

FOOD AND NUTRITION

Paper 0648/01

Theory

Key Messages

- It is important that candidates read the questions carefully and take note of the mark allocation for each question in order to include the required number of points.
- Candidates should try to be as concise as possible in order to have sufficient space to include all relevant information. There is often space at the bottom of the page which the candidate is able to use rather than writing small and cramped answers that are difficult to read.
- Candidates should manage the time spent on each section so that questions with more marks are given the time they need.

General Comments

In some questions the candidate must decide how much information should go into the answer and it is, therefore, important to look at the mark allocation. If a question does not stipulate how many points are required and is worth 4 marks then it will usually require twice as many points as a question with 2 marks. Candidates sometimes write too much, (often going onto extra paper), when a question has a low mark allocation and, consequently, waste valuable time.

Sometimes candidates write too much in questions in **sections A** and **B** and do not leave sufficient time for the essay which carries a high mark.

Reading the question carefully will avoid making careless mistakes e.g. in **Question 1a** the candidate was required to give 2 elements, other than carbon and hydrogen, in amino acids. Several candidates just read that they were to name 2 elements and gave hydrogen and carbon as their answer.

Comments on Specific Questions

Section A

Question 1

- (a) The most common answers were oxygen and nitrogen and most candidates did score at least one mark. Mistakes occurred when candidates failed to read the introductory statements and gave carbon and hydrogen as the elements.
- (b) Nearly all of the candidates were able to state that HBV protein contains all essential / indispensable amino acids. However, they did not include the important fact that they have to be in the correct proportion / sufficient amounts.
- (c) (i) Meat was the most frequent answer. Some candidates gave milk as their answer again not having read the introductory statement.
- (ii) The correct answer of soya was given by many candidates. Incorrect answers included beans, pulses and green vegetables
- (d) Most candidates managed to give four correct functions of protein. Growth, repair and maintenance being the most frequent answers. Occasionally the production of hormones, enzymes and antibodies were included.

- (e) There were some excellent descriptions of the digestion and absorption of protein. Most candidates scoring full credit. Candidates had to mention both digestion and absorption. Sometimes they forgot to discuss absorption. Some candidates discussed digestion of other than protein e.g. digestion of lactose, maltose and sucrose in the ileum.

Question 2

- (a) Candidates often stated a function of water but failed to give any explanation e.g. lubrication of joints was a frequent answer but needed the explanation of preventing wearing away the ends of bones by grinding. Other common answers were keeping faeces soft, 70% of body is water and it is needed for body fluids.
- (b) Most candidates were able to give the correct answer of dehydration.
- (c) The correct symptoms of headaches and tiredness were seldom known. Dry lips, dizziness, nausea and constipation were mentioned. It often seemed as though the candidate was thinking of anaemia.

Question 3

- (a) This question was not well answered. Often candidates gave the incorrect unit with the correct number i.e. joules instead of calories. Others gave a number without the unit.
- (b) This question was also not well answered. Candidates were often able to list four factors which affect the energy requirements of an individual but explanations concentrated solely on level of activity. An explanation for gender could have included men have a larger body mass and therefore need more energy, for pregnancy energy is needed for the growth of the foetus, during lactation energy is required for the production of milk. Some candidates stated that pregnant women needed more iron and children need more calcium which indicates they had not read the question carefully.
- (c) Most candidates were able to define the term *energy balance*. Problems sometimes arose as explanations became very convoluted.

Question 4

- (a) Responses to this question were disappointing as they tended to be vague e.g. eat less sugary foods, eat more fruit. The most frequent correct answers included not putting sugar in tea / coffee, eat less sweets / chocolate, use artificial sweeteners and reduce the amount of sugar in recipes. Other correct responses include avoid sugar-coated cereals, choose canned fruit in fruit juice instead of syrup, use dried fruit or fresh fruit to sweeten cakes, look at the list of ingredients on food and buy sugar – free products. Several candidates said to avoid fizzy drinks but low sugar varieties are available. They needed to be more specific. Some candidates gave ways of reducing fat in the diet.
- (b) Good responses mentioned dental caries, obesity and diabetes and often scored full marks. Problems arose when they only discussed one consequence of a high sugar diet and, therefore, were not able to include sufficient points.

Section B

Question 5

- (a) Most candidates were able to correctly name the creaming or all-in-one / one-stage method. The most frequent incorrect answer was the whisking method.
- (b) Cocoa, vanilla, cinnamon and fresh and dried fruit were the most popular correct answers. Some candidates suggested using different types of flour and fat.
- (c) Many candidates seem to believe that brown sugar contains non-starch polysaccharide. Correct answers included wholemeal flour, adding dried or fresh fruit, adding nuts, grated vegetable e.g. carrot or courgette and adding coconut.

