

# FOOD AND NUTRITION

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Paper 6065/01

Written

## General comments

There was a wide range of marks gained in this paper. Many candidates achieved high scores, demonstrating a sound knowledge of the subject and an ability to apply that knowledge and understanding to the questions set. Explanations and examples were given where appropriate. Weaker candidates were able to state facts but were often unable to give additional information; their answers were often very brief.

There seemed to have been sufficient time for candidates to answer the required number of questions. There were rubric errors, however; some candidates attempted all questions in **Section B**.

The presentation of scripts could be improved although handwriting was generally good. Candidates rarely completed the grid on the front cover which identifies the **Section B** questions chosen. It is time-consuming for examiners to check through scripts and complete the grid themselves before marking begins. Scripts are often fastened together too tightly. This makes it difficult to turn pages and there is always the possibility that writing paper is torn and sheets become detached. Occasionally staples were used or pages were not fastened together at all. Instructions are clearly given on the front of the question paper. Centres must take steps to ensure that these instructions are followed. Candidates must be reminded that questions should be numbered and parts of questions identified by letter. Too many candidates answered questions without leaving a single line between questions or parts of questions. A line should be ruled at the end of each question or at least two spaces left so that distinctions can be made. If a space is left between parts of a question it is then possible for candidates to go back to an answer at a later stage.

Mark allocations at the end of each part of a question are for guidance. They give an indication of the amount of time to spend on each part and the amount of detail expected in the answer. Some candidates wrote at length on part of a question worth only three marks, yet gave only brief information on parts with a mark allocation of five or six. It is important that candidates select the information required rather than try to include everything known on a topic.

## Comments on specific questions

### **Section A**

#### **Question 1**

- (a) (i) Carbohydrate, fat and protein were known to provide the body with energy.
- (ii) Most candidates were able to state the correct energy value for each of the named nutrients but marks could only be gained if the appropriate units, either kcal or kJ were stated.
- (iii) It was well-known that the body uses energy for movement, for chemical and metabolic reactions, to provide heat, for growth, for the transmission of nervous impulses and for basal metabolism. Many candidates were able to gain full marks.
- (iv) The term 'energy balance' was not well understood. It was expected that candidates would be able to define the term by stating that energy balance means that the amount of energy taken into the body should equal the amount of energy used.
- (v) It was disappointing that few candidates were able to give a sound explanation of the result of too high an intake of energy-giving food. Full marks would have been scored for noting that excess energy is converted to fat and is stored under the skin and around internal organs. This can result in obesity, coronary heart disease, high blood pressure and other named conditions.

- (b) (i) Red meat, liver, kidney, corned beef and eggs were the most common examples of animal sources of iron.
- (ii) Dried fruit, pulses and green vegetables were usually correctly identified as good plant sources of iron.
- (iii) The majority of candidates correctly identified the pigment as haemoglobin.
- (iv) Candidates were, however, less successful when explaining the function of haemoglobin. It was hoped that candidates would be able to state that it picks up oxygen from the lungs, becoming oxyhaemoglobin. The oxygen is transported to each cell where glucose is oxidised to produce energy. This is known as cell respiration. Carbon dioxide is transported as carb-oxyhaemoglobin to the lungs for removal.
- (v) Most candidates knew that the deficiency disease associated with a lack of iron is anaemia. The symptoms of anaemia were known to be pallor, lethargy, weakness, tiredness and headaches.
- (c) (i) The functions of vitamin C were well-known. Candidates included the prevention of scurvy, the formation of connective tissue, bones and teeth, growth and the healing of wounds in their answers.
- (ii) Sources of vitamin C were well-known. Citrus fruit were usually mentioned, as were blackcurrants, kiwi fruit and green peppers.
- (iii) Few candidates could state why a daily supply of vitamin C is important. Vitamin C cannot be stored in the body; it is easily lost from the body because it is water-soluble. Either statement would have gained a mark.
- (d) There were mixed responses to the question on digestion in the small intestine. It was expected that enzymes and their reactions would be identified. Better accounts described digestion in the duodenum and in the ileum, and full marks were often gained. There were, however, a number of candidates who seemed to have little knowledge on digestion.
- (e) There are several reasons why individuals have different energy requirements. Most candidates discussed at length the fact that those who carry out more activities have a greater energy requirement. It was expected that candidates would be able to identify several situations where energy requirements are different. Some candidates correctly noted that individuals have different energy needs according to age. Energy is required for growth so children and teenagers have different needs from the elderly. Pregnant women need energy for the growth of the foetus, lactating mothers need energy for the production of milk and those who live in cold climates need energy to keep warm. The health of the individual, his or her body size and occupation could have been discussed.

