

# **2005 Health and Food Technology**

## **Higher**

### **Finalised Marking Instructions**

**These Marking Instructions have been prepared by Examination Teams for use by SQA Appointed Markers when marking External Course Assessments.**

**2005 Higher Home Economics  
Health and Food Technology**

**Section A –Short Response Questions**

Question		Response	Marking Guidelines
1	Name <b>two</b> food products which are fortified.	<ul style="list-style-type: none"> <li>• Bread</li> <li>• Margarine</li> <li>• Some breakfast cereals/cereal bars</li> <li>• Baby foods</li> <li>• Fruit juices</li> <li>• Vegetarian products</li> <li>• Yoghurt</li> <li>• Milk</li> <li>• Flour</li> <li>• Slimming products</li> <li>• Sports drinks</li> <li>• Meal replacements</li> </ul>	<p><b>1 mark</b> 2 x ½ mark</p>
2	Name <b>two</b> methods of sensory testing.	<ul style="list-style-type: none"> <li>• Preference test</li> <li>• Scoring test</li> <li>• Ranking test</li> <li>• Discrimination test</li> <li>• Paired comparison test</li> <li>• Triangle test/difference test</li> <li>• Duo-trio test</li> <li>• Rating test</li> </ul>	<p><b>1 mark</b> 2 x ½ mark</p>

3	Give <b>two</b> sources of Vitamin D.	<ul style="list-style-type: none"> <li>• Liver</li> <li>• Fish liver oils</li> <li>• Oily fish eg herring/pilchards/sardines</li> <li>• Egg</li> <li>• Margarine/butter</li> <li>• Milk/dairy products</li> <li>• Cheese</li> <li>• Dairy foods</li> <li>• Sunlight</li> <li>• Fortified breakfast cereals/bread</li> </ul>	<p><b>1 mark</b> 2 x ½ mark</p>
4	Give <b>two</b> sources of Non Starch Polysaccharide (NSP).	<ul style="list-style-type: none"> <li>• Whole grain cereals eg wheat/rice/oats</li> <li>• Bran</li> <li>• Wholewheat bread</li> <li>• Wholewheat pasta</li> <li>• Wholewheat breakfast cereals eg Weetabix</li> <li>• Wholewheat crispbreads</li> <li>• Fruit</li> <li>• Vegetables</li> <li>• Pulses</li> <li>• Baked potato</li> </ul>	<p><b>1 mark</b> 2 x ½ mark</p>
5	Explain what happens during the fermentation process in bread making.	<ul style="list-style-type: none"> <li>• When yeast is given the right conditions, it will break down sugars to produce alcohol and carbon dioxide</li> <li>• Yeast reacts with sugar in the dough to produce CO<sub>2</sub> which makes the bread rise</li> <li>• Sugar in flour is converted to glucose which helps yeast to produce CO<sub>2</sub> which causes the bread mixture to rise</li> <li>• The dough rises CO<sub>2</sub> being produced by the budding activity of the yeast</li> <li>• Alcohol is produced as by-product of fermentation</li> </ul>	<p><b>1 mark</b> for correct response</p>

6	State <b>one</b> benefit to the manufacturer of market research.	<ul style="list-style-type: none"> <li>• Identifies if there is a need for a particular product</li> <li>• Identifies the needs and wants of the consumer</li> <li>• Identifies market trends</li> <li>• Identifies why consumers would want to buy certain products</li> <li>• Identifies when a consumer would want to buy a product</li> <li>• Identifies a target group for the product</li> <li>• Collects the public's views on existing products</li> </ul>	<b>1 mark</b> for correct response
7	Explain the term "viscosity".	<ul style="list-style-type: none"> <li>• Refers to the thickness/thinness of a mixture, eg sauce, soup etc</li> <li>• Ability of the mixture to flow</li> </ul>	<b>1 mark</b> for correct response
8	What does the abbreviation <b>CAP</b> stand for?	<ul style="list-style-type: none"> <li>• Common Agricultural Policy</li> </ul>	<b>1 mark</b> for correct response
9	Describe <b>two</b> practical ways of avoiding obesity.	<ul style="list-style-type: none"> <li>• Eat a wide variety of food</li> <li>• Limit intake of fatty foods – read the labels on pre packed foods, use semi or skimmed milk instead of full fat, cut visible fat off meat, choose Edam cheese, low fat spreads etc</li> <li>• Read labels on food products to check the fat content</li> <li>• Choose methods of cooking which help to reduce fat – grill instead of fry, cut visible fat off meat</li> <li>• Limit intake of sugary foods</li> <li>• Choose diet/low calorie drinks</li> <li>• Do not snack between meals</li> <li>• Eat more complex carbohydrates to give full up factor</li> <li>• Eat more fruit and vegetables</li> <li>• Exercise regularly</li> <li>• Balance energy input with energy output</li> </ul>	<b>2 marks</b> 2 x 1 mark for correct response
10	Give <b>one</b> advantage and <b>one</b> disadvantage of using artificial colours in food production.	<p>Advantage</p> <ul style="list-style-type: none"> <li>• Makes food look more appetising</li> <li>• Adds colour lost to food during processing</li> </ul> <p>Disadvantage</p> <ul style="list-style-type: none"> <li>• may cause allergic reactions</li> <li>• thought to cause behavioural problems in children</li> <li>• irritate asthma</li> </ul>	<b>1 mark</b> for advantage <b>1 mark</b> for disadvantage

11	Give <b>two</b> ways the Trade Descriptions Act 1968 protects the consumer.	<ul style="list-style-type: none"> <li>• Protects the consumer by making it a criminal offence to falsely describe the product</li> <li>• Protects the consumer by preventing the sale of non organic foods as organic foods</li> <li>• Protects the consumer by ensuring the wording and drawings on labels/in advertisings by traders are truthful</li> <li>• Protects the consumer by making it a criminal offence to falsely describe the service</li> <li>• Protects the consumer by ensuring that free delivery when advertised means free delivery</li> </ul>	<p style="text-align: center;"><b>2 marks</b> 2 x 1 mark for correct response</p>
12	Give <b>two</b> advantages of mycoproteins to the consumer.	<ul style="list-style-type: none"> <li>• Can be frozen</li> <li>• Does not shrink during cooking</li> <li>• Absorbs flavours of other foods so can be used as meat replacement</li> <li>• Low fat product which helps in meeting dietary targets</li> <li>• Lower in fat than equivalent amount of meat</li> <li>• Adding versatility for vegetarians</li> <li>• High in protein</li> <li>• High in NSP</li> <li>• Available in a variety of forms</li> </ul>	<p style="text-align: center;"><b>2 marks</b> 2 x 1 mark for correct response</p>
13	Describe <b>two</b> ways of reducing the sugar content in a baked product.	<ul style="list-style-type: none"> <li>• Half/reduce the quantity in recipe</li> <li>• Replace sugar with artificial sweetener/intense/bulk</li> <li>• Replace some sugar with dried/fresh fruit/carrots/alternative source of sweetness</li> </ul>	<p style="text-align: center;"><b>2 marks</b> 2 x 1 mark for correct response</p>

