



GCSE

Design and Technology

General Certificate of Secondary Education

Unit **A554**: Designing Influences

Mark Scheme for June 2013

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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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Annotations

Annotation	Meaning
GREEN TICK	Correct. The number of ticks on an answer MUST match the number in the mark box.
SEEN	Sheets have been looked at and considered. Use on additional objects.
TV	Too Vague for credit
REP	Repeat of point already credited
BOD	Benefit of doubt. To be used sparingly on any one script. Must be accompanied by a tick
	DO NOT use the red cross or the question mark

Where answers in the mark scheme are presented with a / e.g. Clips/catches/locks/latches/food not fall out only one mark should be awarded should more than one of these terms be given.

MARK SCHEME

Question		Answer	Marks	Guidance
1	(a)	<p><u>Features that can be seen from drawing:</u></p> <ul style="list-style-type: none"> • Handle • Easy to carry/portable/fits in most bags • Hinges • Lid/top • Base/sides/front • Clips/catches/locks/latches/food not fall out • Easy open and close • Holds/carries food/big enough for bread/fruit • Keeps food protected/safe • Sections/dividers/compartments/contents separated • Rounded corners • Food not squashed/damaged/mixed up • Divider movable for different sized items <p><u>Other features based on plastic:</u></p> <ul style="list-style-type: none"> • Available in different colours/patterns/pictures/textures • Washable • Waterproof • Lightweight • Rigid/strong/tough/durable/hardwearing/long lasting • Can be decorated/personalised 	3	<p>1 mark for each design feature.</p> <p>Accept answers presented as specification points E.G. Must have a lid, must have a handle</p> <p>Do not accept: Made out of plastic = 0 as this is in the question. Crisps, chocolate, sandwich, fruit Lunch, box, food Plain, boring Ergonomic or aesthetic on their own (one word answers)</p>

Question		Answer	Marks	Guidance
	(b) (i)	<ul style="list-style-type: none"> Creates desire/appeals/wants/attracts/draws attention of user Sell more boxes/make more money/profit/adds more value so can charge more Aesthetically appealing/exciting/eye catching Link with characters popular with children(love them) Promote to other potential users Make it different/stand out/recognisable from other lunch boxes Use the same character in promotion/advertising Keep up with current popular trends/fashions/ fashion statement about the user 	2	<p>1 mark for each reason: simple statements without qualification.</p> <p>Do not accept: To advertise the TV/film show Make children eat more food</p> <p>Do not reward repeat answers E.G. Appeals and attracts, exciting and eye catching</p>
	(ii)	<p><u>Reasons could include:</u></p> <ul style="list-style-type: none"> Most children have a favourite colour Children may like different colours/colour adds appeal to product Young(age) children like bright primary colours Gender preferences Different colours mean different things Fit in with peers <p><u>Explanations could include:</u></p> <ul style="list-style-type: none"> so they will like it/want to use it/happy to use it one colour may not target all potential buyers so parents buy it not be teased for having 'wrong' colour to match with other toys/goods/items blue for boys and pink for girls identify their own box 	2	<p>1 mark for reason + 1 mark for /explanation/example/qualification.</p> <p>Do not accept: Two marks for two ways of saying the same thing: <i>Drawn to bright and attractive, and brown dull and boring</i></p> <p>Accept the implications of the acceptable answers expressed in opposite terms. E.G. Dull colours [1] do not sell well [1] for children's products.</p>

Question		Answer	Marks	Guidance
	(c)	<ul style="list-style-type: none"> • Copyright or trademark (1) protects owners/someone owns the rights/no one can just copy (1) original idea and permission (1) would have to be obtained before it could be used. Could involve payments/fines(1) • Registered (1) which means that it cannot be used without permission (1) and by paying the owner a fee (1) • Licensed(1) from the owner of the design, this will cost money (1) which may or may not make the product viable (1) • Sanctioned or endorsed (1) actor may believe that their privacy has been invaded (1) or that their image is subject to copyright and may not be used without their permission or payment (1). 	3	<p>1 mark for relevant laws/areas of legislation</p> <p>1–2 marks for how laws/legislation could affect the use of well known film or television characters for product design.</p> <p>Do not accept references to patents.</p>

