



GCSE MARKING SCHEME

DESIGN & TECHNOLOGY

SUMMER 2012

INTRODUCTION

The marking schemes which follow were those used by WJEC for the Summer 2012 examination in GCSE DESIGN & TECHNOLOGY. They were finalised after detailed discussion at examiners' conferences by all the examiners involved in the assessment. The conferences were held shortly after the papers were taken so that reference could be made to the full range of candidates' responses, with photocopied scripts forming the basis of discussion. The aim of the conferences was to ensure that the marking schemes were interpreted and applied in the same way by all examiners.

It is hoped that this information will be of assistance to centres but it is recognised at the same time that, without the benefit of participation in the examiners' conferences, teachers may have different views on certain matters of detail or interpretation.

WJEC regrets that it cannot enter into any discussion or correspondence about these marking schemes.

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FOOD TECHNOLOGY

SECTION A

Q				On Paper	Question Totals	Running Total
Q.1	(a)		No answer or the answer does not address the weight of one Kiev.	0		
			Appropriate weight stated: 155g.	1	1	
	(b)		No answer or the answer does not identify reason for cooking in oven.	0		
			Appropriate reason identified. To maintain the crispy crumb coating.	1	1	
	(c)		No answer or the answer does not refer to why method of storage is necessary.	0	2	
			Basic reason identified: Contains ingredients which are high risk. To slow the growth of harmful bacteria. Contains ingredients which could cause food poisoning. Store in refrigerator below 5°C.	1		
			Detailed response: Contains rice/cheese which are high risk foods and could cause food poisoning.	2		
	(d)		No answer or the answer does not relate to why the centre is appealing.	0	2	
			Award each appropriate reason given: To add moistness to the product.	1		
			To enhance the flavour of the products flavour/ to add flavour.	+		
			To give a strong cheese/garlic flavour.	1		

Q					On Paper	Question Totals	Running Total
	(e)	(i)	<p>No answer or the answer does not relate to the cost of the kiev.</p> <p>Basic answer given: Must be priced the same as other products. Must be affordable/ and or appropriate for people to buy.</p> <p>It must be priced the same as other manufacturers/competitors so that it competes for sales.</p> <p>Suitably priced in line with similar products so that it will sell.</p>	0 1 2	2		
		(ii)	<p>No answer or the answer does not relate to the aesthetic appeal of the kiev.</p> <p>Basic response relating to the aesthetic appeal. The product must look attractive/appetising. The product must have a colourful appearance. The product must have an even crumb coating.</p> <p>Detailed response relating to the aesthetic appeal. The product must have a range of colours to make it look appetising to eat. The product must show a range of ingredients/textures to make it look appetising. The product must have a suitable kiev shape/structure for it to be attractive.</p>	0 1 2	2		

Q					On Paper	Question Totals	Running Total
		(iii)	<p>No answer or the answer does not relate to the function/purposes or the kievs.</p> <p>Basic response: To form part of a meal. To be suitable as a snack product. To be an interesting product for a vegetarian.</p> <p>Detailed response: To form part of a main meal that provides essential nutrients. To be a flexible product that can be served with a wide selections of foods, vegetables/salads. To be an easy to cook and serve product that requires no preparation.</p>	0 1 2	2		
	(f)	(i)	<p>No answer or the answer does not state the correct month.</p> <p>Correct month stated. July.</p>	0 1	1		
		(ii)	<p>No answer or the answer does not relate to the total number of sales for the first four months.</p> <p>Correct total number of sales stated: 26000</p> <p>No workings shown. Workings with no average sales.</p> <p>Correct workings shown for total number of sales and correct average sales total: 4000 + 7000 + 5000 + 10000 = 26000 ÷ 4 = 6500 average sales per month.</p>	0 1 2	2		
						15	15

Q					On Paper	Question Totals	Running Total
Q.2	(a)		No answer or incorrect response. Correct response: True.	0 1	1		
	(b)		No answer or the answer does not name any of the six Rs. Any six R correctly named: Recycle. Refuse. Reuse. Reduce. Repair. Rethink.	0 1 + 1	2		
	(c)	(i)	No answer or the answer does not correctly name the logos. Award each logo correctly identified: A) Fairtrade. B) Air miles/food miles/imported by air/plane/overseas/imported.	0 1 + 1	2		
		(ii)	No answer or the answer does not relate to the logos meaning in relation to food products sold in supermarkets. Basic response given: Fairtrade Workers are paid a fair price for materials/ingredients. Detailed responses given: Fairtrade Ensures workers are paid a fair price for materials/ingredients instead of being paid less in poorer countries/less developed countries.	0 1 2	2		

Q				On Paper	Question Totals	Running Total
	(d)	<p>No answer or answer does not relate to reducing the amount of energy used by students.</p> <p>Basic response.</p> <p>Doing tasks by hand. Using saucepan lids. Sharing an oven.</p> <p>Good response with some detail.</p> <p>Sharing a pan to cook foods and reduce amount of energy used.</p> <p>Reduce heat so food is simmering not boiling.</p> <p>Sharing ovens means less ovens turned on so less energy used.</p> <p>Sharing a saucepan if cooking the same foods reduces the number of hobs being used.</p> <p>Using a microwave to heat up items is quicker than using the hob.</p> <p>Very detailed response.</p> <p>Sharing a baking tray in the oven frees up more shelves for other students to use and sharing ovens means less are turned on.</p> <p>Chopping vegetables like an onion by hand instead of using a food processor reduces the amount of electrical energy used.</p> <p>Use of divided saucepans - two pans on one ring or saucepan with internal dividers to allow different foods to be cooked separately but on one ring.</p>	<p>0</p> <p>1</p> <p>2</p> <p>3</p>	<p>3</p>		
					10	25

Q					On Paper	Question Totals	Running Total
Q.3	(a)	(i)	No answer or incorrect response.	0			
			Gordon Ramsay.	1	1		
		(ii)	No answer or incorrect response.	0			
			Delia Smith.	1	1		
	(b)		No answer or answer does not describe the influence Gordon Ramsay has had or his beliefs on home cooking.	0	8		
			<p>Cooking of food</p> <ul style="list-style-type: none"> • Always tries to use local produce and encourages others to do the same. • Promotes British finest ingredients through his cooking. • Believes food cooked and eaten should be of quality. Tries to portray this when he cooks for others. • Believes food should look impressive on a plate. • Presentation of food/dishes is of utmost importance. • Believes cooked food should be flavoursome. • Every meal should be perfect harmony - the perfect balance should be found. • Food should always be cooked to a consistent standard. • Meat should never be overcooked (pet hate). • If food is not perfect it should never leave the kitchen. • Fewer dishes on menu cooked fresh. <p>Home cooking</p> <ul style="list-style-type: none"> • Believes good food can produced in a short period of time. • Encourages the serving of restaurant style food at home. • Believes cooking at home should be a family affair and encourages the involvement of children as much as possible. 				

Q			Question Totals	Running Total
	(b)	<p>First mark description of the range of work/impact: No answer or no relevant description of the designer's range of work.</p> <p>Some simple description of the work of the chef. Little if any understanding of its main features.</p> <p>QWC is limited, presenting material with limited coherence, many errors of grammar, punctuation and spelling.</p> <p>Award 1 or 2 marks.</p>	0	
		<p>Description of the work of one chef/designer. Some understanding of its main features.</p> <p>QWC is basic, presenting occasionally appropriate material with some coherence, some errors of grammar, punctuation and spelling.</p> <p>Award 3 or 4 marks.</p>		
		<p>Description of the work of one chef/designer. Understanding shown of its main features.</p> <p>QWC is good presenting mainly appropriate material in a coherent manner, few errors of grammar, punctuation and spelling.</p> <p>Award 5 or 6 marks.</p>		
		<p>Description of the work of one chef/designer. Clear understanding of its main features.</p> <p>QWC is excellent, presenting wholly appropriate material in a coherent and logical manner, hardly any errors of grammar, punctuation and spelling.</p> <p>Award 7 or 8 marks.</p>		
			10	35

Q				On Paper	Question Totals	Running Total
Q.4	(a)	<p>No answer or the answer does not identify two research methods.</p> <p>Suitable research methods identified, award each correct one.</p> <p>Questionnaires/surveys.</p> <p>Taste panels.</p> <p>Interviews.</p> <p>Looking at existing products.</p> <p>Research on the internet.</p> <p>Disassembly of products.</p> <p>Books /magazines.</p>	<p>0</p> <p>1</p> <p>+</p> <p>1</p>	2		
	(b)	<p>No answer or the answer does not state a piece of information included on a final design sheet for a product specification.</p> <p>Award correct answer.</p> <p>Product description.</p> <p>Name of product.</p> <p>Recipe/ingredients and amounts.</p> <p>Total cost/price range.</p> <p>Number of servings/portion size/size/measurements.</p> <p>Target group.</p> <p>Sensory qualities – thick creamy sauce.</p>	<p>0</p> <p>1</p>	1		
	(c)	<p>No answer or the answer does not address differences between a design brief and design specification.</p> <p>Appropriate response but lacking detail:</p> <p>Design brief A statement of what you intend to design.</p> <p>Design specification A list of points to help you design.</p> <p>Good response with detail:</p> <p>Design brief A written statement of what you intend to design and make. Explains why there might be a need for a new product. Concentrates on the problem you are trying to solve.</p> <p>Design specification A list of statements which could be essential and desirable. Gives certain conditions that the product will have to meet.</p>	<p>0</p> <p>1</p> <p>+</p> <p>1</p> <p>2</p> <p>+</p> <p>2</p>	4		

Q					On Paper	Question Totals	Running Total
Q.4	(d)	(i)	No answer or the answer is not a design that satisfies the brief.	0			
			The design shows the product is a chilled savoury pot meal by the choice of ingredients - rice, vegetables, sauce.	1	1		
		(ii)	The design does not use colourful ingredients/look colourful.	0			
			The design shows the product is colourful by the choice of ingredients used - different coloured vegetables, tomato/pesto sauce.	1	1		
		(iii)	The design does not contain any vegetables.	0			
			The design has a basic/limited range of vegetables.	1			
			The design clearly includes a good range of vegetables.	2			
			The design clearly includes an interesting/unusual range of vegetables for example asparagus.	3	3		
		(iv)	The design does not include a sauce.	0			
			The design includes a sauce.	1			
			The design includes a flavoursome/interesting sauce.	2			
			The design includes a sauce that has a combination of flavours – cheese, herbs and garlic.	3	3		
		(v)	The design does not specify suitable materials to make the savour pot meal.	0			
			The design has very limited labelling of materials/ingredients - rice, vegetables.	1			
			The design has basic labelling of materials/ingredients - meat, carrots, rice, grated cheese.	2			
			The design has a good range of materials identified with some sauce ingredients - tomatoes/herbs, flour/milk.	3			
			A detailed range of materials identified, correct sauce ingredients included - onion, garlic, tomato puree, chopped tomatoes.	4	4		

Q					On Paper	Question Totals	Running Total
		(vi)	<p>The design does not identify any CHO or protein source.</p> <p>Good CHO source clearly identified - rice, cous cous, noodles, potatoes, bread</p> <p>Good protein source clearly identified - Quorn, tofu, meat, fish, cheese.</p>	<p>0</p> <p>1</p> <p>+</p> <p>1</p>	2		
		(vii)	<p>No answer or the answer cannot be understood, no annotation.</p> <p>Poor response - drawing with no colour/labelling/cross section.</p> <p>Adequate drawing/labelling, some colouring/annotation.</p> <p>Good standard of drawing/labelling with good annotation and plan view.</p> <p>Very good quality: drawing/labelling and annotation. Excellent cross section and plan view. Detailed design comments.</p>	<p>0</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p>	4		

Q					On Paper	Question Totals	Running Total
Q.5	(a)	(i)	No answer or incorrect response.	0	1		
			Correct response: Batch.	1			
		(ii)	No answer or incorrect response.	0	1		
			Continuous flow.	1			
	(b)		No answer or answer is incorrect.		2		
			Correct responses: True True	1 +			
				1			
	(c)		No answer or the answer does not identify one advantage of using the floor standing mixer.	0	2		
			Appropriate response - limited detail. The mixtures will be evenly mixed. Large amount made at once.	1			
			Appropriate responses with good detail: The mixture will be evenly mixed and free from lumps as the machine will mix better than hand. Saves time as a large volume of mix can be made in one go. Gives consistent results as the mixture will be mixed for the same length of time at the same speed. No marks awarded for quicker, easier and cheaper.	2			

Q				On Paper	Question Totals	Running Total
	(d)		No answer or answer does not relate to the use of a sensor.	0	4	
			Correct response for use of sensor: Weight changes in mixtures. Speed of mixers/temperature of ovens Change in food colour. Tolerance level for weight/colour.	1		
			No answer or the answer does not relate to the importance of the monitoring a change.	0	3	
			Correct basic response: To stop the cakes from burning. To make sure the ingredients are the correct weight. To make sure the cakes are the same weight.	1		
			Correct response with satisfactory detail: If ingredient weights are incorrect the cake mixture would be wrong. If the oven temperature is too high the cakes could burn. If the oven temperature is too low the cakes could be raw in the middle.	2		
			Correct response with good detail: If the weights of the ingredients used are over or under weight the cake mixtures could be too runny/thick this would affect the success of the sponge mixture. If the temperature of the oven increases this must be dealt with otherwise the cake sponges could burn or rise unevenly and make them unsuitable for usage.	3		
			Correct response with excellent detail: If the weights of the ingredients used are over or under weight this can affect the success of the sponge mixture. This could lead to sub-standard sponges and a non-useable cake. If the temperature of the oven is incorrect an uneven height cake could be produced or a cake which is overcooked. This means the cakes would be poor quality and unsuitable for selling.	4		
					10	70

Q					On Paper	Question Totals	Running Total
Q.6	(a)		No answer or answered incorrectly. Selects the correct fat for the correct description. 1 mark for each. Margarine - blended from vegetable oils. Oils - from pressed seeds or fruits.	0 1 or 2	2		
	(b)		No answer or the answer does not relate to the use of fats. States the correct use of fat and names the correct product. 1 mark for each. Aerator/creaming – cakes/ sponge cakes Shortening: pastry / scones / shortbread / rock buns / crumbles. No mark for repeat answer of biscuits.	0 1+1 1+1	4		
	(c)		No answer or the answer does not relate to the type of glaze and how it improves the product. Names the correct glaze used and identifies how it improves the product. 1 mark each correct response. Apple flan - Apricot jam/redcurrant jam - stops fruit from browning. Hot cross buns - Sugar/water - adds sweetness/sticky feel/high shine glaze. Pasty - Egg/egg and milk/milk gives shiny look to product/gives golden glow.	0 6	6		

Q				On Paper	Question Totals	Running Total	
	(d)		<p>No answer or the answer does not relate to a lemon meringue pie.</p> <p>Correct component part identified: Pastry case. Lemon sauce/filling. Meringue topping.</p> <p>Correct response basic function of eggs - award one mark:</p> <p>Pastry case Eggs add flavour. Eggs stick ingredients together.</p> <p>Lemon sauce/filling Egg yolks thicken the sauce. Eggs add colour to the sauce.</p> <p>Meringue topping Egg whites whisked to make foam.</p> <p>Correct response - detailed answer:</p> <p>Pastry case Eggs binds the dry ingredients together in the pastry case. Eggs enrich the pastry case improving the flavour/appearance.</p> <p>Lemon sauce/filling Eggs thicken the sauce as the protein coagulates.</p> <p>Meringue topping Egg protein stretches to hold air bubbles to make a foam. Egg white mechanically agitated which creates volume and aerates. Coagulates/set when heated.</p>	0 1 1 2	3		
					15	85	

