

FOOD AND NUTRITION

Paper 0648/11

Theory

Key Messages

- All questions should be read carefully, several times, to ensure that all parts are answered fully.
- It is important that full explanations are included when required.
- Questions which require discussion should include many different facts, with detailed reasons and examples to illustrate the points made.

General Comments

Candidates seem to have had sufficient time to answer the required number of questions. There were few rubric errors.

Handwriting was usually easy to read but there were a few instances of very small, untidy writing which was difficult to decipher. Teachers who are aware of this should encourage candidates to make every effort to produce work that is easy to read.

For the most part, candidates presented their work well and usually attempted all the required questions.

The shorter, factual questions in **Sections A** and **B** were generally answered well.

There were some answers which demonstrated that facts had been thoroughly learnt but this alone is not enough to gain high marks. It is essential that information is understood so that appropriate facts and explanations can be applied to given situations. Learning facts without understanding has little value; often time was wasted because candidates gave all of the information they could recall on a topic, whether it was relevant or not.

It was encouraging to note that some candidates included planning notes before the **Section C** questions were answered. Planning often helps to give a more structured answer and ensures that relevant material is presented in a concise way.

It is very important to read the question carefully to ensure that what is written actually answers what the question requires. Some answers were quite lengthy but gained few marks because facts were missing and too much irrelevant material was included. Candidates should be encouraged to take note of the mark allocation for each part of a question and use this information as guide to both the time to spend on part of a question and the amount of detail to include.

High scores can only be achieved by those candidates who not only demonstrate a clear understanding of the subject but also support their statements with explanations and examples. It was encouraging to note that many candidates produced work of a high standard, demonstrating a sound knowledge of the topics tested and the ability to apply that knowledge to a range of different situations. Full marks were often awarded which reflect the calibre of the work presented.

Comments on Specific Questions

Section A

Question 1

- (a) Most candidates knew that fat is composed of carbon, hydrogen and oxygen.
- (b) (i) Many candidates were able to explain the term monounsaturated fat. Full credit was given for stating that monounsaturated fat has one double bond and can take up more molecules of hydrogen. Some candidates used clear, accurate diagrams to give information.
- (ii) Many candidates were able to explain the term polyunsaturated fat. Full credit was given for stating that polyunsaturated fat has more than one double bond and can take up more molecules of hydrogen. Some candidates used clear, accurate diagrams to give information.
- (iii) Many candidates were able to explain the term saturated fat. Full credit was given for stating that saturated fat has the maximum number of hydrogen atoms and that there are only single bonds in the structure. Some candidates used clear, accurate diagrams to give information.
- (c) There were many very good accounts of the problems associated with a high intake of saturated fat showing good knowledge and understanding. Most candidates noted that excess saturated fat is stored in the body causing obesity and the cholesterol level increases. Deposits of cholesterol in the arteries cause narrowing or blocking. The result could be CHD, a heart attack or a stroke. Obesity may lead to breathlessness, lethargy and a lack of self-esteem. Candidates should refrain from using the term 'heart disease' as this is not specifically associated with saturated fat.
- (d) Most candidates were able to name bile as the substance that emulsifies fat.
- (e) Most candidates stated that the end products of fat digestion are glycerol and fatty acids.
- (f) (i) Many candidates were able to correctly name the finger like projections as villi.
- (ii) Many candidates were able to name the lymphatic system correctly.

Question 2

- (a) Most candidates were able to give two functions of vitamin A. It was usually stated that vitamin A is responsible for the formation of visual purple which aids vision in dim light. It is also associated with keeping skin healthy, mucous membranes moist and helping in the growth of teeth and bones. A few candidates correctly noted that vitamin A is an antioxidant and, like other vitamins, it promotes growth.
- (b) Many candidates were able to name a wide range of sources of vitamin A. Milk, cheese, butter, eggs, liver, kidney, carrots and green vegetables were the most frequently given examples.
- (c) Night-blindness was known to be the deficiency disease associated with vitamin A.
- (d) This question was generally well answered naming a wide variety of deficiency diseases.

Question 3

- (a) Many candidates were able to give three, correctly named, problems of excess sugar in the diet. They recognised the link between sugar and tooth decay, obesity and diabetes. However, some were unable to explain the link between sugar and the condition identified. The question asked for a description so without additional knowledge or extended information, full credit could not be awarded.
- (b) Most candidates were able to give some correct information showing knowledge of how the body deals with excess protein. Full credit was gained by those who stated that protein could not be stored but in the process of deamination in the liver, nitrogen is removed from amino acids and is then removed from the body by the kidneys in the form of urea / urine. Some candidates stated that the remainder is used as energy or stored as fat.