## **Section B**

### **Question 2**

- (a) Many of those candidates who chose to answer this question were able to identify six of the nutrients in red meat. No credit was given for simply listing minerals and vitamins. Specific names were expected.
- (b) There were few correct suggestions of reasons for tough meat. Tough meat often comes from old animals or from parts of an animal which have worked hard, for example the legs or neck. Tough meat has long, thick muscle fibres and it contains a large amount of collagen.

Sometimes meat can be tough because it has been frozen and has not been defrosted thoroughly before cooking; it may have been cooked by an unsuitable method, for example tough cuts of meat require moist methods of cooking.

- (c) Many candidates were able to suggest four different methods of tenderising tough meat before cooking. Credit was given for mentioning hanging, beating with a mallet, and mincing or cutting into small pieces. It was well known that marinating meat in wine or lemon juice or using enzymes such as papain from papaya would help.
- (d) There were few good explanations of how tough meat becomes tender during cooking. Many candidates stated that moist methods of cooking, for example stewing, should be used but further information was seldom given. It was hoped that candidates would be able to state that during moist methods of cooking, insoluble collagen is converted into soluble gelatine, allowing muscle fibres to separate.
- (e) There were many excellent discussions on the advantages and disadvantages of processing soya beans to resemble meat. Most accounts noted that soya beans are High Biological Value protein foods so they contain all indispensable amino-acids. This makes soya useful in vegetarian diets. It was often mentioned that soya is more healthy than meat because it is lower in fat. Meat contains saturated fat, often associated with coronary heart disease. Processed soya is easy to store because it is dehydrated, it requires no preparation, and it cooks quickly without shrinkage, taking on the flavours of other foods with which it is cooked. It can be mixed with meat to give a cheaper product and can be shaped to resemble, for example, sausages and burgers. It is fortified with iron and vitamins from the B group since these nutrients are present in meat. A few candidates noted that because of recent food scares like BSE and bird 'flu some consumers are using meat replacements.

The disadvantages of processed soya were clearly identified. It was noted that the colour, flavour and texture are different from meat and may not be liked. In addition, during processing artificial additives are used; many people wish to avoid these in their diet.

### Question 3

- (a) Candidates were usually able to give one or two correct points on the choice of flour and fat for making shortcrust pastry but most answers were too brief. Five marks were allocated to this section so candidates should have been prepared to give detailed responses. It was noted that plain, white flour is generally used for shortcrust pastry but few candidates made reference to the fact that soft flour with a low gluten content is best because it gives a more crumbly result. Although wholemeal flour gives a heavier result it is sometimes used because of its NSP content. It can make a valuable contribution to fibre intake. Most candidates stated that hard fat should be used because it does not melt during rubbing in. Butter and margarine give colour and flavour, although butter is more expensive; lard gives a short texture because it does not contain water but it lacks flavour. A mixture of lard and margarine is often used in order to incorporate the qualities of both fats.
- (b) There were many excellent accounts of the method of making shortcrust pastry. Many candidates gained full marks because they were able to give reasons for each of the steps in the process. Again, the mark allocation should have been a guide to the amount of detail required in the answer.
- (c) Marks were awarded to named dishes and many good examples were given, ranging from sausages rolls, quiches and Cornish pasties to lemon meringue pie, fruit flan and jam tarts. No credit was given, however, for simply giving pies and tarts as examples since the question asked for named dishes.
- (d)(i) It was not well known that pastry shrinks during baking if it has been stretched during rolling out or when it is being fitted into a flan dish. Shrinkage can also occur if the pastry has not been allowed to relax before baking.
- (ii) Hard, tough pastry can be the result of too much kneading or too much rolling and re-rolling, both of which result in the development of gluten. Too much water added to the rubbed-in mixture could also cause toughness, as can the use of too much flour when rolling out.

