

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.
- Candidates should carefully manage the time they spend on each section so that questions with more marks are given more time.

General Comments

It is important for candidates to look carefully at the mark allocation to help them decide how much information should go into the answer. Candidates sometimes write too much when a question has a low mark allocation and waste valuable time as a result. In particular, some candidates do not leave sufficient time for the essay in **Section C** which carries a high mark.

Candidates are advised to read the questions carefully and thoroughly, to limit careless mistakes and avoid omitting key information.

Comments on Specific Questions

Section A

Question 1

- (a) Most candidates found it difficult to give two minerals but the most common answers were phosphorus and/or sodium. Most candidates were able to give examples of two correct vitamins. Many candidates mentioned calcium which was already in the question.
- (b) Most candidates gave two correct responses.
- (c) Many candidates were only able to give one symptom, e.g. bow legs for rickets; weak bones for osteomalacia; brittle bones for osteoporosis; or muscle cramps for tetany.
- (d)(i) Most candidates gave the correct response and corresponding example.
- (ii) Many candidates gave at least one correct response. In general, candidates are advised to select examples to reflect the broad range of possible alternatives rather than two (or more) very similar choices, such as milk and cheese. Many candidates did not read the question carefully and gave sunlight rather than a food source of calcium.
- (e) Many candidates were able to give at least one correct response. The most common were green leafy vegetables, bones of canned fish, or named examples of canned fish. Many candidates did not read the question carefully and gave examples of dairy foods.
- (f)(i) Candidates mentioned that a coating sauce is thicker than a pouring sauce and that it should coat either food or the back of a spoon. They also mentioned that a coating sauce is usually cooked with the dish and a pouring sauce is served separately. The examples given were usually macaroni cheese for a coating sauce or custard for a pouring sauce. Some candidates did not address the question and discussed coating foods before frying, e.g. making batters. Very few candidates mentioned that a coating sauce uses less liquid than a pouring sauce.

- (ii) This question was generally well attempted though the mark was not credited if candidates failed to give the unit of measurement for the flour. In the second part, many candidates gave the correct response with milk as the most popular answer.
- (iii) Many good accounts of the making of a roux sauce were given. Some candidates gave the method for an all-in-one sauce and this was not credited.
- (g)(i) Candidates mentioned chewing the food but generally did not expand their answers to give a further point such as saliva moistening the food to make it easier to swallow. Reference to chemical breakdown was not correct for the digestion of fat or protein in the mouth.
- (ii) There were some very good answers to this question with quite a few candidates discussing intestinal juice, erepsin, amino acids, lipase, fatty acids and glycerol. Some candidates mentioned lactase and its action on lactose. However, quite a number of candidates discussed absorption instead of digestion.

Question 2

- (a) Candidates were required to give four disadvantages for full credit. The most common correct responses were: high in fat/sugar/salt; expensive; contain additives; and portion sizes are small. Candidates also correctly mentioned people losing cooking skills.
- (b) Many candidates correctly mentioned sugar coating the teeth and the build-up of plaque, bacteria and acid, but some explanations were confused. Very few candidates mentioned a low pH.
- (c) Some candidates just mentioned the disease with no attempt at an explanation. Popular responses included diabetes, caused by a high blood sugar level and a lack of insulin; and obesity, caused by converting excess sugar into fat and its storage as adipose tissue.
- (d) Sucrose and fructose were the most common correct responses. A few candidates misunderstood the question and mentioned types of sugar, e.g. caster, granulated etc. This was not credited.
- (e) This question was generally well answered.
- (f) This question was not well answered with many candidates incorrectly discussing caramelisation. Correct answers usually mentioned dry heat on starch and a correct example.

Section B

Question 3

- (a) There were some very good responses with many candidates giving excellent accounts. Many candidates correctly mentioned both liquids and gases and discussed changes in density and movement of particles. Some candidates used diagrams to accompany their narrative. Some candidates incorrectly described conduction.
- (b) This question was very poorly attempted though some candidates mentioned that diets too high in salt and fat can lead to hypertension and some referred to fat deposits in arteries. References to factors such as too much stress or anxiety were not credited. Quite a number of candidates did not understand the question at all and wrote instead about meat fibres being “tense” and what should be done to make them tender during cooking.
- (c) Most candidates mentioned that pasteurisation is a method of preserving milk and some also mentioned fruit juices. In general candidates mentioned the various methods of pasteurisation and were able to give fairly accurate temperatures for the processes. Many candidates, however, overstated how long pasteurised milk keeps fresh.

Question 4

- (a) *Cake has sunk in the middle.* The most common response was that the oven door was opened during cooking.

Cake has risen unevenly. The most common response was that the raising agent was not evenly distributed or that the cake was too near the heat source. Responses just stating that the ingredients were not evenly distributed were too vague and were not credited.

Cake has risen to a peak and is cracked. Many candidates mentioned that the oven temperature was too high.

