

Mark Scheme (Results) Summer 2008

GCSE

GCSE Design & Technology: Food Technology (1970) Paper 2H

1970 2H Mark Scheme

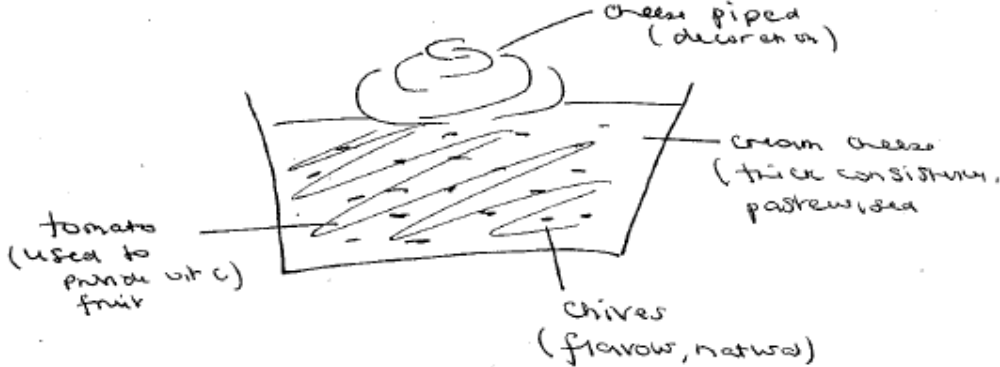
Question Number	Answer	Mark
Q1(a)	It is essential that the point and reason both fully relate to form, function or user requirements.	
Q1(a)(i)	<p>MARKET Point: provide a single portion/small portion/eaten from a small container Reason: for students/elderly/those on their own/lunch boxes/different meal times/food on the move</p> <p>Point: provide use low fat ingredients Reason: appeal to health conscious market</p> <p>Point: appeal to a wide audience/age group Reason: greater demand: profit/sell more</p> <p>Point: to provide a ready made dessert Reason: for convenience/save time/for those who lack skill</p> <p>Point: to provide a traditional dessert Reason: authentic taste</p> <p style="text-align: right;">(2 x 1)</p>	(2)
Q1(a)(ii)	<p>ENVIRONMENT Point: strawberries free from pesticides / organic Reason: to prevent contamination/protect wildlife</p> <p>Point: No GM ingredients Reason: to prevent mutation of crops / cross breeding</p> <p>Point: container able to be recycled/biodegradable Reason: prevent litter / preserve resources / reduce pollution/stop overuse of landfill sites/reduce waste</p> <p style="text-align: right;">(2 x 1)</p>	(2)
Q1(a)(iii)	<p>QUALITY Point: even / straight layers Reason: to improve look of product</p> <p>Point: even piping Reason: to make it attractive/cover the top</p> <p>Point: even spread of chocolate curls Reason: to make it consistent / improve appearance</p> <p style="text-align: right;">(2 x 1)</p>	(2)

Q1(b)(i)	<p>Two reasons given:</p> <ul style="list-style-type: none"> • Good mouth feel/texture (1) • Luxury ingredient (1) • Traditional topping (1) • Lower fat than double cream (1) • Cheaper than double cream (1) • Holds its shape (1) <p style="text-align: right;">(2 x 1)</p>	(2)
Q1(b)(ii)	<p>Two reasons given:</p> <ul style="list-style-type: none"> • Chocolate is popular (1) • Contrast in tastes/flavour (1) • Little effect on nutritional value/fat (1) • Contrast in colour/different colour (1) • Luxury ingredient (1) • Easy to shape/make/grate (1) • Will stick to cream easily (1) • Curls are lightweight so will not sink into the cream (1) • Chocolate will not dissolve/leach into cream (1) <p style="text-align: right;">(2 x 1)</p> <p>(Do <i>not</i> accept any reference to attractive, appealing/look better)</p>	(2)
Q1(c)	<p>Two properties and reasons given:</p> <p>Property: fatless Reason: reduce the total fat content / lower risk of CHD / heart attack (Do <i>not</i> accept healthy)</p> <p>Property: light/open texture/soft texture Reason: good mouth feel / contrast to other layers /different texture</p> <p>Property: to soak up/absorb the fruit jelly/fruit juice Reason: aerated / full of holes</p> <p>Property: aerated / full of holes Reason: to soak up/absorb the fruit jelly/fruit juice</p> <p>Property: traditional ingredient Reason: to give authentic taste / texture</p> <p>Property: firm, solid, sturdy Reason: keep layers separated</p> <p style="text-align: right;">(4 x 1)</p>	(4)