- (d) Carbon dioxide was the most popular correct answer. Only a few candidates were able to name two gases which cause a cake to rise. Other correct answers were steam / water vapour but candidates often named oxygen or carbon. Some candidates seemed to include any gas they could think of e.g. hydrogen, nitrogen, carbon monoxide and ethanol.
- (e) There were some good accounts of changes which take place when a cake is baking. Many candidates were able to mention sugar caramelising causing browning of the cake, fat melting, protein coagulating which sets the shape of the cake, starch gelatinising and gases expanding. Candidates which considered the changes occurring in the different ingredients in the cake scored highly.
- (f) (i) Very few candidates scored full marks as they just named one sugar with a reason or gave two types of sugar without giving any reasons for using them. The most frequent answer was using caster sugar as it has finer granules. Occasionally using brown sugar was listed which gives colour and flavour. In this type of question it is possible to gain marks by including ingredients you would not use e.g. not granulated sugar as it has larger crystals which do not dissolve and give a speckled appearance or not icing sugar as it is too fine
- (ii) Again candidates tended to score only one mark as they listed two types of fat without any explanation or one type of fat with a reason for its use. The most popular answers were margarine and butter with reasons being given that margarine is cheaper than butter and butter has a good colour and flavour. Better answers stated that soft margarine was easier to cream rather than just stating it mixes well. Again it was possible to gain marks by naming fats which should not be used e.g. low fat spreads which have too high a water content and will not hold air during creaming or lard which has a poor flavour and only suitable when strong flavours are used to mask it e.g. gingerbread.

Question 6

- (a) Many candidates are still confusing freezers with refrigerators. Those who did state the correct temperature or temperature range of a fridge then, incorrectly, gave the reason as 'it would render the bacteria dormant' or 'would be unable to multiply' instead of stating that 'the temperature in a fridge slows down growth of micro-organisms'. Other points frequently included were using food in rotation, keeping raw and cooked meats separate, raw meat at the bottom of the fridge to prevent dripping on other foods, cross contamination, not putting hot food in the fridge, not opening the fridge door unnecessarily, covering foods, cleaning the fridge regularly, use bicarbonate of soda to remove stubborn marks and not using detergent for cleaning as it can taint the food. A number of candidates did not include sufficient points as they did not write concisely and when they had filled the available space failed to check the number of points / facts included. Again there were candidates who did not read the question carefully and wrote about choosing a refrigerator e.g. talking about the size and colour.
- (b) This was very poorly answered. Some candidates were able to give examples of ways in which air is incorporated into mixtures e.g. sieving flour / dry ingredients, rubbing fat into flour, whisking egg white and whole egg and sugar, folding and rolling but only a few gave examples of dishes in which the methods are used e.g. Swiss roll, meringue, flaky pastry etc. It was disappointing that many candidates failed to use correct terminology e.g. creaming fat and sugar. They often stated mixing the fat and sugar or beating. Many candidates discussed the role of yeast in cooking and the action of carbon dioxide as a raising agent,
- (c) Candidates tended not to score well in this question. Most were able to state that microwaves cook quickly and save fuel. Many said that it was a disadvantage that they used a lot of electricity and were, therefore, expensive to run. Some candidates mentioned that they save on washing up as the food can be cooked and served in the same dish. Very occasionally, candidates included points such as the food not burning on the dish or sides of the oven, the kitchen not getting hot, no preheating of the oven is required, a microwave is easy to clean, it is portable and there is no need for any special electrical installation. Disadvantages of microwaves were less well known. Some candidates did mention that food does not brown, does not develop texture / become crispy and does develop 'hot spots'. Many candidates went into great detail about how dangerous the rays are and how all sorts of diseases are caused by radiation.

Question 7

- (a) Nearly all candidates scored at least half marks in this question. It is important that candidates be specific in their answers e.g. marks will not be credited for just stating 'minerals and vitamins'. A candidate must give named vitamins such as vitamin A, riboflavin, niacin etc. and a named mineral e.g. iron.
- (b) This question was very poorly answered. Some candidates mentioned it was due to the age of the animal but there was no qualification. Others stated it was due to the part of the animal the meat came from but again without any qualification. Marks were lost by vague answers. Good responses stated meat was from an old animal or from a well-used part of the animal creating a lot of connective tissue and long / thick muscle fibres.
- (c) There were few correct answers. Candidates discussed the use of marinades / enzymes, beating the meat with hammers but failed to explain how the meat is tenderised by moist cooking methods. Very occasionally a candidate would explain that insoluble collagen is converted to soluble gelatine and the muscle fibres are loosened.
- (d)(i) and (ii) Almost all candidates were able to name, correctly, a moist and dry method of cooking.
- (e)(i) There were few answers to this question that scored full marks. Many candidates mixed conduction and convection together. Marks were achieved by stating that molecules vibrated and metal is a good conductor of heat. Students did not seem to think in a logical way i.e. from the heat source to the pan and then the food with the molecules vibrating and causing the neighbouring molecules to vibrate.
- (ii) Several candidates did not read the question carefully and, having written about conduction in the previous question, gave an example of conduction. Correct answers included baking, roasting, boiling steaming etc.