Question			Answer	Marks	Guidance														
2	(a)		<table><tr><th>Component</th><th>From renewable resources</th></tr><tr><td>Fruit filling</td><td>✓</td></tr><tr><td>Sugar topping</td><td>✓</td></tr><tr><td>Pastry</td><td>✓</td></tr><tr><td>Aluminium foil case</td><td></td></tr><tr><td>Plastic tray</td><td></td></tr><tr><td>Cardboard box</td><td>✓</td></tr></table>	Component	From renewable resources	Fruit filling	✓	Sugar topping	✓	Pastry	✓	Aluminium foil case		Plastic tray		Cardboard box	✓	4	1 mark for each correct renewable resource. If more than four boxes ticked – award zero. Unless clearly scribbled out
Component	From renewable resources																		
Fruit filling	✓																		
Sugar topping	✓																		
Pastry	✓																		
Aluminium foil case																			
Plastic tray																			
Cardboard box	✓																		
	(b)		<ul style="list-style-type: none">Recycle – e.g. paper/card, non renewable finite resources which will eventually run outRepair- e.g. increase life in service, designed for repairReduce – e.g. quantity of materials used in design or reduction in landfill wasteRethink – e.g. home lighting energy usageRefuse – e.g. purchase refuse due to resource use or high energy requirementCarbon reduced products/Carbon neutral productsRenewable resources – e.g. bio fuel/materials/energyBiodegradable MaterialsExtended product lifespan. <p><u>Answer could take the form of:</u></p> <ul style="list-style-type: none">Making sure a product is recyclable(1) take into account whether the material/components can be used to make something else at the end of the product's life(1), so that resources are saved/it does not go to landfill (1).	2	Award 1 mark for a basic principle of sustainable technology + 1 mark for description/exemplification. 1 Do not accept <ul style="list-style-type: none">Re-use/reusable.Vague references to harming the environment, environmentally friendly, eco friendly, pollution.														

Question		Answer	Marks	Guidance
	(c)	<p><u>Benefits to a manufacturer could include:</u></p> <ul style="list-style-type: none"> • PR/good publicity • Meeting customers' environmental standards • Reducing costs • Helping conserve resources. • Easier disposal • Less harmful waste <p><u>Explanation/justification could be in the form of:</u></p> <ul style="list-style-type: none"> • So that the manufacturer can show that their output reduces environmental impact • Help to promote a good image for the manufacturer • Result in higher sales • To save manufacturers money • Reduced carbon footprint/CO₂ • Tax incentives/Grant 	4	<ul style="list-style-type: none"> • One mark for each identified benefit (1+1) • One mark for a point of explanation (1+1) <p>Do not accept benefits to the consumer, the community, or to the environment.</p> <p>Do not accept vague references to harming the environment, environmentally friendly, eco friendly, global warming, ozone layer, endangered species/habitats, pollution</p>

Question		Answer	Marks	Guidance
3	(a)	<ul style="list-style-type: none"> • Aerial/antenna • Buttons/numerical pad • Slimmer/thinner/smaller/compact • Better sound quality • Keypad for tuning/selecting frequencies/presets • Portable/lightweight/ lighter • Batteries/ no wires/no plug • Displays the time • Socket for connecting earphones • Docking connecting to hi-fi system. • DAB/more channels • Easier to tune/search • Additional features – Clock 	3	<p>1 mark for each design feature of the modern digital radio which makes it different to valve radio from the 1940s.</p> <p>If more than three given, mark any 3.</p> <p>Do not accept LCD display screen, ergonomic, aesthetic, numbers, cheaper, light, more attractive, neater shape, volume control, can change radio station.</p>
	(b)	<p><u>Point 1:</u> It has a digital LCD display screen.</p> <p><u>Explanation:</u> This shows precisely the frequency to which the radio is tuned (1) which makes tuning easier and more accurate for the listener (1)</p> <p><u>Example answer</u></p> <p>Point 2: Smaller and lightweight: Explanation: it is easier to transport[1], such as taking it on holiday[1]</p> <p>Point 3: Has an Aerial: Explanation: improved signal (reception) to the radio[1], so better sound quality[1]</p>	4	<p><u>No credit for 'feature' – as this will have already been given in Q3a</u></p> <p>Award (1) mark for basic reason why the design feature may have been chosen for the modern radio</p> <p>+ (1) mark for explanation / development / justification / clarification.</p>