Q					On Paper	Question Totals	Running Total
Q.7	(a)		<p>No answer or the answer does not correctly name the equipment pieces or give a suitable use.</p> <p>States the correct equipment piece 1 mark. Suggests a suitable use plus 1 mark.</p> <p>Cutter - to cut biscuits/pastry rounds. 1+1</p> <p>Wok - to make stir fries/to fry foods in. 1+1</p> <p>Red chopping board - to cut up raw meat. 1+1</p>	0	6		
	(b)		<p>No answer or the answer does not name any pastry ingredients.</p> <p>Correct pastry ingredients listed. Award 1 mark each correct item:</p> <p>Flour - strong. 1</p> <p>Fat mixture / butter / marg / white fat. +</p> <p>Salt. 1</p> <p>Lemon juice. +</p> <p>Cold water. 1</p>	0	3		
	(c)	(i)	<p>No answer or the answer does not relate to the making of choux pastry.</p> <p>Selects the correct statements in the correct order.</p> <p>One mark for each statement:</p> <p>Put margarine and water into saucepan. 1</p> <p>Bring to boil. +</p> <p>Add flour and beat well to form paste. 1</p> <p>Cook the paste out for 2 minutes. +</p> <p>Leave to cool. 1</p> <p>Gradually beat the eggs into the paste. +</p> <p>Pipe or spoon onto a greased baking tray. 1</p>	0	5		

Q					On Paper	Question Totals	Running Total
		(ii)	<p>No answer or the answer does not state any characteristics.</p> <p>Suitable characteristic identified. Award each characteristic. Light. Well risen. Brown colour/golden colour. Crisp texture. Hollow inside.</p>	<p>0</p> <p>1</p> <p>+</p> <p>1</p>	2		
	(d)		<p>No answer or the answer does not relate to bread making stages.</p> <p>Correct response - basic detail Award 1 mark each stage.</p> <p>Kneading Yeast mixed in / even distribution. Gluten developed. Air added to dough.</p> <p>Proving Allows dough to rise. Allows gas to be produced/CO₂.</p> <p>Correct response with good detail. Award 2 marks each stage.</p> <p>Kneading Yeast distributed throughout dough to ensure even rising. Gluten is developed to give elasticity/springiness to dough. Air incorporated which adds lightness to the dough.</p> <p>Proving Dough rises due to the production of CO₂/fermentation of yeast. Volume of dough expands due to air and gases gives uniform texture. Allows gluten to recover from strain of shaping.</p>	<p>0</p> <p>1</p> <p>+</p> <p>1</p> <p>2</p> <p>+</p> <p>2</p>	4		
						20	105

					On Paper	Question Totals	Running Total
Q.8	(a)		No answer or the answer does not relate to the use of ICT.	0	2		
			Award each correct statement. False. True.	1+ 1			
	(b)		No answer or the answer does not relate to CAD. Award each correct benefit. Patterns/colours can be tested with no extra cost. Visual images can be altered. Allows you to test ideas without printing. Style of package/information is changed easily. Designing the dessert.	0 1 + 1	2		
	(c)	(i)	No answer or the answer does not relate to the input stage of a system. Correct response limited detail Everything needed to carry out task / ingredients / materials needed. Correct response with detail. All the materials / ingredients / components / energy you need to carry out / complete the task.	0 1 2	2		
		(ii)	No answer or the answer does not relate to the process stage of a system. Correct response limited detail All the doing of the task/stages/ processes. Correct response with detail. What is done with all the inputs during completion of the task - mixing, baking, cooling. All the doing to transform to output.	0 1 2	2		

					On Paper	Question Totals	Running Total
		(iii)	<p>No response or the answer does not relate to the systems listed.</p> <p>Correct system with correct description Award each one 1 mark.</p> <p>Closed -loop-system - includes a decision making stage which relies on feedback to control the output.</p> <p>Open-loop system - shows the stages of an activity which move in one direction only.</p>	0 2	2		
		(d)	<p>No answer or answer does not relate to equipment pieces.</p> <p>Each equipment piece correctly identified. Award one mark each.</p> <p>(i) chocolate enrober; (ii) travelling oven.</p>	0 1 + 1	2		
		(e)	<p>No answer or the answer does not relate to the advantages of using a bread maker.</p> <p>Award each correct explained advantage.</p> <p>The ingredients are thoroughly mixed which enables the forming of dough/even distribution of yeast.</p> <p>The machine evenly kneads the dough - therefore less physical activity.</p> <p>The whole making process happens in one machine - no swapping bowls for different stages.</p> <p>The machine does all of the processes without human help so it does not need to be watched/managed.</p> <p>The baking of bread is included in the programme so saves energy and lighting of ovens.</p> <p>It's a time controlled process so no problems with under/over cooking.</p> <p>Temperatures for different stages like proving/baking are controlled.</p>	0 1 + 1 + 1	3		
						15	120

GRAPHIC PRODUCTS

SECTION A

Throughout this paper no marks are to be awarded for:

1. Unqualified assertions, for example QUICKER, CHEAPER, FASTER, EASIER.
2. Copying out the question as an answer.

Q				On paper	Question Totals	Overall TOTAL
Q. 1	(a)	<p>No answer or the answer does not address a physical properties of the material.</p> <p>Appropriate physical property described but lacking detail. Eg. STIFF: RIGID: STRONG ENOUGH: CUTS: FOLDS (EASILY).</p> <p>Appropriate physical property with appropriate detail. Eg. CUTS WELL WHEN DIE CUT : SCORES WELL SO THAT IT WILL FOLD.</p>	0 1 2	 2		
	(b)	<p>No answer or the answer does not address quality issues.</p> <p>A basic statement gains the mark. Statements about: Eg. SIZE, STAYING SHUT, SHARP CORNERS, LABELS STUCK ON CORRECTLY.</p>	0 1	 1		
	(c)	<p>No answer or the answer does not identify the target market or describes a young child.</p> <p>Appropriate description of the adult target market but lacking in appropriate detail. Eg. MOTHERS WITH PRE-TEEN CHILDREN.</p> <p>Appropriate description of the adult target market made with appropriate detail. Eg. MOTHERS INTERESTED IN TEACHING THEIR CHILDREN CRAFTS. PRE-TEEN CHILDREN INTERESTED IN MAKING THINGS FOR THEMSELVES.</p>	0 1 2	 2		
	(d)	<p>No answer or an answer that does not address the issues of scale of production. A simple answer – an assertion – can be awarded 1 mark. An elaborated answer that explains can be awarded 2 marks. Answers need to address – the numbers to be made. Or – the machines are used for many products.</p> <p>Eg. Printing is always batch production. 1 mark. Thousands of boxes will be needed. 1 mark.</p> <p>Thousands of sheets/boxes will be die cut on machines that are also used for cutting out other products (or something very similar). 2 Marks</p>	0 1 or 2	 2		

Q					On paper	Question Totals	Overall TOTAL
	(e)		<p>No answer or the answer does not describe how the panels are affixed.</p> <p>Appropriate explanation of why the panels are glued but lacking appropriate detail. Eg. TO LOOK NICE: CAN'T PRINT.</p> <p>Appropriate explanation of why the panels are glued with appropriate detail. Eg. THE LABELS ARE GLUED ONTO THE BOX BECAUSE IT IS NOT POSSIBLE TO PRINT COLOURED IMAGES ONTO THE BROWN SURFACE OF THE BOX.</p>	0			
				1			
				2	2		
	(f)		<p>No answer or an answer that does not explain why the construction has been used. Copies answer from the question. Eg. Doesn't use glue.</p> <p>Appropriate explanation but lacking in detail. Eg. EASY/QUICK TO MAKE: CHEAP/COST OF GLUE: ENVIRONMENTALLY FRIENDLY.</p> <p>Appropriate description explanation with appropriate detail. Eg THE BOX IS CHEAPER TO MAKE BECAUSE IT NEEDS LESS PROCESSES IN THE MAKING.</p>	0			
				1			
				2	2		
	(g)	(i)	<p>No answer or an answer that does not state £550.</p> <p>Answer correct but with no workings or working wrong.</p> <p>Answer correct with correct workings. 165/3*10 or 165/30 x100.</p>	0			
				1			
				2	2		
		(ii)	<p>No answer or an answer that does not state 74.5 pence or £0.745.</p> <p>Answer correct but with no workings or working wrong.</p> <p>Answer correct with correct workings. 550 + 195 = 745. 745/1000.</p>	0			
				1			
				2	2		
						15	15

Q					On paper	Question Totals	Overall TOTAL
Q.2	(a)		No answer or the answer ticks both boxes. Tick or mark placed alongside: THE BSI SETS STANDARDS FOR PRODUCTS AND SERVICES.	0 1	 1		
	(b)		No answer or the answer does not use the correct numbers. BS 8888 or PD8888. BS8888:2006 or PP8888-1:2007.	0 1 2	 2		
	(c)		No answer or the answer does use the correct words. Two parts of the name correct. INTERNATIONAL STANDARDS ORGANISATION. All parts correct: INTERNATIONAL STANDARDS ORGANISATION.	0 1 2	 2		
	(d)	(i)	No answer or the answer does not use the correct R. Only answer REFUSE. Only answer REUSE.	0 1 1	 2		
		(iii)	No answer or the answer does not describe the environmental reasons for the design. The answer need to show that the candidate know about the process of recycling. That materials are recycled separately. That is hard / expensive to do. A simple answer that is unexplained can be awarded 1 mark. An answer that shows some understanding and explanation an be awarded 2 marks. A full answer that explains and shows understanding can be awarded 3 marks.	0 1 or 2 or 3	 3		
						10	25

Q					On paper	Question Totals	Overall TOTAL
Q.3	(a)		No answer or the answer does not identify the designers studied.	0			
		(i)	Only acceptable answer PETER SAVILLE.	1			
		(ii)	Only acceptable answer DAVID CARSON.	1	2		
	(b)		<p>No answer or no relevant description of the designer's range of work and/or no relevant description of the impact of designer's work. ESSAY WRITTEN ON WRONG DESIGNER.</p> <p>NOTE: Eight marks cannot be awarded unless there is at least some discussion / information about the main features of the designer's work and the influence that the designer has had on other designers. A maximum of 5 marks can be awarded if only one part of the essay is addressed.</p> <p>CHECK ESSAY CONTENT WITH THE INFORMATION PROVIDED</p> <p>Some simple description of the work of one designer. Little, if any, understanding of its main features. A little understanding of the influence on other designers is described. Quality of Written Communication is limited, presenting material with limited coherence, many errors of grammar, punctuation and spelling. Award 1 or 2 marks.</p> <p>Description of the work of one designer. Some understanding of its main features. Some understanding shown of the influence on other designers. Quality of Written Communication is basic, presenting occasionally appropriate material with some coherence, some errors of grammar, punctuation and spelling. Award 3 or 4 marks.</p> <p>Description of the work of one designer. Understanding shown of its main features. Some discussion of the influence on other designers with some appropriate examples provided. Quality of Written Communication is good, presenting mainly appropriate material in a coherent manner, few errors of grammar, punctuation and spelling. Award 5 or 6 marks.</p> <p>Description of the work of one designer. Clear understanding shown of its main features. Discussion of the influence on other designers with fully appropriate examples provided. Quality of Written Communication is excellent, presenting wholly appropriate material in a coherent and logical manner, hardly any errors of grammar, punctuation and spelling. Award 7 or 8 marks.</p>	0			
				1 or 2			
				3 or 4			
				5 or 6	8		
				7 or 8			
						10	35

This is list of the commonly available and well known information about Peter Saville. Candidates are probably going to use this information as the basis of their essays as it has been included in previous mark schemes. Ensure that credit is given for this information.

Other information will need to be checked in the following way:

1. Checking the candidates' statements against published information on verifiable sources – published texts, trusted web sites.
2. E-Mail the reference to the Principle Examiner.
3. Check with the Principle Examiner that the information is acceptable.

PETER SAVILLE

His Work

- He is best known for his design of Records, CDs and materials for pop music bands.
- He designed for Factory Records in Manchester.
- His designs for Joy Division, Orchestral Manoeuvres In The Dark and New Order changed the style of CD covers.
- He was inspired by early modern movement typographers such as Herbert Bayer and Jan Tschichold. He found their elegantly ordered aesthetic more appealing than the anarchic style of punk graphics.
- He has designed the England Football shirt. (2010 home kit).
- His work is often very simple using a single image and simple, elegant typography.
- In his music, fashion and art projects his work combines elegance with a remarkable ability to identify images that captures the moment.
- His early designs used the urban landscape and found objects as style icons in his designs.
- He has continued to use found images in his music work.
- His work has changes as computer software has developed.
- He was an early adopter of Photoshop and made great use of image editing.

His Influence

- He has been a pivotal figure in graphic design and style culture.
- He has worked for music bands throughout the last 30 years.
- Saville's fashion clients have included Jil Sander, Martine Sitbon, John Galliano, Yohji Yamamoto, Christian Dior and Stella McCartney.
- He has designed corporate identities for many mainstream companies such as Mandarin Duck and Smart Car.
- He has worked for international design companies Pentagram and Tomato.
- He was the Creative Director for the City of Manchester.
- He travels the world promoting his work and lecturing.
- His contribution to graphic design were firmly established when London's Design Museum exhibited a retrospective of his work in 2003.
- His work has been showcased in many exhibitions in Museums.