Question 4

- (a) Many candidates gave some really inventive ideas in answer to this question including serving in small portions, cutting into small pieces, giving as snacks and including in packed lunches. The addition of dried fruit to cakes or cookies could not be accepted as this encourages a sweet tooth. It was not enough to just say serve attractively; candidates needed to demonstrate how to do this by using an example, such as cut into cubes or fingers. Some candidates listed the nutritional benefits of fruits and vegetables but this was not asked for so valuable time was lost by failing to read the question correctly. It was expected that candidates would be able to give a range of ways in which fruit and vegetables may be included in family meals. Suggestions could have included using as a garnish, as a juice or soup as well as forming part of a named dessert. There were other appropriate uses but in each case full credit could only be gained if a named example of each of the stated dishes was given. Some candidates gave very limited responses by restricting their examples to cold desserts.
- (b) Most answers mentioned that soya beans are the only plant source of HBV containing all the indispensable amino acids. Many candidates stated that soya can be used for a variety of products such as milk, flour, tofu and tempeh. It was also known that Textured Vegetable Protein (TVP) is made from soya beans which are spun to make fibres formed to resemble the texture of meat and shaped into sausages, burgers, chunks or mince. It was also stated that soya products are low in fat, are cheap to purchase and easy to store. All correct information was credited and many candidates scored well.

Section B

Question 5

- (a) Some candidates misunderstood this part of the question. It was concerned with safety when frying, not the method of frying or the steps to take when the fat catches fire. The best answers advised that the pan should not be more than half full to avoid overflowing when food is added. The fat should not be overheated or left unattended because it could ignite. It was well known that the pan and food should not be wet. Food must be put into the pan gently to avoid splashing and spluttering. Most candidates correctly stated that the pan handle should be turned in towards the stove and that if possible the back burner should be used. There were many possible correct answers and full credit was often awarded for this section.
- (b) The question refers to personal hygiene. Many candidates appeared to have misunderstood the nature of personal hygiene. Much was written about general kitchen and food hygiene but therefore could not be credited. Those who approached the question correctly included information on the need to wash hands regularly, to wear a clean apron, tie hair back and cover wounds before starting to cook. They usually noted that jewellery and nail varnish must not be worn and that fingers and cooking utensils should not be licked during food preparation. In most instances sound reasons for their statements were given. Some candidates scored well for this part of the question because all valid information was credited. This included facts, reasons, explanations and examples to illustrate the points made.
- (c) Candidates would have done better by referring to more types of small electrical equipment. Many simply focused on microwaves, forgetting blenders, liquidisers, food processors, smoothie makers, hand mixers, juicers, stand mixers, choppers and slicers.

Answers were expected to include advantages of their use such as time saving, labour saving, energy and fuel saving benefits; the fact that equipment can produce a reliable, consistent outcome and perform a range of tasks and can be used anywhere there is a power supply. Disadvantages often stated, were the initial expense in purchasing the equipment and the added cost of electricity in its use. Some candidates noted that some equipment was difficult to assemble and hard to clean and care had to be taken with sharp attachments and electrical wiring.

Question 6

- (a) There were many possible responses to this question and credit was given whenever appropriate. It was given in the question that meals should be well-balanced; it was therefore not expected that candidates would discuss each nutrient required for a balanced diet.

General points on meal planning could have related to climate, noting perhaps that hot foods are usually served in cold weather. Consideration of time, money and equipment were frequently noted; also the age, likes and dislikes of the people taking the meal and whether or not they follow a vegetarian diet. Their health and activity level are also valid considerations. The need to include a variety of colour, flavour and texture in the meal was occasionally mentioned.

Some candidates merely gave single words without placing them in context. It is not enough to mention colour on its own. It is important to state, for example, that there should be a variety of colours in a meal and that garnishes and decorations could be used to introduce colour where it is lacking.

- (b) This part of the question required candidates to consider and explain the specific nutritional requirements of teenage girls. Examples could have included some of the following. Protein is needed because there is a growth spurt during teenage years. Iron is important because the iron lost in menstruation must be replaced and vitamin C is needed for the absorption of iron. Calcium is needed for the growth of bones and vitamin D is required for the absorption of calcium. Many candidates showed considerable knowledge and gained full credit in response to this question.
- (c) Candidates should be reminded that both electric cookers and gas cookers use fuel as there appeared to be some misconceptions here. Most candidates were able to suggest one or two ways of saving fuel when cooking meals but there were very few accounts worthy of full credit. Microwave ovens and pressure cookers reduce cooking time and therefore fuel consumption is lower. A tiered steamer can cook several dishes while using one hob; batch baking ensures that the oven is used to capacity and lids on pans reduce heat loss and shorten cooking time. Some candidates correctly noted that the oven should be preheated for no more than ten minutes and that by cutting vegetables into small pieces less time, therefore less fuel, will be required. It was often suggested that convenience foods would save time because some of the preparation and cooking may have been done. If cooking time is saved then fuel will be saved but some candidates did not make the connection between saving time and, therefore, saving fuel.

