation, or RM Assessor will not allow you to submit the script. Where no response is given by a candidate on a whole page the 'BP' annotation **must** be applied.
 - b. Where additional objects are present, all pages must contain an annotation, or RM Assessor will not allow you to submit the script. Where no response is given by a candidate on a whole page the 'BP' annotation **must** be applied.
 - c. Where structured answer booklets are used, the 'BP' annotation **must** be applied to all pages where no response is given by a candidate.
7. Where candidates have a choice of questions 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.*)







8. 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.

9. 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.
10. 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.
11. These are the annotations, (including abbreviations), used in RM Assessor, which are used when marking:

Symbol	Description	Comment
	Tick	worthy of credit
	?	unclear
	S	error of spelling
	E	error of grammar, punctuation or expression
	F	error of fact
	^	omission

	H Line	to draw an attention to an error
	H Wavy Line	to draw attention to something
.....	Highlight	as directed by PE
	REL	irrelevant point
	REP	conspicuous repetition
	L	illegible word or phrase
	BP	Blank Page – this annotation must be used on all blank pages within an answer booklet and on each page of an additional object where there is no candidate response.

SUBJECT-SPECIFIC MARKING INSTRUCTIONS

Introduction

Your first task as an Examiner is to become thoroughly familiar with the material on which the examination depends. You should ensure that you have copies of these materials:

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

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.

Information and instructions for examiners

The co-ordination scripts provide you with *examples* of the standard of each band. The marks awarded for these scripts will have been agreed by the Team Leaders and will be discussed fully at the Examiners' Co-ordination Meeting.

The specific task-related indicative content for each question will help you to understand how the band descriptors may be applied. However, this indicative content **does not** constitute the mark scheme: it is material that candidates **might** use, grouped according to each assessment objective tested by the question. It is hoped that candidates will respond to questions in a variety of ways. Rigid demands for 'what must be a good answer' would lead to a distorted assessment. Candidates' answers must be relevant to the question. Beware of prepared answers that do not show the candidate's thought and which have not been adapted to the thrust of the question. Beware also of answers where candidates attempt to reproduce interpretations and concepts that they have been taught but have only partially understood.

Using the Mark Scheme

Please study this Mark Scheme carefully. The Mark Scheme is an integral part of the process that begins with the setting of the question paper and ends with the awarding of grades. Question papers and Mark Schemes are developed in association with each other so that issues of differentiation and positive achievement can be addressed from the very start.

This Mark Scheme is a working document; it is not exhaustive; it does not provide 'correct' answers. The Mark Scheme can only provide 'best guesses' about how the question will work out, and it is subject to revision after we have looked at a wide range of scripts.

The Examiners' Standardisation Meeting will ensure that the Mark Scheme covers the range of candidates' responses to the questions, and that all Examiners understand and apply the Mark Scheme in the same way. The Mark Scheme will be discussed and amended at the meeting, and administrative procedures will be confirmed. Co-ordination scripts will be issued at the meeting to exemplify aspects of candidates' responses and achievements; the co-ordination scripts then become part of this Mark Scheme.

Before the Standardisation Meeting, you should read and mark in pencil a number of scripts, in order to gain an impression of the range of responses and achievement that may be expected.

Please read carefully all the scripts in your allocation and make every effort to look positively for achievement throughout the ability range. Always be prepared to use the full range of marks.

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The co-ordination scripts provide you with *examples* of the standard of each band. The marks awarded for these scripts will have been agreed by the Team Leaders and will be discussed fully at the Examiners' Co-ordination Meeting.

The specific task-related indicative content for each question will help you to understand how the band descriptors may be applied. However, this indicative content **does not** constitute the mark scheme: it is material that candidates **might** use, grouped according to each assessment objective tested by the question. It is hoped that candidates will respond to questions in a variety of ways. Rigid demands for 'what must be a good answer' would lead to a distorted assessment. Candidates' answers must be relevant to the question. Beware of prepared answers that do not show the candidate's thought and which have not been adapted to the thrust of the question. Beware also of answers where candidates attempt to reproduce interpretations and concepts that they have been taught but have only partially understood.

Marking Scripts

Answers must be marked using the level descriptors in the marking grids and a mark awarded for each Assessment Objective. The points in the mark scheme are **indicative content only** and offer some question specific guidance. Credit should be given for other points and different views, if they seem possible and are well argued or supported by good evidence.

You must avoid negative marking - don't deduct marks for individual errors. All marks should be allocated by reference to the assessment grid.

