

Mark Scheme Summer 2009

GCSE

GCSE Design and Technology: Food Technology (1970/3970)

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1970 2F Mark Scheme

Question Number	Answer	Mark	
Q01(a)	<p>Name: Measuring Jug/Jug (1) Use: Measuring of liquids/flour/sugar (1) <i>Accept measuring</i></p> <p>Name: Food processor / processor (1) Use: Cutting/chopping/blending/shredding/grating/rubbing in/creaming/kneading/mashing/combining/mixing cakes/biscuits/making pastry (1)</p> <p>Name: Slotted/Slot Spoon / draining spoon (1) <i>Do not accept spoon alone</i> Use: Draining liquids from vegetable/ meats / pasta/ serve food (1)</p> <p>Name: Mouse (1) Use: Controlling/moving cursor/screen/computer / clicking (1)</p> <p>Name: Bread maker / blender / mixer / processor (1) Use: Kneading dough / cake mixes / pastry making / batters/ creaming / mixing / whisking / reference to large quantities/speed (1) <i>(Do not accept stiring)</i> <i>Accept single word to describe use.</i></p>	(10 x 1)	(10)
Q01(b)(i)	<p>Give three uses</p> <ul style="list-style-type: none"> • Boiling • Defrosting • Warming • Reheating / heating • Drying/remove water • Sterilising <p><i>(Do not accept cooking/making)</i></p>	(3 x 1)	(3)

Q01(b)(ii)	<p>Give two rules</p> <ul style="list-style-type: none"> • Switch off when not in use • Ensure plug is correctly wired • Do not touch with wet hands/do not use near water • Ensure the plug is fully plugged in • Do not interfere with a metal object/do not put metal into a microwave • Keep away from young children • Read instruction manual • Do not put hands into equipment when working • Ensure it is correctly assembled • Annual safety checks • Cleaned and maintained after use • Check flex is not damaged <p style="text-align: right;">(2 x 1)</p>	(2)
Q01(c)	<p>Three reasons given</p> <ul style="list-style-type: none"> • Speed/fast/quick • All the same/identical/consistent/improved presentation/appearance/quality • High demand/sell well/popular product/lots sold • Good shelf life/store well • Cheapest way • Can be produced to order • Fresher ingredients/reduces storage of ingredients • Lots of different types produced/different flavours/textures/shapes • Large quantities can be produced/lots made <p style="text-align: right;">(3 x 1)</p>	(3)
Q01(d)(i)	<p>Two uses given</p> <ul style="list-style-type: none"> • Monitor stock levels/good communication between shop floor and stockroom • Prices can be easily changed • Popularity/sales can be monitored • Automatic reorder of stock • Name of product/brand name • Savings worked out/BOGOF • Total amount spent by each consumer • Price of product can be identified • Source/origin/batch of ingredients • Date marks • Weight <p style="text-align: right;">(2 x 1)</p>	(2)

Q01(d)(ii)	<p>Two benefits for the manufacturer given</p> <ul style="list-style-type: none"> • Instant / quick method • Easy to check data • Always active / 24/7 • Data automatically stored/retained for future use • Spending patterns/profit margins • Data automatically reordered • Match production to demand / identify popular products • No human error/accurate (computer logging) <p style="text-align: right;">(2 x 1)</p>	(2)
	Mark Total	22

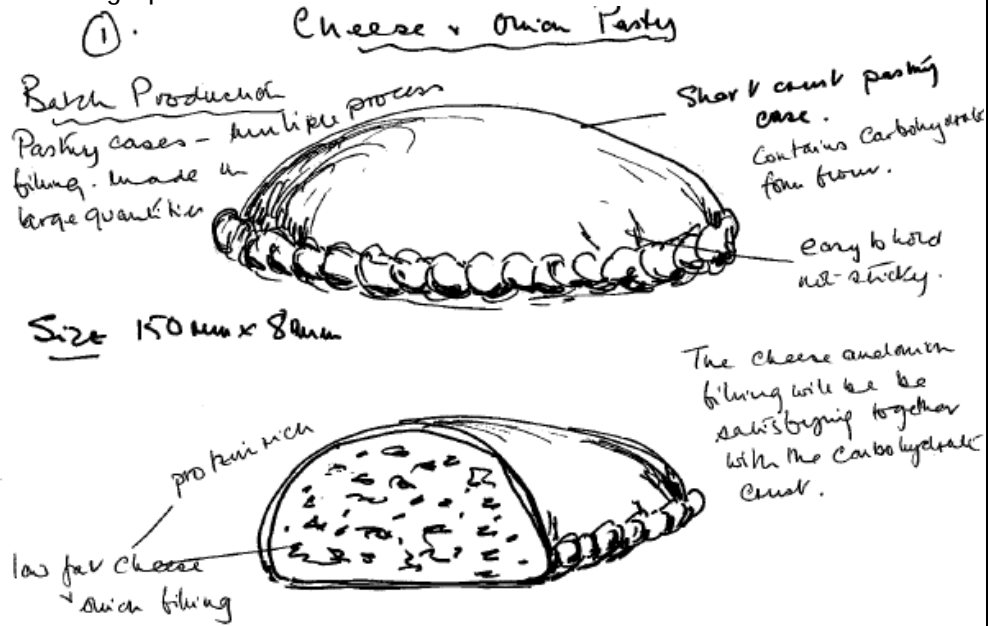
Question Number	Answer	Mark
Q02(a)(i)	<p>Two named from</p> <ul style="list-style-type: none"> • Red and green peppers • Cabbage • Sprouts • Broccoli • potatoes • Peas • Runner beans • Broad beans • Green beans • Mange tout • Spinach • Okra • Mustard cress <p><i>(Or any other suitable vegetable that contains vitamin C)</i></p> <p style="text-align: right;">(2 x 1)</p>	(2)
Q02(a)(ii)	<p>Two given from</p> <ul style="list-style-type: none"> • Prevents scurvy • Helps with healing/repair of wounds/cuts • Helps the body to absorb iron • Is an important antioxidant • Keeps skin healthy • Resisting infection/boosting immune system <p style="text-align: right;">(2 x 1)</p>	(2)
Q02(b)(i)	<p>One given from</p> <ul style="list-style-type: none"> • Reduce the amount of salt added to home cooking/avoid cooking with salt/ingredients high in salt e.g. cheese/bacon • Choose low-salt commercial products e.g. crisps • Check the amount of salt content in processed foods/eat less processed/fast foods • Remove salt from table • Use Lo salt • Use alternative healthy flavourings e.g. spices and herbs <p style="text-align: right;">(1 x 1)</p>	(1)
Q02(b)(ii)	<p>Two from</p> <ul style="list-style-type: none"> • Needed for maintaining water balance in the body because water is needed for bodily functions / aids hydration / prevents dehydration • For muscle/nerve activity because this helps to avoid cramp • Prevents high blood pressure if small quantities are consumed <p style="text-align: right;">(2 x 1)</p>	(2)