Q				On paper	Question Totals	Overall TOTAL
Q.4	(a)	<p>No answer or answers that do not match the mark scheme.</p> <p>Acceptable answers: GENERATE IDEAS. INITIAL IDEAS OR DESIGNING IDEAS.</p> <p>Acceptable answer: PLAN FOR MAKING.</p>	0 1 1	2		
	(b)	<p>No answer or answers that do not match the mark scheme. General answers that are non-specific. E.g. Improve the product.</p> <p>The answer need to show that the candidate knows about development of construction. That exploring ways of construction helps to make a high quality product. Helps ensure that the make is efficient. Helps to ensure a sustainable product.</p> <p>A simple answer that states issues and no explanation can be awarded 1 mark.</p> <p>A full answer that states issues and explains them and shows understanding can be awarded 2 marks.</p>	0 1 or 2	2		
	(c)	<p>No answer or the answer does explain how the design Specification and the Evaluation are linked. General answers that are non-specific. E.g. Test the product.</p> <p>The answer needs to show that the candidate know about the Design Specification and the evaluation and how they work together. That the Design Spec lists attributes that can be evaluated and tested. That the Evaluation tests the product against the Design spec. That a clear and specific Design Spec allows simple tests to be applied. Numeric Data makes this straightforward.</p> <p>A simple answer that states issues and no explanation can be awarded 1 mark.</p> <p>An answer that states issues and gives some explanation can be awarded 2 marks.</p> <p>A full answer that states issues and explains them and shows understanding can be awarded 3 marks.</p>	0 1 or 2 or 3	3		
	(d)	(i) <p>The sizes must be appropriate for more than 1 mark. 142 x 47 x 15 is the min size: 145 x 50 x 18 is the max size.</p> <p>The package is not drawn or is drawn but does not show sizes. Award 0.</p> <p>The package is drawn or is drawn and shows some sizes. Award 1 mark.</p> <p>The package is drawn and shows most sizes. Award 2 marks.</p> <p>The package is drawn and shows all sizes. Award 3 marks.</p>	0 1 2 3	3		

Q				On paper	Question Totals	Overall TOTAL
		(ii)	The package does not show the colours of the pens. Award 0. The package show some of the colours of the pens. Award 1 mark. The package fully shows the colours of the pens. Award 2 marks.	0 1 2	2	
		(iii)	The closure is not drawn. Award 0. The closure is drawn but how it works is unclear. Award 1 mark. The closure is drawn and it would work. Award 2 marks. The closure is drawn and it would work well. Award 3 marks.	0 1 2 3	3	
		(iv)	No material specified or not sustainable/recycled material. Award 0. Material/s specified is viable, may be sustainable/recycled. Award 1 mark. Material/s specified, is sustainable/recycled and a good choice. Award 2 marks.	0 1 2	2	
		(v)	The net must have cut and fold lines show differently for more than 1 mark. The net is not drawn or is not of the package and not 1 piece. Award 0. A net is drawn but would not work. Award 1 mark. A partial net is drawn is one piece and might work. Award 2 marks. A full net is drawn is one piece and would work. Award 3 marks. A detailed net is drawn is one piece and would work. Award 4 marks. A fully detailed net is drawn is one piece and would work. Award 5 marks.	0 1 2 3 4 5	5	
		(vi)	Poor quality drawing skills, hard to understand, annotation unclear. Drawing skills are adequate. Drawing skills are adequate and understandable with some detailing done. Good quality drawing skills and inclusion of full detail.	0 1 2 3	3	
					25	60

Section B

Q				On paper	Question Totals	Section TOTAL
Q.5	(a)		No answer or answers that do not match the mark scheme. Row 1 FLEXOGRAPHY. Row 2 WALLPAPER. Row 3 OFFSET LITHOGRAPHY.	0 1 1 1	3	
	(b)	(i)	No answer or answer that do not match the mark scheme. The plastic layer is self-adhesive. Glued with a heat set adhesive. Glued with an adhesive (may name a glue e.g. PVA).	0 1	1	
		(ii)	No answer or answer that do not match the mark scheme. Orientated Poly Propylene or OPP.	0 1	1	
	(c)		No answer or answer that do not match the mark scheme. Makes a part of the page/document have a shiny finish. Makes a part of the page/document have a gloss finish. Makes a part of the page/document have a glossy surface while leaving the rest of the page/document matte.	0 1 2	2	
	(d)		No answer or answers that do not match the mark scheme. A simple answer that states issues and no explanation can be awarded 1 mark. E.g. The work to be printed is got ready for printing. An answer that states at least 2 issues and gives some explanation can be awarded 2 marks: E.g. The pages are organised so they print in the right order. or The colours are organised ready for printing. or Quality control marks are put on the work to ensure high quality printing. A full answer that states at least 2 issues and explains them and shows understanding in a well organised answer can be awarded 3 marks. E.g. The pages are Imposition / paginated and organised so they print in the right order and The colours are separated into CMYK so that they are able to be printed. and Quality control marks are put on the work to ensure high quality printing.	0 1 2 3	3	
					10	70

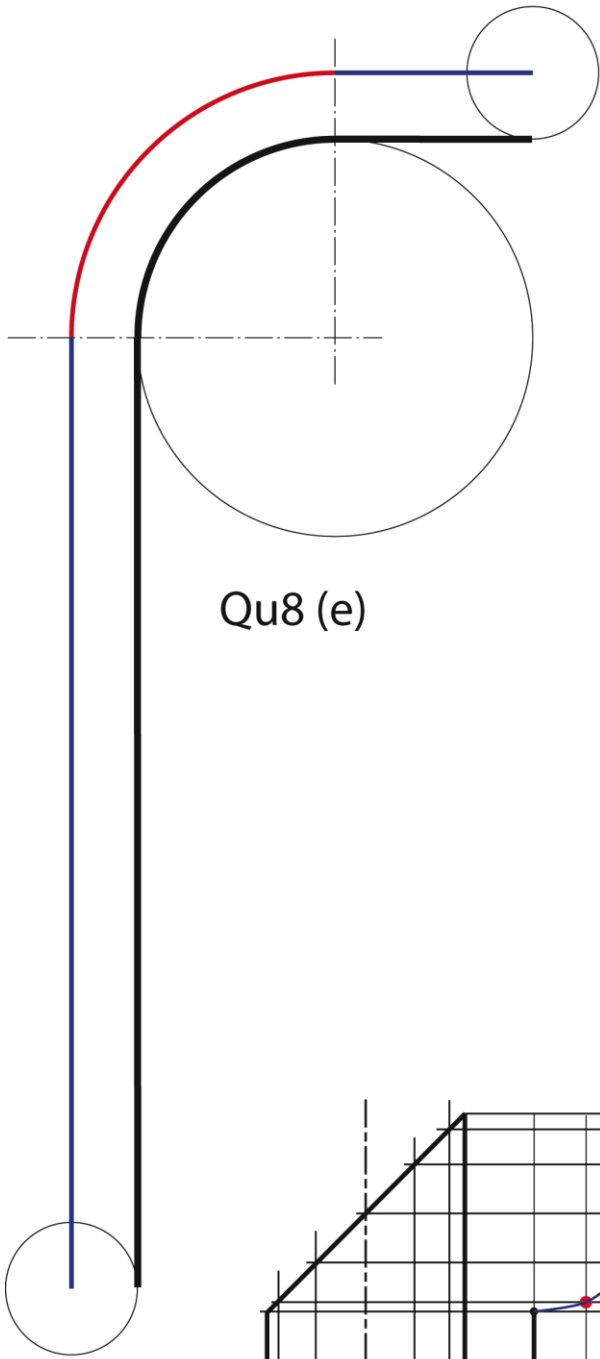
Q				On paper	Question Totals	Section TOTAL
Q.6	(a)		No answer or answer that do not match the mark scheme. A4.	0 1	 1	
	(b)		No answer or answer that do not match the mark scheme. Appropriate description but lacking detail. GENERAL USE. Appropriate description explanation with appropriate detail. A GENERAL PURPOSE PAPER THAT CAN BE USED FOR PENCIL DRAWINGS AND PAINTED WORK.	0 1 2	 2	
	(c)	(i)	No answer or answer that do not match the mark scheme. FOURDRINIER.	0 1	 1	
		(ii)	No answer or answer that do not match the mark scheme. Answers must be in a sensible order. The answer to each stage is worth one mark. A Simple statement gains the mark. For Example: CUT DOWN THE TREE. SOAK IN WATER. DEBARK THE LOG. GRIND/POUND/CHIP INTO SMALL PIECES.	0 1 or 2 or 3	 3	
	(d)		No answer or answers that do not match the mark scheme. First image SCRIPT. Second Image OLD STYLE.	0 1 or 2	 2	
	(e)		No answer or answers that do not match the mark scheme. Reasons could talk about: EASY TO READ: CLEAR: DEMANDS ATTENTION: SERIOUS INFORMATION: USUAL FONT FOR ROAD SIGNS. Appropriate statement but lacking detail. Award 1 mark. E.g. EASY TO READ. Appropriate statement with appropriate detail. Award 2 marks. E.g. THE FONT IS CLEAR AND EASY TO READ FROM A DISTANCE.	0 1 or 2	 2	

Q				On paper	Question Totals	Section TOTAL
	(f)		No answer or answer that do not match the mark scheme. CLIP ART LIBRARY.	0 1		
	(g)		No answer or answer that do not match the mark scheme. The answer needs to show that the candidate knows about how this material works. That Micro Spehere of ink are bonded to the back surface of the top sheet. When a pen is used to write on the sheet the pressure bursts the micro spheres and the ink is transferred to the sheet of paper below. A simple answer that is unexplained can be awarded 1 mark. An answer that shows some understanding and explanation an be awarded 2 marks. A full answer that explains and shows understanding can be awarded 3 marks.	0 1 or 2 or 3	3	
					15	85

Q					On paper	Question Totals	Section TOTAL
Q.7	(a)	(i)	No answer or answers that do not match the mark scheme. BEZIER CURVE.	0 1	 1		
		(ii)	No answer or answers that do not match the mark scheme. ADJUST/CHANGE THE SHAPE OF THE CURVE.	0 1	 1		
	(b)		No answer or answers that do not match the mark scheme. These answers could be either way around: RISK 1. CUTTING YOURSELF / FINGERS. How to reduce the risk: The answer needs to show that the candidate knows about the risk and how to minimise it. The index finger is in front of the knife blade. A slip would result in a cut finger. All fingers need to be behind the knife or the steel rule is used to guide the knife. A simple answer that is unexplained can be awarded 1 mark. An answer that shows some understanding and explanation can be awarded 2 marks. A full answer that explains and shows understanding can be awarded 3 marks. RISK 2. KNIFE BLADE BENDING/SNAPPING. How to reduce the risk: The answer needs to show that the candidate knows about the risk and how to minimise it. The blade is sticking a long way out of the knife and considerable pressure is being applied. The blade of the knife is hard and brittle and can snap if bent. Less of the blade should stick out and less pressure applied. A simple answer that is unexplained can be awarded 1 mark. An answer that shows some understanding and explanation can be awarded 2 marks. A full answer that explains and shows understanding can be awarded 3 marks.	0 1 1 or 2 or 3 1 or 2 or 3	 1 3 1 3		

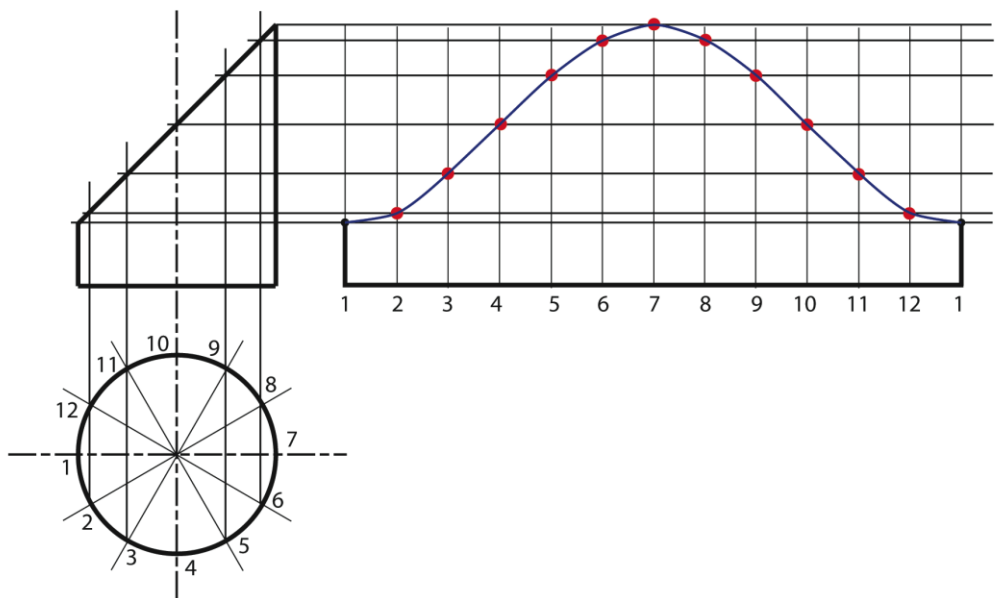
Q					On paper	Question Totals	Section TOTAL
	(c)	(i)	<p>No answer or answers that do not match the mark scheme.</p> <p>For each part of the answer:</p> <p>Appropriate statement but lacking detail. AWARD 1 mark.</p> <p>Appropriate statement well detailed. AWARD 2 marks.</p> <p>MARK OUT THE POP UP. Measure the folds and cuts sizes and draw the lines ready for cutting out.</p> <p>CUTTING THE POP UP. Use knife, rule, cutting mat: Cut carefully on cut lines.</p> <p>SCORING ALL THE FOLDS. Score each fold line on pop up and the backing card: Fold scored lines.</p> <p>ASSEMBLING. Apply glue to the pop up sheet: carefully position the pop up on the backing sheet: glue together: Check no surplus glue.</p>	0			
		(ii)	<p>No answer or answer that do not match the mark scheme.</p> <p>Appropriate statement but lacking detail: AWARD 1 mark</p> <p>MAKE THE WORK MORE ACCURATE. MAKE IT FASTER/QUICKER THAN DOING IT WITH A RULER.</p> <p>Appropriate statement well detailed: AWARD 2 marks.</p> <p>A TEMPLATE WILL HELP WITH ACCURATELY MARKING OUT AND CUTTING OF IDENTICAL PIECES THAT MARKING OUT WITH A RULER WOULD NOT ALLOW.</p> <p>A TEMPLATE THAT IS MADE FROM A RESISTANT MATERIAL COULD DISPENSE WITH THE MARKING OUT STAGE.</p>	0 1		2	
						20	105

Q					On paper	Question Totals	Section TOTAL
Q.8	(a)		No answer or answers that do not match the mark scheme. Each aspect should be marked separately. PHOTO QUALITY GLOSSY. COLOUR. PHOTO.	0 1 1 1	3		
	(b)		No answer or answers that do not match the mark scheme. THIRD ANGLE. THE DRAWING HAS BEEN MADE TO CONFORM TO BS 8888 THIRD ANGLE PROJECTION.	0 1 2	2		
	(c)		No answer or answers that do not match the mark scheme. ISOMETRIC. 30 degrees.	0 1 1	2		
	(d)	(i)	No answer or answers that do not match the mark scheme. CONCENTRIC CIRCLES.	0 1	1		
		(ii)	No answer or answers that do not match the mark scheme. Each aspect should be marked separately. CORRECTLY POSITION POINTS ON INTERCETIONS. JOIN THE POINTS IN A CURVE. OUTLINE IS A SMOOTH CURVE.	0 1 1 1	3		
	(e)		No answer or answer that do not match the mark scheme. A freehand drawing gains no marks. RULE: The drawing requires accuracy and has to be made using appropriate instruments and the drawing had been produced using a geometrical means. Award marks as below but only if the rule above has been satisfied: FIND THE CENTRE OF THE ARC AND MARK ITS CENTRE. DRAW AN ARC PARALLEL TO THE CURVE. DRAW A TANGENT LINE PARALLEL TO THE HORIZONTAL LINE. A point 10mm away from the end of the line may be evident but a check must be made to ensure a parallel line. DRAW A TANGENT LINE PARALLEL TO THE VERTICAL LINE. A point 10mm away from the end of the line may be evident but a check must be made to ensure a parallel line.	0 1 1 1 1	4		
						15	120



Qu8 (e)

Qu8 (d)(ii)