Question 7

- (a) Most candidates were able to name three nutrients in eggs and give the correct function of that nutrient. It was expected that vitamins and minerals would be identified. No credit was given for merely stating that eggs contain vitamins and minerals. It was disappointing to note that many candidates listed calcium as a nutrient in eggs. This is only found in the eggshell, which is not consumed, so calcium cannot be named as a nutrient.
- (b) Most candidates were able to give good advice on the storage of eggs. Information included the fact that they should be kept in a cool place such as a refrigerator and to use them in rotation. It was known that eggs should not be washed otherwise the protective cuticle is removed which allows bacteria to enter through the porous shell. Many candidates correctly advised that only separated eggs should be frozen because the liquid in a whole egg would expand on freezing, cracking the shell. Other valid points often noted were that eggs should be stored with the rounded end upwards so that the air space remains at the top so the yolk is held in place and stops the chalazae from breaking. Eggs should be stored away from strong smells such as cheese and fish otherwise the smell is absorbed through the pores in the shell.
- (c) The different uses of eggs were well known and appropriate examples to illustrate each use were usually given. It was expected that eggs would be identified as a main meal, for example breakfast. This would allow candidates to give examples such as poached, scrambled or boiled eggs as examples to illustrate the use. Unfortunately a number of candidates just listed three ways of serving eggs. This did not answer the question. Good answers identified trapping air, glazing, emulsifying, garnishing, binding, setting and thickening and gave good examples.

Sometimes dishes which include eggs were listed but the function of egg in the dish was not identified. There was some confusion over the use of the terms glazing and coating. Foods, for

example fish and Scotch eggs, are coated before frying; pastry and scones are given a light coating of egg wash before baking to give a brown, shiny surface after cooking.

- (d) Most candidates were able to give some information on the changes that take place when an egg is boiled. It was expected that candidates would state that eggs coagulate on heating; transparent white becomes opaque and both white and yolk thicken or solidify.

It was often stated that if an egg is overcooked the white becomes rubbery, the yolk powdery and the egg difficult to digest. It was usually noted that the transparent egg white becomes opaque on heating. Some candidates noted that a green ring forms around the yolk of a hard-boiled egg.

Section C

Question 8

- (a) There were many good accounts on the subject of accident prevention in the kitchen.

Candidates considered the dangers associated with the storage and use of knives and other sharp equipment. There was good knowledge of the potential dangers of frying especially overheating of oil, the need to use dry equipment and prevention of burning with hot oil.

It was well known that electrical equipment must only be used if hands are dry to prevent electric shocks. Some candidates correctly stated that those using electrical equipment must follow the manufacturer's instructions and must know how to use the equipment properly. Many answers warned of the dangers of trailing, frayed or bare wires and emphasised that repairs should only be carried out by a qualified person. Most candidates noted that the power must be switched off and the plug removed after use and that beaters and blades should be washed with care. Many answers included information on the need to work in a tidy, well lit kitchen with safe and appropriate flooring. The necessity to wear sensible clothing and shoes whilst cooking and to be aware of storing poisonous liquids in appropriately labelled containers and in places was also mentioned.

The majority of candidates who chose to answer this question scored well, indicating a sound understanding of the causes and prevention of kitchen accidents. No credit was given for advice on how to treat injuries and the contents of a first aid box as this was not required.

- (b) The minority of candidates who chose to answer this question found it difficult. It was expected that answers would have included information on U-shaped, L-shaped and galley or parallel line kitchen layouts; labelled diagrams would have been acceptable. Reference to logical, ergonomic planning with an explanation of the work triangle arrangement and reasoning behind the order would have gained credit.

The information given on work surfaces was often a little disappointing. Some candidates correctly stated that there should be a work surface on either side of the stove and the sink to reduce movement and that the height of the work surfaces should be comfortable in order to reduce bending or stretching. Some candidates noted that surfaces should be smooth or should not have cracks because bacteria can accumulate and be transferred to foods and cloths. Materials, for example marble and Formica, were suggested and the advice to protect the surface with a chopping board was frequently given.

There were many points which could have been made relating to the choice and care of kitchen surfaces. Credit was given for naming appropriate materials for work surfaces and floors and for identifying qualities which made them suitable. Work surfaces made, for example, from plastic, granite, stainless steel and ceramic tiles are smooth, hard-wearing and easy to clean, some of them are also heat-resistant. It could have been noted that floors should not be damaged by water, should not be slippery and be easy to clean. Walls should be decorated in cool colours and be able to withstand condensation.

FOOD AND NUTRITION

Paper 0648/12

Theory

Key Messages

- **Section B** answers require knowledge with understanding. Explanations and examples should be given to illustrate points.
- The importance of reading questions carefully cannot be stressed enough. Candidates should note the key words in the question to be able to fully access the marks.
- **Section C** requires longer answers which benefit from organised responses. Candidates should show evidence of structure and planning.

General Comments

A wide range of marks was achieved in this paper. Some candidates scored well, demonstrating sound knowledge of the subject and an ability to apply that knowledge to a range of questions, giving examples where appropriate. Those candidates who did not score well were able to give basic facts but were not able to give explanations or examples to illustrate points.