Cake has a hard, sugary crust. Many candidates mentioned using too much sugar or using granulated sugar instead of caster.

- (b) This question was very poorly answered by candidates indicating that they seem unfamiliar with the basic stages of bread making.
- (c) Many candidates mentioned stretching the gluten, mixing the ingredients together and making the dough elastic. Some candidates provided irrelevant information about incorporating air and about how this makes the bread rise.
- (d) Many candidates gave correct answers. Often candidates gave the incorrect unit with the correct number or gave just a number with no unit.

Question 5

- (a) Some good responses with most candidates scoring at least half marks.
- (b) Most candidates mentioned vomiting, diarrhoea and stomach ache.
- (c) Most candidates discussed the fact that soft cheeses contain a lot of fat and said that a pregnant woman should not eat soft cheese because it would make her gain weight; it is difficult to digest; and it would be bad for her heart. Only a few candidates grasped the main focus of the question, that the cheese is not pasteurised, and correctly mentioned bacteria such as *Listeria*. Very few candidates gave precise enough responses in terms of miscarriage or stillbirth; most were too vague and just mentioned that "It would be harmful to the baby".
- (d) Candidates made many good, valid points such as washing hands, not cooking if ill, tying up hair, covering cuts etc. Discussion of general kitchen hygiene points, e.g. clean utensils and clean work surfaces, instead of discussing personal hygiene, was not credited.
- (e) (i) and (ii) Many candidates mentioned granite or marble and stated that these materials are smooth, easy to clean and cool for pastry. Some candidates mentioned wood and stainless steel and linked these materials to reasons such as smooth and easy to clean. A few candidates mentioned linoleum or other floor coverings which were not credited. Some candidates misunderstood the question and named kitchen appliances, e.g. cooker, microwave.
- (f) There were some good responses such as turning off the power supply, pushing away the mixer with a wooden implement and calling for medical assistance. However, some candidates misunderstood this question and discussed the safe use of electrical items.

Section C

Question 6

- (a) Some candidates gave very good answers, in particular when discussing the needs of a pregnant woman who follows a vegetarian diet. They mentioned the need for specific nutrients, e.g. HBV protein in the form of soya or the use of complimentary proteins; iron to prevent anaemia and to supply the fetus; folate to prevent spina bifida. Many candidates gave plant sources of these nutrients or discussed foods that could be eaten if the pregnant woman were following a lacto-ovo vegetarian diet.

However, many candidates stated that a pregnant woman should not follow a vegetarian diet, as she would need to eat meat to provide protein and iron, and did not consider any alternatives. Also many candidates just stated what nutrients would be needed, but did not relate them specifically to a pregnant woman. Sometimes the advice was completely irrelevant to the context, e.g. iron needed because of the menstrual cycle. In many cases reasons for following a vegetarian diet

were too general, e.g. religious reasons or peer pressure, when the question required more specific reasons, e.g. healthier, to avoid excessive weight gain during pregnancy. In order to gain full marks candidates were required to include information in all sections of the question; many candidates did not discuss possible health problems after pregnancy.

- (b) Candidates provided some good responses about preserving foods such as adding variety, creating new foods, stopping wastage, extending shelf life, stopping food spoilage and ease of transport, e.g. when camping. Most candidates were able to mention at least five different methods of preservation such as drying, pickling, jam making, freezing, drying or heat treatment and were able to discuss these methods in detail with examples.

Again, in order to attain full marks, candidates needed to address all areas of the question. This included discussion of the advantages and disadvantages of the refrigerator for food preservation.

FOOD AND NUTRITION

Paper 0648/02

Practical

Key Messages

- Candidates should read the test questions carefully so that the correct dishes are chosen to answer the question set.
- A wide range of skills and a variety of cooking methods should be used without repetition.
- Candidates should avoid making simple assembly type dishes, e.g. salad.
- Candidates should avoid using too many convenience foods.
- 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

All Centres must ensure they are familiar with the instructions published by Cambridge International Examinations and sent to all Centres; these instructions clearly state that **five** of the published **eight** tests are to be used in each Centre and that they must be allocated to candidates in strict alphabetical order. In some Centres all candidates were allocated the same test and in some Centres all eight tests were allocated.

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. Many candidates used several planning sheets for their time plans; only **one set** of carbonised sheets should be used. On a few occasions, marks were not totalled correctly or were not transferred correctly onto the marksheets. All additions and transfers of marks should be checked by another person before the work is forwarded to the examination board. Correct documentation should be sent with all coursework; some marksheets were missing from Centres.