RESISTANT MATERIALS TECHNOLOGY

Q			Question 1: PRODUCT ANALYSIS	Mark	Question Total	Running Total 15
Q.1	(a)		Appeal to wider range of customers. Match colour preference of customer. Co-ordinate with colours of other items/room/office.	1 x 2	2	2
	(b)		<p>One mark - stating spec point. Two marks - justification.</p> <p>(i) Function: answers related to: Housing/storing range of stationery items. Easy to find items. Easy to clean. Easy to remove and replace items.</p> <p>0 marks - one word answers. 1 mark - must be easy to use. 2 marks - must enable the range of items to be separately stored in order to be easily found.</p> <p>(ii) Sizes: answers related to: Must be related to the size of the items to store. <u>Or</u> where it will be positioned/allow sufficient room to work on desk. 0 marks - must be big to hold stuff. 1 mark - must hold range of stationery. 2 marks - must hold range of equipment such as....</p> <p><u>Or</u> if a specific, realistic size is stated - 1 mark.</p>	2 x 2	4	6
	(c)		<p>0 marks - short/single word answers. 1 mark - Basic understanding - Can make lots of the design.</p> <p>2 marks - Greater understanding - could be two advantages or one justified. Product can be manufactured to a high quality and be produced in very high numbers.</p> <p>Answers related to: Can produce high quality products. Can produce in high quantities. Can produce in range of colours. Complex shapes can be produced.</p>	2	2	8

Q			Question 1: PRODUCT ANALYSIS	Mark	Question Total	Running Total 15
	(d)	(i)	September.	1	1	12
		(ii)	1500.	1	1	
		(iii)	Rise from 3000 to 4500 = $1500/3000 \times 100$ = 50% Note: 1 mark = correct calculations + incorrect answer. or 1 mark = correct answer + no calculations. 2 marks = correct calculations + correct answer.	2	2	
	(e)		A grade question: 1 mark: Basic response. Lower price of product. 2 marks: Some understanding - limited detail. Advertise the product in newspapers or magazines - have a special offer. 3 marks: Sound understanding - clear detail in response. Advertise the product - by creating a marketing campaign offering product with free equipment or special addition colours. Marketing/advertising campaign to promote product. Reduce price. Reduce manufacturing costs. Special addition - new colours, patterns, free equipment.	1 or 2 or 3	3	15

Q			Question 2: GENERAL ISSUES IN D&T	Mark	Question Total	Running Total 10
Q.2	(a)		RECYCLE. REDUCE. REPAIR.	3 x 1	3	3
	(b)	(i)	0 marks - wood. 1 mark - Suitable named product e.g., table, chair, furniture, paper tissues, cups, toilet paper or wooden product.	1	4	7
		(ii)	1 mark: Basic response. More environmentally friendly. 2 marks: Some understanding - limited detail. More environmentally friendly, for every tree chopped down another is planted in its place. 3 marks: Sound understanding - clear detail in response. From managed forests and is environmentally friendly, for every tree chopped down another is planted in its place.	1 or 2 or 3		
	(c)		Carbon footprint A measure of the impact human activities have on the environment in terms of amount of greenhouse gases produced through the outlet of CO ₂ . This has impact on global warming. Can be measured through transportation of materials and goods, energy use in manufacture, use of natural resources and renewable. 1 mark: Basic response. Shows how much carbon/CO ₂ is produced. 2 marks: Some understanding and detail. Shows how much carbon/CO ₂ is produced by the extraction, manufacture, transportation and disposal of products. 3 marks: Sound understanding - clear detail in response. Shows how much carbon/CO ₂ is produced by the extraction, manufacture, transportation and disposal of products and its effect on the environment/global warming.	1 or 2 or 3	3	10


Q			Question 3: DESIGNERS	On Paper	Question Total	Running Total 10
Q.3	(a)	(i)	DYSON.		2	2
		(ii)	LOVEGROVE.			
	(b)		<p>Candidates would need to include references to the following in their answer.</p> <p>James Dyson Work:</p> <ul style="list-style-type: none"> • Known for his Vacuum Cleaner designs, Wheelbarrow and Sea Truck. • The cyclonic action leads to the bag less vacuum cleaner. • Still a designer today the Airblade his latest concept. • One of his first designers to use the ball as a form of wheel. <p>Main Features:</p> <ul style="list-style-type: none"> • Unique products in the market place today; transparent and bright coloured plastic a trade mark of his work. • Product's 'technology/engineering' is not hidden from user. • Not afraid to develop an existing/traditional idea or product and look at it from a different angle. <p>Influence:</p> <ul style="list-style-type: none"> • Started in the U.K., set up his own business to start off. (Self-belief) • Took on the big corporate companies and won. • The idea is as important as technology. The concept of the ball as an idea used in the vacuum cleaner Dyson Ball. 			
			<p>Some simple description of the work of the designer. Little, if any, understanding of its main features. Little, if any, understanding of the influence on other designers is shown. Quality of Written Communication is limited, presenting material with limited coherence, many errors of grammar, punctuation and spelling.</p>		2-3	10
			<p>Some description of the work of the designer. A littler understanding of its main features. A little understanding of the influence on other designers is described. Quality of Written Communication is basic, presenting occasionally appropriate material with some coherence, some errors of grammar, punctuation and spelling.</p>		4-6	
			<p>Description of the work of the designer. Some understanding of its main features. Some understanding shown of the influence on other designers. Quality of Written Communication is good, presenting mainly appropriate material in a coherent manner, few errors of grammar, punctuation and spelling.</p>		7-8	

PART A			Question 4: THE DESIGN PROCESS	Mark	Question Total	Running Total 25
Q.4	(a)		SPECIFICATION. DEVELOPMENT. PLAN FOR MAKING.	3 x 1	3	3
	(b)		Basic answer - 1 mark. To finish making your design on time. Some explanation justifying answer - 2 mark. To ensure that you know exactly what needs to be done at different stages and ensure that all work is completed on time. Answers related to: Ensure quality of product. Ensure product completed on time. Consider range of activities / processes required. To order correct materials / quantities - equipment available when required. Consider feasibility of design for manufacture. Efficient manufacturing/maximise profit.	2 x 2	4	7
PART B						
Q.4		(i)	Clear details showing design/construction of the device 1 mark very basic idea but could work. 2 - 3 marks feasible solution that shows some important constructional features. 4-5 marks feasible solution, clearly communicated with detailed range of sketches and good annotation.		5	12
		(ii)	Showing how the design is easy to use 1 marks basic idea but could work. 2 marks feasible solution that shows some important constructional features. 3 marks feasible solution, clearly communicated with detailed range of sketches and good annotation.		3	15

PART B		Question 4: THE DESIGN PROCESS	Mark	Question Total	Running Total 25
	(iii)	<p>Clear details how design is attached to door and frame.</p> <p>1 mark basic idea but could work.</p> <p>2 marks feasible solution that shows some important constructional features. Feasible methods of attaching to door <u>and</u> frame shown (not welding).</p> <p>3 marks feasible solution, clearly communicated with detailed range of sketches and good annotation.</p>		3	18
	(iv)	<p>Spec suitable materials and dimensions.</p> <p>Up to 3 marks for naming SPECIFIC materials or dimensions. Do not accept wood, plastic etc.</p> <p>Note: Either 2 materials + 1 realistic dimension = 3 marks. Or 1 material + 2 realistic dimensions = 3 marks.</p>		3	21
	(v)	<p>Quality of communication.</p> <p>4 Excellent. 3 Good. 2 Average. 1 Below average.</p>		4	25

Q			Question 5: COMMERCIAL MANUFACTURING PROCESSES	Mark	Question Total	Running Total 10
Q.5	(a)		WOOD Steam bending METAL spinning forging PLASTIC comp moulding Note: If same process is used more than once, accept only first answer from left.	1	4	4
	(b)	(i)	Chocolate box tray. 0 marks - answer related to bottle or casing.	1	3	7
		(ii)	0 marks - vague answer / one word answer - easier / quicker. Basic answer - 1 mark. Can produce lots of them. Some explanation justifying answer - 2 marks. High volume method allows trays to be mass produced cheaply. Could be two suitable reasons <u>or</u> 1 justified reason. Consider: Produce in quantity. Shape of product suitable for VF. Speed of production.	2		
	(c)		0 marks - steps to assess risks. Basic answer - 1 mark. Assessment to consider risks of carrying out a making <u>process</u> (not the risks involved in using a product). Some explanation justifying answer - 2-3 marks. Expect at least some of the steps to be identified: Identify hazard. Consider who could be harmed. Evaluate potential risk. Record. Review.	3	3	10

Q			Question 6: MATERIALS AND COMPONENTS	Mark	Question Total	Running Total 15
Q.6	(a)		STAINLESS STEEL / ALUMINIUM / SILVER. PET. ALUMINIUM / TIN. MDF / OAK / PINE / BEECH / ASH. (Any <u>suitable</u> timber product, either natural or manufactured).	4 x 1	4	4
	(b)		NAIL. RIVET.	1 1	2	6
	(c)		Any two of: ANNEALING. HARDENING. NORMALISING. TEMPERING. CASE HARDENING.	1 1	2	8
	(d)		0 marks - Thermosets can be bent. Basic answer - 1 mark: Thermoplastics can be bent/formed by heating. 2 marks - some understanding: Thermoplastics can be bent then reheated again and return to original shape. Thermoset plastics cannot. 3 marks - clear understanding: Thermoplastics can be formed then reheated again and return to original shape. Thermoset plastics cannot as they have much stronger covalent bonds. Plastic memory. Covalent bonds. Thermosets more resistant to heat.	1 or 2 or 3	3	11
	(e)	(i)	Seasoning: KILN dried and AIR dried.	2 x 1	4	15
		(ii)	1 mark for naming correct reason: To dry out/reduce the moisture content of the timber. Extra mark for correct explanation: To dry out/reduce the moisture content of the timber in order to prevent warping / splitting / bowing.	1 or 2		

Q			Question 7: TOOLS, EQUIPMENT AND MAKING	Mark	Question Total	Running Total 20
Q.7	(a)		Centre Punch - not punch. Marking Gauge. Micrometer. Steel Rule/Rule - not ruler.	1 x 4	4	4
	(b)		Basic correct sketch - 2 marks. Should be representation of ear protection / cross. Accurate sketch - 2 marks should resemble safety sign. 	2 x 2	4	8
	(c)		<ul style="list-style-type: none"> • Mark out using Scriber / compass dividers. • Drill series of holes. • Cut with piercing saw / junior hacksaw. • File to shape. • Finish with emery / wet n dry paper. 	1 1 1 1 1	5	13
	(d)		<p>Consider:</p> <ul style="list-style-type: none"> • Jigs - guide tool when sawing, drilling, bending. • Formers - hold material in required shape. • Templates - for marking out identical parts. • Constructional accuracy. • Less need for expertise. • Ensure uniformity of parts/boxes. • Production can be broken down into a series of tasks. <p>0 marks - vague answer / one word answer - easier / quicker. 1 mark: Basic response. One advantage. The boxes will be marked out and made accurately.</p> <p>2 marks some understanding. Two well thought out advantages. The boxes will be marked out and made accurately to the same specification.</p> <p>3 marks sound understanding - clear detail in response. Three well thought out advantages or two plus explanation. The boxes will be marked out and made accurately to the same specification. The making tasks could be divided between the students.</p>	1 or 2 or 3	3	16

Q		Question 7: TOOLS, EQUIPMENT AND MAKING	Mark	Question Total	Running Total 20
	(e)	<p>The following points need to be referenced to gain marks:</p> <ul style="list-style-type: none"> • Centre Punch. • Drilling the hole in the steel. • Using an 8mm Tap. • Use of Lubricant/Cutting compound. • Keeping Tap vertical. • ½ turn forward, ¼ turn back. <p>1 mark – very basic understanding.</p> <p>2-3 marks – some detail and understanding related to tools, processes.</p> <p>4 marks – detailed understanding, clearly communicated.</p>	<p>1 or 2 or 3 or 4</p>	4	20

Q			Question 8: ICT, CAD CAM SYSTEMS AND PROCESSES	Mark	Question Total	Running Total 15
Q.8	(a)		PVA - WOOD. CONTACT ADHESIVE - Both. TENSOL - Plastic. LIQUID SOLVENT CEMENT - Plastic. Rule: Accept only these answers. If Tick more than one box in row mark only first answer from left.	1 1 1 1	4	4
	(b)	(i)	DOWEL JOINT. MITRE JOINT. BRIDLE JOINT.	1 1 1	3	7
		(ii)	Greater gluing area. Mechanical joint not just reliant on adhesive. More resistant to forces / interlocking parts.	1 1 1	3	10
	(c)		Presenting information - graphs charts. Calculating numbers / percentages - surveys / questionnaires. 0 marks - answer not related to a spreadsheet. Basic answer - 1 mark Correct answer but no explanation. Used to draw graphs. Some explanation justifying answer - 2 marks. Used to draw graphs to show the results of a questionnaire.	1 or 2	2	12

Q		Question 8: ICT, CAD CAM SYSTEMS AND PROCESSES	Mark	Question Total	Running Total 15
	(d)	<p>A - A* question - Looking for good understanding: Consider: Setting the datum. Attaching material to bed. Tool paths. Cutting depths - brittle material. Cutting speeds.</p> <p>0 marks - vague answer / one word answer. Close the cover. Make sure it is safe.</p> <p>1 mark: Basic response. Named at least 1 of the important stages.</p> <p>2 marks some understanding - some detail. Clear understanding - may 2 or more stages lacking some tech detail.</p> <p>3 marks sound understanding - clear detail in response. Clear understanding - may 3 or more stages - made reference to the 3mm acrylic and / or 2 mm cutting tool.</p>	 1 or 2 or 3	3	15

SYSTEMS & CONTROL

Q	Part	Answer	Marks	Total	Spec Content
Q.1	(a) (i)	Full answer e.g. to charge mobile phones on the move without using renewable energy, charge phones in an environmentally friendly way.	2 marks	2	Product Analysis
		Limited answer e.g. To charge phones.	1 mark		
		One word responses like charging.	0 marks		
	(ii)	Range of people of different ages who are interested in communicating outdoors during activities. Environment conscious consumers needing to charge phones when out walking, camping etc.	2 marks	2	Dev, Plan, Com (b)
		People that need to charge phones outdoors.	1 mark		
		Active people.	0 marks		
	(iii)	Small, compact and modern design, sleek shape, slim line and lightweight to fit in pockets or worn as a fashion accessory.	2 marks	2	Product Analysis
		Looks modern and cool.	1 mark		
		One word responses like a gadget.	0 marks		
	(b)	To appeal to both sexes. To appeal to a wider age range. For consumers to match or contrast with clothing and accessories. To match colour of mobile phones. (to sell more – no marks)	2 x 1 mark	2	Dev, Plan, Com (a)
	(c)	Made by continuous / mass production to produce large amounts to satisfy demand. Items are not seasonal but constantly required by a wide range in the market. Manufacturer could make more money as it is in bulk, product could sell cheaper due to mass production.	2 marks	2	Product Analysis
		Weaker response with some truth e.g. to make enough. To make more so don't run out, make more money.	1 mark		
		Basic responses like...you need lots.	0 marks		