There were few rubric errors. A very small minority of candidates answered both questions in **section C** instead of making a choice from the two. For some candidates it would be useful if teachers could encourage them to develop handwriting that is easy to read.

Comments on specific questions

Section A

Question 1

- (a) It was important that the candidate identified that a balanced diet is *all* the *nutrients* in the *correct* amounts. A good number of candidates referred incorrectly to food instead of nutrients or wrote “equal amount of nutrients” or “correct diet”.
- (b) There were more correct responses on this question although some candidates referred to insufficient food.

Question 2

- (a) Many candidates responded accurately, though some confused monosaccharide and disaccharide, appeared to guess, or named food examples instead of the name of the correct saccharide.
- (b) Many candidates did not respond to this question at all. Those who did answered well and made good reference to pancreatic amylase in the duodenum and maltase in the ileum.
- (c) This question was less well answered than parts (a) and (b). There was repetition of the question as candidates wrote “the end products of digestion” but made no mention of glucose. Some referred to the end products of digestion being faeces and urine.

Question 3

- (a) Many candidates achieved full credit in this question and gave a range of good responses about the functions of fat in the body. A number of candidates repeated "source of energy" as a function of fat, having not read in the question that they were being asked for **other** functions of fat.
- (b) Many candidates gave good responses about adipose tissue, obesity, CHD and strokes. Credit was not available here for candidates' descriptions of ways of reducing fat, since the question asked for "reasons for the advice".
- (c) Many of the answers were vague: "use less fat when cooking" or "eat less fatty food". Better responses were those which suggested steaming or boiling instead of frying, cutting down on cheese in the diet and removing the visible fat from meat.

Question 4

- (a) Candidates were knowledgeable about the importance of NSP in the diet and many gained full credit here. Candidates knew that NSP prevents constipation, stimulates peristalsis and helps remove toxins.
- (b) There were many correct answers given, including oats, celery and dried fruit. Some candidates were not specific enough in their answers and failed to gain credit by putting "fruit" instead of "fruit skins" or "rice" instead of "wholemeal rice".

Question 5

- (a) This question was particularly poorly answered. A good response could have included references to nerve transmission, muscle contraction and formation of HCl in gastric juice. Some candidates were able to comment that salt is a component of perspiration.
- (b) The most correct common response to this question was "dry salted fish". Candidates who gave vague response like "snacks" or "fast food" did not receive credit.
- (c) Almost all candidates were able to say that too much salt causes hypertension. Few candidates wrote anything further. References could have been made to salt absorbing water in the body and causing oedema.

Question 6

This question elicited some good responses but there was a general lack of focus. Many candidates gave accurate nutritional and dietary advice, but it was not specific to the elderly. There were some general misconceptions that the elderly are immobile, have no teeth and need a liquid diet. A good response would have noted that the elderly may have a reduced appetite, may be sedentary and may need smaller portion sizes with fewer carbohydrate foods. Many candidates recognised that a good supply of calcium and Vitamin D is important to the elderly but other candidates suggested that the elderly no longer need any protein as they have ceased to grow. Little consideration was given to the need to repair worn out cells or to the need to cut down on fat as their risk of CHD is higher.

Question 7

- (a) In this question the use of "convenience food" was the most common response to how to save time when preparing and cooking food. Few candidates thought this question through and gave practical suggestions as to how to economise on time. Many candidates said that if they prepared food in advance it would save them time, forgetting that time is used whenever the food is prepared. The question was planned to illicit responses about the use of labour saving equipment, the use of less cookware, not peeling vegetables, not over cooking food, cutting vegetables into smaller pieces and putting lids on pans to reduce cooking time. These responses were rarely seen.
- (b) In this question candidates also referred to the use of convenience foods to save money whilst choosing food. Some candidates stated that convenience foods were cheaper and some stated that they were more expensive. Either statement could have been credited but only if correctly qualified with a reason or explanation. Good responses made reference to growing one's own fruit

and vegetables, buying foods in season, using cheaper protein food like cheap cuts of meat, pulses, soya and taking advantage of special offers on food that you would normally buy.

- (c) Most candidates were able to say that the bread rises, increases in size and changes to a golden brown colour with a crisp crust. More knowledgeable candidates were able to explain why these changes came about, and in good detail. There were some very high scores on this question with candidates showing good knowledge of dextrinisation of starch, caramelisation of sugar and fermentation of yeast. Less knowledgeable candidates wrote that the bread changes colour but did not say to what colour.