Any queries on unexpected answers please consult your Principal Examiner.

Using annotations

- Take great care to place a tick (see below) against any valid points that lead you to think at all favourably of the answer.
- **Do not leave any page unmarked** (as a last resort tick the very bottom of a page to indicate that you have read it - otherwise Team Leaders/Principal Examiners cannot tell whether account has been taken of that page).
- Underline errors and place the appropriate symbol in the margin.
- Indicate that you have looked at every page of the answer booklet by placing the **BP** symbol at the top and bottom of any blank pages.

Ticks: these are the simplest, quickest and most efficient means for examiners to convey approval to Senior Examiners, and they should be inserted where they can be most effective. If the point you wish to highlight is in the middle of a paragraph, then put the tick in the middle of a line in the middle of a paragraph. Overuse of the tick tends to devalue its effectiveness.

Do use ticks to draw attention to anything worthy of credit [even single words].

Do not use ticks as a substitute for marking/assessment; marks for questions must be determined by reference to the assessment grid, **NOT** by mechanical addition of ticks.

Highlighting: use highlighting as directed by your Principal Examiner.

Question	Indicative Content	Marks	Guidance
1a	<p>Possible responses may include:</p> <ul style="list-style-type: none"> • Acrylic (PMMA) (1). <ul style="list-style-type: none"> ○ Can be accurately moulded to the detail required in the casing e.g. moulded-in clips to hold the components together securely, creating the opening for the trigger (1). ○ Available in translucent so you would be able to see the inner workings of the torch (1). • Polypropylene (PP) (1). <ul style="list-style-type: none"> ○ Tough so can withstand knocks and bangs in a bag (1). ○ Weatherproof so will not degrade or breakdown with use outside (1). • Any other valid suggestion. 	2	<p>One mark for analysing Fig. 1.1 to identify a suitable thermopolymer.</p> <p>One mark for explaining why thermopolymer would be used.</p>
1b	<p>750 (1) x £1.88 = £1410.</p> <p>Quantity 750 Total cost £1410 (1).</p>	2	<p>Award two marks as follows:</p> <p>One mark for identifying the minimum number of torches.</p> <p>One mark for calculating the overall cost of the torches.</p> <p>If correct answer is given without working out shown award full marks.</p> <p>Where an incorrect answer is given working out should be used to credit appropriate marks.</p>
1ci	Possible ways may include:	4	In each case:

Question	Indicative Content	Marks	Guidance
	<ul style="list-style-type: none"> • The trigger of the torch has been placed on the side of the torch (1) to enable the user to charge the torch whilst pointing it at the area needing to be lit (1). • The torch can be held in either hand or any way up which means the trigger can be activated by different fingers/grips. (1) This will make it more comfortable for the user to hold and prevent the hand cramping (1). • The shape of the casing is curved with rounded corners (1) meaning that there will be no sharp sections that dig into the hand when it is being charged or in use (1). • Any other valid suggestion. 		<p>One mark for identifying an ergonomic feature.</p> <p>One mark for explaining how this ergonomic feature has influenced the usability of the torch.</p> <p>Specific reference to ergonomics within the context of the usability of the torch is needed for marks to be awarded.</p>
1cii	<p>Possible additional features may include:</p> <ul style="list-style-type: none"> • A wrist strap could be added to make the torch more portable (1). • A TPE grip could be added to make it more comfortable to hold (1). • Phosphorescent pigment could be added to the polymer for the casing making it glow in the dark and easier to be found (1). • The trigger could have rounded edges to prevent it digging in to the fingers when charging the torch (1). • The inclusion of an on/off switch to control the light source when residual charge remains and the light is no longer needed (1). • Any other valid suggestion. 	3	<p>One mark for identifying each of three additional features that could be incorporated into the design of the torch to make it more ergonomic.</p>