Section C

Question 8

- (a) Better candidates wrote on all areas of this question i.e. nutritional value, other reasons for including fruit in the diet and ways of including fruit in family meals. Poorer answers gave a list of dishes which use fruit. The most frequent nutrients mentioned were vitamin C and vitamin A. Other nutrients include fat, sugar / carbohydrate, nicotinic acid, calcium and iron. Water and NSP / fibre were frequently included. A lot of time was often wasted by discussing all of the functions of the various nutrients, water and fibre. Adding colour and using it as a snack were popular answers for using fruit in the diet. A variety of ways of including fruit were found with examples of dishes e.g. cakes – banana, drinks – orange juice, hot dessert – apple pie, cold dessert – fruit salad, scones – apple, sultanas, accompaniment – apple sauce with pork, preserve – lemon curd, decoration – lemon wedges. In order to attain full marks the candidates had to include information in all sections of the question – nutritional, other reasons than nutritional for inclusion in the diet and ways of including in meals.
- (b) Candidates who chose this question to answer, rather than the previous one, tended to be more successful. Again, in order to attain full marks, the candidate needed to address all areas of the question. The most frequent nutrients mentioned were protein, fat and vitamin A. Others include vitamin D, riboflavin and iron. Students usually were able to give a function for each nutrient. Other points to include in the importance of eggs in the diet are the water content (seldom mentioned), they are inexpensive, they are easily digested, versatile and quick to cook. Good answers named a use of eggs and then gave an example or explanation e.g. emulsifier – lecithin found in egg yolk is an emulsifying agent used in mayonnaise. Other uses included trapping air, thickening, setting, coating, glazing, enriching, garnishing and as a main dish. In this question candidates tended to write concisely and avoided including irrelevant information.

FOOD AND NUTRITION

Paper 0648/02

Practical

Key Messages

- Candidates should read the test questions very carefully to ensure that the correct types of dishes are being prepared to answer the set questions.
- A good variety of ingredients and cooking methods should be included.
- A wide range of skills should be used without repetition.
- Planning should include details of methods, cooking times and oven temperatures for all dishes.

General comments

Many Centres presented work which was of a good standard. Candidates often answered the test questions well, with a good variety of suitable and skilful dishes. Most Practical Test Sheets were completed neatly and correctly and were fastened together in the correct order. It is important that each Centre checks carefully that all the required mark sheets are included with the work as a number of Centres did not include all that was required. On a number of 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 work shows evidence of marking and that annotation is included with the work to give clear explanations for the awarding of marks in all sections of the work. This is particularly important in the Method of Working and Results sections. As this part of the work is not seen by the Moderator, the marks can only be verified if there is a clear explanation of how the practical examination progressed and how the final dishes looked and tasted when they were served. The comments should be specific to the work of each individual candidate. Although photographs are not compulsory, these are helpful in the assessment of results. A number of Centres included clear marking and annotation for all candidates with supporting photographs which were all helpful in confirming the marks awarded. However, some Centres did not show any marks or comments on the work as required.

It is very 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 being applied. On a number of occasions candidates did not include accompaniments with their meals yet were awarded full marks. Some dishes were not prepared correctly according to the requirements of the question, e.g. no flaky pastry for **Question 1**, no biscuits by the melting method for **Question 7** and no shortcrust pastry for **Question 8**. Marks should not have been awarded for dishes which did not answer the set question. The marks awarded for each dish should never exceed the marks listed on the mark scheme, yet some marks were much higher than those listed, especially in Results. A number of Examiners awarded high marks for dishes with low skills, e.g. baked chicken, cheese potatoes, rice pudding, pizza with a pre-prepared base, etc. Some candidates prepared drinks but, as these are not usually very skilful, these should only be prepared when specifically required in the test. The mark scheme states clearly that "maximum marks must be reduced for simple dishes" yet this was not always applied correctly.

