

Markscheme

May 2026

Design technology

Higher level

Paper 3

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General Marking Instructions

Subject Details: Design Technology HL Paper 3 Markscheme

Mark Allocation

Candidates are required to answer **ALL** questions in Section A (total **[20 marks]**) ONE question in Section B **[20 marks]**. Maximum total = **[40 marks]**.

Markscheme format example:

Question			Answers	Notes	Total
4.	b	ii	the displacement and acceleration ✓ are in opposite directions ✓	Accept <i>force</i> for <i>acceleration</i> .	2

- Each row in the “Question” column relates to the smallest subpart of the question.
- The maximum mark for each question subpart is indicated in the “Total” column.
- Each marking point in the “Answers” column is shown by means of a tick (✓) at the end of the marking point.
- A question subpart may have more marking points than the total allows. This will be indicated by “**max**” written after the mark in the “Total” column. The related rubric, if necessary, will be outlined in the “Notes” column.
- An alternative wording is indicated in the “Answers” column by a slash (/). Either wording can be accepted.
- An alternative answer is indicated in the “Answers” column by “**OR**” on the line between the alternatives. Either answer can be accepted.
- Words in angled brackets < > in the “Answers” column are not necessary to gain the mark.
- Words that are underlined are essential for the mark.
- The order of marking points does not have to be as in the “Answers” column, unless stated otherwise in the “Notes” column.
- If the candidate’s answer has the same “meaning” or can be clearly interpreted as being of equivalent significance, detail and validity as that in the “Answers” column then award the mark. Where this point is considered to be particularly relevant in a question it is emphasized by **OWTTE** (or words to that effect).
- Remember that many candidates are writing in a second language. Effective communication is more important than grammatical accuracy.
- Occasionally, a part of a question may require an answer that is required for subsequent marking points. If an error is made in the first marking point then it should be penalized. However, if the incorrect answer is used correctly in subsequent marking points then **follow through** marks should be awarded. When marking, indicate this by adding **ECF** (error carried forward) on the script. “ECF acceptable” will be displayed in the “Notes” column.
- Do **not** penalize candidates for errors in units or significant figures, **unless** it is specifically referred to in the “Notes” column.

Section A

Question			Answers	Notes	Total
1.	a		Quality assurance; quality control;	<i>Award [1] for listing each of the quality management strategies that may ensure the quality of Offcut's products up to [2 max].</i> <i>Note: Do not accept statistical process control.</i>	2
1.	b		Offcut's workforce creates products from scrap wood / produces handmade/unique products; therefore they need to be highly trained/multi-skilled / involved in decision making / adopt Kaizen (philosophy) / create a culture of continuous improvement / be motivated / do it right the first time;	<i>Award [1] for identifying why empowered workers are essential to Offcut's success and [1] for a development up to [2 max].</i>	2
1.	c		Offcut improves/increases the return on investment/profit (for the woodworking shop); as products are made with scrap/excess wood / no additional <u>material</u> cost / sell fast;	<i>Award [1] for identifying how Offcut impacts the return on investment for the woodworking shop and [1] for a development up to [2 max].</i>	2
1.	d		Offcut products are constantly changing / unique / created from scrap wood / not standardized / limited editions; and are handmade; they do not require automated production / (repetitive) changeovers; and no computers to integrate the entire process (design, planning, purchasing, cost accounting, inventory control, distribution);	<i>Award [1] for identifying why Offcut is highly unlikely to adopt computer integrated manufacturing (CIM) and [1] for each subsequent development up to [4 max].</i>	4