Question		Answer	Marks	Guidance
	(c)	<ul style="list-style-type: none"> • Fashions change (1) as domestic environments change (1) consumers want modern/stylish designs that match other items in their household (1) • Product replacement (1) design is continually changing and evolving (1) the shape and style of radios is changed to appeal to new buyers/consumers (1) which will mean that the manufacturer gets additional sales(1) • Refreshing/updating the look of goods (1) so the items don't start to look old fashioned (1) so they appeal to new markets (1) compete with other brands(1) • New technology (1) has developed electronic components have got smaller (1), electronic parts of radios have got smaller (1), can be fitted into smaller/slimmer casings(1), compared to the large valves in old style radios (1) • Consumer demand (1) wants change now they want lightweight/portable devices (1) to fit with their new/current lifestyle and fashions (1). • Obsolescence(1) products built to last a specific amount of time(1) before having to be replaced(1) new models have to look/be more advanced than previous one(1) 	3	<p>There are two ways of crediting full marks in this question:</p> <ul style="list-style-type: none"> • One mark for the reason (bold headings) plus up to two more marks for 2 points of explanation, exemplification, or justification of the reason. • One marks each for two reasons, plus one more mark for 1 point of explanation, exemplification, or justification of one of the reasons. <p>If three reasons are given without further acceptable points then up to only two marks should be awarded.</p> <p>Credit references to Market push and Consumer pull under Consumer demand.</p> <p>Credit explanation of developmental changes described through the example of a specific product such as an iphone.</p>

Question			Answer	Marks	Guidance	
					Content	Levels of response
4	(a)		<p><u>Reasons why trend setter has been influential could include:</u></p> <p><u>Philippe Starck</u></p> <ul style="list-style-type: none"> • Works in a wide range of media/disciplines, including products, furnishings, restaurant and hotel interiors • Recognised/commissioned by French President • Produces distinctive/recognisable designs • Linked with Alessi which is itself associated with distinctive/creative designs for household goods • Promoter of ecological and sustainable design • Designs associated with a particular era (1980s/90s) • Designs associated with a particular social group of consumers (well-off/design conscious/trend setters). <p><u>Laura Ashley</u></p> <ul style="list-style-type: none"> • Produced floral designs which can be applied to a wide range of products • Made the use of small floral images as an overall pattern popular • Designs taken up by major retailers of furnishing fabrics and decorative materials • Designs incorporated into fashion, home furnishings, lighting, wall coverings, home decoration • Designs associated with a particular era (1960s/70s) 	6	<p>Many answers continue onto additional sheets or at the bottom of 4(b) – examiners must check and use linking tool.</p> <p>Continuous prose – question marked for quality of written communication of a reasoned argument</p> <p>Only <u>one</u> Trend Setter must be referred to.</p> <p>If the answer relates only to the Iconic product then award Level 1</p> <p>There is no credit for mention of the Trendsetter by name or the name of the Iconic Product, as these are given in the question.</p> <p>List/sequence of discrete words maximum of 2 marks If bullet points are used with full sentences treat as continuous text.</p> <p>Typical connectives that may be used to link points of discussion: so that, because, therefore, however, although, but, consequently, alternatively, whenever, besides, moreover, since, whereas, despite.</p>	<p>Level 1 (0 to 2 marks) <i>Some understanding of the influence of the Trend Setter</i> <i>Little or no use of specialist terms.</i> <i>Answers ambiguous or disorganized.</i> <i>Errors of grammar, punctuation and spelling.</i> Limited range of points made with some relation to the Trendsetter and with limited justification</p> <p>Level 2 (3 to 4 marks) <i>Reasonable understanding of the influence of the Trend Setter.</i> <i>Some use of specialist terms, not always used appropriately.</i> <i>Information presented for most part in a structured format.</i> <i>Occasional errors in grammar, punctuation and spelling.</i></p> <p>Range of points adequately made with some relationship to the Trendsetter, with explanations and some justification</p>