14	Give <b>two</b> advantages of increasing oily fish in the diet.	<ul style="list-style-type: none"> <li>• Contains omega 3 fatty acids to help protect against coronary heart disease</li> <li>• Contains omega 3 fatty oils which can reduce cholesterol in blood</li> <li>• Contains omega 3 fatty oils which can play a part in preventing CHD</li> <li>• Contains omega 3 fatty oils which can prevent blood clots</li> <li>• Contains omega 3 fatty oils which help brain function/brain development</li> <li>• Contains Vitamin A to regulate immune system</li> <li>• Contains Vitamin A to aid vision in dim light</li> <li>• Contains Vitamin A to keep mucous membrane moist</li> <li>• Contains Vitamin A to help maintain health of skin</li> <li>• Contains Vitamin A which is required for normal growth of children</li> <li>• Contains Vitamin A one of the antioxidant vitamins</li> <li>• Contains Vitamin A which helps to prevent cancer/heart disease</li> <li>• Contains Vitamin D for formation of bones and teeth</li> <li>• Contains Vitamin D to help absorption of calcium and phosphorous</li> </ul>	<p style="text-align: center;"><b>2 marks</b> 2 x 1 mark for correct response</p>
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## Section B

- 1 a) The table opposite shows a day's nutrient content of meals eaten by a woman who is breastfeeding. Using your knowledge of nutrition, and the information provided, evaluate the suitability of this day's nutritional intake.

### Marking Instructions :

6 x 1 mark for each evaluative comment, which must link to the needs of the **breastfeeding woman**.

**Total – 6 marks**

### Protein

- Protein supply is above RNI so mother eating good sources and will therefore manufacture nutritious breast milk.
- High protein intake will aid in the absorption of calcium so will give good supply in breast milk.
- Amino acids in high protein intake will combine with calcium to form soluble salts, which are easier to absorb giving a good supply in breast milk.
- Protein supply is above RNI so provides more than enough for mother and for breast milk formation.
- If extra energy supplied by protein is not used by the mother, this could be stored as body fat, which would lead to weight gain.
- If extra energy supplied by protein is not used by the mother this would mean that the mother may not be able to lose extra weight acquired during pregnancy.
- Energy intake is high so extra energy from protein is not required so the breastfeeding woman could put on weight/not lose extra weight.

### Calcium

- Calcium is slightly higher than required ensuring that there is sufficient calcium for build up of bone bank, which may have been depleted during pregnancy.
- Calcium is slightly higher than required ensuring that there is sufficient calcium to aid quality breast milk.
- Calcium can only be fully utilised if there is sufficient Vitamin D to aid absorption; however, there is no information on the content of Vitamin D.
- Calcium is slightly higher than required ensuring that there is sufficient calcium to prevent osteoporosis in the mother's later life.

### Folic Acid

- Folic Acid content is below the RNI so this could make the breastfeeding woman anaemic.
- Folic Acid content is below the RNI so this could be a problem as water soluble and not stored in the body.
- Folic Acid content is below the RNI so as folic acid lost into breast milk therefore needs to be replaced/increased.

**Iron**

- Iron content slightly low for breastfeeding mother so it is possible she will become anaemic/suffer from tiredness and exhaustion.
- Iron content slightly low and breastfeeding mother may have lost blood during delivery of baby and so she may need to build up her blood supplies/haemoglobin levels again.
- Iron may not be fully utilised because Vitamin C is below RNI and this is required for absorption of iron.

**Vitamin C**

- Vitamin C is slightly low and this would hinder the absorption of iron in the diet. Possible risk of mother becoming anaemic.
- Vitamin C is slightly too low and therefore this may not be enough to repair tissue damaged during process of childbirth.

**Carbohydrate**

- High intake of carbohydrate, which will supply a good intake of NSP and so help prevent bowel problems.
- High intake of carbohydrate provides bulk to the diet so will stop the mother feeling hungry during the day and therefore stop snacking on fatty/sugary foods.
- High intake of carbohydrate if provided by TCC rather than sugar which will provide slow release energy to prevent the mother feeling as tired during her busy life.

**Total fat**

- Total fat intake is below the recommended maximum of 35% so the breastfeeding mother is not obtaining her energy from concentrated sources of energy.
- No indication of what proportion of the total fat intake is saturated and polyunsaturated because no more than 11% should be from saturated fats which would help prevent development of coronary heart disease later in life.

**Energy**

- Energy content/intake is too high so this may lead to weight gain in the mother.
- If extra energy is not used up by the breastfeeding mother, she will put on weight.
- If extra energy is not used up by the breastfeeding mother, she may find it difficult to lose any extra weight.
- Energy content/intake is too high which may lead to obesity later on.
- Energy requirement needs to be high so that the demand of energy needed to produce breast milk is met.
- Energy is mainly supplied by CHO foods so will help fill her up and prevents snacking on fatty/sugary foods.

**General comment**

As this is just one day's meals in a week it is difficult to make an accurate evaluation of the nutrient content in relation to the effect on health of the breastfeeding mother because those nutrients which are short, eg Vitamin C and folic acid, could be supplemented in other meals later in the week.

1 b) List a set of **four** dietary guidelines when weaning a child

**Marking Instructions:**

4 x 1 mark for each correct guideline linked to diet

**Total – 4 marks**

- Encourage the drinking of milk
- Mix milk into foods
- Introduce new foods gradually
- Choose foods that are low in salt
- Choose foods that are low in sugar
- Do not add salt to foods
- Use minimum amount of salt to make food taste acceptable
- Ensure child is obtaining sufficient energy
- Ensure child is obtaining sufficient energy to maintain a healthy weight for age
- Choose foods with no additives
- Remove the skins from fruits
- Restrict the intake of sweets/fizzy drinks
- Establish regular eating times/avoid grazing
- Aim for 5 small meals per day
- By six months baby should have a diet which is a mixture of solid and liquid foods
- Foods should be sieved/pureed
- Introduce different textures in food/flavours
- Use baby foods recommended for weaning

1 c) The following meal was eaten by a nursery child. Evaluate the suitability of this packed meal

- Wholemeal sandwich filled with cheese and tomato
- Water
- Chocolate covered raisins
- Tube of yoghurt

**Marking instruction:**

4 x 1 mark for correct evaluation of nutritional content which must refer to the needs of the nursery child.