Q02(c)(i)	<p>Two reasons from</p> <ul style="list-style-type: none"> • For strong bones • For strong teeth • For normal clotting of blood • Prevents rickets / stunted growth • For healthy nerves / muscles <p style="text-align: right;">(2 x 1)</p>	(2)
Q02(c)(ii)	<p>Two from</p> <ul style="list-style-type: none"> • White bread • White flour • Rusks • Formula milk/baby milk <p style="text-align: right;">(2 x 1)</p>	(2)
Q02(d)(i)	<p>Three given from</p> <ul style="list-style-type: none"> • Litter/rubbish • Damage to landscape • Danger to animals • Landfill sites fill quickly • Non biodegradable/doesn't decay • Uses up natural resources/non-renewable • Manufacture of the packaging pollutes the air/pollution <p style="text-align: right;">(3 x 1)</p>	(3)
Q02(d)(ii)	<p>Describe two from</p> <ul style="list-style-type: none"> • Charge for bags/stop providing bags to encourage reuse/reduce/recycle • Reward scheme for using old bags to reduce/reuse/recycle the amount of bags in circulation • Use a more environmentally friendly material e.g. fabric so they can easily be recycled/long lasting • Bag for life will replace old bags for free • Give away long life bags as a promotion • Create/design/sell bags people can reuse/recycle/reduce packaging <p><i>Allow reduce/reuse/recycle as an explanation for different answers.</i></p> <p style="text-align: right;">(2 x 1) (2 x 1)</p>	(4)

Q02(e)	<p>Two given from</p> <ul style="list-style-type: none"> • Less fat / more lean meat on animals • Food crops can be made resistant to disease / pests • Weeds / pests can be controlled / more of the crops survive • The nutritional content of food can be improved • Can be adapted to grow in drought areas • Production increased e.g. larger vegetables • Cereal crops (rice, wheat) give better yield • Increase shelf life/delay ripening • Cheaper/lower cost <p style="text-align: right;">(2 x 1)</p>	(2)
Q02(f)	<p>One advantage explained</p> <ul style="list-style-type: none"> • Inhibits the oxidation of fats because it stops fats going rancid/off / deterioration • Prevents waste because it prolongs shelf life / Maintains freshness / slow down browning of fruits & vegetables • Protects fat soluble vitamins A&D in dried soups / fruit drinks / stock cubes. <p><i>(Do not accept references to air/bacteria)</i></p> <p style="text-align: right;">(2 x 1)</p>	(2)
Total Marks		22

Question Number	Answer	Mark
Q03(a)	<p>Each point of the specification has two marking points. 1 mark should be awarded for evidence of each point of specification resolved in the design. For each specification point with both elements viably satisfied 2 marks. For each specification point with only one element viably satisfied 1 marks. Where an answer does not viably answer a specification point 0 marks. Candidates may answer any specification point in either graphical form or by annotation. No marks are awarded for quality of communication.</p>	
	<p>DESIGN IDEA 1</p> <p>Specification point 1: contain both carbohydrate and protein-rich ingredient.</p> <p>Evidence given that it is made using carbohydrate e.g. bread/ potato skins/tortilla wrap / pizza/pasta / pastry case /pitta bread/ sweet/savoury pastries/bread/scone (labelled/name/illustration) (1)</p> <p>Evidence given that it contains protein e.g. meat/fish/cheese/eggs/milk/soya / lentils /nuts / TVP / Quorn / poultry (1)</p> <p style="text-align: right;">(2 x 1)</p> <p>Specification point 2: be satisfying but not too high in fat.</p> <p>Evidence of ingredients being satisfying e.g. A named starchy food high in carbohydrate (1)</p> <p>Evidence that low fat ingredient is used e.g. Low fat cheese / Quorn / tofu / TVP / fruits / vegetables / chicken / fish (1)</p> <p style="text-align: right;">(2 x 1)</p> <p>Specification point 3: hold the filling securely and be handheld when eating.</p> <p>Evidence that the case holds the filling securely e.g. pitta bread / wraps / potato skins / pastry case / bread / plastic pot/ served in a napkin (1)</p> <p>Evidence of hand held e.g. single portion/weight of item/ will fit into hand/napkin/pot / dimensions (1)</p> <p style="text-align: right;">(2 x 1)</p> <p>Specification point 4: to be easy to produce in a school kitchen.</p> <p>Evidence of simple/limited number of process e.g. sauces/fillings/easy to put together in short amount of time (1)</p> <p>Evidence of suitability in school kitchen e.g. able to produce to same quality/ quick processes/no need for expensive equipment/non-skilled persons (1)</p> <p style="text-align: right;">(2 x 1)</p>	<p>(2)</p> <p>(2)</p> <p>(2)</p> <p>(2)</p>

Possible graphical solution:



DESIGN IDEA 2

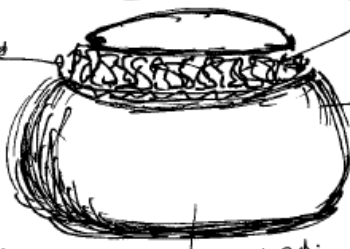
To score a mark for Design Idea 2, each specification point must be resolved again in the second design idea but the second design idea must be **technically / conceptually different in design and construction** from the first and not a simple variation on a theme to score the mark.

Use exactly the same criteria as design idea 1 to mark design idea 2.

- One different carbohydrate food named (1)
- One different protein food named (1)
- One different satisfying ingredient named (1)
- One different low fat food named (1)
- One different method of holding the filling Securely (1)
- One different measure of size / shape to make it easy to handhold (1)
- One different simple filling (1)
- One different simple process suitable for school kitchen (1)

(8 x 1)

(8)