Question			Answer	Marks	Guidance	
					Content	Levels of response
			<ul style="list-style-type: none"> Designs associated with a particular social group of consumers (middle class/middle England). <p><u>Alan Fletcher</u></p> <ul style="list-style-type: none"> His distinctive use of typography for company logos which have stood the test of time (V&A, Reuters, etc) Worked for 'household name' clients companies (Pirelli, Penguin Books, Olivetti) Involved with well-known design partnership 'Pentagram' Work recognised by solo exhibition at the Design Museum Designs associated with 1980s and 1990s Described by The Daily Telegraph as <i>"the most highly regarded graphic designer of his generation, and probably one of the most prolific"</i>. <p><u>Sir Clive Sinclair</u></p> <ul style="list-style-type: none"> Pioneer in DIY/home electronics Developed products such as radio receivers, amplifiers, calculators, etc Introduced the concept of DIY computer kits Kit form computers for home/hobbyist use in 1980 brought the concept of home computers to the mass market Introduction of the ZX Spectrum programmable computer enabled users to write their own programmes for the first time Sale of Sinclair Research to Amstrad opened the door to the development of low cost home PCs. 		<p>Candidate's response should answer the question '<i>Explain why this trend setter has been so influential</i>' rather than be a celebrity biography of the subject.</p>	<p>Level 3 (5 to 6 marks) <i>Detailed understanding of the influence of the Trend Setter.</i> <i>Specialist terms used appropriately and correctly.</i> <i>Information presented in structured format.</i> <i>Accurate use of grammar, punctuation and spelling with some minor errors.</i></p> <p>Range of well made points that mostly relate to the Trendsetter and with reasoned explanations through discussion and justification</p>

Question			Answer	Marks	Guidance	
					Content	Levels of response
			<u>Linda McCartney</u> <ul style="list-style-type: none"> • High profile celebrity/personality totally committed to meat free cooking and eating • Became frustrated by the lack of innovation in meat free alternative meals • Brought forward the concept of meat free alternatives to products that had previously been made from meat e.g. sausages • Produced a range of frozen meat free food products that would appeal to a wider market than 'traditional' vegetarian fare • Used celebrity name to brand products and forge mass distribution of the meat free food products • Convinced major food manufacturers that there was a worthwhile market in meat free food products. 			