Q	Part	Answer	Marks	Total	Spec Content
	(d) (i)	Response including efficient process not wasting any materials, fast production method, body is probably ABS hence appropriate method, hollow casing, suitable for high number. Less clear e.g. a good process to use for the charger may deserve 1 mark. Basic responses like...look nice.	2 marks 1 mark 0 marks	2	Dev, Plan, Com (a)
	(e)(i)	19500.	1 mark	1	Dev, Plan, Com (a)
	(ii)	$3000 + 5000 + 6500 + 5000 = 19500/4 = 4875$. Some workings answer wrong / answer only.	2 marks 1 mark	2	Product Analysis
Q.1	All	Unexpected answers – candidates may respond in a way that is unexpected or does not fit with the marking scheme. Examiners to follow code of practise and contact team leader.			
				15	

Q	Part	Answer	Marks	Total	Spec Content
Q.2	(a) (i)	Reuse. Refuse. Reduce. Repair. Recycle.	1 mark x 5	5	Overarching principles
	(b) (i)	They are energy saving and consume less than incandescent / regular bulbs. They last longer than regular bulbs making them more efficient. Weaker response e.g. They can be obtained free from some companies as promotional testers. Cheaper than standard / regular bulbs. Unacceptable answers – cheaper, better, shapely.	2 marks 1 mark 0 marks	2	Overarching principles Overarching principles
	(c)	A statement including winner and loser e.g. Winner is environment because they use wind to generate electricity, but loser is local population who might feel visual pollution. A good statement focussing on a winner or loser but not both. Poor – cleanly uses wind to make electricity.	3 marks 2 mark 1 mark	3	Overarching principles (d)
Q2	All	Unexpected answers – Possibly a wide range of responses for C.			
				10/25	

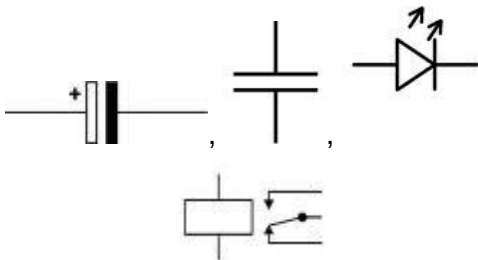
Q	Part	Answer	Marks	Total	Spec Content
Q.3.	(a) (i)	Names of designers placed correctly under products.	2 marks	2	
		Jonathan Ive: <ul style="list-style-type: none"> • Principal designer iMac and iPod. • Modern day legend not known by public. • Liked to use translucent colours. • Trend of using two or three main colours. • USP – internal control system visible. • Minimalistic / simplistic forms. • Tropical colours /names – locations. • Metallic forms and shades / chrome. • Elegant form, geometric shapes. • Slim line approach. • Many new products feature bright colours. • Many new products feature transparent cases. 			Other designers / practitioners
		Some simple description of the work of Jonathan Ive. Little, if any, understanding of its main features. Little, if any, understanding of the influence on other designers is shown. Quality of Written Communication is limited, presenting material with limited coherence, many errors of grammar, punctuation and spelling.	1 mark		Other designers / practitioners
		Some description of the work of Jonathan Ive. Little understanding of its main features. A little understanding of the influence on other designers is described. Quality of Written Communication is basic, presenting occasionally appropriate material with some coherence, some errors of grammar, punctuation and spelling.	2 marks		Other designers / practitioners
		Description of the work of Jonathan Ive. Some understanding of its main features. Some understanding shown of the influence on other designers. Quality of Written Communication is good, presenting mainly appropriate material in a coherent manner, few errors of grammar, punctuation and spelling.	3 or 4		Other designers / practitioners

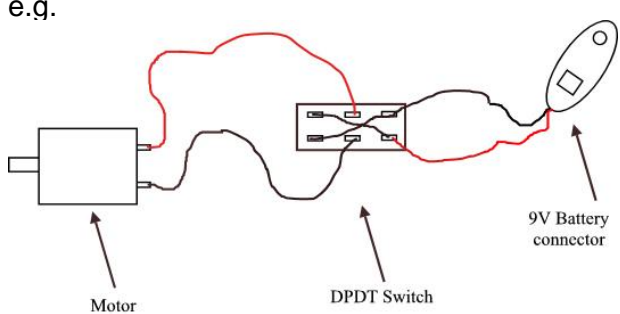
Q	Part	Answer	Marks	Total	Spec Content
		<p>Description of the work of Jonathan Ive. Understanding shown of its main features. Discussion of the influence on other designers or products some appropriate examples provided.</p> <p>Quality of Written Communication is very good, presenting appropriate material in a coherent and logical manner, very few errors of grammar, punctuation and spelling.</p>	5 or 6		Other designers / practitioners
		<p>Description of the work of Jonathan Ive. Clear understanding shown of its main features. Discussion of the influence on other designers or products with fully appropriate examples provided.</p> <p>Quality of Written Communication is excellent, presenting wholly appropriate material in a coherent and logical manner, hardly any errors of grammar, punctuation and spelling.</p>	7 or 8		Other designers / practitioners
				10/35	

Q	Part	Answer	Marks	Total	Spec Content
Q.4	(a)	Specification, modelling, planning. Reduce as required.	3x1 mark	3	Design Process
	(b) (i)	Interview them, questionnaire, and survey. Ask the customer. Reduce as required.	1 mark	1	Design Process
	(ii)	Look for 3 factors e.g. to see how the products functions or works, to see how it is produced, to check the components inside, to see what works well or what might be improved, check the materials used. Weaker responses may not be as detailed, or cover enough factors. Weaker response e.g. to get ideas. Poor response / no clarity.	3 marks 2 marks 1 mark 0 marks	3 2 1	Design Process
				7/42	
	(c) (i)	Accurate and clear sketching of proposal including labelling/annotation. Appropriate design. Satisfactory levels of accuracy and clarity, some details missing or unclear. Limited levels of accuracy, main details missing or unclear. Generally unclear, incomplete or incorrect. Unexpected answers might appear here.	[up to 4 marks] [up to 3 marks] [up to 1 mark] 0 marks	4	Design Question
	(ii)	Block diagram with three main boxes, Input, Process, Output. Components named in relevant box e.g. On / off switch, comparator or PIC, Lights or LED's and buzzer or piezo. Unexpected answers might appear here.	3 x 1 mark	3	Design Question
	(iii)	Will it work? Symbols and conventions correct and accurate. Comprehensive details of a PIC, Comparator circuit. Look at sensing p.d., control / process and outputs. Some conventions and components correct, some use of suitable components but not quite functioning. Errors or details missing. One or two components or conventions correct. Generally unclear, incomplete or incorrect.	[up to 5 marks] [up to 3 marks] [up to 1 mark] 0 marks	5	Design Question

Q	Part	Answer	Marks	Total	Spec Content
	(iv)	<p>Details of how device is worn by the umpire – wrist, forearm, belt, lanyard , hat etc.</p> <p>Unexpected answers might appear here.</p>	[up to 2 marks]	2	
	(v)	<p>Two or more dimensions given. Main material / s named. High quality sketching, communication. And conventions.</p> <p>One dimension given or one material named. Sketching, communication and. Conventions generally accurate. Few errors.</p> <p>Lacks appropriate dimensions and materials. Some errors, basic sketching and communication.</p> <p>No specific / appropriate dimensions or materials.</p> <p>Offered, poor quality sketching and communication.</p> <p>Very unclear. Unexpected answers might appear here.</p>	<p>[up to 4 marks]</p> <p>[up to 3 marks]</p> <p>[up to 2 marks]</p> <p>[up to 1 mark]</p> <p>0 marks</p>		
				18/60	

Q	Part	Answer	Marks	Total	Spec Content
Q.5	(a) (i)	Correct stages labelled – fluxing, pre heating, solder wave, cooling.	4x1 mark	4	Commercial Manufacturing Practices (a)
	(ii)	Components are soldered in one go / altogether not individually as with manual. Machinery is more reliable than by hand without errors too. Machinery will not need to stop for breaks or lunch so continuous production. Weaker responses may deserve 1 mark – machines are more efficient than people. (faster / quicker 0 marks).	2 marks 1 mark	2	Commercial Manufacturing Practices(a)
	(b)	Ensuring that the product is of a high standard throughout the number produced. Checking that all products are correct and the same. Making sure that there are no mistakes in the products as they are made. Less clear - Making sure they are high quality.	2 marks 1 mark	2	Commercial Manufacturing Practices(a)
	(c)	Manufacturing is cheaper in Far East or Eastern Europe so production is shipped abroad. Designers can send the manufacturing specs to cheaper locations where workers are paid less. Cheaper for the company.	2 marks 1 mark	2	Commercial Manufacturing Practices(a)
				10/70	

Q	Part	Answer	Marks	Total	Spec Content
Q.6	(a)(i)	Sketch of correct symbol for components named.  Unexpected answers – Capacitor (accept polarised or non-polarised).	3x1 mark	3	Materials and components (b) Mechanisms
	(b)(i)	On, on, on.	3x1 mark	3	Materials and components (b) Mechanisms
	(ii)	Parallel.	1 mark	1	Materials and components (b) Mechanisms
	(c)(i)	Worm and spur.	1 mark	1	Materials and components (b) Mechanisms
	(ii)	Cam and follower and rack and pinion.	2x1 mark	2	Materials and components (b) Mechanisms
	(iii)	$350 \times 1 = 70 \times ?$ $350/70=5$, VR = 5:1 Incorrect answer, correct workings. Correct answer, no evidence of workings. No correct workings no answer 1:5.	2 marks 1 mark 0 marks	2	Materials and components (b) Mechanisms
	(d)(i)	$CWM=ACWM$ $250 \times ? = 150 \times 20$ $250 \times ? = 3000$ $3000/250= 12N$ Correct working, incorrect answer, minor error. Or not moments method i.e. $150 \times 20= 3000$ $3000/250=12N$	3 marks 2 marks	3	Materials and components (b) Mechanisms
		Correct answer no workings / some workings several errors, no answer, $CWM=ACWM$, $150 \times 20=$ (blanks follow).	1 mark		
				15/85	

Q	Part	Answer	Marks	Total	Spec Content
Q.7	(a) (i)	Pine (used in photo), mdf.	1 mark	1	Tools, Equipment & Making
	(ii)	HIPS / polystyrene and vacuum forming. Accept rigid pvc. One correct one mark.	2 marks	2	Tools, Equipment & Making
	(iii)	So that all four are exactly the same with smooth edges and flat bottom.	2 marks		Tools, Equipment & Making
		Good finish.	1 mark		Tools, Equipment & Making
	(iv)	There must be tapered sides on the mould so that the casing comes off easily. 2 marks All edges must be rounded so the HIPS will not split. 2 marks. Very smooth surface needed, 2 marks, Heat resistant material 2 marks, holes drilled at returns to pull hips close 2 marks.	4 marks	4	Tools, Equipment & Making
		Marks reduced x 1 as answers contain less detail or incorrect e.g. get car out, get case off, 1 mark. No clarity in response.	1 mark 0 marks		
	(b)	Correctly marked out DPDT switch with 6 terminals correct Reduce as required x1 e.g. 	6 marks	6	Tools, Equipment & Making
	(c)	Continuity test to check wires are conducting.....multimeter and probes. Check battery power.....voltmeter and probes (scientific test using tools or equipment) Check to see if the belt has fallen off. Have a look at the switch...visual check.	2 marks 1 mark	2	Tools, Equipment & Making

Q	Part	Answer	Marks	Total	Spec Content
Q.8	(a) (i)	Reset key, door sensor, window 1 or 2 sensor.	1 mark	1	Systems and Processes
	(ii)	Siren or lights.	1 mark	1	Systems and Processes
	(iii)	To tell the system that the door has been opened and set off the alarm.	2 marks	2	Systems and Processes
		Set off alarm.	1 mark		
	(b) (i)	<p>Completed flowchart</p> <pre> graph TD Start([START]) --> Armed[Armed light on] Armed --> Door{Is door sensor on?} Door -- Yes --> DoorLight[Door light on] Door -- No --> Win1{Is window 1 sensor on?} Win1 -- Yes --> Win1Light[Window 1 light on] Win1 -- No --> Win2{Is window 2 sensor on?} Win2 -- Yes --> Win2Light[Window 2 light on] Win2 -- No --> Armed DoorLight --> Siren[Siren on] Win1Light --> Siren Win2Light --> Siren Siren --> Reset{Reset Key present?} Reset -- Yes --> AllOff[All off] Reset -- No --> Armed </pre> <p>Marks reduced x 1 as errors appear.</p>	6 x 1 mark	6	
	(ii)	<p>PIC is small and can fit into the alarm control panel easily... not many components required.</p> <p>PIC can control a variety of inputs and outputs.</p> <p>PIC can be updated if required / new information / upgrade.</p> <p>PIC can be recycled / reused after the useful lifecycle of the light.</p> <p>A PIC is small.....fits in the light.... Less developed answer.</p> <p>Cheaper, faster, quicker, smaller.</p>	<p>2 marks</p> <p>2 marks</p> <p>2 marks</p> <p>2 marks</p> <p>1 mark</p> <p>0 marks</p>	2	

Q	Part	Answer	Marks	Total	Spec Content
	(c)	<p>Planning a flowchart or program (could use CAD).</p> <p>Testing / running/ amending program until correct.</p> <p>Downloading data to PIC from CAD.</p> <p>There are a variety of ways of programming a PIC. Candidates may elaborate or simplify and still gain the 3 marks.</p>	<p>3 x 1 mark</p>	3	
				15/120	

TEXTILES TECHNOLOGY

SECTION A

Q				On paper	Question totals	Running TOTAL	
Q.1	(a)		No answer or an incorrect answer.	0			
			Only acceptable answer: Batch production.	1	1	1	
	(b)		No answer or an answer that does not address the reason for a zip fastener on the side of the product – 0 marks.	0			
			Answers that indicate an understanding of the need for a zip fastener should be given credit: ease of use to get in and out of it; can be zip linked to a similar product.	1	1	1	
	(c)		No answer or an answer that does not address the purpose of the stuff sac – 0 marks.	0			
			Answers that indicate an understanding of the purpose of the stuff sac can be awarded up to 2 marks: can be packed away for easy storage when not in use; easy to transport when travelling, compact bag to carry.				
			A simple response: easy to carry – 1 mark.	1			
			A more developed response: packs away in to small carry case making it easy to carry when travelling.	2	2	2	
	(d)	(i)	No answer or one that does not address the cost of the sleeping bag - 0 marks.	0			
				Answers that indicate an understanding of the cost of the sleeping bag can be awarded up to 2 marks: junior sleeping bag; limited use as child could grow out of it, so price is not too expensive making it affordable; mainly used for sleepovers and short holidays so limited use.			
				Appropriate specification point made about cost but lacking in detail appropriate for a design specification, e.g. it is an affordable / reasonable price for a sleeping bag.	1		
			A more developed and appropriate specification point made about the cost e.g. at £12 it is a reasonable price to pay as the child will not be using it that often, occasional holidays.	2	2		