	<p>Possible graphical solution:</p> <p><u>Design 2.</u></p> <p>Tuna, corn, mayonnaise in scooped out bread roll.</p> <p>corn to add texture.</p> <p>Tuna - provides protein in low fat mayonnaise.</p> <p>Granary Bread roll provides carbohydrates</p> <p>Size 80mm x 50mm</p> <p>easy to hold.</p> <p>This roll will be filling because of the bread base and the tuna and corn filling.</p> <p><u>Batch Production</u></p> <p>Bread rolls made in multiple process</p> <p>Fillings made in large amounts</p> 	
Q03(b)	<p>Each point clearly evaluated.</p> <p>If a candidate has indicated design idea 1 and then evaluates design idea 2 for all or part of (i), (ii) & (iii) then the idea in greater evidence should be marked</p> <p>The evaluation of the design must contain reference to either positive or negative aspects not just simply a description of the design.</p> <p>Award 1 mark for a correct evaluation / justification relating to each design feature and how it succeeds or fails</p> <p>Repetition of original spec scores 0 marks.</p>	
Q03(b)(i)	<p>Evaluation of: contain both carbohydrate and protein-rich ingredient</p> <p>Positive and negative reasons relating to:</p> <ul style="list-style-type: none"> • Reference made to the type of carbohydrate food used (1) • Reference made to the type of protein food used (1) <p style="text-align: right;">(2 x 1)</p>	(2)
Q03(b)(ii)	<p>Evaluation of: hold the filling securely and be suitable to be handheld</p> <p>Positive and negative reasons relating to:</p> <ul style="list-style-type: none"> • Reference made to how the product to holds the filling securely (1) • Reference made to the size /shape / hand-held / portion size (1) <p style="text-align: right;">(2 x 1)</p>	(2)
Q03(b)(iii)	<p>Evaluation of: to be easy to produce in a school kitchen</p> <p>Positive and negative reasons relating to:</p> <ul style="list-style-type: none"> • Reference made to ease of processes e.g. sauces / fillings / making methods/staff skills (1) • Reference made to ability to produce a consistent product in small/large quantities and quick processes/use of equipment (1) <p style="text-align: right;">(2 x 1)</p>	(2)
	Total Marks	22

Question Number	Answer	Mark
Q04	<i>It is essential that the point and reason both fully relate to needs of the user, environmental considerations or quality.</i>	
Q04(a)(i)	<p>Needs of the user Point: provide part of a filling meal Reason: suitable to serve vegetables with it</p> <p>Point: provide a snack/ hand held product / ready made meal / quick preparation / serves one person / can be eaten anytime Reason: small / quick to heat food/ eat on the move / no cutlery required /weighs 250g / no food skills required / can be eaten hot/cold</p> <p>Point: clear instructions on the packaging Reason: to avoid an under cooking / food poisoning</p> <p>Point: have a reasonable shelf life Reason: to keep for several days / allow weekly shop / consumer convenience / suitable for freezing</p> <p>Point: to contain a variety of nutrients Reason: to meet the needs of the user</p> <p>Point: provides a inexpensive/economical/cheap meal Reason: to give value for money <i>(Do not accept references to healthy)</i></p>	(2 x 1)
Q04(a)(ii)	<p>Environmental Considerations Point: minimum packaging can be used Reason: to reduce the amount of rubbish/landfill</p> <p>Point: packaging to be made of card / biodegradable /recyclable packaging Reason: rots away easily / helps environment / saves resources/ reduces pollution</p> <p>Point: packaging to be produced from sustainable forests Reason: to avoid deforestation</p>	(2 x 1)
Q04(a)(iii)	<p>Quality Point: pie maintains its shape when cooked and served Reason: to ensure product is well presented on the plate/improve appearance/make it look good Point: chicken purchased from a reliable supplier/free range/organic Reason: to ensure quality/safety of chicken Point: pastry/sauce is of a good flavour/texture/colour (any reference to flavour/texture/colour) Reason: to ensure a tasty/pleasing product/to meet consumer expectations Point : uniform shape/weight/filling Reason: to meet quality control standards / aesthetically pleasing</p>	(2 x 1)
		(2)
		(2)
		(2)

Q04(b)	<p>Two properties & reasons</p> <p>Property: Chicken protein rich food /HBV protein Reason: contains all essential amino acids / needed for body growth /repair</p> <p>Property: Lean/white meat Reason: Low in fat</p> <p>Property: Cooks quickly Reason: Small pieces of chicken / contains little connective tissue</p> <p>Property: Very tender meat/soft texture Reason: Easy to eat / chew</p> <p>Property: Absorbs other flavours Reason: Chicken can be bland</p> <p>Property: Versatile Reason: Popular</p> <p style="text-align: right;">(2 x 1) (2 x 1)</p>	(4)
Q04(c)	<p>Two given from</p> <ul style="list-style-type: none"> • provides nutrition • protein • vitamins A/D • calcium • provides flavour • provides colour/makes it creamy/white • compliments chicken • low in fat if semi skimmed milk is used • essential for/allows gelatinisation/thickening of starch <p style="text-align: right;">(2 x 1)</p>	(2)

Q04(d)	<p>Two named from</p> <ul style="list-style-type: none"> • organoleptic testing/smelling/tasting/edible • temperature checks • consistency of sauce check/viscosity • weights of ingredients/pie • proportion/amounts of ingredients are correct • foreign objects/metal detector/physical checks • visual checks • time checks/reference to cooked properly • date marks • colour checks <p><i>(do not accept any safety checks or reference to bacterial checks/ micro organism sampling)</i></p> <p style="text-align: right;">(2 x 1)</p>	(2)
Q04(e)	<p>Two reasons given from</p> <ul style="list-style-type: none"> • products made/cooked accurately / consistently/identically • products made quickly • machine can work continuously / 24/7 • reduces labour costs • easy to build automatic quality checks into system • less human error • large quantities can be made <p style="text-align: right;">(2 x 1)</p>	(2)
Q04(f)	<p>One description from</p> <ul style="list-style-type: none"> • Machine cuts rectangle/oblong shapes which reduces waste/creates the correct size • Machine cuts air holes and size at the same time • Simple/regular/consistent/easy shapes which only need crimping • Machine rolls/flattens pastry to make an even thickness <p style="text-align: right;">(2 x 1)</p>	(2)

Q04(g)(i)	<p>Provide a quick meal</p> <ul style="list-style-type: none"> • Pie is quick to reheat because it weighs 250 g/individual size/components have already been cooked • Can be eaten hot/cold because components have already been cooked • Time saving because it can be reheated in a microwave oven/the pie is prepared • No cooking skills required because the pie is pre-prepared • Small/250g/single portion and can be eaten immediately/on the move • Nutritious/balanced food that can be eaten immediately <p><i>(do not accept quickly)</i></p> <p><i>Allow relevant points from gi and gii as long as they are not repeated again for the next specification point.</i></p> <p style="text-align: right;">(2 x 1)</p>	(2)
Q04(g)(ii)	<p>Appeal to wide age range</p> <ul style="list-style-type: none"> • Many people/reference to groups of people enjoy it because it does not have a strong flavour / is easy to chew/eat/ traditional/popular food / easy/quick to prepare/reheat • It is nutritious because it contains protein/calcium/vitamins A/D/ fats/ carbohydrate • Versatile/Can be eaten as a snack and/or a main meal/with vegetables • Inexpensive/economical/cheap because it is affordable • It is convenience food that is easy/quick to reheat/prepare <p><i>(do not accept cooking)</i></p> <p><i>Allow relevant points from gi and gii as long as they are not repeated again for the next specification point.</i></p> <p style="text-align: right;">(2 x 1)</p>	(2)
	Total Marks	22
	Total for paper	88