#### Question 4

- (a) 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. The need to consider the time, money, equipment and foods available was often mentioned. Most answers referred to the importance of including a variety of colours, flavours and textures in meals and noted that consideration had to be given to the occasion. In most instances, statements were illustrated with examples. Many accounts included the need to consider the people who will be taking the meal, their ages, health, likes and dislikes and whether or not they follow a vegetarian diet.

Although the question asked for five points to be explained, there was a wide range of possible areas for discussion. Better answers included well-supported statements, but there were many candidates who 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) Time can be saved in many ways when preparing and cooking meals, but many accounts gave little information. It was hoped that candidates would consider the use of convenience foods, labour-saving equipment and appliances such as the microwave oven and the pressure cooker. Preparing and cooking food in bulk can save time. Some can be frozen for another occasion. Tough cuts of meat can be tenderised to reduce cooking time, vegetables such as potatoes can be cut into thin slices before boiling and root vegetables can be scrubbed instead of peeled. Many different points could have been made.
- (c) This part of the question required candidates to consider the particular nutritional requirements of teenage girls. It was necessary, therefore, to identify nutrients and to explain their importance to that particular group. 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. Many other appropriate examples could have been given.

#### Question 5

- (a) There were many excellent accounts on the prevention of accidents in the kitchen. The use and storage of knives was often mentioned, the danger of using electrical equipment with wet hands was noted and problems caused by pan handles sticking out and flexes trailing on the floor addressed. All relevant information was credited.
- (b) Some candidates had difficulty understanding the concept of personal hygiene so points relating to general kitchen hygiene and food safety were included. It was expected that information regarding hand-washing, the importance of wearing clean, protective clothing and ensuring that bacteria from the mouth and nose do not enter food would have been included in the section. Again, all relevant information was credited.
- (c) The storage of perishable foods gave the opportunity for candidates to write at length on the storage of food in the refrigerator or freezer as well as in other areas of the kitchen. Accounts were good, indicating sound knowledge of the topic. Better accounts gave temperatures of refrigerators and freezers and noted the effect on food of different temperatures. Many candidates, however, failed to grasp that when food is stored in a refrigerator, food spoilage is slower, although it still occurs; bacteria merely multiply more. It was important to note that meals should be well-balanced. It was surprising that many candidates suggested preparing foods in advance, perhaps on the previous day, or making slowly. In a freezer, on the other hand, bacteria are dormant so food spoilage is halted. The importance of noting 'use by' dates was frequently mentioned as was the need to use food in rotation and to throw away food which is inedible because it can contaminate other foods.

### Question 6

- (a) The term 'baking blind' is used when a pastry case is baked without its filling. The pastry is usually weighted down with greaseproof paper or foil to retain its shape and to prevent the base from rising. It can be used when making lemon meringue pie, fruit flan or quiche.
- (b) Not many candidates were able to state that basting means to spoon or pour hot fat over the surface of food to prevent drying or burning. Sometimes the flavour of the fat enhances the food being basted. Roast beef and grilled steak are examples of foods, which are basted during cooking.
- (c) Most candidates were able to state that proving is one of the stages of bread-making. After the dough has been kneaded and shaped it is proved before it is baked. The dough should be in a warm place to allow the yeast to continue to ferment the dough. It is necessary in order to replace the carbon dioxide lost during kneading to ensure a light result. Examples include bread rolls, Chelsea buns and Swedish tea ring.
- (d) All candidates knew the creaming process. It involves the mixing together of sugar and margarine with a wooden spoon or an electric mixer. Air is incorporated and this helps to raise the mixture to give a light result. Butterfly cakes and Victoria sandwich cakes are made using the creaming method.

A few candidates noted that yeast and sugar are creamed together before the addition of warm liquid. Sugar feeds the yeast and fermentation begins.

- (e) Few candidates were able to define the term 'au gratin'. It usually consists of breadcrumbs and grated cheese being placed on the top of a dish which has been coated with cheese sauce, for example cauliflower cheese or macaroni cheese. The dish is browned under the grill or in a hot oven to give a rough, crumbly surface.