Q				On paper	Question totals	Running TOTAL
		<p>(ii) No answer or one that does not address the aesthetic appeal of the sleeping bag - 0 marks.</p> <p>Answers that indicate an understanding of the aesthetic appeal of the sleeping bag can be awarded up to 2 marks: strong/ bold colour scheme; attractive butterfly print to appeal to young girls; colours/ design co-ordinates with the spotty print inside.</p> <p>Appropriate specification point made about the aesthetic appeal but lacking in detail appropriate for a design specification e.g. It must look attractive for young girls.</p> <p>A more developed and appropriate specification point made about the aesthetic appeal e.g. The butterfly design and co-ordinating bold colour scheme must appeal to young girls who would use the sleeping bag.</p>	<p>0</p> <p>1</p> <p>2</p>	<p>2</p>		
		<p>(iii) No answer or one that does not address the target market - 0 marks.</p> <p>Answers that indicate an understanding of the target market can be awarded up to 2 marks: young children/ young teens often have sleepovers and need an attractive sleeping bag for this occasion; some youngsters like to go camping/ short holidays and like an attractive sleeping bag suitable for the occasion; it's quite an unusual design so would appeal to them, different from friends' sleeping bags.</p> <p>Appropriate specification point made about the target market but lacking in detail appropriate for a design specification e.g. the target market is young girls who have sleepovers with friends.</p> <p>A more developed specification point about the target market e.g. The target market is young girls who may need a sleeping bag when they have sleepover parties with friends but want something that is different from their friends.</p>	<p>0</p> <p>1</p> <p>2</p>	<p>2</p>	<p>6</p>	

Q				On paper	Question totals	Running TOTAL
	(e)	<p>No answer or one that does not explain how the layers of material will ensure the warmth of the user – 0 marks.</p> <p>Answers that indicate an understanding of the materials' properties to ensure warmth should be given credit: three layers will trap air between the layer and fibres which will retain the heat; a double layer of fibre fill will trap air which when heated will be kept inside ensuring the warmth of the user.</p> <p>A simple response e.g. the double layer of fibre fill will trap and warm air.</p> <p>A more developed response – the double layer of fibrefill will trap warm air and retain it keeping the user warm.</p> <p>A more developed response with justification – the double layer of fibrefill will trap warm air from body heat and retain it; this together with the extra cotton and polyester layers will make sure warm air does not escape keeping the user warm.</p>	<p>0</p> <p>1</p> <p>2</p> <p>3</p>	<p>3</p>	<p>3</p>	
	(f)	<p>No answer or an incorrect answer – 0 marks.</p> <p>Award 1 mark for an incorrect answer but method is correct – 1 mark:</p> $\frac{185}{500} \times \frac{100}{1}$ <p>Award 1 mark for a correct answer but no calculations are shown.</p> <p>Correct answer with correct calculations – 2 marks: 37%.</p>	<p>0</p> <p>1</p> <p>2</p>	<p>2</p>	<p>2</p>	
					15	15

Q					On paper	Question totals	Running TOTAL
Q.2	(a)	(i)	Incorrect answer or no answer – 0 mark.	0			
			Only one acceptable answer - Kite mark.	1	1		
		(ii)	No answer or an answer that does not give the meaning of the CE mark - 0 marks.	0			
			<p>Answers that indicate an understanding of the CE label based on: it is a European standard; the product meets certain European technical standards; can pass freely/be sold within the EU. <i>(It is not a sign of safety, quality or environmental protection).</i></p> <p>Award 1 mark for a response based on: the product meets European technical standards; Association with European is indicated.</p> <p>Award 2 marks for a developed response based on: the product meets European legal and technical standards, and can be sold anywhere within the EU.</p>	1	1		
				2	2	3	
	(b)		No answer or the answer does not identify the correct words.	0			
		(i)	Only acceptable answer: RETHINK.	1			
		(ii)	Only acceptable answer: REUSE.	1	2	2	
	(c)		No answer or an answer that gives no reference to the production of organic cotton - 0 marks.	0			
			<p>Answers that indicate an understanding of the production of most organic cotton based on: pesticides are not used to protect crops/increase yields, which is better for the quality of soil and for workers; no bleach/chemicals/strong dyes used to treat the cotton, again beneficial for the environment; no harmful chemicals etc. used in production to be disposed of unlike most cotton where chemicals can seep back into rivers etc.; vegetable dyes which are natural are generally used to dye organic cotton.</p> <p>Award 1 mark for a response based on: cotton plants are not sprayed with pesticides to protect them.</p> <p>Award 2 marks for a developed response based on: organic cotton crops are not sprayed with pesticides, yield may be lower but less chemicals means it is better for the environment, soil and workers.</p>	1	1		
				2	2	2	

Q				On paper	Question totals	Running TOTAL
	(d)	<p>No answer or an incorrect answer that does not make reference to the whole life cycle when designing new products - 0 marks.</p> <p>Answers that indicate an understanding of whole life cycle of the product (cradle to grave) should be given credit: every stage of manufacture has an environmental impact from the source and production of the materials used and in manufacturing the product – processes used in industry; the care needed to look after the product e.g. washing, dry cleaning, how often, detergents used, chemicals used in dry cleaning; to eventual disposal and how this is done and the impact it has if it is not recycled in some way.</p> <p>Award 1 mark for a basic response: Every stage in a product's life makes an impact in the environment.</p> <p>Award 2 marks for a more developed response: Every stage in a product's life makes an impact in the environment from where you get the materials from to how they are disposed of.</p> <p>Award 3 marks for a fully developed answer based on: Every stage in a product's life makes an impact on the environment from where you get the materials from, are they eco-friendly materials? How they are cared for, washing has in impact, and finally to how they are disposed of. Will it end up as landfill which has a negative effect on the environment?</p>	<p>0</p> <p>1</p> <p>2</p> <p>3</p>	<p></p> <p></p> <p></p> <p>3</p>	<p></p> <p></p> <p></p> <p>3</p>	<p></p> <p></p> <p></p> <p></p>
					10	25

Q				On paper	Question totals	Running TOTAL
Q.3	(a)	<p>No answer or incorrect answers – 0 mark.</p> <p>Only acceptable answers:</p> <p>(i) Vivienne Westwood. (ii) John Galliano.</p>	0			
	(b)	<p>No answer or no relevant issues described or discussed.</p> <p>Answers that indicate a general understanding of the main features of the work of the chosen designer and the influence it has had on the fashion industry.</p> <p>STEP 1: Award one mark for each relevant fact up to 8 marks.</p> <p>STEP 2: Assess QWC as follows:</p> <p>The maximum mark that can be awarded is eight.</p> <ol style="list-style-type: none"> 1. If QWC band is 4 – move D&T mark up 2 if that is possible. 2. If QWC band is 3 – make no change. 3. If QWC band is 2 – move D&T mark down 1 mark. 4. If QWC band is 1 – move D&T mark down 2 marks. <p>STEP 2: THEN ASSESS THE QUALITY OF WRITTEN COMMUNICATION.</p> <p>Quality of Written Communication is limited, presenting material with limited coherence, many errors of grammar, punctuation and spelling.</p> <p>Quality of Written Communication is basic, presenting occasionally appropriate material with some coherence, some errors of grammar, punctuation and spelling.</p> <p>Quality of Written Communication is good, presenting mainly appropriate material in a coherent manner, few errors of grammar, punctuation and spelling.</p> <p>Quality of Written Communication is excellent, presenting wholly appropriate material in a coherent and logical manner, hardly any errors of grammar, punctuation and spelling.</p>	0			
				Band 1		
				Band 2		
				Band 3		
				Band 4		

Q					On paper	Question totals	Running TOTAL
			<p><u>Vivienne Westwood:</u></p> <ul style="list-style-type: none"> • The 'punk style' gained notoriety when clothes designed and made by Westwood were worn by groups such as the Sex Pistols and the New York Dolls. • 'Punk Style' clothing featured skin tight leather clothing with tons of zips trimmed with items such as safety pins, bicycle chains and spiked dog collars worn as jewellery. Sparked a huge fashion following. • She combined traditional elements of British design, such as tartan and Harris Tweed, alongside the more unusual elements of her style, which made the overall effect more shocking. • Not being classically trained in pattern cutting VW experimented with pattern cutting to create exciting and innovative clothing. • She led the way in questioning the establishment, breaking the mould of tradition and allowing/encouraging young designers to be equally experimental with their work. John Galliano was inspired by VW when he was a student. • A historical influence has always shown in her work, such as the corset and crinoline – taking original cutting principles and modernising them. This influenced a change in the way the silhouette was seen throughout the fashion world. • Other influences in her work include ethnic Peruvian influences, feminine figure, velvet and knitwear. • Her Ready-to-Wear collections feature style details such as ripped hems and torn seams. Seams on the outside seen a lot in contemporary clothing. • The tube skirt is one of her most successful and commercial designs. • Westwood re-launched the corset, which Karl Lagerfeld described as one of the most important fashion ideas of the 20th century. <p>Her influence and range of work is vast; accept other factually correct statements; no marks are awarded for personal details.</p> <p>Note: In order to achieve full marks, both parts of the question need to be answered i.e. Features of her work and the influence on the fashion industry.</p>		8	10	
						10	35

Q					On paper	Question totals	Running TOTAL
Q.4	(a)		<p>No answer or incorrectly placed words – 0 mark.</p> <p>Only acceptable answers placed correctly:</p> <p>Development. 1 Making. 1 Evaluation. 1</p>	0 1 1 1	3		
	(b)	(i)	<p>No answer or an answer that does not explain any issues relating to function – 0 marks.</p> <p>Answers that indicate an understanding of 'function' in relation to a design specification with appropriate explanation should be credited. Explanations might include: the purpose of a product; explaining how it would be used; features it must have in order to work; how it works / what it does.</p> <p>Award one mark for a simple statement for example: The function would relate to the purpose of the product.</p> <p>Award two marks for a developed response for example: The function of the product relates to its purpose and could identify features it must have in order to work properly.</p>	0 1 2	2		
		(ii)	<p>No answer or an answer that does not relate to a disassembly activity – 0 marks.</p> <p>Answers that indicate an understanding of a disassembly activity should be credited based on: looking for ideas for construction processes and techniques; to develop new templates; test materials; if the number of pieces/ components used can be reduced which would help costs.</p> <p>Award one mark for a basic response for example: To see how the product has been made.</p> <p>Award two marks for a more elaborate response based on: To see how the product has been made so the designer could improve on some of the processes to make a better product.</p>	0 1 2	2	7	

Q					On paper	Question totals	Running TOTAL
	(c)	(i)	No answer or the answer is not a fancy dress costume. Award one mark for a design that satisfies the brief.	0 1	 1		
		(ii)	No answer or a design that is not based on the images of the mood board. Answers that clearly show an attempt by the candidate to use and interpret the images of the mood board to design a fancy dress costume for a child should be credited. A weak attempt to show the front and back views of a fancy dress costume with weak interpretation of the images of the mood board; lacks imagination or creativity. A satisfactory attempt at presenting the front and back views of a fancy dress costume; quite good interpretation of the images of the mood board. Some imagination and creativity in styling. A good attempt at presenting the front and back views of a fancy dress costume; good interpretation of the images of the mood board. Imaginative and creative styling.	0 1 2 3			
		(iii)	No answer or a design that is not coloured in, or a very basic attempt at using colour. Answers that clearly show an attempt by the candidate to use colour creatively based on the mood board should be credited. A weak/satisfactory attempt at using the colours of the mood board creatively. A good/very good attempt at using the colours of the mood board creatively.	0 1 2		2	
		(iv)	No answer or no evidence of named style details. Award one mark for each specific style detail, for example: type of neckline e.g. sweetheart neckline, halter neck; type of sleeve e.g. cap sleeve; ¾ sleeve; type of skirt e.g. A-line skirt, puffball hemline; gathers; frills; named edge finishes; finishes such as shirring elastic panels; elasticated waists bands; gathers; tucks; pleats; quilting. A very good/excellent attempt at presenting the front and back views of a fancy dress costume; very good interpretation of the images of the mood board. Very imaginative and creative styling.	0 1 4		3 4	

Q				On paper	Question totals	Running TOTAL
		(v)	<p>No answer or no evidence of suitable materials.</p> <p>Award one mark for each suitable material for example: polyester fleece; velvet; corduroy; needle cord; acrylic fur; net; organza. <i>Depending on the design, accept other named materials but do not award marks if the named material is clearly unsuitable for the product.</i></p>	0 1	2	
		(vi)	<p>No answer or the answer cannot be understood, no annotation.</p> <p>Poor quality graphic skills, hard to understand, annotation unclear.</p> <p>Graphic skills are adequate, understandable, limited annotation of important style details.</p> <p>Good graphic details and image in proportion to silhouette, appropriate styling for a fancy dress costume, understandable, good annotation of important style details.</p> <p>Excellent graphic details and image in proportion to silhouette, highly appropriate styling for a fancy dress costume, with correct annotation of important style details and techniques.</p>	0 1 2 3 4	4	
	(d)		<p>No answer or no justification for the materials properties – 0 mark.</p> <p>Award up to two marks for a reasoned response based on the specific properties of the named material. Answers may refer to: texture, drape, handle, cost, and weight, aesthetic qualities, surface decoration, can be printed, washable.</p> <p>Award one mark for a basic response: Organza - it is transparent like wings.</p> <p>Award two marks for a more developed response: Organza- It is transparent, lightweight and delicate which would be ideal to represent butterfly wings.</p>	1 2	2	18
					25	60

SECTION B


Q				On paper	Question totals	Running TOTAL
Q.5	(a)		No answer or incorrect answer - 0 mark. Only acceptable answer: Band knife.	0 1	 1	
		(b)	(i)	No answer or incorrect method of manufacture – 0 mark. Only acceptable answers: Shorts – BATCH. Sock – MASS (Accept Continuous Flow).	0 1 1	 2
	(ii)		No answer or incorrect factors – 0 mark. Award one mark for each relevant factor that would influence the type of production method based on: the number of products needed; the complexity of the products being made; the number needed for each customer; the type of product being made, seasonal products; fashionable / on trend products.	0 1	 3	
	(c)		No answer or does not describe the advantages of mass production systems over one-off production. Answers that indicate an understanding of the advantages of mass production systems over one-off should be credited based on: very large numbers can be produced quickly and cheaply in a short time; once the machines are set up they keep going over long periods on the same job with minimum disruption to the manufacturing process whereas one-off may have to keep changing and adapting the machinery for each job. Costs are lower, with less skilled workers. <i>Answer must include comparisons.</i> A simple response: 1 mark. Many more can be made in a short time compared to one product at a time. A more elaboration response: 2 – 3 marks. Once the machines are set up they keep doing the same job over long periods producing thousands of products, whereas in one-off production it takes a long time to make one product because they may have to change the machines. A fully elaborated response: 4 marks. Once machines/production lines are set up, operatives keep doing the same job over a long period of time; they can produce thousands very quickly which in turn keeps costs down. Whereas in one off production workers have to be skilled in many jobs and adapt machines for different operations. This is time consuming and costly.	0 1 2-3 4	 4	 10
					10	70

Q					On paper	Question totals	Running TOTAL
Q.6	(a)	(i)	No answer or does not identify the correct method of manufacture – 0 mark. Only acceptable answers: LAMINATED. KNITTED. WOVEN.	0 1 1 1	3		
		(ii)	No answer or does not state a standard width for material - 0 mark. Only acceptable answers: 90cms; 115cms; 150cms; 240cms.	0 1	1		
		(iii)	No answer or does not explain how the construction of the material affects performance and therefore choice - 0 mark. Answers that indicate an understanding of the properties associated with the construction of materials affects end use should be given credit based on: woven materials being more rigid/keep shape/better structure; knitted materials stretch but can also loose shape; bonded fabrics are weaker and usually used for disposable products or to reinforce another. Award one mark for a basic response based on: Knitted material stretches so its fits better. Award two marks for a more developed response based on: Knitted materials are known for being able to stretch which would be an essential quality for a product that needed to fit a person such as a jumper.	0 1 2	2	6	
	(b)		No answer or the answer is incorrect. Only acceptable answers:	0			
		(i)	CREASE RESISTANT.	1			
		(ii)	SHRINK RESISTANT.	1	2	2	