1970 2H Mark Scheme

Question Number	Answer	Mark
Q01	<i>It is essential that the point and reason both fully relate to needs of the user, environmental considerations or quality.</i>	
Q01(a)(i)	<p>Needs of the user Point: provide part of a filling meal Reason: suitable to serve vegetables with it</p> <p>Point: provide a snack/ hand held product / ready made meal / quick preparation / serves one person / can be eaten anytime Reason: small / quick to heat / eat on the move / no cutlery required / weighs 250g / no food skills required / can be eaten hot/cold / food on the move</p> <p>Point: clear instructions on the packaging Reason: to avoid an under cooking / food poisoning</p> <p>Point: have a reasonable shelf life Reason: to keep for several days / allow weekly shop / consumer convenience / suitable for freezing</p> <p>Point: to contain a variety of nutrients Reason: to meet the needs of the user</p> <p>Point: provides a inexpensive/economical/cheap meal Reason: to give value for money <i>(Do not accept references to healthy)</i></p>	(2 x 1) (2)
Q01(a)(ii)	<p>Environmental Considerations Point: minimum packaging can be used Reason: to reduce the amount of rubbish/landfill</p> <p>Point: packaging to be made of card / biodegradable /recyclable packaging Reason: rots away easily / helps environment / saves resources/ reduces pollution Point: packaging to be produced from sustainable forests Reason: to avoid deforestation</p>	(2 x 1) (2)
Q01(a)(iii)	<p>Quality Point: pie maintains its shape when cooked and served Reason: to ensure product is well presented on the plate/improve appearance/make it look good Point: chicken purchased from a reliable supplier/free range/organic Reason: to ensure quality/safety of chicken Point: pastry/sauce is of a good flavour/texture/colour (any reference to flavour/texture/colour) Reason: to ensure a tasty/pleasing product/to meet consumer expectations Point : uniform shape/weight/filling Reason: to meet quality control standards / aesthetically pleasing</p>	(2 x 1) (2)

Q01(b)	<p>Two properties & reasons</p> <p>Property: Chicken protein rich food /HBV protein Reason: contains all essential amino acids / needed for body growth /repair</p> <p>Property: Lean/white meat Reason: Low in fat</p> <p>Property: Cooks quickly Reason: Small pieces of chicken / contains little connective tissue</p> <p>Property: Very tender meat/soft texture Reason: Easy to eat / chew</p> <p>Property: Absorbs other flavours Reason: Chicken can be bland</p> <p>Property: Versatile Reason: Popular</p> <p style="text-align: right;">(2 x 1) (2 x 1)</p>	(4)
Q01(c)	<p>Two given from</p> <ul style="list-style-type: none"> • provides nutrition • protein • vitamins A/D • calcium • provides flavour • provides colour/makes it creamy/white • compliments chicken • low in fat if semi skimmed milk is used • essential for/allows gelatinisation/thickening of starch <p style="text-align: right;">(2 x 1)</p>	(2)
Q01(d)	<p>Two named from</p> <ul style="list-style-type: none"> • organoleptic testing/smelling/tasting • temperature checks • consistency of sauce check/viscosity • weights of ingredients/pie • proportion/amounts of ingredients are correct • foreign objects/metal detector/physical checks • visual checks • time checks/reference to cooked properly • date marks • colour checks <p>(do not accept any safety checks)</p> <p style="text-align: right;">(2 x 1)</p>	(2)

Q01(e)	<p>Two reasons given from</p> <ul style="list-style-type: none"> • products made/cooked accurately / consistently/identically • products made quickly • machine can work continuously / 24/7 • reduces labour costs • easy to build automatic quality checks into system • less human error • large quantities can be made <p style="text-align: right;">(2 x 1)</p>	(2)
Q01(f)	<p>One description from</p> <ul style="list-style-type: none"> • Machine cuts rectangle/oblong shapes which reduces waste/creates the correct size • Machine cuts air holes and size at the same time • Simple/regular/consistent/easy shapes which only need crimping • Machine rolls/flattens pastry to make an even thickness <p style="text-align: right;">(2 x 1)</p>	(2)
Q01(g)(i)	<p>Provide a quick meal</p> <ul style="list-style-type: none"> • Pie is quick to reheat because it weighs 250 g/individual size/components have already been cooked • Can be eaten hot/cold because components have already been cooked • Time saving because it can be reheated in a microwave oven/the pie is prepared • No cooking skills required because the pie is pre-prepared • Small/250g/single portion and can be eaten immediately/on the move • Nutritious/balanced food that can be eaten immediately <p>(do not accept quickly)</p> <p style="text-align: right;">(2 x 1)</p>	(2)
Q01(g)(ii)	<p>Appeal to wide age range</p> <ul style="list-style-type: none"> • Many people/reference to groups of people enjoy it because it does not have a strong flavour / is easy to chew/eat/ traditional/popular food / easy/quick to prepare/reheat • It is nutritious because it contains protein/calcium/vitamins A/D/ fats/ carbohydrate • Versatile/Can be eaten as a snack and/or a main meal/with vegetables • Inexpensive/economical/cheap because it is affordable • It is convenience food that is easy/quick to reheat/prepare <p>(do not accept cooking)</p> <p style="text-align: right;">(2 x 1)</p>	(2)
Total Marks		22