Question	Answer	Marks	Guidance
4 (b)	<p><u>Reasons why the product chosen has been influential:</u></p> <p><u>Juicy Salif Lemon squeezer</u></p> <ul style="list-style-type: none"> Has been recognised as a key/best selling product in the Alessi range of kitchenware Has enabled Alessi to become associated with original/novel design for household objects Distinctive design has been recognised by inclusion in the collection of the Museum of Modern Art, New York Has spawned imitators who seek to bring distinctive design to mundane kitchen items. <p><u>Floral furnishing fabrics</u></p> <ul style="list-style-type: none"> Laura Ashley has become a 'household name' for sort furnishings and clothing with an overall design of small flowers on a muted background In its heyday the style of the design was copied widely on clothing and home furnishings produced by competitors Product still a best seller in Laura Ashley retail outlets Product still popular with customers of a certain age/socio-economic profile. <p><u>Corporate identity for V&A</u></p> <ul style="list-style-type: none"> It has given the V&A a distinctive image It is still in use/has not been replaced since it was introduced in 1989 It has been applied to a wide range of goods and items produced by the V&A Other graphic designers have tried to adopt a similar simplistic style for corporate image work. 	4	<p>Content of answer refers to creditable points about the influence of the Iconic Product. These may be discrete points referring to different aspects of the Iconic Product, or they may be linked points that discuss, explain, exemplify, qualify or describe one aspect of the impact or influence.</p> <p>Answers must relate to what (1) was so different about the Iconic Product and or why (1) the Iconic Product has been so influential.</p> <p>Answer should focus on why the product has been influential and not be a description of what it is.</p> <p>Quality of written communication is not assessed in this part of Question 4.</p> <p>This can be a different Iconic Product to that of the Trendsetter chosen in part (a).</p> <p>There is no credit for mention of the Trendsetter by name or the name of the Iconic Product, as these are given in the question.</p> <p>Some answers may provide more than two creditable points for each or either reason. Credit the points wherever they are presented.</p>

Question	Answer	Marks	Guidance
	<p><u>ZX Spectrum programmable computer</u></p> <ul style="list-style-type: none"> • It was one of the first small size home computers • Its initial low cost attracted many people to try out the concept of home computing for the first time • Its simplicity of circuitry design gave people the opportunity to learn about computer programming • It opened up a consumer market, paving the way for Amstrad and other home computer manufacturers. <p><u>Linda McCartney Frozen Vegetarian Sausages</u></p> <ul style="list-style-type: none"> • Gave vegetarians a tasty alternative to foods traditionally associated with vegetarian cooking • Demonstrated that there was a mass market for meat free food products • The size of the market established by Linda McCartney Frozen Vegetarian Sausages encouraged other food manufacturers and retailers to develop their own meat free food products • Paved the way for a wider range of non-meat food products. 		

Question		Answer	Marks	Guidance
5	(a)	<p>Specification</p> <p>Incomplete, naïve or repeated from the question (1)</p> <p>Vague/generic specification that gives limited design requirements (2)</p> <p>Adequate specification that gives two specific design requirements (3)</p> <p>Detailed specification gives three or four specific design requirements (4)</p>	4	<p><u>Generic design specification points could include:</u></p> <ul style="list-style-type: none"> • Must be safe to use • Must look good • Must have bright colours • Must be ergonomic for the user • Must be durable and long lasting <p><u>Specific design specification points could include:</u></p> <p><u>Device for weighing ingredients/Philippe Starck</u></p> <ul style="list-style-type: none"> • Incorporate a bowl/has a separate bowl • Easy to wipe/keep clean. <p><u>Bag/Laura Ashley</u></p> <ul style="list-style-type: none"> • Must have a handle or strap for ease of carrying • Must have a closure to keep contents secure <p><u>Leaflet/Alan Fletcher</u></p> <ul style="list-style-type: none"> • Must be x number of pages • To be printed in 1/2/full colour. <p><u>Programmable device to control temperature/Sir Clive Sinclair</u></p> <ul style="list-style-type: none"> • Must have a visual temperature scale • Means of inputting data/programming device must be easy to access. <p><u>Picnic food product/Linda McCartney</u></p> <ul style="list-style-type: none"> • Must be ready to eat out of the packaging without the need to cook • All ingredients must be acceptable to consumers who do not eat meat/vegetarians.