Question 8

- (a) There was a lack of accuracy when answering this question. Many candidates neglected to start their answers by saying that all types of vegetarians do not eat the flesh of animals, or meat. Answers explained that a lacto vegetarian would drink milk and eat milk products. A good response would have said "a lacto vegetarian will not eat the flesh of any animal but will drink the milk of an animal and eat milk products." Candidates were more accurate when describing the diet of a vegan. A small number of candidates thought the question was asking them to name three vegetarian meals.
- (b) This question was well answered and many candidates gained full marks here. There was a clear understanding of the variety of reasons for following a vegetarian diet.
- (c) This question was also well answered with candidates correctly commenting that the only HBV plant food is soya. Few candidates extended this answer by noting that soya and soya products are the only HBV protein available to vegans. It was good to see that many candidates understood that HBV protein can be achieved through complementation of LBV foods.
- (d) In this question, many candidates continued to discuss the types of points that had been given in (c). A good number of candidates were unable to suggest alternative ways for vegans to supplement the diet with Vitamin B12, iron, calcium and omega 3.

Question 9

- (a) Many candidates gained full credit on this question by writing bacteria and yeast or bacteria and enzymes. Candidates should take care not to repeat their answers. Bacteria and microorganisms would only score a mark for bacteria, as bacteria, mould and yeasts are types of microorganism. If the candidate had only written microorganism they would have scored one mark for this.
- (b) Candidates were able to show that they had a good understanding of the conditions favourable for food spoilage. The most common responses were "warmth" and "moisture". Candidates should take care to write "suitable pH" and not just "pH" as not all acidic or alkaline conditions are suitable for the reproduction of microorganisms.
- (c) (i) It was clear that many candidates were unsure of the principles of freezing. There were frequent incorrect references to a refrigerator and of freezing temperatures of 0°C.
- (c) (ii) It was expected that candidates would know the principles of drying. Descriptions of methods of drying were common. A good answer would have explained that water is removed, as bacteria need moisture to multiply and consequently the cell contents become too concentrated for bacterial growth.
- (d) (i) Candidates answered well about personal hygiene. Responses included references to hand washing, cross contamination, covering hair, having short nails, wearing a clean apron, covering cuts and not working whilst having an illness. Few candidates mentioned that fingers and utensils should not be licked or that the face and body should not be touched to avoid transfer of bacteria from skin.

- (d)(ii) Candidates were less knowledgeable about kitchen hygiene and often repeated the same points throughout their responses. A good answer would have included reference to cleaning, boiling or bleaching of cloths, not using chipped equipment and the use of separate boards for chopping different types of food. Candidates did make good references to the cleaning, emptying of waste bins and the keeping of animals out of the kitchen.

Question 10

- (a) This question was about the importance of vegetables and their uses in family meals. Many candidates did not write enough to justify being awarded the full fifteen marks. There was a distinct lack of planning and many responses did not remain focused. Candidates were expected to know detailed information about the nutritional content of vegetables. Some candidates wrote that vegetables contain “vitamins and minerals” followed by little or no discussion. Some candidates lost focus and gave advice about the buying and storing of vegetables. Other candidates wrote about conserving the vitamin content by careful preparation and cooking. There was some credit given for this but candidates should revisit the question regularly to be certain that they are not focussing too heavily on one area of response. A good response would have taken each nutrient in turn and discussed its importance in the diet, before moving on to discussing the uses of vegetables and their many characteristics, like high water content and good source of NSP.
- (b) There were some good responses to this question and many candidates showed excellent knowledge of food labelling requirements. Candidates should take care to remember that they are being asked to write an essay style response and that careful planning is necessary to avoid a discursive response. It was noted that very few candidates stated that the ingredients are listed in weight order.

FOOD AND NUTRITION

Paper 0648/13

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- (b) The question refers to personal hygiene. Many candidates appeared to have misunderstood the nature of personal hygiene. Much was written about general kitchen and food hygiene but therefore could not be credited. Those who approached the question correctly included information on the need to wash hands regularly, to wear a clean apron, tie hair back and cover wounds before starting to cook. They usually noted that jewellery and nail varnish must not be worn and that fingers and cooking utensils should not be licked during food preparation. In most instances sound reasons for their statements were given. Some candidates scored well for this part of the question because all valid information was credited. This included facts, reasons, explanations and examples to illustrate the points made.
- (c) Candidates would have done better by referring to more types of small electrical equipment. Many simply focused on microwaves, forgetting blenders, liquidisers, food processors, smoothie makers, hand mixers, juicers, stand mixers, choppers and slicers.

Answers were expected to include advantages of their use such as time saving, labour saving, energy and fuel saving benefits; the fact that equipment can produce a reliable, consistent outcome and perform a range of tasks and can be used anywhere there is a power supply. Disadvantages often stated, were the initial expense in purchasing the equipment and the added cost of electricity in its use. Some candidates noted that some equipment was difficult to assemble and hard to clean and care had to be taken with sharp attachments and electrical wiring.

Question 6

- (a) There were many possible responses to this question and credit was given whenever appropriate. It was given in the question that meals should be well-balanced; it was therefore not expected that candidates would discuss each nutrient required for a balanced diet.

General points on meal planning could have related to climate, noting perhaps that hot foods are usually served in cold weather. Consideration of time, money and equipment were frequently noted; also the age, likes and dislikes of the people taking the meal and whether or not they follow a vegetarian diet. Their health and activity level are also valid considerations. The need to include a variety of colour, flavour and texture in the meal was occasionally mentioned.