Question	Indicative Content	Marks	Guidance
1ciii	<p>Possible implications may include:</p> <ul style="list-style-type: none"> • The cost of making the torch will increase (1) therefore the company will make less profit or the cost of the torch will increase (1). • The torch will become more complex (1) making it less easily recycled at the end of life (1). • The company producing the torch may have to outsource components from more than one company (1) rather than spend more money creating different parts themselves (1). • Any other valid suggestion. 	4	<p>In each case:</p> <p>One mark for identifying an implication of incorporating additional features into the design of the torch.</p> <p>One mark for explaining this implication for the company producing the torch.</p> <p>Specific reference to the context in question is needed for marks to be awarded.</p>
1d	<p>Possible benefits may include:</p> <ul style="list-style-type: none"> • Improved brand image (1): <ul style="list-style-type: none"> ○ Associations of getting something for nothing / improves customer satisfaction (1). ○ Association with an ethical product which improves perceptions of the company (1). • Supports marketing strategy (1): <ul style="list-style-type: none"> ○ To raise brand awareness (1). ○ As an incentive that tempts consumers to a particular brand (1). • Any other valid suggestion. 	4	<p>In each case:</p> <p>One mark for identifying a benefit of giving away free wind up torches as a promotional product.</p> <p>One mark for explaining the benefit to the company of giving away a promotional product in this way.</p> <p>Specific reference to the context in question is needed for marks to be awarded.</p>

Question	Indicative Content	Marks	Guidance
1e	<p>Indicative content:</p> <p>Possible influences may include:</p> <ul style="list-style-type: none"> • Responsibility to reduce the impact of their products on the environment throughout their lifecycle. • Pressure from environmental groups to produce more sustainable products. • An increased awareness of lifestyles in third world countries, leading to the development of products that may improve quality of life. • The need for alternative power sources to reduce/replace the use of finite resources. • Increased use in electrical products leading to a need for a portable power supply. • The need for an alternative power supply for people who cannot access traditional sources - e.g. emergency power/camping. • Social, cultural and ethical factors. • Any other valid suggestion. 	<p>6</p> <p>For MB3 to be awarded there will be two or three influences discussed.</p> <p>If candidates do not provide an analytical/evaluative response then only L1 can be awarded.</p>	<p>Level 3 [5-6 marks] The candidate has a clear understanding of alternative technology. They produce a thorough discussion in relation to the question by explaining a number of influences that may have led designers to use alternative technology in products. The explanation of influences is clear and well-developed and products are used to exemplify the points being made.</p> <p>Level 2 [3-4 marks] The candidate has a reasonable understanding of alternative technology. They produce a sound discussion in relation to the question by explaining a number of influences that may have led designers to use alternative technology in products. The explanation of influences is sufficient although one or two opportunities are missed in referring to different products and directly relating the answer to the designer.</p> <p>Level 1 [1-2 marks] The candidate has a basic knowledge of alternative technology. Any reference to this technology is descriptive in nature and has little appreciation of the influences that may have led to designers using alternative technology in products. The response contains no analysis or evaluation.</p> <p>0 marks = No answer or answer not worthy of credit.</p>

Question	Indicative Content	Marks	Guidance
2ai	$x = 180 - (2 \times 65)$ $180 - 130 = 50^\circ$ (1). $y = 180 - 65 = 115^\circ$ (1).	2	Award two marks as follows: One mark for calculating angle x. One mark for calculating angle y.
2aii	$\frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C} \quad (1)$ $\frac{S}{\sin 65} = \frac{380}{\sin 50^\circ} \quad (1)$ $S = \frac{380 \sin 65}{\sin 50^\circ} \quad (1)$ $= 450 \text{ mm to the nearest mm} \quad (1)$	4	Award four marks as follows: One mark for identifying the trigonometry formula to use. One mark for transposing figures into formula. One mark for manipulating formula. One mark for calculating the length of side S. 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.
2b	Dowel A & D = $(450 + (2 \times 20)) + (2 \times 10) = 510 \text{ mm}$ Dowel B = 470 mm ($450 + (2 \times 10)$) = 470 mm Dowel C = 550 mm ($570 - (2 \times 10)$) = 550 mm	2	Award two marks as follows: One mark for two correct answers. One mark for four correct answers.

Question	Indicative Content	Marks	Guidance
2c	$570/6 = 95 \text{ mm (1)}$.	1	One mark for calculating the width of the deck chair.
2di	<p>Possible reasons may include:</p> <ul style="list-style-type: none"> • Unlike non-woven fabrics, woven fabrics have a strong structure using warp and waft (1). This will support somebody sitting in the chair as the material is less likely to deform or tear (1). • Knitted fabrics 'stretch and give' more than woven fabrics (1). This would mean the seat would be less likely to distort or misshape after repeated use (1). • Any other valid suggestion. 	2	<p>One mark for stating why woven fabrics rather than non-woven fabrics would be used for the seat of the deck chair.</p> <p>One mark for justifying why woven fabrics would be used in this way.</p>
2dii	$1800/10 = 180 \text{ cm} = 1.8 \text{ m (1)} \times 40 \times \text{£}12.25 = \text{£}882.00 \text{ (1)}$.	2	<p>Award two marks as follows:</p> <p>One mark for converting units.</p> <p>One mark for calculating the cost of the fabric.</p> <p>If correct answer is given without working out shown award full marks.</p> <p>Where an incorrect answer is given working out should be used to credit appropriate marks.</p>