**Total – 4 marks**

**Wholemeal sandwich filled with cheese and tomato**

- Contains protein from the bread in sandwich which will aid growth of nursery child.
- Contains protein from cheese which will aid growth of nursery child.
- Fat content of cheese will help satiety value so less chance of child feeling hungry too soon after eating lunch.
- No mention of spread on sandwich so there may be added fat from this source.
- If cheese was high in saturated fat, it could lead to CHD later in life.
- Tomato in sandwich contributes to vitamin A content which aids growth in child.
- Tomato in sandwich contributes to vitamin A content which helps in long term prevention of heart disease.
- Tomato may make the sandwich soggy/wet which will not be appealing to the nursery school child.
- Vitamin A present in cheese which aids growth in child.
- Vitamin A present in cheese which aids eyesight for this nursery child.
- Vitamin D present in cheese will assist in the absorption of calcium to help formation of bones in nursery child.
- Vitamin B group present in wholemeal sandwich which will aid release of energy for this nursery child.
- Tomato in sandwich contributes to vitamin C content helps in long-term prevention of heart disease.
- Vitamin C content is low which is needed to aid absorption of iron/prevent anaemia in nursery school child.
- Vitamin C content is low which is needed to aid the healing of wounds in nursery children.
- Sodium may be present in the cheese which could encourage a taste for sodium.
- Carbohydrate content of sandwich is good for energy as nursery children will be active.
- Carbohydrate content of wholemeal sandwich comes from starch which is slow release of energy to give the child energy throughout the day.
- Carbohydrate content of wholemeal sandwich comes from starch which is slow release of energy so child will not become hungry too soon.
- Packed lunch contains wholemeal sandwich which is good as this encourages child to eat wholemeal bread.
- NSP content of wholemeal sandwich makes child feel full up preventing child from snacking on sweets which could lead to tooth decay/obesity.

### **Water**

- Water is good as it reduces risk of added kilocalories/sugar from fizzy juices which increases risk of infant obesity.
- Water is good as it reduces risk of dehydration.
- Water is good as it reduces risk of dehydration, as child is active.
- Water is good as dehydration is linked to tiredness/lack of brain activity in the nursery child.
- Water is good as it reduces risk of constipation as water needed for bulking of faeces.
- Water is good as some are fortified with calcium which adds to intake for strong bones and teeth in nursery child.
- Water may contain some contain sugar, which can add to extra kilocalories which increases risk of infant obesity.

### **Chocolate covered raisins**

- Some fat present in chocolate-coated raisins, which could lead to obesity if the rest of the diet was high in fat.
- Some iron present in chocolate raisins which would be good for blood/prevent anaemia.
- Carbohydrate content of chocolate covered raisins could increase sugar intake which could encourage a sweet tooth.
- Carbohydrate content of chocolate covered raisins increases carbohydrate which could increase risk of overweight/obesity if not burned off.
- Raisins contain NSP and therefore aids digestion/helps to prevent constipation.
- Chocolate covered raisins are small and therefore will be easy for child to eat.
- As chocolate raisins are easy to eat they will be a good source of energy for an active child.

### **Tube of yoghurt**

- Contains protein from tube of yoghurt which will aid growth of nursery child.
- Tube of yoghurt easy/fun to eat for the young child, meaning that they will obtain the protein from the yoghurt.
- Fat content in yoghurt is not an issue for a nursery-aged child who may require this concentrated source of energy.
- Calcium present from milk in tube yoghurt/cheese which aids in the formation of strong bones and teeth in nursery child
- Tube of yoghurt is easy/fun to eat for the young child so that they will obtain the calcium from the yoghurt.

1	d) Explain the causes and effects of <b>each</b> of the following dietary diseases (i) Osteoporosis (ii) Coronary heart disease
<b>Marking Instructions :</b> 1 mark for cause and 1 mark for effect for each disease	
<b>Total – 4 marks</b>	

<b>Cause - Osteoporosis</b>	<b>Effect – Osteoporosis</b>
<ul style="list-style-type: none"> <li>• Poor calcium absorption by the body due to lack of protein/vitamin D</li> <li>• Not enough calcium eaten in diet</li> <li>• Lack of vitamin D which is necessary for the body to absorb calcium from the food we eat</li> <li>• Lack of phosphorous which works together with calcium to form strong bones</li> <li>• Lack of phosphorus prevents calcium phosphate forming which hardens bones</li> <li>• High intake of alcohol</li> <li>• High intake of saturated fat</li> </ul>	<ul style="list-style-type: none"> <li>• Loss of bone mass/bones become porous</li> <li>• Bones become brittle and may break easily</li> <li>• Loss of height due to crumbling spine</li> <li>• Curving of upper spine due to crumbling spine</li> </ul>

<b>Cause - Coronary Heart Disease</b>	<b>Effect – Coronary Heart Disease</b>
<ul style="list-style-type: none"> <li>• High intake of saturated fats</li> <li>• High intake of total fat intake</li> <li>• Low intake of NSP</li> <li>• Low intake of ACE vitamins</li> <li>• High intake of sodium</li> <li>• Low intake of fruit &amp; vegetables</li> <li>• Low intake of oily fish/omega 3 oils</li> <li>• High intake of alcohol</li> <li>• Obesity</li> </ul>	<ul style="list-style-type: none"> <li>• Fatty deposits build up on the walls of arteries</li> <li>• Arteries can become blocked leading to a heart attack</li> <li>• Coronary artery becomes blocked easily preventing blood carrying oxygen reaching the heart</li> <li>• The furring up/narrowing of the small arteries that supply blood to the heart.</li> <li>• This can restrict the flow of blood causing pain known as ‘angina’</li> <li>• If a blood clot forms within the narrowed arteries, it can block the flow of blood to the heart and cause a heart attack</li> <li>• High blood pressure will increase the risk of heart disease</li> </ul>

1 e) Explain the interrelationship of calcium, phosphorus and vitamin D.

**Marking Instruction**

2 x 1 mark for correct response

**Total – 2 marks**

- Calcium and phosphorus work together in the formation of calcium phosphate
- Calcium phosphate is necessary for the hardening of bones and teeth/calcification
- If deficient in diet calcium will be withdrawn from bones leaving an imbalance of calcium phosphate
- If a severe deficiency of phosphorus occurs, the supply is used for the soft tissue at the expense of the bones causing fragility in bones
- Calcium and phosphorus should be present in equal quantities to be absorbed equally; if not, this results in the one which is in the least amount being not so well absorbed causing fragility in bones
- Calcium/phosphorus need vitamin D in order to be absorbed
- Vitamin D is necessary for the body to absorb calcium and phosphorus from the small intestine
- Vitamin D controls the absorption of calcium and phosphorus so a good supply in the diet is needed
- The presence of vitamin D enables phosphorus to be reabsorbed in the kidneys

2	a)	<p>A manufacturer has decided to produce ready to cook chicken and vegetable kebabs. Explain the control measures the manufacturer should take at <b>each</b> of the following stages to ensure safe production.</p> <ul style="list-style-type: none"> <li>• Purchase of ingredients</li> <li>• Storage of ingredients</li> <li>• Preparation of ingredients</li> <li>• Distribution of ingredients</li> </ul>
<b>Marking Instructions</b>		
4 x 1 mark for each well explained control measure		<b>Total – 4 marks</b>