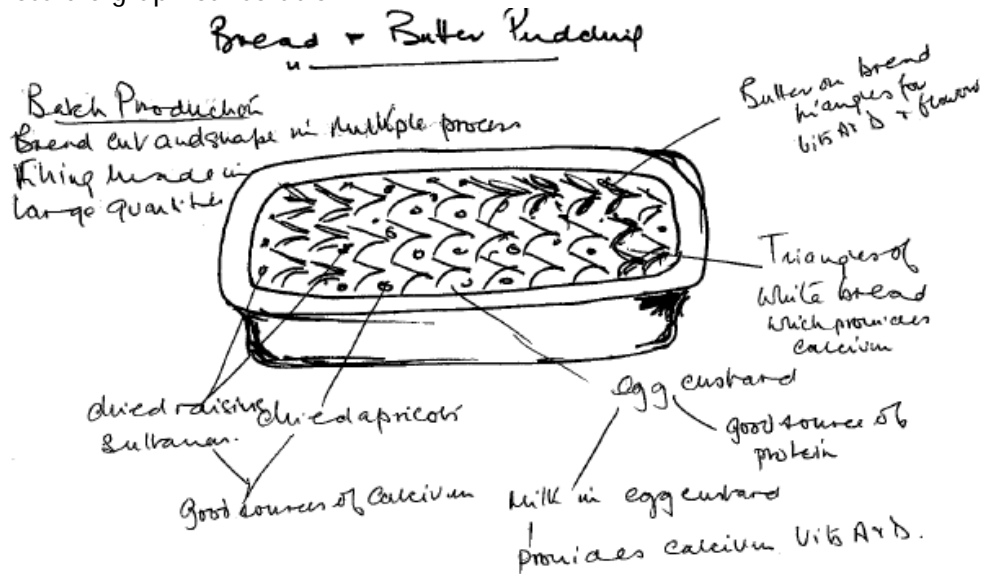
Question Number	Answer	Mark
Q02(a)	<p>Three ways given</p> <ul style="list-style-type: none"> • Creaming fat and sugar • Whisking sponge mixtures • Whisking/aerating egg whites/meringues • Rubbing/mixing fat into flour • Preparing/ dough • Whisking/whipping/aerating cream • Liquidising fruit • Blending e.g. cheese cake topping <p><i>(Whisking unqualified one mark only)</i></p>	(3)
	(3 x 1)	
Q02(b)	<p>Two advantage from</p> <ul style="list-style-type: none"> • Consistent size/shape/colour/texture • Reduces cost per item / reduces labour cost • Reduce variety of stocked items • Reduces manufacturing time • Reduce quality control checks needed • Versatility • Readily available • Small business does not need to invest in machinery/additional workers • Cross contamination less likely. 	(2)
	(2 x 1)	
Q02(c)(i)	<p>Two nutritional reasons given from</p> <ul style="list-style-type: none"> • Contains protein • Contains vitamin A / D • Contains vitamin B • Contains finely emulsified fat • Potassium <p><i>Do not credit Vitamins alone</i></p>	(2)
	(2 x 1)	
Q02(c)(ii)	<p>One way described</p> <ul style="list-style-type: none"> • When heated the sauce will thicken because the egg will set/coagulate <p><i>(Only answer)</i></p>	(2)
	(2 x 1)	

Q02(d)	<p>One reason explained</p> <ul style="list-style-type: none"> • To maintain a consistent product therefore maintaining quality/flavour/colour/thickness • Maintain correct proportions of ingredients therefore preventing failure/waste/inaccuracy in costs <p style="text-align: right;">(2 x 1)</p>	(2)
Q02(e)(i)	<p>Two advantages given</p> <ul style="list-style-type: none"> • Flavour • Freshness • Shape • Size • Colour • Ingredients • Images • Don't have to make it themselves • Unique/personalised / designed • Ordered for a specific date • Special diet • Cost/according to budget <p style="text-align: right;">(2 x 1)</p>	(2)
Q02(e)(ii)	<p>Two disadvantage given</p> <ul style="list-style-type: none"> • Labour intensive • Reduce profit margin/can be expensive • More skilled workers • Slower process • Can only be sold to the client who ordered / nobody else will want it • Variable quality • Too many orders to cope with <p style="text-align: right;">(2 x 1)</p>	(2)
Q02(f)	<p>Three advantages given</p> <ul style="list-style-type: none"> • Quicker than one-off / saves time • Operates 24/7 / can produce more • Ensures a consistent results • Reduces number of workers/labour costs • Reduces waste • Reduce energy costs • Automatic quality control • Easy/quick to change/modify design <p style="text-align: right;">(3 x 1)</p>	(3)

Q02(g)	<p>Two ways explained</p> <ul style="list-style-type: none"> • Quick method of communication because it is instant • 24/7 communication because the till can be always active • Record of communication because it is stored the main computer • Manufacture can match production to demand • Easy to check data automatically as it is stored/retained for future use • identify popular products to review/assess spending patterns/profit margins • No human error because stock is automatically reordered by the computer <p><i>Accept initial answer with different relevant explanation from the list above.</i></p> <p style="text-align: right;">(2 x 1) (2 x 1)</p>	(4)
Total Marks		22

Question Number	Answer	Mark
Q03(a)	<p>Each point of the specification has two marking points.</p> <p>1 mark should be awarded for evidence of each point of specification resolved in the design.</p> <p>For each specification point with both elements viably satisfied 2 marks.</p> <p>For each specification point with only one element viably satisfied 1 marks.</p> <p>Where an answer does not viably answer a specification point 0 marks.</p> <p>Candidates may answer any specification point in either graphical form or by annotation.</p> <p>No marks are awarded for quality of communication.</p>	
	<p>DESIGN IDEA 1</p> <p>Specification point 1: contain a high level of calcium and another nutrient</p> <p>Evidence that the dish includes a food high in calcium e.g. milk/cheese/yoghurt/white bread/canned fish/ (1)</p> <p>Evidence of another nutrient e.g. carbohydrates/protein/named vitamins/named minerals/fats (1) (2 x 1)</p> <p>Specification point 2: have good flavour and include a crispy texture</p> <p>Evidence of ingredients that will give good flavour e.g. onions/garlic/bacon/fish/fruit/cheese/herbs/spices/game/chocolate (1)</p> <p>Evidence that a crispy texture have been used e.g. crispy vegetables/dried fruit/pastry/crispy bread/sautéed potatoes/potato skins/oats/nuts/crumble/healthy crisps/cereals/biscuit crumbs/honey comb/meringue (1) (2 x 1)</p> <p>Specification point 3: include a strong colour that is easy to see</p> <p>Evidence of strong colour e.g. coloured pasta / fruit and vegetables/ different types of meat/fish providing colour/herbs/spices/garnish/suitable food colourings (1)</p> <p>Evidence of being easy to see e.g. flan/wrap/decoration/garnish/open sandwich/clear container/topping (1) (2 x 1)</p> <p>Specification point 4: be easy to batch produce in a school kitchen</p> <p>Evidence of simple/limited number of process e.g. sauces/fillings/easy to put together in short amount of time (1)</p> <p>Evidence of suitability for batch production e.g. able to produce many to same quality/ quick processes/no need for expensive equipment /ingredients/standard components (e.g. flan cases) (1) (2 x 1)</p>	<p>(2)</p> <p>(2)</p> <p>(2)</p> <p>(2)</p>

Possible graphical solution:



DESIGN IDEA 2

To score a mark for Design Idea 2, each specification point must be resolved again in the second design idea but the second design idea must be **technically / conceptually different in design and construction** from the first and not a simple variation on a theme to score the mark.

Use exactly the same criteria as design idea 1 to mark design idea 2.