Information similar to that set out above, together with one example of the use of each term, would have been sufficient to gain full marks.

### Question 7

This question was the least popular. Those candidates who chose to answer it produced a wide range of responses. In general, answers were too brief and lacked detailed information.

- (a) Candidates were expected to identify six different types of vegetables and to give a named example of a vegetable of each type. Six marks were available for this part of the question and full marks would have been scored if a response similar to the following had been made. Cabbage is an example of a leafy vegetable, carrots are roots, potatoes are tubers and onions are bulbs. In addition, peas and beans are seeds, celery is a stem and broccoli is a flower. Tomatoes and peppers are fruit but were acceptable answers because those fruits are used in savoury dishes. Any six examples would have scored full marks. It was not appropriate to list different named vegetables or to list parts of a plant without examples.
- (b) This part of the question proved to be difficult for many candidates. It was expected that four of the nutrients in vegetables would be named, followed by a named example of a vegetable, which is a source of that nutrient. It could have been stated that lettuce is a source of vitamin C, spinach contains iron and soya beans are a valuable source of HBV protein. There were many possible answers but candidates often restricted themselves to mentioning only vitamin C and iron.
- (c) Vegetables were known to be a valuable source of NSP and water, and functions of each were usually stated. It was often correctly noted that vegetables add bulk to meals so they are useful for those people on weight-reducing diets. They add colour, flavour and texture to meals and can be eaten raw or cooked in a variety of ways. Several answers gave details of methods of preserving vegetables to give variety and to take advantage of plentiful supplies. There were many good reasons suggested for the inclusion of vegetables in the diet. Some candidates noted that some vegetables are a source of anti-oxidants; others mentioned that vegetables could be cheap to buy or can be grown at home so it is important to include them in meals. All valid points were given credit.

As previously stated, 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. Careful reading of each question followed by careful planning of answers will be rewarded by success.

# FOOD AND NUTRITION

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Paper 6065/02

Practical

## General comments

Most of the work presented by candidates was of a good standard. The work was arranged in the correct order and labelled clearly. Where photographs were included these were helpful in confirming the marks awarded in the results section. It is important that Centres follow the instructions correctly for the allocation of tests. The five chosen tests should be "allocated to the candidates in strict alphabetical order". Some Centres were not following this regulation and seemed to be allocating tests in some random order. It is also important that all work shows evidence of marking and that mark schemes are followed carefully.

The planning sheets should be marked as soon as they are completed, before the actual cooking of the dishes. Some mark sheets in the choice section included comments which referred to what actually happened during the practical examination, so it appears that they were marked after the event.

The methods and results sections are the place for comments about the actual cooking of dishes. The allocation of marks for the results section should be followed correctly according to the mark scheme. Some Centres awarded marks in this section according to their own schemes and this should not be the case. It is important that there is detailed annotation in all sections to explain why certain marks have been awarded, particularly in the methods and results sections. Some Centres provided very detailed comments about the work of their candidates, while others gave short, general, repetitive comments which were not helpful in verifying the marks. It was necessary to make some adjustments to marks which were too high without supporting annotation, or when dishes chosen were unsuitable or insufficient to fulfil the requirements of the test.

The choice section of the preparation sheet should show clearly the dishes chosen by the candidate to answer the question set. Where there are two parts to the test the dishes should be labelled clearly for parts **(a)** and **(b)**. Where a meal is required, it should be clear which dishes are to form part of the meal. Dishes should be varied and skilful. Recipes should be given next to each named dish, with descriptions and amounts of ingredients required. Some candidates chose well, answered the question set and showed the use of a good variety of ingredients and methods. A few candidates chose dishes with few skills e.g. salads, or repeated dishes with the same methods e.g. rubbing in. Some candidates repeated ingredients in several of their dishes e.g. cheese, lemons. Meals should be balanced, attractive and suitable for the people being served. Accompaniments and desserts should be served to complete the meal. Some Examiners awarded marks which were too high for meals which were incomplete or unbalanced and showed few skills. Marks for choice should have been deducted in this case. It is vital that candidates read the question very carefully to ensure that they are preparing what is required and that sufficient, varied and skilled work fills the time allowed for the test.