Purchase of ingredients	<ul style="list-style-type: none"> <li>• Raw chicken/skewers should be purchased from a reputable supplier to guarantee safety/quality</li> <li>• Raw chicken should be checked on purchase to ensure it is below 5 °C</li> <li>• Skewers should be of good quality to prevent cuts/splinter injuries</li> <li>• Vegetables should be checked on purchase to ensure that they are free from decay/wilt</li> </ul>
Storage of ingredients	<ul style="list-style-type: none"> <li>• Raw chicken should be stored at below 5 °C to prevent bacterial growth</li> <li>• Vegetables should be stored in cool dry conditions to prevent decay/microbial growth</li> <li>• Ensure chicken and vegetables are kept separately in storage to prevent cross contamination</li> <li>• All ingredients must be stored in a temperature controlled environment to prevent microbial growth</li> <li>• Raw ingredients should be stored away from cooked to prevent cross-contamination</li> <li>• Ingredients should be covered to prevent contamination from foreign bodies/flies etc</li> <li>• Ingredients must be used within their shelf life to prevent microbial growth</li> <li>• Stock control system should be used to ensure that FIFO (First In First Out) system applies</li> <li>• Storage areas should be cleaned regularly to prevent microbial growth/dust/food debris which could attract pests</li> <li>• Storage areas should be subject to regular temperature control/hygiene checks</li> </ul>

Preparation of ingredients	<ul style="list-style-type: none"> <li>• Vegetables should be cleaned thoroughly to remove soil</li> <li>• Food handlers should follow strict hygiene guidelines/wear protective clothing/be trained in food safety to prevent contamination of ingredients</li> <li>• Kebabs should be assembled carefully to prevent skewer damage leading to cuts/splinter injuries</li> <li>• Preparation areas should be subject to regular temperature control/hygiene checks</li> <li>• Preparation areas should be restricted access to prevent contamination</li> <li>• Preparation equipment should be cleaned regularly to prevent contamination</li> <li>• Use separate utensils to prepare chicken and vegetables</li> </ul>
Distribution of kebabs	<ul style="list-style-type: none"> <li>• Packaging for distribution of kebabs should provide clear storage/cooking instructions to prevent food poisoning</li> <li>• Packaging for distribution of kebabs should be sealed to prevent contamination</li> <li>• Packaging of kebabs should be able to withstand chilling temperatures without damage</li> <li>• Kebabs must be kept at below 5°C during distribution</li> <li>• Distribution vehicles should be cleaned regularly to prevent contamination</li> <li>• Kebabs should be refrigerated immediately on arrival at food outlet to prevent microbial growth</li> <li>• Distribution vehicles should be subject to regular temperature control/hygiene checks.</li> </ul>

2 b) Evaluate the use of red meat in ready meals.

**Marking Instructions**

5 x 1 mark for each valid evaluation point

**Total – 5 marks**

**Food preparation skills**

- Consumers who lack the skills to prepare/cook red meat can take advantage of ready meals as the meat has already been prepared/cooked thus minimising wastage/can provide value for money to the consumer.

**Hygiene**

- As red meat is a high risk food, using ready meals can be safer for the consumer as clear instructions are given for reheating safely.
- As red meat is a high risk food if consumers do not follow storage/cooking instructions/or instructions are unclear there may be a health risk.

**Cost/money available**

- High quality cuts of red meat can be an expensive ingredient in ready meals therefore may be outwith the budget of many consumers.
- Ready meals using red meat do not require a range of preparation equipment, therefore can reduce the overall cost

**Time available**

- Preparing red meat can be time consuming therefore using ready meals which include red meat can save the consumer time/energy

**Likes and dislikes**

- A wide range of ready meals which include red meat is available therefore the consumer is likely to find something to suit their tastes

**Health issues**

- Concern over BSE scares may make red meat in ready meals unappealing to the consumer/less likely to sell

## **Nutrition**

- Red meat in ready meals is a convenient way of obtaining all the essential amino acids/HBV protein for growth and repair of body tissue
- Red meat in ready meals can provide a valuable and convenient source of B vitamins in the diet
- Red meat in ready meals is a readily available source of iron and can therefore prevent anaemia
- Red meat in ready meals is a convenient way of obtaining a source of zinc in the diet
- Red meat in ready meals contains fat which can provide a good source of energy/fat soluble vitamins in the diet
- Some red meat is high in fat/saturated fat therefore the ready meal may contribute to CHD/obesity/hypertension/fails to meet dietary target(s) for fat
- Red meat in ready meals would be unsuitable as a source of nutrients for a vegetarian diet
- Red meat ready meal could be a healthy option and therefore meet the dietary target to reduce fat/help prevent CHD/help prevent obesity.

2	c)	Explain the role of <b>each</b> of the following in food deterioration (i) Anaerobes (ii) pH (iii) Spores
<b>Marking Instructions</b>		
3 x 1 mark for each well explained point		<b>Total – 3 marks</b>

	<b>Explanation</b>
<b>Anaerobes</b>	<ul style="list-style-type: none"> <li>• Many bacteria (eg Clostridium) are anaerobic/do not require oxygen to grow. If present in oxygen-free conditions, eg canned/vacuum packaged food can cause deterioration.</li> <li>• Many anaerobic bacteria (eg Clostridium) multiply rapidly in the cavities of meat when oxygen has been driven off by heat during cooking.</li> </ul>
<b>pH</b>	<ul style="list-style-type: none"> <li>• Most micro-organisms/bacteria/yeasts cannot survive in a pH of 4.5 or less (acid conditions) therefore food is less likely to deteriorate.</li> <li>• Enzyme action is delayed in acid conditions therefore food is less likely to deteriorate.</li> <li>• Some moulds can survive in a pH of 2/very acidic conditions therefore the strength of the acid should take account of this to minimise deterioration.</li> <li>• Most micro-organisms grow well in a pH of 7/neutral therefore food will deteriorate more quickly</li> </ul>
<b>Spores</b>	<ul style="list-style-type: none"> <li>• Many bacteria (eg Clostridium/E. coli/Bacillus cereus) produce spores which can survive high cooking temperatures.</li> <li>• Spore forming bacteria can resist a high concentration of many chemical preservatives.</li> <li>• Spores can lie dormant for long periods until given the correct conditions for multiplication.</li> <li>• When suitable conditions occur the spore releases the bacterium which can grow and multiply on another food.</li> </ul>

2 d) Evaluate the function of the Environmental Health Department in the protection of the consumer.

**Marking Instructions**

4 x 1 mark for each valid evaluation point

**Total – 4 marks**

- The Environmental Health Department/Environmental Health Officers deal with food hygiene/poisoning/contamination therefore the consumer can be reassured that they can assist should a problem occur.
- The Environmental Health Department is responsible for enforcing the Food Safety Act 1990. This is a criminal Act, therefore the consumer is protected against food poisoning as offenders can be prosecuted.
- Using the Food Safety Act 1990 the Environmental Health Department/Environmental Health Officers deal with food hygiene/poisoning/contamination and can condemn/seize/shut premises/prosecute alleged offenders, therefore the consumer is protected against the risk of food poisoning.
- All food premises must be registered by the Environmental Health Department, therefore the consumer is reassured that the risk to health is minimised.
- The Environmental Health Department can give advice to food outlets, therefore the consumer is reassured that the risk to health is minimised.
- The Environmental Health Department will liaise with health authorities if a food poisoning outbreak occurs, therefore this can minimise the spread of the infection to the consumer.
- The Environmental Health Department may have insufficient staff to check all food premises therefore the consumer may not be fully protected.
- Increased numbers of new food premises make monitoring by the Environmental Health Department difficult, therefore the consumer may not be fully protected.
- The cost of complying with the Environmental Health Department's regulations is likely to be passed on to the consumer.
- Enforce hygienic conditions covering food premises/general food safety and therefore help to prevent food poisoning.
- Officers can inspect food to see that it is safe so can identify cases of bad practice/poor food hygiene.
- If imminent risk of injury to health, an emergency prohibition notice may be served on the premises which will prevent further risk to the consumer.