Q				On paper	Question totals	Running TOTAL
	(c)	<p>No answer or the answer does not relate to flame proofing as a finish.</p> <p>Award up to three marks for a clear understanding of how fabrics are flame proofed and how it improves functionality based on: they are sprayed with a chemical (Proban), which slows down the burning process which is essential for certain products such as furnishings, children’s nightwear and protective clothing; it allows fabrics to be used for a wider range of products.</p> <p>Award one mark for a basic response for example: they are sprayed with a chemical.</p> <p>Award two marks for a more developed response for example: they are sprayed with a chemical which means they burn more slowly.</p> <p>A fully developed response – 3 marks. The chemical sprayed on them makes them burn very slowly making them much safer (to wear/ be around you) if they were to come into contact with fire.</p>	<p>0</p> <p>1</p> <p>2</p> <p>3</p>	<p>3</p>	<p>3</p>	
	(d)	<p>(i) No answer or an answer that does not define the term microfibre – 0 marks.</p> <p>Answers that indicate an understanding of a micro fibre should be credited based on: the definition of microfibres are less than one denier thick; can be engineered for specific qualities and functions.</p>	<p>0</p> <p>1</p>	<p>1</p>		

Q					On paper	Question totals	Running TOTAL
		(ii)	<p>No answer or an answer that does not explain the impact microfibres have had – 0 marks.</p> <p>Answers that indicate an understanding of the impact of microfibres should be credited based on: developed for sportswear they had to perform in all weathers where fabric performance is very important; now widely used in all aspects of the fashion industry because it is such a versatile material; products include fashion garments, lingerie, leisurewear, interior/furnishing and in technical textiles. Fibres can be manufactured to specific requirements to improve weight, strength, crease resistance, handle, drape qualities.</p> <p>Award one mark for a simple response: Widely used in the textile industry because the fibres can be manufactured to the exact requirements for the material.</p> <p>Award two marks for a more developed response: Widely used in the textile industry for a range of garments such as lingerie and sportswear. The fibres can be manufactured to the exact requirements for the material depending on the type of product being made.</p> <p>Award three marks for a fully developed response: Widely used in the textile industry for a range of garments such as lingerie or fashion garments or performance sportswear. The fibres can be manufactured to the exact requirements for the material depending on the type of product being made, for example the drape of the material can be improved for certain fashion garments. It offers so many possibilities for use.</p>	0			
				1			
				2			
				3	3	4	
						15	85

Q					On paper	Question total	Running TOTAL
Q.7	(a)	(i)	<p>No answer or incorrect names for parts of the sewing machine.</p> <p>Only three acceptable answers:</p> <p>I. THREAD SPOOL. II. FOOT PEDAL. III. PRESSER FOOT.</p>	<p>0</p> <p>1 1 1</p>	3		
		(ii)	<p>No answer or an incorrect answer.</p> <p>Only acceptable answer:</p> <p>PLAIN SEAM, OPEN SEAM.</p>	<p>0</p> <p>1</p>	1		
		(iii)	<p>No answer or an incorrect answer – 0 mark.</p> <p>Award up to two marks for answers based on the following: checking the machine is threaded properly and re-threading as necessary; checking the bobbin is correctly inserted/ wound correctly/ right tension and correcting as necessary; checking the stitch tension against the material being used and altering it to get correct tension.</p> <p>Award one mark for a simple answer for example:</p> <p>Tension is too loose; check it is threaded correctly.</p> <p>Award two marks for a developed answer for example: check to see the machine is set up correctly and rethread it if it's wrong; adjust the stitch tension to suit the material you are using.</p>	<p>0</p> <p>1</p> <p>2</p>	2	6	
	(b)	(i)	<p>No answer or incorrect answers – 0 mark.</p> <p>Award one mark for each correct method:</p> <p>I. TIE AND DYE. II. BATIK.</p>	<p>0</p> <p>1 1</p>	2		

Q				On paper	Question total	Running TOTAL
	(ii)	<p>No answer or an answer that does explain - 0 marks.</p> <p>Answers that demonstrate an understanding should be credited: Where the materials are tied (tie and dye) or where wax is applied (batik) the dye cannot penetrate through to the material; so when it is untied or the wax removed large areas will remain white (or the colour of the base cloth). This creates the effect. The ties or wax resist the dye.</p> <p>A simple response worth one mark:</p> <p>Tie it or knot it then dye it; drip wax on it and dye it.</p> <p>A developed response worth 2 marks:</p> <p>Tie or knot the material very tightly whichever way you want, then soak the material in the dye, when you take it out remove the string and some areas will remain white where the string has been.</p>	<p>0</p> <p>1</p> <p>2</p>	<p>2</p>	<p>4</p>	
	(c) (i)	<p>No answer or an incorrect answer – 0 mark An incorrect answer would be: no indication of the end of the dart being over the fullest part of the bust.</p> <p>Award one mark for each dart correctly placed: Note one end of the dart must point to the fullest part of the bust in order to give the correct shaping.</p> <p>Note: last 2 examples would not work together, award one mark only.</p> 	<p>0</p> <p>1 +1</p>	<p>2</p>		
	(ii)	<p>No answer or an incorrect answer - 0 mark.</p> <p>Award 1 mark for an incorrect answer but method is correct.</p> <p>Correct answer with calculations – 2 marks £7.14.</p>	<p>0</p> <p>1</p> <p>2</p>	<p>2</p>		

Q					On paper	Question total	Running TOTAL
		(iii)	<p>No answer or an answer that does not show a suitable method - 0 marks.</p> <p>Answers that demonstrate an understanding of attaching a facing should be credited up to 6 marks.</p> <p>Stages should be based on: Iron interfacing on to the facing; neaten the lower edge of the facing; with right sides together pin and then stitch the facing in place; trim seam allowance and snip the seam allowance to allow facing to lie flat; turn the facing to the inside of the garment and press flat; top stitch the facing so it stays in place.</p> <p>Detailed diagrams with clear annotation which fully explain the process can still be awarded up to 6 marks.</p> <ul style="list-style-type: none"> • A simple response – 1-2 marks: simple diagram, limited annotation. • Award 3 marks for a slightly more detailed response: one or two diagrams, some annotation. • Award 4-5 marks for a reasonable understanding of the process/stages needed to attach a facing with annotation. • Award 6 marks for fully annotated sketches which show a clear understanding of the stages needed to attach a facing. <p>Assess the quality of work as a whole and apply marks for notes and sketches on a 'best fit' approach.</p>	<p>0</p> <p>1-2</p> <p>3</p> <p>4-5</p> <p>6</p>	<p>6</p>	<p>10</p>	
						20	105

Q					On paper	Question total	Running TOTAL
Q.8	(a)	(i)	No answer or the answer is incorrect – 0 mark. Only one possible answer: AIDED DESIGN.	0 1	1		
		(ii)	No answer or an incorrect answer – 0 mark. Award one mark for an acceptable answer based on: Computerised sewing machine; printer; laser cutter; CAMM-1; CAMM-2. Accept other appropriate answers.	0 1	1		
		(iii)	No answer or an incorrect answer or does not demonstrate an understanding – 0 marks. Answers that indicate an understanding should be given credit: When the specification points or key points of a new design are given a mark (out of 10 for example) it is easy to see the strengths and weaknesses of a particular design; easy to compare one design to another; it highlights the best aspects of your designs which can then be incorporated into a final design. It is a quick and effective way of evaluating ideas. Award 1 mark for each simple statement based on: This type of diagram is easy to produce on the computer allowing you to see which parts of your design are the best. Award 2 marks for a more developed response: This type of diagram is easy to produce on the computer allowing you to see which parts of your design are the best and will allow you to compare the best aspects of all your designs to use in your final idea.	0 1 2	2	4	

Q					On paper	Question total	Running TOTAL
	(b)	(i)	<p>No answer or stages incorrectly placed - 0 marks.</p> <p>Award one mark for each stage correctly placed:</p> <p>Stage 2: Join the back armhole seams.</p> <p>Stage 3: Attach the neckband.</p> <p>Stage 4: Join underarm and side seams.</p> <p>Stage 6: Attach the lower band to front and back.</p>	<p>0</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	4		
		(ii)	<p>No answer or an incorrect answer that does not explain - 0 marks.</p> <p>Answers that indicate an understanding should be given credit based on: to maintain high standards throughout the manufacturing process; if one part of a product is not done correctly it will have a negative impact further along the production line when parts of the design do not fit together; it reduces waste/keeps costs down because less products will be rejected later.</p> <p>Award one mark for a simple response: To make sure every part of the product is of a high standard.</p> <p>Award two marks for a more elaborate answer based on: To make sure the production goes smoothly and every part of the product is of a high standard.</p> <p>Award three marks for a more elaborate answer based on: To make sure the production goes smoothly and every part of the product is of a high standard with less chance of the product being sub-standard and less products being rejected at the end of production.</p>	<p>0</p> <p>1</p> <p>2</p> <p>3</p>	3	7	

Q				On paper	Question total	Running TOTAL
	(c)	<p>No answer or an incorrect answer – 0 mark.</p> <p>Answers that indicate an understanding should be credited: All aspects of the design/manufacturing process are linked via computers, from design, production, through to point of sale; it is efficient speeding up communication between departments, the development of any product can be easily tracked; having everything linked via computer makes the process of manufacturing more efficient and therefore less costly.</p> <p>A simple response: 1 mark. It makes the process of designing and manufacturing a product faster and more efficient.</p> <p>A slightly more developed response: 2 marks. It makes the process of designing and manufacturing a product faster and more efficient as communication between departments is better.</p> <p>A developed response: 3 marks. It makes the process of designing and manufacturing a product faster and more efficient as communication between departments is better. If there are problems they can be identified easily.</p> <p>A fully developed response: 4 marks. It makes the process of designing and manufacturing a product faster and more efficient as communication between all departments involved in production is better. If there are problems they can be identified easily and action taken to remedy the fault so that production can continue which makes the system more efficient.</p>	<p>0</p> <p>1</p> <p>2</p> <p>3</p> <p>4</p>	<p></p> <p></p> <p></p> <p></p> <p>4</p>	<p></p> <p></p> <p></p> <p></p> <p>4</p>	<p></p> <p></p> <p></p> <p></p> <p></p>
					15	120

PRODUCT DESIGN

Q					On Paper	Question Totals	Running Total
Q.1	(a)		Batch Production.	1	1		
	(b)	(i)	No answer or the answer does not identify a specific function.	0			
			Appropriate specification point made about function but lacking in detail appropriate for a Design Specification. E.g. To help plants grow.	1			
			Appropriate specification point made about the function of the product with detail appropriate for a Design Specification. E.g. To help keep a constant temperature and climate for the plants growth.	2	2		
		(ii)	No answer or the answer does not identify a specific safety point.	0			
			Appropriate specification point made about safety but lacking in detail appropriate for a Design Specification. E.g. Must use safe glass.	1			
			Appropriate specification point made about safety with detail appropriate for a Design Specification. E.g. The glazing is made from Polycarbonate sheet. This will not break as easily as glass and therefore it is safer to use in the garden.	2	2		
	(c)	(i)	No answer or the answer does not identify a specific reason.	0			
			Appropriate reason point made but lacking in detail. E.g. Attractive, Shape, Lightweight It is a lightweight material.	1			
			Appropriate specification point made about safety with detail appropriate for a Design Specification. E.g. Attractive with no need to apply a surface finish. Can be extruded into suitable profiles. Lightweight material but has a very good strength to weight ratio. Weather resistant, will not corrode.	2	2		

Q					On Paper	Question Totals	Running Total
		(ii)	<p>No answer or the answer does not identify a specific reason.</p> <p>Appropriate reason point made but lacking in detail. E.g. Attractive, Shape, Lightweight Will not corrode.</p> <p>Appropriate specification point made about safety with detail appropriate for a Design Specification. E.g. Attractive with no need to apply a surface finish. Can be extruded into suitable profiles. Lightweight material but has a good strength to weight ratio. Weather resistant, will not corrode.</p>	<p>0</p> <p>1</p> <p>2</p>	<p>2</p>		
	(e)	(i)	<p>No answer or the answer is not feasible.</p> <p>A simple answer - an assertion - can be awarded 1 mark. Cheap costs, Takes up less space, cheaper to buy in.</p> <p>An elaborated that explains can be awarded 2 marks. Cheap unit costs could mean more profits, less transportation costs, takes up less space in the stock room.</p> <p>A detailed answer that explains can be awarded 3 marks. The product will be cheaper to produce and therefore there is a higher margin for profit. The manufacturer can also stock more of the product in the same space as assembled versions.</p>	<p>0</p> <p>1</p> <p>2</p> <p>3</p>	<p>3</p>		
	(e)	(ii)	<p>No answer or an answer that does not state £76.38 will be awarded 0 marks.</p> <p>Answer that is £76.38 but no working.</p> <p>Answer that is £76.38 but shows some of the working.</p> <p>Answer that is 76.38 with all the calculations shown and correct.</p> <p>$2.4 \times 1.8 = 4.32$ $329.98/4.32 = 76.38$</p> <p>One mark for each correct step, leading to the correct answer (there may be more ways of getting to the correct answer).</p>	<p>0</p> <p>1</p> <p>2</p> <p>3</p>	<p>3</p>		
						15	15

Q					On Paper	Question Totals	Running Total
Q.2	(a)	(i)	Recycle. Repair. Reuse.	1 1 1	3		
	(b)	(i)	No answer or the answer does not give a reason that is appropriate. A simple answer - an assertion - can be awarded 1 mark. It shows you what type of plastic it is. An elaborated answer that explains can be awarded 2 marks. This symbol stands for High-density polyethylene plastic that can be recycled and made into traffic cones, toys, and laundry detergent containers.	0 1 2	2		
		(ii)	No answer or the answer does not give a reason that is appropriate. Any mention of recycling of the package = 0. A simple answer - an assertion - can be awarded 1 mark. The green dot is mentioned. An elaborated answer that explains can be awarded 2 marks. The Green dot is a symbol that is displayed on packaging in many European countries. It signifies that the producer of that piece of packaging has made a financial contribution towards recycling. No alternative answer is accepted.	0 1 2	2		
	(c)		Rethink No answer or the answer does not give a reason that is appropriate. A simple answer - an assertion - can be awarded 1 mark. Consider other materials, sizes or making processes. An elaborated answer that explains can be awarded 2 marks. A product can be redesigned to perform the same job but use less material. A detailed answer that explains can be awarded 3 marks. A product can be redesigned to perform the same job but use less material and therefore becomes more sustainable by reducing the environmental impact.	0 1 2 3	3		
						10	25

Q					On Paper	Question Totals	Running Total
Q.3	(a)	(i)	Verner Panton.	1	2		
		(ii)	Jonathan Ive.	1			
	(b)		No answer or no relevant issues described or discussed.	0			
			Some description of work of one designer. Little understanding of its main features. A little understanding of the innovation is described.	1 or 2			
			Quality of Written Communication is basic, presenting occasionally appropriate material with some coherence, some errors of grammar, punctuation and spelling.				
			Description of the work of one designer. Understanding shown of its main features. Discussion of the innovation with some appropriate examples provided.	5 or 6			
			Quality of Written Communications is very good, presenting appropriate material in a coherent and logical manner, very few errors of grammar, punctuation and spelling.				
			Description of the work of one designer. Clear understanding showing its main features. Discussion of the innovation with fully appropriate examples provided.	7 or 8			
			Quality of Written Communication is excellent, presenting wholly appropriate material in a coherent and logical manner, hardly any errors of grammar, punctuation and spelling.				
						10	35

Tangerine is a London-based design consultancy where he works on a wide range of products from power tools to wash basins.