Q1(d)	<p>Two Quality Control Checks given:</p> <ul style="list-style-type: none"> ▪ bacterial / lab / laboratory check (1) ▪ weight (1) ▪ x-ray / scanning (1) ▪ metal detector (1) ▪ check/probe temperature (1) ▪ visual check to see lid secure/sealed /tamper proof (1) <p style="text-align: right;">(2 x 1)</p> <p>(Do <i>not</i> accept HACCP)</p>	(2)
Q1(e)	<p>One way described:</p> <ul style="list-style-type: none"> ▪ the cream / jelly / milk / fruit have a short shelf life / high risk of food poisoning ▪ strong competition as wide choice available / huge variety of desserts on the market ▪ layers may separate during storage which spoils the appearance where problems arise it is easy to trace faulty products ▪ trifle must be chilled and cold storage is limited <p style="text-align: right;">(2 x 1)</p>	(2)
Q1(f)(i)	<p>One explanation given:</p> <p>Encourage people to eat more portions of fruit each day</p> <ul style="list-style-type: none"> • One fruit portion because of the strawberries • One fruit portion because of the fruit juice <p style="text-align: right;">(2 x 1)</p> <p>(Any reference to portion/five a day)</p>	(2)
Q1(f)(i)	<p>Be eye-catching to attract customers</p> <ul style="list-style-type: none"> • a variety of colours because of the layers e.g. reference to custard, jelly, chocolate and cream (minimum 2) • a decorative finish because of the piping/chocolate curls • provide contrasts in colours between layers/cream and chocolate • use of individual/decorative container because it appeals to singles/elderly/for parents • use of clear containers which allows the consumer to see the contents <p style="text-align: right;">(2 x 1)</p>	(2)
Total for question		22

Question Number	Answer	Mark
Q2(a)	<p>Two ways given:</p> <ul style="list-style-type: none"> ▪ piping (1) ▪ slicing (1) ▪ tins / trays / pattie tins (1) ▪ moulds (1) ▪ crimping / pinching (1) ▪ extrusion (1) <p style="text-align: right;">(2 x 1)</p>	(2)
Q2(a)(ii)	<p>Explanation (only answer)</p> <p>They give consistency/equal sizes across a batch because the cutter has a set shape</p> <p style="text-align: right;">(2 x 1)</p>	(2)
Q2(b)	<p>Two ways described:</p> <p>Eggs:</p> <ul style="list-style-type: none"> •they provide protein to enrich the dough/make the dough richer •the fat in the egg yolks makes the dough tastes richer •glaze on the surface prior to baking improves appearance <p style="text-align: right;">(2 x 1)</p> <p>Salt:</p> <ul style="list-style-type: none"> •it removes moisture for bacteria to grow (preservative) which improves the shelf life •salt is tasted by the tongue / less bland which adds flavour •salt increases the rate of fermentation to yeast works quicker •salt strengthens/toughens gluten which makes the dough stretch better/become more elastic <p style="text-align: right;">(2 x 1)</p> <p>(do <i>not</i> accept ‘makes bread rise’ or ‘binding’)</p>	(2)
Q2(c)	<p>Three decorations named:</p> <ul style="list-style-type: none"> •marzipan (1) •sauce / couli (1) •pastry decorations (1) •chocolate (1) •fruits (1) •sugar(s) / frosting / spun (1) •icings / butter icing / glaze icing /royal icing (1) •sweets / hundreds & thousands (1) •piped icing (1) •cream (1) •fresh herbs (1) •zest / peel (1) •nuts (1) <p style="text-align: right;">(3 x 1)</p> <p>(only accept one from each bullet point)</p>	(3)