- 2 e) Explain how **each** of the following technological innovations improves the keeping qualities of food.
- (i) Freeze drying
  - (ii) Irradiation

**Marking Instructions**

2 x 1 mark for each well explained point  
2 points for each technological innovation

**Total – 4 marks**

**Freeze Drying**

- Water is removed thus preventing a condition necessary for bacterial growth therefore the shelf life is increased.
- As the food is quickly frozen before drying, there is less damage to its structure and the quality is unaffected.
- The concentration of salts/sugars in food cells becomes too high to sustain micro-organisms, therefore the shelf life is increased.
- Useful for drying heat sensitive foods which could otherwise not be preserved.
- Can be stored for long periods of time in moisture proof packs at normal temperature.

**Irradiation**

- Ionising radiation/medium dose radiation kills any micro-organisms/bacteria/yeasts/moulds present on the food therefore the shelf life is increased.
- Ionising radiation/low dose radiation will prevent sprouting/insect damage/destroy parasites/delay ripening therefore the shelf life is increased.
- Inhibits sprouting in vegetables such as onions/potatoes therefore increases shelf life.
- Kills insect pests and prevents infestation.
- Reduces the bacteria which causes food poisoning and therefore increases shelf life.

- 3 a) Explain the use of **each** of the following in food production
- (i) Fat replacers
  - (ii) Preservatives

**Marking Instructions**

2 x 1 mark for each well explained point  
2 points for each technological innovation

**Total – 4 marks**

**Fat replacers**

- Fat replacers are used in food production to reduce the energy value of food products.
- Fat replacers are used to reduce the amount of fat/saturated fat in a food product.
- Fat replacers are used in weight reduction ranges of food products.
- Fat replacers are used in cakes/desserts to reduce the energy/fat content.
- Fat replacers can be used to replace fats and oils for frying/baking of snack foods/crisps/tortilla chips/biscuits.

**Preservatives**

- Preservatives are used to help keep food safe for longer/prevents wastage.
- Any processed food with a long shelf-life is likely to include preservatives.
- In bacon, ham, corned beef and other 'cured' meats, nitrite and nitrate (E249 to E252) are vital to prevent the growth of bacteria.
- In dried fruit, sulphur dioxide (E220) also protects against bacteria.
- Sugar is still used to preserve jams, chutneys and pickles.
- Salt prevents growth of micro-organisms.
- Vinegar is still used to preserve chutneys, pickles.

3	b)	<p>A food manufacturer is planning to introduce a range of low fat desserts. Evaluate <b>each</b> of these steps of the marketing plan</p> <ul style="list-style-type: none"> <li>• Tasting session in one supermarket chain</li> <li>• Advertise in a slimming magazine</li> <li>• “50p off” next purchase</li> <li>• Endorsement by a celebrity chef</li> </ul>
<b>Marking Instructions</b>		
3 x 1 mark for each valid evaluation point linked to introduction of low fat desserts		<b>Total – 4 marks</b>

<b>Tasting session in one supermarket chain</b>	<ul style="list-style-type: none"> <li>• This could encourage consumers to buy the product if they are shopping in the store thus increasing sales.</li> <li>• Sampling only in one supermarket chain would limit the sales of the dessert as only those who shop in that store would be aware of the product.</li> <li>• The consumer may feel under pressure to purchase having been given a sample which could increase sales.</li> <li>• If the consumer likes the sample then they are more likely to re-purchase the dessert.</li> </ul>
<b>Advert in a slimming magazine</b>	<ul style="list-style-type: none"> <li>• This may encourage readers to purchase the product.</li> <li>• If the magazine had a large circulation then this could increase sales of the dessert.</li> <li>• Readers of the magazine may value the information in it and this could give the dessert more credibility which could increase sales.</li> <li>• This method is likely to reach only those who read the magazine which could limit sales of the dessert.</li> </ul>
<b>50p off next purchase</b>	<ul style="list-style-type: none"> <li>• This could encourage consumers to buy the dessert. If liked, they would then repurchase at the full price thus increasing sales.</li> <li>• Consumers may be unwilling to purchase the dessert at the full price having had it at a reduced price previously therefore less sellable.</li> <li>• This is likely to be expensive for the company to implement and they may have to increase the price to the consumer later making it less likely to sell.</li> </ul>

**Endorsement by a celebrity chef**

- If the chef is a popular figure the consumer may be encouraged to purchase the dessert thus increasing sales.
- Celebrity chefs have widespread appeal therefore reach a large audience which could increase sales of the dessert.
- If the chef loses his/her appeal then sales of the dessert may fall/risky strategy for the company who may lose sales in all products.
- The consumer may consider the dessert to be a quality product because of the chef's endorsement and be more likely to purchase it.
- The consumer may identify with the lifestyle of the chef and be more likely to purchase the dessert.
- This is likely to be expensive for the manufacturer to implement which could be passed on to the consumer making it less likely to sell.

3 c) Explain **three** nutritional benefits of eating complex carbohydrates.

**Marking Instructions**

3 x 1 mark for each well explained point

**Total – 3 marks**

- Complex carbohydrates can provide the body with an important source of slow release energy in the body.
- Complex carbohydrates can be filling therefore can help prevent overeating leading to obesity/coronary heart disease/diabetes.
- Complex carbohydrates are low in sugar and can therefore prevent dental caries/diabetes/obesity.
- Research indicates that consuming complex carbohydrates can reduce the risk of coronary heart disease.
- Some food sources of complex carbohydrates may also contain protein which is needed for growth and repair of body tissue.
- Complex carbohydrates can provide an important source of vitamin B1 (thiamin) which is essential for normal growth in children/function and maintenance of nerves/release of energy from carbohydrate.
- Complex carbohydrates can provide an important source of vitamin B2 (riboflavin) which is essential for normal growth/release of energy from food.
- Complex carbohydrates can provide an important source of B3 (niacin) which is essential for the release of energy from food.
- Complex carbohydrates can provide an important source of folic acid which is essential for the prevention of anaemia/normal growth/release of energy from food/cell division.
- Some complex carbohydrates can provide an important source of B6 (pyridoxine) which is essential for the manufacture of haemoglobin/metabolising amino acids.
- Many complex carbohydrates can provide the body with vitamin C which is essential for iron absorption/makes connective tissue which binds body cells together/can prevent certain cancers/prevents anaemia.
- Some complex carbohydrates contain fat/ which can provide the body with energy/fat soluble vitamins.
- Some complex carbohydrates provide a supply of unsaturated fat which can help lower cholesterol/prevent coronary heart disease
- Complex carbohydrates can be an important source of iron which can help prevent anaemia/manufacture haemoglobin.
- Complex carbohydrates can provide the body with an important source of calcium which is essential for the growth and development of bones and teeth/prevention of osteoporosis/rickets/blood clotting/nerve and muscle function.
- Complex carbohydrates could be high in ACE vitamins and therefore help prevent CHD/cancer.
- Complex carbohydrates can provide the body with NSP to prevent bowel cancer/diverticulitis/constipation/haemorrhoids.
- Complex carbohydrates are usually low in fat so can help prevent obesity/CHD.