1992 Moves to San Francisco to join the Apple design team.

1998 Appointed vice-president of industrial design at Apple. Launch of the original iMac, which sells 2 million units in its first year.

1999 Introduction of the Apple iBook, the 22" Cinema Display, PowerMac G4 Tower and iSub.

2000 Launch of the Apple G4 Cube.

2001 Apple introduces the Titanium Powerbook G4 and the iPod portable MP3 player.

2002 Launch of the new sunflower - inspired iMac with 15" and 17" floating screens, Introduction of the eMac, a version of the iMac specially developed for use in the education sector.

2003 Apple launches the 12" PowerBook and the 17" PowerBook, which at 1" thick and 6.8lbs is the world's slimmest and lightest 17" notebook computer. Wins the Design Museum's first Designer of the Year prize.

2004 Launch of the multi-coloured iPod mini and ultra-slim iMac G5.

2005 Appointed senior vice-president of design at Apple. Launch of the Mac Mini.

- The design, shape, form of modern PCs now resemble iMac in style.
- The introduction of all-in-one PC/Monitor units since the iMac.
- iPhone launch has influenced competitor phones: touch screen, app driven, style.
- The wheel and the white earphones were iconic.

(Bullet points = Maximum of 6 marks)

Q					On Paper	Question Totals	Running Total
Q.4	(a)	(i)	<p>SPECIFICATION - A list of important features to be included in the product.</p> <p>DESIGN BRIEF - A statement of what you intend to design and make.</p> <p>INITIAL IDEAS - A range of possible ideas.</p>	1 1 1	3		
	(b)	(i)	<p>Analyse a competitor's product.</p> <p>No answer or the answer does not give a reason that is appropriate.</p> <p>A simple answer - an assertion - can be awarded 1 mark. To see how it was made, learn new ideas, find out strengths/weaknesses.</p> <p>An elaborated answer that explains can be awarded 2 marks. To see how the product was made and to see how they can further develop the idea to make it better, stronger, lighter.</p>	0 1 2	2		
		(ii)	<p>Prototype / model.</p> <p>No answer or the answer does not give a reason that is appropriate.</p> <p>A simple answer - an assertion - can be awarded 1 mark. To test the idea before making the real one.</p> <p>An elaborated answer that explains can be awarded 2 marks. To test the design idea to check if there are any errors. Alter design before production.</p>	0 1 2	2		
	(c)	(i)	<p>No answer or the answer is not a design that satisfies the brief.</p> <p>Ease of use</p> <ul style="list-style-type: none"> • Nice simple design, not very complicated. • Easy to fill and empty. • Handles on lids, lightweight materials for moving parts. Detailed consideration of emptying. 	0 1 2 3	3		
		(ii)	<p>No answer or the answer is not a design that shows the logo.</p> <p>Use of recycle logo</p> <ul style="list-style-type: none"> • No logo. • Logo used, must be drawn. • <u>Clever</u> use of symbol with reference to material that is in each compartment (e.g. sticker on bin, could form a sign). 	0 1 2	2		

Q					On Paper	Question Totals	Running Total
		(iii)	<p>No answer or the answer is not imaginative.</p> <p>Access and store different materials</p> <ul style="list-style-type: none"> • Very limited design. Can only hold single material type. • Store multi material. Drawer or door to access collected material. • Sophisticated design and Store material. Drawer or door to access collected material. <p>Mechanism</p> <ul style="list-style-type: none"> • No use of mechanism, simple hole in unit. • Simple mechanism used, e.g. door hinge, lifting lid. • Complex mechanism e.g. as foot peddle, hinge drawer, showing fulcrum. 	0 1 2 3 0 1 2	5		
		(iv)	<p>No answer or the answer is not an appropriate size.</p> <p>A simple answer - an assertion - can be awarded 1 mark. Limited general sizes (mainly non relevant). (Size mentioned but too large/small).</p> <p>An elaborated answer that explains can be awarded 2 marks. Relevant answers that link to the size of child, sizes are in keeping with standard units.</p>	0 1 2	2		
		(v)	<p>Material</p> <p>No answer or the answer is not an appropriate material (plastic, wood, card).</p> <p>Only one material specified - can be awarded 1 mark. It is made from Acrylic.</p> <p>An elaborate answer that explains can be awarded 2 marks. Relevant and appropriate materials are specified e.g. marine plywood because it has been treated for outdoor use.</p>	0 1 2	2		
		(vi)	<p>No answer or the answer cannot be understood, no annotation.</p> <ul style="list-style-type: none"> • Poor quality drawing skills, hard to understand, annotation unclear. • Drawing skills are barely adequate, understandable, linework uneven, corners poor, not accurate, annotation describes drawing. • Drawing skills are adequate, understandable, linework even, corners satisfactory, fairly accurate, annotation describes drawing with some comments. • Good quality drawing skills, accurate, high quality annotation with good commentary. 	0 1 2 3 4	4		
						25	60

SECTION B

Q					On Paper	Question Totals	Running Total
Q.5	(a)	(i)	<p>Jig Advantages:</p> <p>No answer or the answer does not give a reason that is appropriate.</p> <p>A simple answer - an assertion - can be awarded 1 mark. Quicker, more accurate,</p> <p>An elaborated answer that explains can be awarded 2 marks. To speed up production, to minimise mistakes, to standardise quality, uniform products, so that semi-skilled workers can be used.</p> <p>No answer or the answer does not give a reason that is appropriate.</p> <p>A simple answer - an assertion - can be awarded 1 mark. Quicker, more accurate,</p> <p>An elaborated that explains can be awarded 2 marks. To speed up production, to minimise mistakes, to standardise quality, uniform products, so that semi-skilled workers can be used.</p> <p>Do not accept 'cheaper' as an answer.</p>		4		

Q					On Paper	Question Totals	Running Total
Q	(b)	(i)	No answer. TRUE. TRUE. TRUE.	0 1 1 1	3		
		(ii)	No answer or the answer does not give a reason that is appropriate. A simple answer - an assertion - can be awarded 1 mark. An elaborated answer that explains can be awarded 2 marks. A detailed answer that explains can be awarded 3 marks. One off Production High unit cost due to: <ul style="list-style-type: none"> • Labour costs being high. • Only small numbers can be made. • Skilled workforce required. Batch Production Medium unit cost due to: <ul style="list-style-type: none"> • Use of CAM. • Subcontracting. • Semi-skilled workforce required. Continuous Production Low unit cost due to: <ul style="list-style-type: none"> • Extensive use of CAM. • Intensive use of machinery 24/7. • Intensive use of resources (buildings, heating and lighting). • Unskilled workforce. Generally the more made - lower cost of each piece - more profit. Compare/contrast 2 or more forms of production or 1 discussed in detail.	0 1 2 3	3		
						10	10

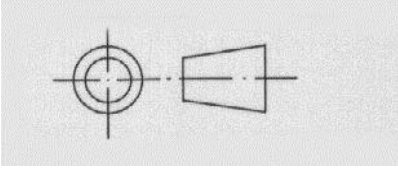
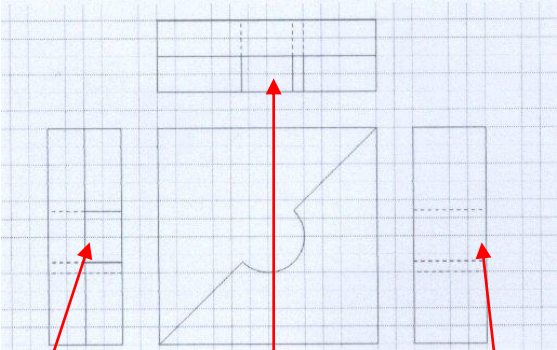
Q					On Paper	Question Totals	Running Total
Q.6	(a)	(i)	Softwood.	1	3		
		(ii)	Beech.	1			
		(iv)	Blockboard.	1			
	(b)	(i)	No answer or the answer does not give a reason that is appropriate. 2 points needed to get 2 marks (1 mark for each). Polyethylene: Lightweight, shatter resistant. Copper: Malleable, ductile, good conductor of heat or electricity.	0 2 2	4		
		(ii)	Ferrous metal test No answer or the answer does not give a reason that is appropriate. A simple answer - an assertion - can be awarded 1 mark. Test it with a magnet or water (rust) test. An elaborated that explains can be awarded 2 marks. Place a magnet on the can. If the can is attracted to the magnet then it contains iron and is there a ferrous metal.	0 1 2	2		
	(c)		Acrylic surface finish: No answer or the answer does not give a reason that is appropriate. Candidates need to mention the following: <ul style="list-style-type: none"> • Cross File • Sander or Linisher • Scraper • Draw File • Wet n Dry abrasive paper • Different Grades • Buffer/Mop • Acrylic Polish Graphic Communication <ul style="list-style-type: none"> • Very basic attempt and lacking in a majority of detail. • Basic attempt to show stages. • Good levels of communication. 	0 1 1 1 1 0 1 2	6		
						15	25

Q					On Paper	Question Totals	Running Total
Q.7	(a)	(i)	<p>Tools: (only award marks for the first TWO answers on the question). No answer or the answer does not give a reason that is appropriate.</p> <p>Tenon Saw/Dovetail Saw Use: GIVEN.</p> <p>Try Square Use: To mark or check lines of either wood or plastic for cutting.</p> <p>Use: To mark and check lines at 90° to an edge on either wood or plastic for cutting.</p> <p>Centre Punch / Dot Punch Use: GIVEN.</p> <p>Bench Hook Use: To hold wood ready for cutting/sawing.</p> <p>Use: To hold the material securely so that you can cut the material, and protects bench.</p>	0	6		
	(b)	(i)	<p>No answer or the answer does not give a reason that is appropriate.</p> <p>Meaning:</p> <p>Wear goggles</p> <p>Process: A simple answer - an assertion - can be awarded 1 mark. Wear goggles when using machines like a drill, scroll saw.</p> <p>An elaborated answer that explains can be awarded 2 marks. Any process that involves flying waste material or dust particles.</p>	0	6		
				1			
				1			
				2			

Q					On Paper	Question Totals	Running Total
		(ii)	<p>No answer or the answer does not give that is appropriate..</p> <p>Meaning:</p> <p>Harmful contents.</p> <p>Process: A simple answer - an assertion - can be awarded 1 mark. Normally when using glues or acids.</p> <p>An elaborated answer that explains can be awarded 2 marks. Any process that involves chemicals such as adhesives or acids that are harmful to your skin or lungs.</p>	0 1 1 2			
		(iii)	<p>No answer or the answer does not give a reason that is appropriate.</p> <p>A simple answer - an assertion - can be awarded 1 mark. They can be easily seen.</p> <p>An elaborated that explains can be awarded 2 marks. The signs can be used worldwide with no language barrier problems.</p>	0 1 2			
	(c)	(i)	<p>No answer or the answer does not give a reason that is appropriate.</p> <p>Polymorph.</p>	0 1	4		
		(ii)	<p>No answer or the answer does not give a reason that is appropriate.</p> <p>A simple answer - an assertion - can be awarded 1 mark. Descriptions of properties of Polymorph.</p> <p>An elaborated that explains can be awarded 2 marks. E.g. Applying to modelling/checking.</p> <p>A detailed answer that explains can be awarded 3 marks. Detailed explanation including re-heating and developing.</p> <p>Polymorph is a thermoplastic material that can be shaped and reshaped any number of times. It is normally supplied as granules that look like small plastic beads. In the classroom it can be heated in hot water and when it reaches 62 degrees centigrade the granules form a mass of 'clear' material. When removed from the hot water it can be shaped into almost any form and on cooling it becomes as solid as a material such as nylon.</p>	0 1 2 3			

Q					On Paper	Question Totals	Running Total
	(d)		<p>Laminating process.</p> <p>No answer or the answer does not give a reason that is appropriate.</p> <p>Written notes: Maximum 3 marks.</p> <p>A simple answer - an assertion - can be awarded 1 mark (2 points mentioned).</p> <p>An elaborated that explains can be awarded 2 marks (3 points mentioned).</p> <p>A detailed answer that explains can be awarded 3 marks (4 or more points mentioned).</p> <ul style="list-style-type: none"> • <u>Thin sheets</u> of material are cut accurately. • A <u>former</u> is cut from a thick piece of timber. • <u>Adhesive</u> applied in-between the lamina (thin material). • The lamina are <u>squeezed/clamped</u> together in the former in a vice or using G cramps. • Work <u>left to set</u> in the shape of the former. <p>Graphic Communication</p> <ul style="list-style-type: none"> • Poor communication. • Attempt to communicate with some clarity. 		4		
				0			
				1			
				2			
				3			
				0			
				1			
						20	45

Q					On Paper	Question Totals	Running Total
Q.8	(a)	(i)	No answer or the answer does not give a reason that is appropriate. Vector Package. Bitmap Package.	0 1 1	2		
		(ii)	Advantages of using CAM within a prototype. CAM process such as rapid prototyping manufactures can develop products in a much shorter time span, cutting down the lead time. The product does not have to be machined by technicians at an early stage which can be time consuming and costly. Changes can be made quickly. Repeatability of identical components. No answer or the answer does not give a reason that is appropriate. A simple answer - an assertion - can be awarded 1 mark. An elaborated answer that explains can be awarded 2 marks. No answer or the answer does not give a reason that is appropriate. A simple answer - an assertion - can be awarded 2 mark. An elaborated answer that explains can be awarded 2 marks.	0 1 2 0 1 2	4		
		(iii)	CAM in high volume. <ul style="list-style-type: none"> • Advantages of using CAM in volume production. • Very accurate, particularly useful in producing large quantities of the same the object. Will run for extended periods of time. • Used to make complex moulding. • References to automation/robotics. • Working in hostile environments. • H & S issues. No answer or the answer does not give a reason that is appropriate. A simple answer - an assertion - can be awarded 1 mark. An elaborated answer that explains can be awarded 2 marks. A detailed answer that explains can be awarded 3 marks.	0 1 2 3	3		

Q					On Paper	Question Totals	Running Total
	(b)	(i)		1	6		
		(ii)	<p>No answer or the answer does not give a reason that is appropriate.</p> <p>View 1 Correct shape but no hidden detail. 1 Correct shape with hidden detail. 2</p> <p>View 2 Correct shape but no hidden detail. 1 Correct shape with hidden detail. 2 Quality of line work - Poor, dark heavy lines. 0 Quality of line work - nice, clean lines. 1</p>  <p>Hidden detail on left</p> <p>Hidden detail on top half</p> <p>Hidden detail through whole piece</p>	0			
						15	60



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