- One different calcium food named
- One different nutrient named
- One different flavour named
- One different crispy texture named
- One different colour shown
- One different easy to see method
- One different simple process
- One different method of batch production (8 x 1)

(8)

	<p>Possible graphical solution:</p> <p><u>Design 2</u> <u>Salmon + Broccoli Quiche</u></p> <p>Batch Production Flan cases multiple pieces eg same shapes. Fillings made in large quantities</p>	
<p>Q03(b)</p>	<p>If a candidate has indicated design idea 1 and then evaluates design idea 2 for all or part of (i), (ii) & (iii) then the idea in greater evidence should be marked</p> <p>The evaluation of the design must contain reference to either positive or negative aspects not just simply a description of the design.</p> <p>Award 1 mark for a correct evaluation / justification relating to each design feature and how it succeeds or fails Repetition of original spec scores 0 marks</p> <p>Marks may be awarded for two justifications of one specification point.</p>	
<p>Q03(b)(i)</p>	<p>Evaluation of: The new calcium based product must contain a high level of calcium and another nutrient.</p> <p>Positive and negative reasons relating to:</p> <ul style="list-style-type: none"> • the type of calcium rich food used • the different nutrient used <p style="text-align: right;">(2 x 1)</p>	<p>(2)</p>
<p>Q03(b)(ii)</p>	<p>Evaluation of: The new calcium based product must include a strong colour that is easy to see.</p> <p>Positive and negative reasons relating to:</p> <ul style="list-style-type: none"> • Reference made to the strong colour • Reference made to how the ingredient is easy to see <p style="text-align: right;">(2 x 1)</p>	<p>(2)</p>

Q03(b)(iii)	<p>Evaluation of: The new calcium based product must be easy to batch produce in a school kitchen.</p> <p>Positive and negative reasons relating to:</p> <ul style="list-style-type: none"> • Reference made to ease of batch production • Reference made to ability to produce in a school kitchen e.g. often unskilled workers/limited space/very limited time for serving pupils and staff <p style="text-align: right;">(2 x 1)</p>	(2)
Total Marks		22

Question Number	Answer	Mark
Q04(a)(i)	<p>One named from</p> <ul style="list-style-type: none"> • Chocolate/cocoa powder • Icing/icing sugar • Nuts • Fruits • Cream • Sweets • Marzipan • Cream cheese • Honey • Glaze • Sugar <p style="text-align: right;">(1 x 1)</p>	(1)
Q04(a)(ii)	<p>One method of changing the flavour</p> <ul style="list-style-type: none"> • Adding/grating/juicing/zesting/melting etc <p>E.g. Orange/lemon/lime juice/zest/ vanilla/almond/peppermint essence/ coconut/Glacé fruits/nuts/coco powder/chocolate</p> <p style="text-align: right;">(1 x 1)</p>	(1)
Q04(b)(i)	<p>Two given from</p> <ul style="list-style-type: none"> • Water • Eggs • Milk • Flour • Breadcrumbs • Crushed cereals • Melted fat (biscuit bases) • Alcohol (wine/beer) • Gravy • Mayonnaise • Sour cream • Crème fraiche • Yogurt • Melted cheese <p style="text-align: right;">(2 x 1)</p>	(1)

Q04(b)(ii)	<p>Two given from Fats:</p> <ul style="list-style-type: none"> • Lard • Butter • Trex / aerated fat • Suet • Oil • Margarine soft/block <p><i>(If fat is given as an answer award one mark, do not award additional mark for other named fats, no two oils may be mentioned)</i></p> <p style="text-align: right;">(2 x 1)</p>	(2)
Q04(c)(i)	<p>Description</p> <ul style="list-style-type: none"> • When the raising agent is heated the gases/CO2 expand/the mixture rises <p style="text-align: right;">(2 x 1)</p>	(2)
Q04(c)(ii)	<p>One way for each agent from:</p> <p>Air:</p> <ul style="list-style-type: none"> • Sieving • Rubbing in • Whisking/whipping • Beating • Creaming • Folding <p>Steam:</p> <ul style="list-style-type: none"> • by the water/liquid being heated <p>Carbon dioxide:</p> <ul style="list-style-type: none"> • By adding baking powder • By adding yeast • By adding bicarbonate of soda • By adding cream of tartar and bicarbonate of soda • By adding self raising flour <p style="text-align: right;">(3 x 1)</p>	(3)
Q04(d)	<p>Two moral issues given</p> <ul style="list-style-type: none"> • Animals being reared in cruel / unnatural conditions • Rearing conditions/Close crowding/quality of life • Widespread disease • Disabilities in animals • Force feeding pigs • cheaper foods produced <p style="text-align: right;">(2 x 1)</p>	(2)

Q04(e)	<p>Two reasons from</p> <ul style="list-style-type: none"> • Do not like taste • Do not like texture • Do not like flavour • Religious reasons • Cultural/ethnic reasons • family reasons • Ethical reasons/way animals are treated • Health reasons • Do not like smell <p style="text-align: right;">(2 x 1)</p>	(2)
Q04(f)(i)	<p>One advantage explained from</p> <ul style="list-style-type: none"> • Able to have a rich/HBV protein food because they contain all the essential amino acids • More variety of protein foods because quorn/TVP can be developed into a wide range of products • Can provide a healthier diet because it is low fat / low cholesterol / high in NSP (non starch polysaccharide) / fibre • No harm to animals as protein obtained from vegetables/alternative source <p style="text-align: right;">(2 x 1)</p>	(2)
Q04(f)(ii)	<p>Three concerns from</p> <ul style="list-style-type: none"> • Affects on the environment • Cross contamination of crops • Are they safe to eat/mistrust of GM foods • Unknown long term affects / disease / allergies • Knowing when GM foods are included in food products • Interfering with nature <p style="text-align: right;">(3 x 1)</p>	(3)
Q04(g)	<p>One description from</p> <ul style="list-style-type: none"> • Modifying fat reduces the amount of saturated fat / cholesterol which reduces the risk of CHD / heart attacks / blocked arteries • Modifying fats replaces saturated fat with plant extracts which reduces cholesterol / makes it healthier <p style="text-align: right;">(2 x 1)</p>	(2)
	Total Marks	22
	Total for paper	88

3970 2F Mark Scheme

Question Number	Answer	Mark
Q01(a)	<p>Name: Measuring Jug/Jug (1) Use: Measuring of liquids/flour/sugar (1) Accept measuring</p> <p>Name: Food processor / processor (1) Use: Cutting/chopping/blending/shredding/grating/rubbing in/creaming/kneading/mashing/combining/mixing cakes/biscuits/making pastry (1)</p> <p>Name: Slotted/Slot Spoon / draining spoon (1) <i>Do not accept spoon alone</i> Use: Draining liquids from vegetable/ meats / pasta/ serve food (1)</p> <p style="text-align: right;">(5 x 1)</p>	(5)
Q01(b)(i)	<p>Give three uses</p> <ul style="list-style-type: none"> • Boiling • Defrosting • Warming • Reheating / heating • Drying/remove water • Sterilising <p><i>(Do not accept cooking/making)</i></p> <p style="text-align: right;">(3 x 1)</p>	(3)
Q01(b)(ii)	<p>Give two rules</p> <ul style="list-style-type: none"> • Switch off when not in use • Ensure plug is correctly wired • Do not touch with wet hands/do not use near water • Ensure the plug is fully plugged in • Do not interfere with a metal object/do not put metal into a microwave • Keep away from young children • Read instruction manual • Do not put hands into equipment when working • Ensure it is correctly assembled • Annual safety checks • Cleaned and maintained after use • Check flex is not damaged <p style="text-align: right;">(2 x 1)</p>	(2)
	Total Marks	11