- 3 d) Explain the effects of **storage, preparation** and **cooking** on  
(i) protein  
(ii) fats

**Marking Instructions**

6 x 1 marks for each well explained point

**Total – 6 marks**

**Protein**

**Storage**

- Fresh protein foods/milk/meat/poultry are highly perishable/prone to bacterial growth and should therefore be stored for a short time/refrigerated.
- The (lactic acid) bacteria naturally present in milk will cause it to sour causing curdling.
- If dried, protein in foods/milk/eggs/custards will keep for longer periods.
- If salted, protein in foods/meat/meat products will keep for longer periods.
- Nutritional value of protein foods is unaffected if storage times are followed.

**Preparation**

- Meat protein is denatured/made more digestible when tenderised/marinated/placed in alcohol/acid.
- Protein in cheese is more digestible if grated.
- Egg protein/albumen is denatured/coagulates when whisked/mechanically agitated.
- Protein in pulses/peas/beans is more digestible when soaked before cooking.

**Cooking**

- Protein is denatured when cooked.
- Protein in meat/fish/poultry becomes tenderer.
- Protein is more digestible when cooked.
- Cooking egg white/albumen causes coagulation/turns white and sets.
- Overheating causes protein to become less digestible.
- Heating wheat protein forms the structure of bread.
- Protein is less soluble when cooked.

## **Fats**

### **Storage**

- Exposure to air leads to deterioration due to rancidity.
- Exposure to light will lead to oxidation causing the fat to go rancid.
- The enzyme lipase will cause the fat to become rancid if stored for too long.
- Fats are susceptible to rancidity at freezer temperature.

### **Preparation**

- Grating/chopping/slicing enables fats such as cheese being more easily digested.

### **Cooking**

- Solid fats melt on heating.
- Fats are fairly stable to heat at normal cooking temperatures and break down into fatty acids and glycerol at 200°C/just before smoke point.
- If oil continues to be heated, a blue haze is given off/the oil will ignite.
- If oil is overheated, it will reduce the nutritional value/keeping qualities of the fat.
- Smoking on heating indicates the fat is going rancid/bad taste.
- Oil which has ignited burns fiercely and gives off carbon smoke.

3 e) Evaluate how food labelling can help the consumer make informed choices.

**Marking Instructions**

3 x 1 marks for each valid evaluation point

**Total – 3 marks**

**Name of Food**

- This allows the consumer to know what it is that they are purchasing so consumers are not misled.
- This can allow a comparison to be made between apparently similar products, eg strawberry dessert or strawberry flavoured dessert so that consumers are not misled.

**Weight of Food**

- This can allow the consumer to make an informed comparison between similar products so is value for money.
- The e symbol used for weights reassures the consumer as it guarantees that the weight on the pack is at least that stated on the label.
- Certain foods/bread/coffee/tea/butter come in standard sizes, this allows the consumer to make an immediate price comparison between different brands.
- It can be difficult for the consumer to make comparisons between similar products which do not come in standard sizes.

**Ingredients List**

- Ingredients must be listed in order of weight therefore the consumer can see at a glance and compare with similar products so get value for money.
- Ingredients list allows the consumer to avoid ingredients which they dislike/are allergic to.
- Ingredients lists are often in very small print and may be difficult for some consumers to read.

**Datemark/Storage Instructions**

- Use by dates can minimise the risk of food poisoning to the consumer.
- Best before dates allow the consumer to enjoy the product at its best to get value for money.
- Storage instructions give the consumer information on how/where to store the product in order for the consumer to avoid food poisoning/enjoy the product at its best.

**Cooking/Serving Instructions**

- Cooking instructions allow the consumer to enjoy the product at its best/get value for money.
- Serving suggestions can give consumers who lack knowledge ways of enjoying the product to get value for money.
- If the serving suggestion is in pictorial form it does not give the consumer a clear instruction of how to prepare it and product and may not be enjoyed at its best.

**Name and Address of the Manufacturer**

- This can give the consumer reassurance should a problem arise and they need to complain.

**Lot/Batch number**

- This can reassure the consumer should a problem arise that the batch can be recalled.

**Nutritional Information**

- This can help those on a weight reduction diet concerned with diet related diseases/CHD/hypertension choose the right product for them.
- Energy value of foods must be in kilojoules and kilocalories this can allow comparisons between similar products to enable to get the best choice for the consumer.
- There are no clear guidelines on nutritional labelling therefore it can be difficult for the consumer to understand this information.

**Allergen Information**

- This allows the consumer to avoid ingredients which can cause an allergic reaction therefore avoiding illness.

**Organic Information**

- Organic labels can help those consumers who are concerned with environment/health choose products which meet their needs.
- Monitoring of organic labelling is problematic and the consumer may not be fully protected.

**Country of origin**

- Helps consumer make an informed choice linked to political situation in country/Fair Trade.

4	a)	Explain how <b>each</b> of the following factors can bring about change during the processing of a food product (i) Heat (ii) Mechanical action (iii) Light	
<b>Marking Instructions</b> 3 x 1 mark for each well explained point			<b>Total – 3 marks</b>

		<p><b>Heat</b></p> <ul style="list-style-type: none"> <li>• Solid fats become liquid on heating</li> <li>• Overheating fats causes it to ignite/blue haze/rancidity</li> <li>• Changes would occur to nutritive value</li> <li>• Colour/texture/flavour are affected</li> <li>• Protein becomes more digestible/denatures/coagulates</li> <li>• Wheat protein/gluten coagulates on heating giving the structure to bread</li> <li>• Starch granules thicken in liquid causing sauces to thicken</li> <li>• Caramelisation occurs when sugar is heated in absence of water</li> <li>• Dextrinisation occurs when starch is given dry heat</li> <li>• Gelatinisation occurs when starch is given wet heat</li> <li>• Water evaporates from food causing it to dry out</li> </ul>	
		<p><b>Mechanical action</b></p> <ul style="list-style-type: none"> <li>• Tenderising meat causes it to denature/become more digestible</li> <li>• Kneading dough causes protein/gluten to stretch</li> <li>• Whisking egg white causes albumen/protein to stretch trapping air bubbles causing an increase in volume</li> <li>• Over-whisking will cause a loss in volume</li> <li>• Creaming fat and sugar causes air bubbles to be trapped in the mixture producing a lighter mixture to cakes/puddings</li> <li>• Air bubbles are trapped when fat and sugar are creamed causing cakes/puddings to rise</li> <li>• Starch granules in liquid thicken and swell when stirred creating a paste</li> <li>• Chopping fruit/vegetables can destroy vitamin C</li> <li>• Cutting fruit/vegetables into smaller pieces causes the food to cook quicker.</li> </ul>	
		<p><b>Light</b></p> <ul style="list-style-type: none"> <li>• Exposure to light may affect nutritive value/flavour eg milk reduces thiamine content</li> <li>• Exposure to light can cause fruit to ripen/promote enzyme reaction/decay</li> <li>• Exposure to light can cause fats to oxidise/become rancid</li> </ul>	