Question	Indicative Content	Marks	Guidance
2diii	<p>Upper bound of length is $1805 = 180.5$ cm Upper bound of width is $455 = 45.5$ cm (1/2).</p> <p>Upper bound area of fabric = $180.5 \times 45.5 = 8212.75$ cm² (1).</p>	3	<p>Award three marks as follows:</p> <p>One mark for recognising both upper bounds. Note: Upper bounds will have to be accepted within the following ranges: Length 1804.9 to 1805 Width 454.9 to 455</p> <p>One mark for converting units.</p> <p>One mark for calculating the area of the fabric. Note: There may be some variation based on the candidate's assumed starting point.</p> <p>If correct answer is given without working out shown award full marks.</p> <p>Where an incorrect answer is given working out should be used to credit appropriate marks.</p>
2e	<p>$0.25 \times \text{£}67.99 = 16.9975$</p> <p>$\text{£}67.99 - 16.9975 = \text{£}50.99$ (1).</p>	1	<p>One mark for calculating the sale price of the deck chair.</p>

Question	Indicative Content	Marks	Guidance
3a*	<p>Indicative content:</p> <p>Reasons for the social pressure may include:</p> <ul style="list-style-type: none"> • Increased awareness of damaging effects to wildlife of discarded plastic. • Increased awareness of how long plastic takes to degrade. • Source and origin of materials using finite resources. • By-products of production including pollution related to energy. • Recycling schemes increasing locally and a need to outsource recycling to other countries. • The desire for more environmentally friendly products / brands. • Any other valid suggestion. <p>Impact on manufacturers may include:</p> <ul style="list-style-type: none"> • Develop alternative materials that can degrade quicker e.g. plastic bags manufactured using biodegradable plasticizers or bio-batch additives. • Use alternative renewable materials that are more environmentally friendly that can be sourced locally e.g. paper straws rather than plastic ones. • Develop products with a longer life span so they can be re-used or parts can be replaced. E.g. re-usable cups at coffee shops rather than single use cardboard ones. • Use more recycled materials in their products to reduce the waste and need to use new resources e.g. plastic bottles turned into clothing. 	<p style="text-align: center;">8</p> <p>For MB3 to be awarded there will be two or three impacts on the manufacturer of this social pressure discussed.</p> <p>If candidate does not provide an analytical/evaluative response then only L1 can be awarded.</p>	<p>Level 3 [6-8 marks] The candidate has a clear understanding of the ‘single-use’ plastic products and packaging issue. They produce a thorough discussion in relation to the question by explaining a number of reasons for the social pressure as well as highlighting a number of impacts on the manufacturer of this social pressure. The explanation of impacts is clear and well-developed and a number of different product types are used to exemplify the points being made.</p> <p><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></p> <p>Level 2 [3-5 marks] The candidate has a reasonable understanding of the ‘single-use’ plastic products and packaging issue. They produce a sound discussion in relation to the question by explaining reasons for the social pressure as well as highlighting impacts on the manufacturer of this social pressure. The explanation of impacts is sufficient although one or two opportunities are missed in referring to different product types and directly relating the answer to the manufacturer.</p> <p><i>There is a line of reasoning presented with some structure. The information presented is in the most part relevant and supported by some evidence.</i></p> <p>Level 1 [1-2 marks] The candidate has a basic knowledge of the ‘single-use’ plastic products and packaging issue. Any reference to this issue is descriptive in nature and has little</p>

Question	Indicative Content	Marks	Guidance
	<ul style="list-style-type: none"> • Any other valid suggestion. 		<p>appreciation of the reasons behind the social pressure or the impact on manufacturers. The response contains no analysis or evaluation.</p> <p><i>The information has some relevance and is presented with limited structure or detail. The information is supported by limited evidence.</i></p> <p>0 marks = No answer or answer not worthy of credit.</p>
3b	<p>Possible ways may include:</p> <ul style="list-style-type: none"> • Levying a fee on plastic use (1), for example paying 5p for a carrier bag to make people value the product more and they are then less likely to throw it away (1). • Increase recycling stations or schemes (1) where there is an incentive for the user to return plastic waste (1). • Reducing the amount of packaging on a product (1), for example Easter egg packages not needing a plastic insert (1). • Councils producing doorstep collections for recycling waste and separate bins for different types of recycling (1) to enable easier recycling (1). • Any other valid suggestion. 	6	<p>In each case:</p> <p>One mark for identifying a way in which the impact of plastics can be reduced.</p> <p>One mark for explaining how stakeholders can directly contribute to this process.</p> <p>Specific reference to the context in question is needed for marks to be awarded.</p>