Some candidates merely gave single words without placing them in context. It is not enough to mention colour on its own. It is important to state, for example, that there should be a variety of colours in a meal and that garnishes and decorations could be used to introduce colour where it is lacking.

- (b) This part of the question required candidates to consider and explain the specific nutritional requirements of teenage girls. Examples could have included some of the following. Protein is needed because there is a growth spurt during teenage years. Iron is important because the iron lost in menstruation must be replaced and vitamin C is needed for the absorption of iron. Calcium is needed for the growth of bones and vitamin D is required for the absorption of calcium. Many candidates showed considerable knowledge and gained full credit in response to this question.
- (c) Candidates should be reminded that both electric cookers and gas cookers use fuel as there appeared to be some misconceptions here. Most candidates were able to suggest one or two ways of saving fuel when cooking meals but there were very few accounts worthy of full credit. Microwave ovens and pressure cookers reduce cooking time and therefore fuel consumption is lower. A tiered steamer can cook several dishes while using one hob; batch baking ensures that the oven is used to capacity and lids on pans reduce heat loss and shorten cooking time. Some candidates correctly noted that the oven should be preheated for no more than ten minutes and that by cutting vegetables into small pieces less time, therefore less fuel, will be required. It was often suggested that convenience foods would save time because some of the preparation and cooking may have been done. If cooking time is saved then fuel will be saved but some candidates did not make the connection between saving time and, therefore, saving fuel.

Question 7

- (a) Most candidates were able to name three nutrients in eggs and give the correct function of that nutrient. It was expected that vitamins and minerals would be identified. No credit was given for merely stating that eggs contain vitamins and minerals. It was disappointing to note that many candidates listed calcium as a nutrient in eggs. This is only found in the eggshell, which is not consumed, so calcium cannot be named as a nutrient.
- (b) Most candidates were able to give good advice on the storage of eggs. Information included the fact that they should be kept in a cool place such as a refrigerator and to use them in rotation. It was known that eggs should not be washed otherwise the protective cuticle is removed which allows bacteria to enter through the porous shell. Many candidates correctly advised that only separated eggs should be frozen because the liquid in a whole egg would expand on freezing, cracking the shell. Other valid points often noted were that eggs should be stored with the rounded end upwards so that the air space remains at the top so the yolk is held in place and stops the chalazae from breaking. Eggs should be stored away from strong smells such as cheese and fish otherwise the smell is absorbed through the pores in the shell.
- (c) The different uses of eggs were well known and appropriate examples to illustrate each use were usually given. It was expected that eggs would be identified as a main meal, for example breakfast. This would allow candidates to give examples such as poached, scrambled or boiled eggs as examples to illustrate the use. Unfortunately a number of candidates just listed three ways of serving eggs. This did not answer the question. Good answers identified trapping air, glazing, emulsifying, garnishing, binding, setting and thickening and gave good examples.

Sometimes dishes which include eggs were listed but the function of egg in the dish was not identified. There was some confusion over the use of the terms glazing and coating. Foods, for

example fish and Scotch eggs, are coated before frying; pastry and scones are baked before cooking and bread is baked to give a brown, shiny surface after cooking.

- (d) Most candidates were able to give some information on the changes that take place when an egg is boiled. It was expected that candidates would state that eggs coagulate on heating; transparent white becomes opaque and both white and yolk thicken or solidify.

It was often stated that if an egg is overcooked the white becomes rubbery, the yolk powdery and the egg difficult to digest. It was usually noted that the transparent egg white becomes opaque on heating. Some candidates noted that a green ring forms around the yolk of a hard-boiled egg.

Section C

Question 8

- (a) There were many good accounts on the subject of accident prevention in the kitchen.

Candidates considered the dangers associated with the storage and use of knives and other sharp equipment. There was good knowledge of the potential dangers of frying especially overheating of oil, the need to use dry equipment and prevention of burning with hot oil.

It was well known that electrical equipment must only be used if hands are dry to prevent electric shocks. Some candidates correctly stated that those using electrical equipment must follow the manufacturer's instructions and must know how to use the equipment properly. Many answers warned of the dangers of trailing, frayed or bare wires and emphasised that repairs should only be carried out by a qualified person. Most candidates noted that the power must be switched off and the plug removed after use and that beaters and blades should be washed with care. Many answers included information on the need to work in a tidy, well lit kitchen with safe and appropriate flooring. The necessity to wear sensible clothing and shoes whilst cooking and to be aware of storing poisonous liquids in appropriately labelled containers and in places was also mentioned.

The majority of candidates who chose to answer this question scored well, indicating a sound understanding of the causes and prevention of kitchen accidents. No credit was given for advice on how to treat injuries and the contents of a first aid box as this was not required.