4 b) Identify and explain <b>four</b> procedures that should be followed to ensure effective sensory evaluation
<p><b>Marking Instructions</b>  4 x ½ mark for identifying procedures  4 x 1 mark for each explanation  Procedure has to be identified before mark is awarded for explanation. Where the procedure is incorporated in the explanation this can be credited.</p> <p style="text-align: right;"><b>Total – 6 marks</b></p>

<b>Procedure</b>	<b>Explanation</b>
<b>Decide on type of test</b>	<ul style="list-style-type: none"> <li>• This will allow manufacturer to establish the information required on a particular product</li> <li>• Preference test will establish if a product is liked or disliked</li> <li>• Discrimination tests will establish the particular characteristics of a product</li> </ul>
<b>Allocate a clear/quiet room for tests/consistent environmental conditions.</b>	<ul style="list-style-type: none"> <li>• This will ensure that the testing panel is not distracted from their task and results will be more valid</li> <li>• Noise/cooking smells may influence/distract the testing panel</li> </ul>
<b>Serve all samples on plain dishes</b>	<ul style="list-style-type: none"> <li>• This ensures that testing panel is not distracted by crockery</li> <li>• This ensures that all samples are served in a similar way to gain more valid results</li> <li>• Ensures all samples are tasted equally to ensure results are accurate</li> </ul>
<b>Label samples</b>	<ul style="list-style-type: none"> <li>• Label foods with letters or numbers so that testers cannot identify the foods</li> </ul>
<b>Ensure that testers know what is expected of them</b>	<ul style="list-style-type: none"> <li>• This will ensure that data collected is unambiguous/same for all testers/validity of results</li> </ul>
<b>Check that all testers can taste the samples</b>	<ul style="list-style-type: none"> <li>• Avoid using people with allergies/special dietary needs that may prevent them from testing</li> </ul>
<b>Ensure water is available between tasting different products</b>	<ul style="list-style-type: none"> <li>• This will ensure that the palate is cleansed so that results are more valid</li> </ul>
<b>Discussion during testing/no discussion during testing/separate booths.</b>	<ul style="list-style-type: none"> <li>• No discussion during testing can prevent testers being influenced by each other</li> <li>• Group discussions can enable comparisons to be made between samples</li> </ul>

<b>Ask panel to test one product at a time</b>	<ul style="list-style-type: none"> <li>• This will allow time to evaluate each product to gain more accurate information</li> </ul>
<b>Allow a maximum of six samples</b>	<ul style="list-style-type: none"> <li>• A maximum of six samples is recommended as taste buds will be less effective after this number</li> </ul>
<b>Ensure good hygiene/safety</b>	<ul style="list-style-type: none"> <li>• This will reduce the risk of food poisoning/illness to testers</li> <li>• Use separate spoons to prevent food poisoning</li> </ul>
<b>Avoid using testers who are unwell</b>	<ul style="list-style-type: none"> <li>• Testers who are unwell may be unreliable as their taste buds may be impaired</li> <li>• Testers who are unwell can infect others</li> </ul>
<b>Ensure that record sheets/pens are available</b>	<ul style="list-style-type: none"> <li>• This will ensure that results can be recorded immediately to ensure more accurate results</li> </ul>
<b>Allow time for testing panel to record each result</b>	<ul style="list-style-type: none"> <li>• This will allow testing panel to evaluate their opinion and record the results so that these will be more accurate</li> </ul>

4	c)	The star profile shows the results of testing a savoury sauce. Evaluate the suitability of this sauce for an elderly person
<b>Marking Instructions</b>		
5 x 1 mark for each valid evaluation point linked to the needs of the elderly.		<b>Total – 5 marks</b>

<b>Acidity</b>	<ul style="list-style-type: none"> <li>• A score of three means fairly high acidity. This would not be suitable for some elderly as it could cause stomach upsets/indigestion.</li> <li>• Some elderly people may find the acidic flavour acceptable as many like strong flavours.</li> </ul>
<b>Creamy</b>	<ul style="list-style-type: none"> <li>• This is a low score which would be suitable for an elderly person as it is likely to be low in fat/energy/lower risk of CHD/obesity/hypertension.</li> <li>• This low score may not suit an elderly person who would probably like a creamy texture.</li> </ul>
<b>Salty</b>	<ul style="list-style-type: none"> <li>• The sauce is very high in salt making it unsuitable as it could lead to hypertension/CHD in the elderly.</li> <li>• Many elderly people may like a salty flavour and this sauce is high in salt.</li> </ul>
<b>Smooth</b>	<ul style="list-style-type: none"> <li>• The sauce is quite smooth which makes it suitable as it will make it more easy to digest/lumpy sauces may be difficult to chew for the elderly with dentures.</li> <li>• Smooth texture may be disliked by some elderly people as it will lack bite in its texture.</li> </ul>
<b>Sweet</b>	<ul style="list-style-type: none"> <li>• The sauce has a high score for sweetness making it unsuitable as it could lead to obesity/CHD/dental caries/diabetes.</li> <li>• Many elderly people would like the sweet flavour of the sauce and this sauce is high in sweetness.</li> </ul>
<b>Spicy</b>	<ul style="list-style-type: none"> <li>• A score of 2 means the sauce is low in spice. This makes it suitable for an elderly person as spicy food could cause stomach upsets/indigestion/irritate stomach lining.</li> <li>• Many elderly prefer more traditional foods therefore a low score for spice would make it acceptable.</li> <li>• Some elderly may like a spicy flavour making it suitable.</li> </ul>

4 d) Describe **three** ways European Directives have influenced consumer law in the UK

**Marking Instructions**

3 x 1 mark for each description

**Total – 3 marks**

- UK minimum weight system/average weight system indicated by e mark.
- Basic foods can only be sold in pre-determined packs eg coffee/tea/sugar/washing powder.
- Metric measurements must now be included on food products.
- Directives now apply on the regulation of novel foods/lot marking /foods for particular nutritional uses.
- Additives must be passed as safe by the EU before a licence for use is permitted.
- Member states have agreed to harmonise food safety regulations on the retailing and catering of all foodstuffs.
- Hygiene directives now apply to hygiene relating specific products such as meat/fish/milk.
- Directives apply to use of food contact materials/packaging/contaminants.

4 e) Evaluate the impact of recent social trends on consumer choice of food.