In the Choice section, candidates should list their dishes clearly for parts **(a)** and **(b)** or should indicate which dishes include particular ingredients or methods as required by the question. A number of candidates listed their dishes randomly so it was difficult to check which parts of the question were being answered. A good variety of ingredients and methods should be chosen and if meals are to be prepared they should always be balanced. Candidates should not be repeating methods or main ingredients. Rubbing-in method and all-in-one method were used repetitively in some tests and ingredients such as chicken and cheese were included in several dishes. Balancing meals should ensure that a good variety of nutrients are included as well as variety in taste, colour, texture, etc. This was not always the case particularly in **Question 4** when meals were often lacking in sufficient protein for vegetarians or when meals prepared for **Question 1** included too much carbohydrate for the office workers. Recipes should be written clearly alongside each named dish and

should be checked carefully to include all that is required. Many candidates presented recipes, although occasionally main ingredients were missing, e.g. no flour in a batter.

The time plans should show the sequence of work to be followed for the 2 ½ hours of the practical test. Methods should be included for all dishes with oven temperatures and cooking times. There should be times for washing up and time for serving the dishes, with some indication of the types of garnishes and decorations to be used. Many candidates completed the time plans well while others did not include the required details. It is not sufficient to write "make..." or "prepare..." with no method or "cook..." or "bake..." with no cooking times or temperatures. It is important that the dishes are prepared in a sensible sequence so that dishes which require a long cooking/setting time are prepared earlier than those which require minimal preparation and cooking. Dishes should not simply be prepared one after the other when dovetailing, in the preparation of dishes, could be used to make best use of the time. Dishes for a meal should be served hot and in the correct order of courses towards the end of the test. Hot dishes should not be prepared too early in the test so that they would require reheating or keeping hot for a long time. Cakes which need decorating should be prepared early in the test so that there is sufficient time for cooling before being decorated. However, many candidates planned to decorate their cakes as soon as they were removed from the oven. A number of candidates had difficulty in sequencing their work in the best way and this is one area which could be improved. Shopping lists were generally completed well.

Comments on specific questions

Question 1

Most candidates answered part (a) well, with a good variety of skilful and suitable dishes. Occasionally accompaniments were missing or the meals for office workers contained too much carbohydrate. Part (b) was not always answered well. A number of candidates incorrectly prepared a cake by the all-in-one method when the creaming method was required. Some candidates incorrectly prepared shortcrust pastry instead of flaky / rough puff pastry as required by the question. Occasionally candidates used ready-made pastry which was not a good choice as skills should have been shown in the preparation of the pastry itself.

Question 2

On the whole, candidates prepared a suitable variety of skilful dishes which answered this test question well. Cakes and pastries were prepared to include plain flour, pizzas were the most usual choice to include yeast, herbs were added to a variety of savoury dishes and rice was often served with curry. The ingredient which caused the most difficulties was a root vegetable. Many candidates included carrots in a suitable dish but a number of candidates incorrectly used onions or cauliflowers, which are not root vegetables.

Question 3

This question was not always answered well as some low skill dishes were prepared and there was often repetition of skills. For a packed meal candidates should be choosing three very different dishes using different ingredients with different colours, textures and flavours. All dishes should be able to be eaten cold and should be easy to carry without spoiling. Some candidates chose cakes which included fresh cream or had sticky icing or chocolate decorations, which do not transport well. Some drinks included milk or ice cream, which would spoil when packed for some time. Occasionally candidates prepared pastry dishes for part (a) and then prepared the same type of pastry for part (b).

Question 4

Two-course meals were prepared for vegetarians but these often lacked sufficient protein to make the meals balanced. Many meals consisted only of varieties of different vegetables. Candidates could have included cheese, eggs or milk for lacto-vegetarians or any of the variety of soya products for vegans. Cakes by the whisking method and biscuits by the rubbing-in method were generally prepared well.

Question 5

This was the most popular question. A variety of dishes were prepared which were usually suitable for the party. However, candidates did not always include a good variety of colours, textures and flavours as some ingredients were used repetitively. Also some low skill dishes were prepared, e.g. sandwiches. Cakes were prepared well and usually suitably decorated.

Question 6

The midday meals for friends were generally prepared well. A variety of desserts were prepared. On some occasions these were very similar in preparation methods and flavours, which limited the range of dishes allowed. Most candidates made scones well.

Question 7

This was the least popular question and was not answered well. Some candidates prepared dishes which were not main course dishes as required, while others used only two different cereals or cereal products, not three as required in the question. A few candidates correctly used the batter mixture to prepare pancakes but many candidates did not make a dish using a batter or they prepared a dish by a different method. Biscuits were prepared, but often these were not made by the melting method as required.

Question 8

Candidates usually answered part **(a)** well, to include a dish which is steamed, usually steamed fish or a steamed pudding. Part **(b)** was not always answered well as some candidates made a sweet dish with the shortcrust pastry when the question asked for a savoury dish. Small cakes which were to include dried fruit sometimes appeared as large cakes and sometimes included nuts instead of the required fruit.