Question	Answer	Marks	Guidance
(b)	<u>Initial ideas that meet the specification</u>	5	<p>When awarding marks for addressing the specification points marks can be awarded in (b) and (c) irrespective of the quality of the candidates specification points.</p> <p>A note about notes and labels: One word labels can identify and name, features on a sketch: e.g. base, aluminium, pattern, seam.</p> <p>Two and three word labels can qualify the feature: e.g. stainless steel tube, stable base.</p> <p>Notes are complete statements that can explain, justify, exemplify and quantify the feature: e.g. black polyester with white rayon stitching.</p> <p>Dimensions on a drawing and weights or quantities of ingredients come under the heading of notes.</p> <p>Different ideas refers to:</p> <ol style="list-style-type: none"> 1. whole solutions or parts of a solution. 2. conceptually different thinking. 3. not just variations on a theme. <p>Addressing specification points:</p> <ol style="list-style-type: none"> 1. may be explicitly evidenced in the notes. 2. implicitly evidenced in the idea. 3. the two specification points need to be evidenced only once each, in any of the notes or the ideas. <p>Creative approach to designing is judged in the context of an examination situation with strictly limited time. Do the ideas impress you enough for just ten minutes work from a 15 year old?</p>
	Only one sketched solution with no accompanying notes (1)		
	One sketched solution with notes OR Two or more solutions with no notes (2)		
	Two or more sketched solutions with notes (3)		
	A range of different ideas that address at least two specification points (4)		
	A creative approach to designing (5)		

Question	Answer	Marks	Guidance
(c)	<p><u>Development of ideas – must reflect the original design need/product focus:</u></p> <p>One solution may be presented in more than one view: top and front, inside and outside.</p> <p>One sketched solution showing an idea from the initial ideas with some development – no notes (1)</p> <p>One developed idea with notes (2)</p> <p>Development of an idea evidenced with supporting sketches and/or notes (3)</p> <p>Development of an idea with notes that link to at least two specification points (4)</p> <p>A range of developments of the idea with notes that link to at least three specification points (5)</p>	5	<p>In this part, candidates must address the requirements of the “design need in the situation”.</p> <p>If both requirements of the design need are not met the maximum available is two marks.</p> <p>Example 1: Both “Philippe Starck” and the “weighing device” must be considered.</p> <p>Example 2: A “bag” and “the style of Laura Ashley Floral furnishing fabric” must be considered.</p> <p>Example 3: The “Alan Fletcher corporate identity style for the V&A” and ‘leaflet to promote the club or activity’ must be considered.</p> <p>Example 4: The “device used to control classroom temperature” and the fact that it is “programmable” must be considered.</p> <p>Example 5: The “food product for a picnic” and “style of Linda McCartney” must be considered.</p> <p>Where there are no creditable specification points in 5a maximum available is two marks.</p> <p>Just one drawing from the initial ideas drawn bigger or neater showing little if any progression of thinking can score no more than two marks.</p> <p>To move beyond two marks there must be evidence on the page of developmental activity/decision making.</p>

Question	Answer	Marks	Guidance
(d)	<p>Final proposal: look at the information and drawing on the page for 5d, and any detail from 5c:</p> <p>A simple solution with limited detail/notes (1)</p> <p>Details of one or more bullet points from the list of materials/parts/sizes/tools/etc. (1)</p> <p>Look at the writing on the page for 5d:</p> <p>Notes and associated sketches showing how the design meets spec point 1 (1) e.g. The device has rubber feet to ensure it stays firm when being used.</p> <p>Notes and associated sketches showing how the design meets spec point 2 (1) e.g. The bag has a repeat print pattern of sunflowers to reflect both the season and Laura Ashley's style.</p> <p>Notes and associated sketches showing how the design meets spec point 3 (1) e.g. The leaflet has a sans serif font to allow it to be read and recognised easily.</p> <p>Notes and associated sketches showing how the design meets spec point 4 (1) e.g. The food product for a picnic includes quorn mince and vegetables in a tomato based sauce as a filling making it suitable for vegetarians.</p>	6	<p>Drawing should show some relevant details for manufacture:</p> <ul style="list-style-type: none"> • materials/ingredients/components • sizes/dimensions/quantities • methods/joining/mixing techniques • tools/equipment. <p>Accept justified points related to the candidates' own specification, even if not rewarded in 5(a), and/or any points given to the candidates in the design need of the actual question.</p> <p>If solution in 5(d) has no relationship with 5(c) then only award up to a maximum of 4 marks for the justifications of how the idea meets their specification.</p>

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