Question	Indicative Content	Marks	Guidance
4a	<p>Possible responses may include:</p> <ul style="list-style-type: none"> • Beech (1). <ul style="list-style-type: none"> ○ Resistance to shock and indentation so it can withstand the impact of being dropped or thrown when the user performs tricks (1). ○ Close grained so gives a smoother finish and means it is less likely to split (1). • Birch (1). <ul style="list-style-type: none"> ○ Stable material that is strong and flexible reducing the chance of damage on impact when in use (1). ○ Close grained so gives a smoother finish and means it is less likely to split (1). • Any other valid suggestion. 	2	<p>One mark for analysing Fig. 4.1 to identify a suitable hardwood.</p> <p>One mark for explaining why hardwood would be used.</p>

Question	Indicative Content	Marks	Guidance
		<p>industrial manufacture.</p> <p>Candidates can draw on practical experience from product analysis and the workshop to support their response to this question.</p>	
4ci	<p>Possible benefits may include:</p> <ul style="list-style-type: none"> • It removes the need for tooling to be made and parts manufactured on site (1), saving time and money (1) and ensuring consistency (1). • Standard parts can be purchased in bulk from suppliers (1) keeping costs down (1). • Less skill is required by staff (1). • Any other valid suggestion. 	3	<p>Three marks achieved by either:</p> <p>One benefit identified expanded via an explanation up to two marks.</p> <p>OR</p> <p>Two benefits identified, one of which is expanded to achieve third mark.</p> <p>Answer must be within the context of the manufacturer to receive credit.</p>

Question	Indicative Content	Marks	Guidance
4cii	<p>Possible benefits may include:</p> <ul style="list-style-type: none"> • The consumer can customise the skateboard with new parts (1) if fashion/ trends/ tastes/ use changes (1). For example they may want different coloured wheels or patterned deck (1). • The product lasts longer (1) as it can be upgraded/ mended (1). • The consumer can replace broken or damaged parts easily (1). • Any other valid suggestion. 	3	<p>Three marks achieved by either:</p> <p>One benefit identified expanded via an explanation up to two marks.</p> <p>OR</p> <p>Two benefits identified, one of which is expanded to achieve third mark.</p> <p>Answer must be within the context of the consumer to receive credit.</p>

Question	Indicative Content	Marks	Guidance
4d	<p>Indicative content:</p> <p>Possible factors that need to be considered:</p> <ul style="list-style-type: none"> • Implications of intellectual property (IP) registered designs, copyright etc. in relation to ethics in design practice and consumer rights. • The impact on people in relation to lifestyle, culture and society. • The impact on the environment e.g. consideration of product life cycle and disposal. • Environmental issues and energy requirements. • Consideration of sustainability. • Awareness of responsibilities and principles of designing for manufacture .e.g. designing for repair and maintenance. • Understanding of issues related to the effective and responsible distribution of products, e.g. global production and delivery. • Any other valid suggestion. 	<p>8</p> <p>For MB3 to be awarded there will be two or three factors discussed.</p> <p>If candidates do not provide an analytical/evaluative response then only L1 can be awarded.</p>	<p>Level 3 [6-8 marks] The candidate has a clear understanding of the factors that need to be considered before distributing new products to market. They produce a thorough discussion in relation to the question by explaining a number of factors that need to be taken into consideration. The explanation of factors is clear and well-developed and a number of different examples are used to exemplify the points being made.</p> <p>Level 2 [3-5 marks] The candidate has a reasonable understanding of the factors that need to be considered before distributing new products to market. They produce a sound discussion in relation to the question by explaining factors that need to be taken into consideration. The explanation of factors is sufficient although one or two opportunities are missed in referring to examples to exemplify the points being made.</p> <p>Level 1 [1-2 marks] The candidate has a basic knowledge of the factors that need to be considered before distributing new products to market. Any reference to this issue is descriptive in nature and has little appreciation of the numerous factors involved. The response contains no analysis or evaluation.</p> <p>0 marks = No answer or answer not worthy of credit.</p>