It is a requirement of the examination board 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 can help support the marks awarded. A number of Centres helpfully included detailed marking and annotation for all candidates together with supporting photographs. However, some Centres did not include any annotation or photographs, making the moderation process more 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 received full credit. 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. small cakes or biscuits made instead of desserts for the two-course meals; cakes made by the creaming method instead of the whisking method for **Question 1**; inappropriate hot dishes chosen as part of a packed meal for **Question 3**; dishes that were inappropriate for selling at a school event for **Question 4**; and dishes that were far too high in fat and carbohydrates for two friends trying to lose weight in **Question 5**. A number of Examiners awarded high marks for dishes with low skill, e.g. grilled chicken, steamed or baked fish, sandwiches, simple salads, pasta

dishes using bought pasta and stir-fried rice using pre-cooked rice. Some candidates prepared drinks. 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.

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 so it was very difficult to check which parts of the question were being answered; choices were particularly difficult to assess when candidates had chosen inappropriate 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. a main course, accompaniment and dessert all made with yoghurt; a vegetable curry served with stir-fried vegetables; or sausage goulash served with stuffed tomatoes. Some inappropriate accompaniments were chosen, e.g. casserole served with coleslaw or lasagne served with rice. Meals 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 that all major ingredients are included and that the recipes are correct for the skills being shown, e.g. the recipe proportions are correct for pastries, creamed mixtures, whisked mixtures, sauces, etc. Some candidates omitted main ingredients, such as margarine for pastry, yeast and flour for a pizza base, and chicken for a chicken curry. 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. Cake, biscuit and pastry mixtures should be limited to a maximum of 250 g flour, sauces to approximately 250 ml of milk, etc.

Time plans should show the sequence of work to be followed for the duration 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. Time plans would benefit from being written 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, restricting the credit available in this section. Time plans should include key points of making each dish and show the “real time” sequence of working, e.g. candidates should not be waiting for 30 minutes for a cake to bake and doing nothing else.

Many candidates received full credit for stating the correct serving sequence, when in reality, the time plans showed that their main courses had been ready for over an hour. Cakes and cold desserts that need decorating should be made early in the test time to allow for cooling / setting 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 where under-cooking would represent a health risk.

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 or did not illustrate the cooking method requested, for example, blanching peppers did not illustrate stewing. **Part (b)** was not answered particularly well. Most candidates were able to prepare a batch of biscuits successfully; however, many candidates were confused by the whisking method of cake making. Candidates often chose to **make** their cake by using an electric whisk or electric mixer, but a creaming method recipe was used.

Question 2

Most candidates answered **part (a)** quite well, with a variety of skilful dishes. Occasionally accompaniments were missing or the meal for two visitors contained too much carbohydrate. **Part (b)** was mostly answered correctly. A large number of candidates successfully made a cake using the creaming method and scones were made correctly.

Question 3

Many of the dishes chosen for **part (a)** of this task did demonstrate three different types of flour; however, some recipes contained only one tablespoon of the chosen flour so did not reflect particularly good use of the flour. **Part (b)** was answered quite well by the majority of candidates; many decided to make a main course and dessert dish “as part of an evening meal” so that they could demonstrate a range of skills. Some candidates chose to make biscuits in **part (a)** but had already made biscuits to illustrate the use of plain flour in **part (b)**. Biscuits would be considered as a snack item; they do not form part of a meal.

Question 4

This task was not completed particularly well by many 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; others made a selection of hot dishes that would be impossible to portion successfully to sell at a school event. Dishes suitable for sale at a school event would usually be picked up by fingers and would be served cold. Mini quiches, sausage rolls, chicken drumsticks, sweet or savoury turnovers, samosas, muffins, cakes and cookies would have been suitable. Several low skill dishes, e.g. sandwiches, were made.

Question 5

Unfortunately candidates did not always choose their dishes carefully enough for “two friends trying to lose weight”. Many of the meals were high in carbohydrates and fats and lacked colour and texture. Main courses were generally chosen quite well, but accompaniments and desserts were too stodgy. Dishes such as lasagne should be accompanied by salads, not potatoes and bread rolls; steamed pudding or apple crumble served with custard would be too heavy for people watching their weight. Dishes such as fruit flans or egg custards would be more suitable. Most candidates successfully made a cake by the creaming method and a savoury dish using pastry.

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 and herbs and spices were omitted or repeated. Candidates answering this question needed to choose a mix of sweet and savoury dishes to show a range of skills, rather than repeating skills such as pastry making or the creaming method of cake making.

Question 7

The dishes chosen for the two-course meal suitable for two manual workers tended to lack variety. 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 reasonably well; many candidates were able to choose two dishes that the manual workers could take to lunch the following day; however, too many candidates chose snack items such as cakes, scones or biscuits which would be less suitable as part of a nutritious lunch.

Question 8

This was one of the most popular questions. The majority of candidates prepared a good variety of dishes to show the use of different pieces of equipment. However, some candidates stated they would use a frying pan for dishes such as samosas and doughnuts when these dishes should be deep fried; a frying pan should be used for dry or shallow frying. The sizes of the equipment used and cooking method should be appropriately taken into account by candidates. Marks were not always adjusted for incorrect uses of equipment or inappropriate methods.