Question			Answers	Notes	Total
2.	a		Literature search; expert appraisal; user trial; user research / questionnaires / surveys / interviews; perceptual mapping; environmental scanning / analysis of market trends;	Award [1] for listing each of the market research strategies Safe Spaces may have used to collect information about markets or consumers up to [2 max] .	2
2.	b		Competitor-based/competition-based pricing strategy; as it is based on the price of similar/leading products in the market;	Award [1] for identifying the pricing strategy Safe Spaces used for its Safe SS+ System and [1] for a development up to [2 max] .	2
2.	c		Safe Spaces will stand out in a competitive market / differentiate themselves from competitors; attracting customers / increasing sales / creating brand loyalty / gaining a reputation for being innovative/trustworthy / providing added value;	Award [1] for identifying the benefit of a distinct brand identity for Safe Spaces and [1] for a development up to [2 max] .	2
2.	d		A hybrid approach refers to the combination of two (or more) corporate strategies; the Safe SS+ utilizes <u>pioneering</u> and <u>imitative</u> corporate strategies; as it is the first (home security system) in the market to utilize (advanced) AI / is a first-to-market; integrates with (various smart) home devices / developed/priced in a similar way to an existing product/competition;	Award [1] for explaining how the Safe SS+ is an example of a hybrid approach corporate strategy and [1] for each subsequent development up to [4 max] . Note: Words that are <u>underlined</u> are essential for the mark.	4

Section B

Question			Answers	Notes	Total
3.	a		Legislation/regulation; education; taxes; subsidies/grants;	<i>Award [1] for listing each way government intervention may facilitate the diffusion of solid shampoo bars into the marketplace up to [2 max].</i>	2
3.	b		The transact part of the ACT model relates to function/usefulness/achieving goals; the applicator's triangular rounded shape is ergonomic / easy to grip / prevents the shampoo bar from slipping/sliding / from getting soggy;	<i>Award [1] for identifying how the rounded triangular shape of the F SolidPod® applicator satisfies the transact part from the ACT model and [1] for a development up to [2 max].</i>	2
3.	c		Affinity diagramming organizes ideas and information; to evaluate/understand if the bars meet users' needs/wants / to gain user feedback;	<i>Award [1] for identifying why Freshly Cosmetics applied the UCD affinity diagramming strategy during the design and development of their solid shampoo bars and [1] for a development up to [2 max].</i>	2
3.	d		The F SolidPod® applicator requires skills/expertise/perspectives/knowledge from different disciplines; such as designers / users / manufacturers / chemists / engineers / anthropologists / ethnographers / psychologists / ergonomists / scientists / entrepreneurs; to understand users' needs/tasks/environments; apply life cycle analysis (LCA) / user centered design (UCD); and produce an environmentally friendly/empathetic solution;	<i>Award [1] for identifying why a multidisciplinary team was essential in the design and development of the F SolidPod® applicator and [1] for each subsequent development up to [5 max].</i>	5

Question 3 continued

Question			Answers	Notes	Total
3.	e		Decoupling: The applicator disconnects Freshly Cosmetics' economic growth and environmental impact; by creating less (plastic) waste / lowering (negative) environmental impact / using resources more productively; and selling a product that is equivalent to (regular) shampoo bottles; Ethical consumerism: The applicator encourages the (conscious) consumption of products that have minimal environmental impact; by providing an alternative to single-use plastic shampoo bottles; that lasts for 10 years / that uses 100% of solid shampoo bars / that is refillable/reusable/recyclable/follows take-back; Datschefski's cyclic principle of sustainable design: The applicator uses recyclable/recycled materials; that continuously cycle in a closed loop / cradle to cradle; as Freshly Cosmetics aims to take back / to use in the production of new applicators;	<i>Award [1] for identifying how the F SolidPod® applicator meets the requirements of decoupling and [1] for each subsequent development of up to [3 max].</i> <i>Award [1] for identifying how the F SolidPod® applicator meets the requirements of ethical consumerism and [1] for each subsequent development of up to [3 max].</i> <i>Award [1] for identifying how the F SolidPod® applicator meets the requirements of Datschefski's cyclic principle of sustainable design and [1] for each subsequent development of up to [3 max].</i> <i>Mark as [3] + [3] + [3].</i> Notes: Do not award marks for points that are not linked to their correct heading. <i>Do not award marks across clusters.</i>	9