**Marking Instructions**

3 x 1 mark for each valid evaluation point

**Total – 3 marks**

- Holidays abroad /immigration/more foreign take-aways have increased the demand for more ethnic foods. This can increase the variety of foods eaten and help develop our palate/increase our knowledge of other cultures.
- Holidays abroad/immigration/more foreign take-aways have increased the demand for more ethnic foods but lack of knowledge about how to prepare these foods may mean money is wasted/may lead to diet related diseases as they can be high in fat/saturated fat/salt.
- Increased number of single-person households has led to an increased number of ready/takeaway meals being consumed which can be a great time saver/convenient/provide value for money to the single person.
- More disposable income/busy lifestyles/shift patterns/have led to increase in ready take-away meals as these can be very convenient/save time for the consumer.
- More disposable income/busy lifestyles/shift patterns has led to increase in ready take-away meals can lead to increase in diet related diseases as they are often high in fat/imbalanced diet/salt/loss of skills in preparing and cooking meals.
- More disposable income means that the consumer can afford to choose organic foods therefore less risk to health from chemicals.
- Increased single person households has led to increase in ready/take-away meals can lead to increase in diet related diseases as they are often high in fat/imbalanced diet/salt/loss of skills in preparing and cooking meals.
- The packaging needed for the increased consumption of take-away/ready meals has a harmful effect on the environment/adds to the cost to the consumer.
- Increased demand for more weight reducing/low fat/salt/sugar products can contribute towards meeting dietary targets/lead to a reduction in diet related diseases.
- Increased consumption of weight reducing/low fat/salt/sugar products can be expensive for the consumer as these products are costly.
- Increased demand for organic products can have a beneficial effect on the environment/health of consumers as no chemical fertilisers/pesticides are used.
- Organic foods can be expensive to purchase and therefore outwith many consumer budgets.
- Increased demand for functional foods may improve the health of the consumer.
- Functional foods can be expensive for the consumer/it is not proven as to whether they are beneficial to health.
- Range of foods/snack foods developed to be used in conjunction with a microwave to save the consumer time.

## Higher Home Economics. Analysis of the 2005 Question Paper

## Section A

Question	<i>Resource Management Unit</i>		<i>Consumer Studies Unit</i>		<i>Course Skills</i>		Totals
	<i>Course content</i>	<i>Mark</i>	<i>Course content</i>	<i>Mark</i>	<i>Knowledge</i>	<i>Evaluation</i>	
1	Functional properties	1			1		1
2	Product development	1			1		1
3	The interrelationship of groups of nutrients related to function Vit D	1			1		1
4	The interrelationship of groups of nutrients related to function NSP	1			1		1
5	Functional properties	1			1		1
6			Purpose of market research	1	1		1
7	Product development	1			1		1
<b>Totals</b>		<b>6</b>		<b>1</b>	<b>7</b>	<b>0</b>	<b>7</b>

## Higher Home Economics. Analysis of the 2005 Question Paper

## Section A (continued)

Question	<i>Resource Management Unit</i>		<i>Consumer Studies Unit</i>		<i>Course Skills</i>		Totals
	<i>Course content</i>	<i>Mark</i>	<i>Course content</i>	<i>Mark</i>	<i>Knowledge</i>	<i>Evaluation</i>	
8			Safety and quality of food	1	1		1
9	The relationship between diet, lifestyle and health – obesity	2			2		2
10	Functional properties of food	2				2	2
11			Consumer protection in relation to Trade Descriptions	2	2		2
12			Current developments in food production which are responding to consumer trends	2	2		2
13	Functional properties of food	2			2		2
14	The relationship between diet, lifestyle and health	2			2		2
<b>Carried forward</b>		7			7	0	7
<b>Totals</b>		<b>15</b>		<b>5</b>	<b>18</b>	<b>2</b>	<b>20</b>

## Higher Home Economics. Analysis of the 2005 Question Paper

## Section B Question 1

Question	<i>Resource Management Unit</i>		<i>Consumer Studies Unit</i>		<i>Course Skills</i>		Totals
	<i>Course content</i>	<i>Mark</i>	<i>Course content</i>	<i>Mark</i>	<i>Knowledge</i>	<i>Evaluation</i>	
a	Interrelationship of groups of nutrients Vit C, Fe, Folic Acid	6				6	6
b	Relationship of diet, lifestyle and health	4			4		4
c	Function of nutrients	4				4	4
d	Relationship of diet, lifestyle and health	2			4		4
e	Interrelationship of groups of nutrients Vit D, Ca, Ph	2			2		2
<b>Totals</b>		<b>20</b>			<b>10</b>	<b>10</b>	<b>20</b>

## Higher Home Economics. Analysis of the 2005 Question Paper

## Section B Question 2

Question	<i>Resource Management Unit</i>		<i>Consumer Studies Unit</i>		<i>Course Skills</i>		Totals	
	<i>Course content</i>	<i>Mark</i>	<i>Course content</i>	<i>Mark</i>	<i>Knowledge</i>	<i>Evaluation</i>		
a	Product development determining the specification (HACCP)	4			4		4	
b						5	5	5
c	Causes, symptoms and prevention of food poisoning and contamination	3			3		3	
d						4	4	4
e						4	4	4
<b>Totals</b>		<b>7</b>			<b>13</b>	<b>9</b>	<b>20</b>	

## Higher Home Economics. Analysis of the 2005 Question Paper

## Section B Question 3

Question	<i>Resource Management Unit</i>		<i>Consumer Studies Unit</i>		<i>Course Skills</i>		Totals
	<i>Course content</i>	<i>Mark</i>	<i>Course content</i>	<i>Mark</i>	<i>Knowledge</i>	<i>Evaluation</i>	
a			Implications of social trends and manufacturers' responses to these trends	4	4		4
b			Techniques used in the marketing of food products	4		4	4
c	Relationship between diet, lifestyle and health	3			3		3
d	Effects of storage, preparation and cooking on nutrients	6			6		6
e			Consumer protection in relation to food safety	3		3	3
<b>Totals</b>		<b>9</b>		<b>11</b>	<b>13</b>	<b>7</b>	<b>20</b>

## Higher Home Economics. Analysis of the 2005 Question Paper

## Section B Question 4

Question	<i>Resource Management Unit</i>		<i>Consumer Studies Unit</i>		<i>Course Skills</i>		Totals
	<i>Course content</i>	<i>Mark</i>	<i>Course content</i>	<i>Mark</i>	<i>Knowledge</i>	<i>Evaluation</i>	
a	Product development determining the specification (factors causing change)	3			3		3
b	Product development determining the specification	6			3		6
c	Product development determining the specification	5				5	5
d			The consumer within the European dimension	3	3		3
e			Implications of changes in social trends and manufacturers' responses to these changes	3		3	3
<b>Totals</b>		<b>14</b>		<b>6</b>	<b>12</b>	<b>8</b>	<b>20</b>

## Higher Home Economics. Analysis of the 2005 Question Paper

Question Paper Summary :  
Mark Allocation

Question	Unit title		Course Skills		Totals
	Resource Management	Consumer Studies	Knowledge	Evaluation	
Section A	16	4	18	2	<b>20</b>
Section B					
1	20		10	10	<b>20</b>
2	7	13	11	9	<b>20</b>
3	9	11	13	7	<b>20</b>
4	14	6	12	8	<b>20</b>
<b>Totals</b>	<b>52 - 59</b>	<b>21 -28</b>	<b>51 – 53</b>	<b>27 - 29</b>	<b>80</b>
<b>Target Range</b>	50 – 60 marks	20 – 30 marks	50 – 55 marks	25 – 30 marks	<b>80</b>

[END OF MARKING INSTRUCTIONS]