Question Number	Answer	Mark
Q02(a)(i)	<p>Two named from</p> <ul style="list-style-type: none"> • Red and green peppers • Cabbage • Sprouts • Broccoli • New potatoes • Peas • Runner beans • Broad beans • Green beans • Mange tout • Spinach • Okra • Mustard cress <p><i>(Or any other suitable vegetable that contains vitamin C)</i> <i>(Do not accept tomato as it is a fruit)</i></p> <p style="text-align: right;">(2 x 1)</p>	(2)
Q02(a)(ii)	<p>Two given from</p> <ul style="list-style-type: none"> • Prevents scurvy • Helps with healing/repair of wounds/cuts • Helps the body to absorb iron • Is an important antioxidant • Keeps skin healthy • Resisting infection/boosting immune system <p style="text-align: right;">(2 x 1)</p>	(2)
Q02(b)(i)	<p>One given from</p> <ul style="list-style-type: none"> • Reduce the amount of salt added to home cooking/avoid cooking with salt/ingredients high in salt e.g. cheese/bacon • Choose low-salt commercial products e.g. crisps • Check the amount of salt content in processed foods/eat less processed/fast foods • Remove salt from table • Use Lo salt • Use alternative healthy flavourings e.g. spices and herbs <p style="text-align: right;">(1 x 1)</p>	(1)

Q02(b)(ii)	<p>Two from</p> <ul style="list-style-type: none"> • Needed for maintaining water balance in the body because water is needed for bodily functions / aids hydration / prevents dehydration • For muscle/nerve activity because this helps to avoid cramp • Prevents high blood pressure if small quantities are consumed <p style="text-align: right;">(2 x 1)</p>	(2)
Q02(c)(i)	<p>Two reasons from</p> <ul style="list-style-type: none"> • For strong bones • For strong teeth • For normal clotting of blood • Prevents rickets / stunted growth • For healthy nerves / muscles <p style="text-align: right;">(2 x 1)</p>	(2)
Q02(c)(ii)	<p>Two from</p> <ul style="list-style-type: none"> • White bread • White flour • Rusks • Formula milk/baby milk <p style="text-align: right;">(2 x 1)</p>	(2)
Total Marks		11

Q03(b)	<p>Two properties & reasons</p> <p>Property: Chicken protein rich food /HBV protein Reason: contains all essential amino acids / needed for body growth /repair</p> <p>Property: Lean/white meat Reason: Low in fat</p> <p>Property: Cooks quickly Reason: Small pieces of chicken / contains little connective tissue</p> <p>Property: Very tender meat/soft texture Reason: Easy to eat / chew</p> <p>Property: Absorbs other flavours Reason: Chicken can be bland</p> <p>Property: Versatile Reason: Popular</p> <p style="text-align: right;">(2 x 1) (2 x 1)</p>	(4)
Q03(c)	<p>Two given from</p> <ul style="list-style-type: none"> • provides nutrition • protein • vitamins A/D • calcium • provides flavour • provides colour/makes it creamy/white • compliments chicken • low in fat if semi skimmed milk is used • essential for/allows gelatinisation/thickening of starch <p style="text-align: right;">(2 x 1)</p>	(2)

Q03(d)	<p>Two named from</p> <ul style="list-style-type: none"> • organoleptic testing/smelling/tasting/edible • temperature checks • consistency of sauce check/viscosity • weights of ingredients/pie • proportion/amounts of ingredients are correct • foreign objects/metal detector/physical checks • visual checks • time checks/reference to cooked properly • date marks • colour checks <p><i>(do not accept any safety checks or reference to bacterial checks/ micro organism sampling)</i></p> <p style="text-align: right;">(2 x 1)</p>	(2)
Q03(e)	<p>Two reasons given from</p> <ul style="list-style-type: none"> • products made/cooked accurately / consistently/identically • products made quickly • machine can work continuously / 24/7 • reduces labour costs • easy to build automatic quality checks into system • less human error • large quantities can be made <p style="text-align: right;">(2 x 1)</p>	(2)
Q03(f)	<p>One description from</p> <ul style="list-style-type: none"> • Machine cuts rectangle/oblong shapes which reduces waste/creates the correct size • Machine cuts air holes and size at the same time • Simple/regular/consistent/easy shapes which only need crimping • Machine rolls/flattens pastry to make an even thickness <p style="text-align: right;">(2 x 1)</p>	(2)

Q03(g)(i)	<p>Provide a quick meal</p> <ul style="list-style-type: none"> • Pie is quick to reheat because it weighs 250 g/individual size/components have already been cooked • Can be eaten hot/cold because components have already been cooked • Time saving because it can be reheated in a microwave oven/the pie is prepared • No cooking skills required because the pie is pre-prepared • Small/250g/single portion and can be eaten immediately/on the move • Nutritious/balanced food that can be eaten immediately <p><i>(do not accept quickly)</i> <i>Allow relevant points from gi and gii as long as they are not repeated again for the next specification point.</i></p> <p style="text-align: right;">(2 x 1)</p>	(2)
Q03(g)(ii)	<p>Appeal to wide age range</p> <ul style="list-style-type: none"> • Many people/reference to groups of people enjoy it because it does not have a strong flavour / is easy to chew/eat/ traditional/popular food / easy/quick to prepare/reheat • It is nutritious because it contains protein/calcium/vitamins A/D/ fats/ carbohydrate • Versatile/Can be eaten as a snack and/or a main meal/with vegetables • Inexpensive/economical/cheap because it is affordable • It is convenience food that is easy/quick to reheat/prepare <p><i>(do not accept cooking)</i> <i>Allow relevant points from gi and gii as long as they are not repeated again for the next specification point.</i></p> <p style="text-align: right;">(2 x 1)</p>	(2)
	Total Marks	22
	Total for paper	44