- (b) The minority of candidates who chose to answer this question found it difficult. It was expected that answers would have included information on U-shaped, L-shaped and galley or parallel line kitchen layouts; labelled diagrams would have been acceptable. Reference to logical, ergonomic planning with an explanation of the work triangle arrangement and reasoning behind the order would have gained credit.

The information given on work surfaces was often a little disappointing. Some candidates correctly stated that there should be a work surface on either side of the stove and the sink to reduce movement and that the height of the work surfaces should be comfortable in order to reduce bending or stretching. Some candidates noted that surfaces should be smooth or should not have cracks because bacteria can accumulate and be transferred to foods and cloths. Materials, for example marble and Formica, were suggested and the advice to protect the surface with a chopping board was frequently given.

There were many points which could have been made relating to the choice and care of kitchen surfaces. Credit was given for naming appropriate materials for work surfaces and floors and for identifying qualities which made them suitable. Work surfaces made, for example, from plastic, granite, stainless steel and ceramic tiles are smooth, hard-wearing and easy to clean, some of them are also heat-resistant. It could have been noted that floors should not be damaged by water, should not be slippery and be easy to clean. Walls should be decorated in cool colours and be able to withstand condensation.

FOOD AND NUTRITION

Paper 0648/02

Practical

Key Messages

- Candidates should read the test questions carefully so that the correct types of dishes are prepared
- A variety of cooking methods and a wide range of skills should be used without repetition
- More use could be made of local ingredients
- Candidates should avoid making simple dishes that only require assembling parts
- Planning should include details of methods, cooking times and oven temperatures
- Time plans should be written in 'real' time; candidates should not simply write out one method after another

General Comments

Many Centres presented work which was of a pleasing standard. Candidates answered the majority of the test questions well, with a wide variety of suitable and skilful dishes. Most practical test sheets were completed neatly and correctly and were fastened together in the correct order. On a few occasions marks were not totalled correctly or were not transferred correctly onto the mark sheets. All marks and the transfer of marks should be checked by another person before the work is forwarded to the examination board.

It is a requirement that all candidates' work shows evidence of marking and that annotation is included with the work to give a clear explanation of how and where marks have been awarded in all sections of the work. This is particularly important in the 'method of working' and 'results' sections; these parts of the work are not seen by the Moderator and therefore the marks can only be verified if there is a clear explanation of how the practical test progressed and how the final dishes looked and tasted when they were served. The comments should be specific to each individual candidate. At the present time photographs are not compulsory; however photographic evidence would support the marks awarded and help the moderation process. A number of Centres included detailed marking and annotation for all candidates together with supporting photographs; thank you. However, some Centres did not include any annotation or photographs making the moderation process extremely difficult.

It is important that Examiners study the questions and the mark scheme carefully before any marks are awarded to ensure that the test questions are answered correctly and the correct marks are applied. In many cases candidates failed to include accompaniments with their two course meals, yet were awarded full marks. The mark scheme must be strictly adhered to; marks should not be adjusted in any way to exceed the marks listed on the mark scheme. Some candidates chose dishes that did not answer the set test e.g. cakes or biscuits made instead of desserts for the two course meals, short crust pastry made instead of flaky or rough puff pastry for **Question 3**, cakes made by the creaming method instead of the whisked method for **Question 5** and inappropriate hot dishes chosen as part of a packed lunch for **Question 8**. A number of Examiners awarded high marks for dishes with low skills e.g. grilled chicken, steamed fish, sandwiches, burger and chips using bought burgers and frozen chips, stir fried rice using pre-cooked rice, etc. Some candidates prepared drinks, especially those carrying out Test 4, which required candidates to use a blender or liquidiser. Drinks are not usually very skilful and should only be prepared when specifically asked for in the test. The mark scheme states that 'maximum marks must be reduced for simple dishes' yet this was not always applied correctly. Some candidates who repeated skills e.g. the creaming method to make a large cake and cup-cakes were not correctly penalised in the 'choice' or 'method of making' sections of the work.

In the choice section candidates should list their dishes clearly for parts (a) and (b) of the question or should indicate which dishes include particular ingredients, pieces of equipment or methods required by the question. A number of candidates listed their dishes randomly therefore it was very difficult to check which parts of the question were being answered; choices were particularly difficult to assess when candidates had incorrectly chosen dishes such as small cakes or biscuits as a dessert. Meals should be well balanced and provide a range of textures, flavours and colours; many of the meals chosen were very bland or repetitive in

terms of skills, ingredients and flavours e.g. stir fried vegetables served with tofu and vegetables were often very heavy in carbohydrates and / or lacking in protein.

Recipes should be written clearly alongside each named dish and should be checked carefully to ensure all major ingredients are included and that the recipes are correct for the skills being shown e.g. the proportions are correct for pastries, creamed mixtures, whisked mixtures, sauces, etc. Many candidates omitted main ingredients such as margarine for pastry, icing sugar for a decorated cake and prawns for a prawn stir fry. Many candidates made far too many portions of the dishes they had chosen; this added considerably to the cost of ingredients and was also very time-consuming. Scone and pastry mixtures should be limited to 250 g flour, sauces to approximately 250 ml of milk, etc.