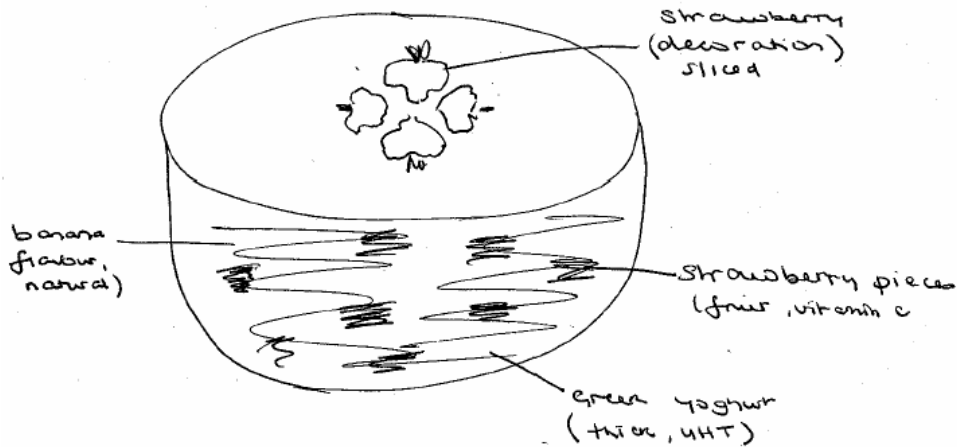
Q2(d)(i)	<p>Three disadvantages given:</p> <ul style="list-style-type: none"> •energy costs (1) •initial costs high / purchasing equipment costly (1) •specialist training needed/must train staff on new equipment (1) •breakdowns / disruptions to production are expensive (1) •mistakes create lots of waste (1) •food items not unique (1) •maintenance costs / costs money to keep it working (1) •production costs (1) •can only perform selective tasks (1) <p style="text-align: right;">(3 x 1)</p>	(3)
Q2(d)(ii)	<p>Two ways explained:</p> <ul style="list-style-type: none"> •stock/ingredients levels can be: identified / checked / predicted / calculated / scanned with EPOS tills / databases / spreadsheets •EPOS tills / databases can be used to automatically re-order / estimate future sales based on previous years •waste is reduced / avoided because storage temperatures can be logged / controlled •shelf life of ingredients / stock can be monitored to rotate stock <p style="text-align: right;">(4 x 1)</p>	(4)
Q2(e)	<p>Two ways described:</p> <ul style="list-style-type: none"> •use of email to maintain contact / conduct/organise market research between suppliers / customers / ordering •use of websites for orders / research competition •use of EPOS to monitor / record sales data / re-order •store data/information for future research / use /analysis <p style="text-align: right;">(4 x 1)</p>	(4)
Total for question		22

Question Number	Answer	Mark
Q3(a)	<p>Design Idea 1</p> <p>Contain a contain a fruit or vegetable with a high level of vitamin C</p> <ul style="list-style-type: none"> • Evidence given of a suitable fruit or vegetable (1) e.g. named fruit or vegetable • Evidence of a high level of vitamin C (1) e.g. use of citrus fruits/blackcurrants/tomatoes/peppers etc. or citric acid <p>Have a good flavour from natural ingredients</p> <ul style="list-style-type: none"> • Evidence of one ingredient having a good flavour (1)e.g. synthetic flavours (rum essence) / use of citrus fruit / onion / garlic / banana / mango / tomato / mushroom / herbs etc. • Evidence of one flavour coming from a natural source (1)e.g. use of citrus fruit / banana / mango / tomato / mushrooms / herbs etc <p>Have a decoration that is shaped by processing</p> <ul style="list-style-type: none"> • Evidence of a decoration (1)e.g. carrot / cucumber / tomato / cheese / cream • Evidence that it is shaped by processing (1)e.g. use slicing / cutting / grating / piping <p>Have a thick consistency with a five day shelf life</p> <ul style="list-style-type: none"> • Evidence an ingredient/process with a thick consistency (1)e.g. use of cream / soft cheeses / thick yoghurt / mayonnaise/blended/pureed/starch/pre-gelatinised • Evidence of a five day shelf life (1)e.g. use of acid / preservative / stabiliser / UHT / pasteurisation / stored in a fridge  <p>The diagram shows a rectangular cross-section of a product. At the top, there is a circular piped decoration labeled 'cheese piped (decoration)'. Below this is a layer of 'cream cheese (thick consistency, pasteurised)'. Underneath the cream cheese is a layer of 'tomato (used to provide vit C)'. At the bottom, there are 'chives (flavour, natural)'.</p>	(8)

Design Idea 2

- One different named fruit / vegetable (1)
- One different named source of vitamin C (1)
- One different source of good flavour (1)
- One different named natural ingredient (1)
- One different method of decorating (1)
- One different method of shape processing (1)
- One different thick ingredient/process (1)
- One different way of ensuring a five day shelf life (1)