Q01(b)	<p>Two properties & reasons</p> <p>Property: Chicken protein rich food /HBV protein Reason: contains all essential amino acids / needed for body growth /repair</p> <p>Property: Lean/white meat Reason: Low in fat</p> <p>Property: Cooks quickly Reason: Small pieces of chicken / contains little connective tissue</p> <p>Property: Very tender meat/soft texture Reason: Easy to eat / chew</p> <p>Property: Absorbs other flavours Reason: Chicken can be bland</p> <p>Property: Versatile Reason: Popular</p> <p style="text-align: right;">(2 x 1) (2 x 1)</p>	(4)
Q01(c)	<p>Two given from</p> <ul style="list-style-type: none"> • provides nutrition • protein • vitamins A/D • calcium • provides flavour • provides colour/makes it creamy/white • compliments chicken • low in fat if semi skimmed milk is used • essential for/allows gelatinisation/thickening of starch <p style="text-align: right;">(2 x 1)</p>	(2)
Q01(d)	<p>Two named from</p> <ul style="list-style-type: none"> • organoleptic testing/smelling/tasting • temperature checks • consistency of sauce check/viscosity • weights of ingredients/pie • proportion/amounts of ingredients are correct • foreign objects/metal detector/physical checks • visual checks • time checks/reference to cooked properly • date marks • colour checks <p>(do not accept any safety checks)</p> <p style="text-align: right;">(2 x 1)</p>	(2)

Q01(e)	<p>Two reasons given from</p> <ul style="list-style-type: none"> • products made/cooked accurately / consistently/identically • products made quickly • machine can work continuously / 24/7 • reduces labour costs • easy to build automatic quality checks into system • less human error • large quantities can be made <p style="text-align: right;">(2 x 1)</p>	(2)
Q01(f)	<p>One description from</p> <ul style="list-style-type: none"> • Machine cuts rectangle/oblong shapes which reduces waste/creates the correct size • Machine cuts air holes and size at the same time • Simple/regular/consistent/easy shapes which only need crimping • Machine rolls/flattens pastry to make an even thickness <p style="text-align: right;">(2 x 1)</p>	(2)
Q01(g)(i)	<p>Provide a quick meal</p> <ul style="list-style-type: none"> • Pie is quick to reheat because it weighs 250 g/individual size/components have already been cooked • Can be eaten hot/cold because components have already been cooked • Time saving because it can be reheated in a microwave oven/the pie is prepared • No cooking skills required because the pie is pre-prepared • Small/250g/single portion and can be eaten immediately/on the move • Nutritious/balanced food that can be eaten immediately <p>(do not accept quickly)</p> <p style="text-align: right;">(2 x 1)</p>	(2)
Q01(g)(ii)	<p>Appeal to wide age range</p> <ul style="list-style-type: none"> • Many people/reference to groups of people enjoy it because it does not have a strong flavour / is easy to chew/eat/ traditional/popular food / easy/quick to prepare/reheat • It is nutritious because it contains protein/calcium/vitamins A/D/ fats/ carbohydrate • Versatile/Can be eaten as a snack and/or a main meal/with vegetables • Inexpensive/economical/cheap because it is affordable • It is convenience food that is easy/quick to reheat/prepare <p>(do not accept cooking)</p> <p style="text-align: right;">(2 x 1)</p>	(2)
Total Marks		22

Question Number	Answer	Mark
Q02(a)	<p>Three ways given</p> <ul style="list-style-type: none"> • Creaming fat and sugar • Whisking sponge mixtures • Whisking/aerating egg whites/meringues • Rubbing/mixing fat into flour • Preparing/ dough • Whisking/whipping/aerating cream • Liquidising fruit • Blending e.g. cheese cake topping <p><i>(Whisking unqualified one mark only)</i></p> <p style="text-align: right;">(3 x 1)</p>	(3)
Q02(b)	<p>Two advantage from</p> <ul style="list-style-type: none"> • Consistent size/shape/colour/texture • Reduces cost per item / reduces labour cost • Reduce variety of stocked items • Reduces manufacturing time • Reduce quality control checks needed • Versatility • Readily available • Small business does not need to invest in machinery/additional workers • Cross contamination less likely. <p style="text-align: right;">(2 x 1)</p>	(2)
Q02(c)(i)	<p>Two nutritional reasons given from</p> <ul style="list-style-type: none"> • Contains protein • Contains vitamin A / D • Contains vitamin B • Contains finely emulsified fat • Potassium <p><i>Do not credit Vitamins alone</i></p> <p style="text-align: right;">(2 x 1)</p>	(2)
Q02(c)(ii)	<p>One way described</p> <ul style="list-style-type: none"> • When heated the sauce will thicken because the egg will set/coagulate <p><i>(Only answer)</i></p> <p style="text-align: right;">(2 x 1)</p>	(2)

Q02(d)	<p>One reason explained</p> <ul style="list-style-type: none"> • To maintain a consistent product therefore maintaining quality/flavour/colour/thickness • Maintain correct proportions of ingredients therefore preventing failure/waste/inaccuracy in costs <p style="text-align: right;">(2 x 1)</p>	(2)
Total Marks		11

Question Number	Answer	Mark
Q03(a)(i)	<p>One named from</p> <ul style="list-style-type: none"> • Chocolate/cocoa powder • Icing/icing sugar • Nuts • Fruits • Cream • Sweets • Marzipan • Cream cheese • Honey • Glaze • Sugar <p style="text-align: right;">(1 x 1)</p>	(1)
Q03(a)(ii)	<p>One method of changing the flavour</p> <ul style="list-style-type: none"> • Adding/grating/juicing/zesting/melting etc <p>E.g. Orange/lemon/lime juice/zest/ vanilla/almond/peppermint essence/ coconut/Glacé fruits/nuts/coco powder/chocolate</p> <p style="text-align: right;">(1 x 1)</p>	(1)
Q03(b)(i)	<p>Two given from</p> <ul style="list-style-type: none"> • Water • Eggs • Milk • Flour • Breadcrumbs • Crushed cereals • Melted fat (biscuit bases) • Alcohol (wine/beer) • Gravy • Mayonnaise • Sour cream • Crème fraiche • Yogurt • Melted cheese <p style="text-align: right;">(2 x 1)</p>	(2)

Q03(b)(ii)	<p>Two given from Fats:</p> <ul style="list-style-type: none"> • Lard • Butter • Trex / aerated fat • Suet • Oil • Margarine soft/block <p><i>(If fat is given as an answer award one mark, do not award additional mark for other named fats, no two oils may be mentioned)</i></p> <p style="text-align: right;">(2 x 1)</p>	(2)
Q03(c)(i)	<p>Description</p> <ul style="list-style-type: none"> • When the raising agent is heated the gases/CO2 expand/the mixture rises <p style="text-align: right;">(2 x 1)</p>	(2)
Q03(c)(ii)	<p>One way for each agent from:</p> <p>Air:</p> <ul style="list-style-type: none"> • Sieving • Rubbing in • Whisking/whipping • Beating • Creaming • Folding <p>Steam:</p> <ul style="list-style-type: none"> • by the water/liquid being heated <p>Carbon dioxide:</p> <ul style="list-style-type: none"> • By adding baking powder • By adding yeast • By adding bicarbonate of soda • By adding cream of tartar and bicarbonate of soda • By adding self raising flour <p style="text-align: right;">(3 x 1)</p>	(3)
Total Marks		22
Total for paper		44

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