The time plan should show a logical sequence throughout the cooking including brief methods, times, temperatures for cooking and serving details. Many candidates planned their work well, including most of the detail required. Some candidates, however, failed to include details about methods, times, etc. and in a few cases it was not clear what dishes were actually being made. Pre-heating of ovens and preparation of equipment was sometimes missing and some candidates rarely seemed to wash up or clear their dishes. Sequences were sometimes poor. Dishes which need to set or be chilled should have been prepared early in the test and cakes should have been allowed cooling time before they were decorated. Some candidates had difficulty in interlinking or dovetailing their dishes, so that each dish was made in turn with some waiting time while dishes cooked. Cooking times should be used to prepare another dish or to wash up. There were some good examples of batch baking, making full use of the oven space. This is always useful but not essential (except for **Question 6**) and only works when the two dishes are to be cooked at similar temperatures. Serving details were rarely given. Indications about garnishing and decoration should be included and time allowed for this. Meals should be served hot in the correct order of eating the meal, not, as many candidates did, serving dishes as they were made, in any random order. Shopping lists were satisfactory on the whole.

Marking of the method of cooking was very variable. Clear and detailed annotation should be given when marking this section. Vague statements such as “good”, “organised”, and “worked well” do not explain what took place. The mark scheme should be used as a guide to help examiners with the necessary comments about use of tools, hygiene, etc.

The results section should clearly list the dishes made, show the mark allocation for each dish according to the mark scheme and the actual marks awarded. Detailed annotation should explain the reason why certain marks have been given. Maximum mark allocations in the mark scheme cannot be awarded for simple low-skill dishes. Centres need to take more care with this section to follow the mark scheme carefully and to mark candidates fairly on the work completed. Marks for serving and appearance should also be supported by relevant comments.

### **Comments on specific questions**

#### **Question 1**

This was one of the most popular questions. Many candidates cooked and served a suitable two-course evening meal as required by the question. A few candidates did not prepare accompaniments while others did not take care to ensure that the meal would be balanced. A varied choice of desserts was made, but on quite a few occasions these were not very skilful. The two dishes containing different flours were usually suitable.

#### **Question 2**

Candidates used all five pieces of equipment in the preparation of five dishes. Some of these were skilful and varied, while others chose to repeat flavours, e.g. chocolate, or methods, e.g. whisking. It is important that candidates include a good variety of skills and methods in their work.

#### **Question 3**

A variety of dishes were prepared for the packed meals, some more suitable than others. Care should be taken to choose food which is sufficient for the people who are eating the meal, which packs well without damage, and which keeps well for some time. Seafood and milk to drink may not keep safely during hot weather and cakes with cream would not carry well without damage. Again methods should not be repeated e.g. rubbing-in for both the sweet and savoury dishes. Two dishes showing the use of air to raise mixtures were usually chosen well.

#### **Question 4**

There was a varied selection of dishes prepared for the birthday party. Some showed good skills, varied flavours and textures and formed an attractive display of dishes. A few candidates chose to prepare a whole range of simple dishes which would not be very demanding, e.g. flapjack, sandwiches. Birthday cakes were prepared and decorated well.

#### **Question 5**

This question was also a popular choice. Three different methods of cooking were required but some candidates did not name their chosen methods so it was not always clear how the food was to be cooked. Some candidates chose very simple dishes to illustrate the methods, e.g. boiled rice, baked potatoes, etc. Snack dishes were generally suitable and usually showed some skill.

#### **Question 6**

This question was the least popular and was not always answered well. Some candidates did not make their pastry as a batch, as required by the question, but repeated the method for pastry three times. Others made three dishes which were very similar, e.g. three pies. Two-course meals were made but often lacked accompaniments so were incomplete.



**Question 7**

This question was popular but was often not answered well. Some candidates prepared only two high fibre dishes and some of these were low skill, e.g. salad. Meals often lacked accompaniments and were not served in the correct order.

**Question 8**

Most candidates who answered this question failed to include a roux sauce as required by the question. Adequate meals were served but these sometimes lacked variety in colour and texture. Savoury dishes made by the rubbing-in method and sweet dishes made by the creaming method were usually chosen well.