DESIGN TWO



(8)

Q3(b)(i)

Evaluation of: **Must have a good flavour from natural ingredients**

Positive and negative reasons relating to:

- Reference made to the ingredient that gives flavour (1)
- Reference made to a natural ingredient (1)

(2 x 1)

(2)

Q3(b)(ii)

Evaluation of: **Have a decoration that is shaped by processing**

Positive and negative reasons relating to:

- Reference made to the decoration used (1)
- Reference made to the method of shape processing(1)

(2 x 1)

(2)

Q3(b)(iii)	(III). Evaluation of : Have a thick consistency with a five day shelf life Positive and negative reasons relating to: <ul style="list-style-type: none"> • Reference made to the ingredient that thickens (1) • Reference made to the way it has a five day shelf life (1) <div style="text-align: right;">(2 x 1)</div>	(2)
	Total for question	22

Question Number	Answer	Mark
Q4(a)(i)	<p>Two advantages given:</p> <ul style="list-style-type: none"> ▪ Extend shelf life / last longer (1) ▪ Safer to eat / destroy bacteria/ pathogenic bacteria/harmful bacteria (1) ▪ Create new product (1) ▪ Improve flavour / texture / taste / appearance / colour / aroma / smell (1) ▪ Fortified foods / improved nutritional qualities (1) <p style="text-align: right;">(2 x 1)</p>	(2)
Q4(a)(ii)	<p>One way described:</p> <ul style="list-style-type: none"> • Vitamin C will be destroyed by heat • Vitamin B will be destroyed by heat • Protein will toughen • Protein becomes denatured • Polyunsaturated fats/hydrogenated fats can be denatured into saturated fats at high/frying temperatures <p style="text-align: right;">(2 x 1)</p>	(2)
Q4(a)(iii)	<ul style="list-style-type: none"> • Bacteria/enzymes/micro-organisms cannot multiply / are killed/destroyed because the solution is too acidic • Acidic solution acts as a preservative • Extend shelf life / preserve because bacteria / enzymes / micro-organisms are destroyed/killed • The colour darkens because of the effects of acid • The flavour gets stronger because of prolonged storage <p style="text-align: right;">(2 x 1)</p>	(2)
Q4(b)(i)	<p>Advantage explained:</p> <ul style="list-style-type: none"> • They can be converted directly into cells in the human body because they contain all/ the essential amino acids / it is the only source that does this <p style="text-align: right;">(2 x 1)</p> <p style="text-align: center;">(two relevant points from above)</p>	(2)
Q4(b)(ii)	<p>One Low Biological Value (LBV) protein named:</p> <ul style="list-style-type: none"> ▪ Peas (1) ▪ Beans (1) ▪ Lentils (1) ▪ Nuts (1) ▪ Cereals (1) <p style="text-align: right;">(1 x 1)</p> <p>(Do not accept Quorn or Soya / Tofu / bean curd/TVP)</p>	(1)

Q4(c)	<p>One way explained:</p> <ul style="list-style-type: none"> ▪ Bacteria are destroyed / killed because of high temperatures during cooking ▪ Bacteria cannot re-form because rapid/blast chilling to low temperatures <p style="text-align: right;">(2 x 1)</p> <p>(do not accept 'chilling' on its own)</p>	(2)
Q4(d)(i)	<p>Three ways given:</p> <ul style="list-style-type: none"> ▪ Save energy (1) ▪ Conserve / not use new resources (1) ▪ Reduce litter / waste (1) ▪ Reduce landfill (1) ▪ Reduce pollution / CO2 levels / ozone layer less affected (1) ▪ Reduce risk to wild life / animals (1) ▪ Less trees cut down / destroyed (1) ▪ Less transport pollution (1) <p style="text-align: right;">(3 x 1)</p>	(3)
Q4(d)(ii)	<p>Two ways described:</p> <ul style="list-style-type: none"> ▪ Buy products sold in recycled packaging / recycle the packaging to prevent pollution / landfill / waste / enable new materials to be made ▪ Re-use the packaging so that new packaging does not need to be made / less trees cut down / use sustainable resources ▪ Buy food loose so that packaging is not required ▪ Bring your own bags / baskets / use biodegradable packaging / plastic carrier bags to transport food home <p style="text-align: right;">(4 x 1)</p>	(4)