Time plans should show the sequence of work to be followed for the 2 ½ hours of the practical test. Brief methods should be included for all dishes together with oven temperatures, cooking methods e.g. steam, bake, boil, fry and cooking times. Many candidates completed their time plans well while others did not include enough detail. Many candidates need to be taught how to write their time plans more succinctly; they should dovetail tasks so that while one dish is cooking, another is being prepared. Many time plans consisted of a series of methods for dishes made one after the other and included the preparation, cooking, cooling, decorating / garnishing and serving of each dish. Time plans should include key points of making each dish and show the 'real time' sequence of working e.g. candidates would not wait for 30 minutes for a cake to bake and do nothing else. As a result of the time plans being written in 'method' order, hot dishes were prepared and served with little reference to keeping them hot or re-heating them at the end of the test; consequently meals were not served in the correct sequence or hot or cold as necessary. Cakes which need decorating should be made early in the test time to allow for cooling before they are decorated. A number of candidates had difficulty sequencing their work in the best way and this is one area that could be improved. Candidates should be penalised for poor sequencing and preparing dishes in the wrong order, especially when dishes containing under-cooked chicken are served.

Shopping lists were generally completed well.

Comments on Specific Questions

Question 1

Most candidates answered part (a) well with a good range of suitable and skilful dishes; however in some cases the dishes chosen were very repetitive as vegetable dishes were chosen for the main course **and** the two accompaniments. Part (b) was answered well and most candidates were able to prepare a batch of scones and some small cakes made by the creaming method. Many Examiners reported that scones were rolled too thinly; the dough should be rolled or pressed to a minimum of 1 cm thick before cutting shapes.

Question 2

This task was completed particularly poorly by the majority of candidates; many chose their dishes as if they were choosing a two course meal. Many candidates stated that they were making a protein dish, a carbohydrate dish and a vitamin and mineral dish as if planning a meal. Dishes suitable for a birthday party would usually be served cold therefore should include dishes such as mini quiches, sausage rolls, chicken drumsticks, mini pasties, sweet or savoury turnovers, samosas, scotch eggs, muffins, cakes and cookies. Several low skill dishes e.g. sandwiches and fruit drinks were made. Cakes were prepared well and were usually suitably decorated.

Question 3

There were only a few Centres that included this test. Many of the dishes chosen did not contain high enough quantities of Vitamin C and often candidates did not indicate the dishes containing Vitamin C on their planning sheets. Candidates often made short crust pastry instead of the flaky or rough puff that was specified. An interesting variety of melting method biscuits was made.

Question 4

This was one of the most popular questions. The majority of candidates prepared an excellent variety of dishes to show the use of different pieces of equipment. However, candidates who chose to make a drink to show the use of a blender or liquidiser did not choose the best option as they demonstrated so few skills; using the blender to make soups and sauces gained higher marks.

Question 5

Most candidates answered part (a) quite well, with a variety of skilful dishes. Occasionally accompaniments were missing or the meal for two office workers contained too much carbohydrate. Part (b) was not always answered correctly. A number of candidates made a cake using the creaming method rather than the whisking method; some candidates incorrectly assumed that because they were using an electric mixer / whisk they were showing the whisking method. A number of candidates made small cakes instead of the large cake specified. Many of the sauce dishes lacked skill e.g. a tomato sauce made from a tin of tomatoes with the addition of herbs and onion. More skilful dishes should be chosen.

Question 6

This question was quite popular. Candidates were able to show a wide range of skills using the listed ingredients. Occasionally, inappropriate dishes were chosen, especially with the herb and the gelatine e.g. rock cakes that used dried fruit with mixed herbs and a dessert that used jelly but not gelatine.

Question 7

The dishes chosen for the two course meal including soya tended to be quite boring and bland. Meals tended to lack colour, flavour and texture; many of the meals had no crunchy, crisp or chewy textures at all. Part (b) of the question was answered particularly well; candidates were able to show good use of short crust pastry and a sweet dish using a batter. The majority of candidates made pancakes or fritters with their batter so were able to show a range of cooking methods in the test time.

Question 8

This question was very popular. Unfortunately candidates did not always choose their three egg dishes wisely; many chose recipes that used only $\frac{1}{2}$ egg or dishes that were far too simple and showed few skills. Many candidates were unable to describe the 'uses of eggs' that their dishes demonstrated. Many candidates chose dishes such as egg and chips or poached egg on vegetables; more skilful dishes should have been chosen. When choosing dishes for a packed lunch candidates should be choosing two very different dishes, possibly one savoury and one sweet, that show a range of colours, textures and flavours. All dishes should be able to be eaten cold and should be easy to carry without spoiling. Some of the dishes that candidates chose needed to be eaten hot, had sticky icing or heavy decorations which would not transport well. Occasionally candidates prepared a cake or cakes to show the uses of eggs and repeated the skill again for the packed lunch.