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## FOREWORD

This booklet contains reports written by Examiners on the work of candidates in certain papers. **Its contents are primarily for the information of the subject teachers concerned.**

# FOOD AND NUTRITION

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## GCE Ordinary Level

<p>Paper 6065/01 Paper 1 – Theory</p>
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### General comments

There was a wide range of scores for this paper. It was encouraging to note that there were many candidates who produced answers of a very high standard, demonstrating their ability to state and explain facts and showing a sound understanding of the subject matter. They were able to recall facts, give explanations and examples and apply their knowledge wherever appropriate. Weaker candidates were often unable to recall more than a few basic facts and did not always give explanations or examples. Their responses tended to be very brief. **Section B** answers were often too brief; answers were lacking in detail and showed little regard for mark allocations. As a general rule, each **Section B** answer should be at least one page in length.

Candidates seemed to have had sufficient time to answer all of the questions on the paper. There were a few rubric errors; some candidates attempted all questions in **Section B**. The handwriting of some candidates gave cause for concern because it was very small and difficult to decipher. Teachers who are aware of this should encourage candidates to make every effort to produce work that is easy to read. Scripts were usually well presented, although string was often tied too tightly making it difficult to turn pages without tearing the script. There is always the chance that part of a script could become detached and perhaps lost. Candidates should be reminded that it is not necessary to begin each question on a new page, nor is it necessary to write on only one side of the paper. It is important, however, that a clear space is left between questions and part questions and that each question and part question is identified by a number and letter. On some scripts, every line was written on so it was difficult to see where one question ended and the next question began. Candidates should be reminded of the importance of setting out their work clearly. It is the candidate's responsibility to complete the grid on the front cover of the answer booklet at the end of the examination. The instruction is clearly stated on the front page of the paper but is frequently overlooked.

Mark allocations and spaces provided for answers should help candidates to decide on the amount of detail required in their answers. They should help candidates to judge the amount of time to spend on each answer and to estimate the amount of detail required in their answer. A mark allocation of five marks, for example, should not require an answer in excess of one side of writing, nor would two or three lines be appropriate. Candidates should be able to demonstrate their ability to select information for answers and not write everything known on a topic; this wastes too much time.

**Comments on specific questions****Section A****Question 1**

- (a)(i) Fat, protein and carbohydrate were known to provide energy.
- (ii) Many candidates were unable to state the energy value of 1 g of each of the nutrients named. No marks could be scored if the answer did not include the correct units, either in kcal or kJ.
- (iii) It was generally known that energy is used for movement and for chemical reactions in the body. Better answers also noted its use for transmitting nervous impulses and for maintaining body temperature. Few candidates, however, were able to state four different uses of energy. Most answers were variations on the use of energy for movement.
- (iv) Most candidates were unable to define the term Basal Metabolic Rate. It was expected that candidates would know that it is required to maintain involuntary processes such as blood circulation and breathing when the body is at normal body temperature and at complete rest. It is usually calculated five hours after a meal. BMR is different for each individual.
- (v) It was generally known that if energy intake were greater than energy output the excess would be converted to fat, which is stored under the skin or around internal organs. This could lead to problems such as obesity or coronary heart disease.
- (vi) Candidates often found it difficult to give reasons for different individual energy requirements. It was expected that mention would have been made of the facts that if a person has a strenuous occupation more energy will be required and that if an individual takes part in activities like games, more energy will be needed. It was sometimes noted that children and babies need additional energy for growth and that males require more energy because their body size is greater and their BMR is higher. Answers tended to be repetitive, concentrating on energy for activities.
- (b)(i) Sources of iron were well known, many candidates gaining full marks.
- (ii) The importance of iron was often well explained. The best answers noted that iron is required for the formation of haemoglobin, the red pigment in blood. It picks up oxygen and carries it as oxyhaemoglobin to cells where it is used for the oxidation of glucose to produce energy.
- (iii) Anaemia was usually correctly named as the deficiency disease associated with iron.
- (iv) The symptoms of anaemia were well known and most candidates gained full marks.
- (v) Vitamin C was correctly identified as being responsible for the absorption of iron.
- (c)(i) There were many excellent accounts of digestion in the duodenum. Enzymes were correctly identified and their actions described accurately. There were, however, a number of candidates who were unable to give any accurate information on digestion in the duodenum.
- (ii) Some candidates failed to note that the question related to absorption in the ileum and began by describing further digestion. Credit was only given for points relating to absorption. Many candidates gained full marks.
- (d)(i) It was expected that fresh fruit and vegetables would be known to be important because of their vitamin A and vitamin C content, their NSP and water and the variety of colour, flavour and texture they contribute.
- (ii) There were many suggestions for encouraging children to eat fresh fruit and vegetables. They included serving in small portions, cutting into small pieces, giving as snacks and including in packed lunches. There were many excellent suggestions.

**Section B**

**Question 2**

- (a) It was well known that cereals are cheap, easy to grow and store and are available in many varieties. Candidates generally noted that they are a source of energy because they are rich in starch.
- (b) Most candidates were able to name four different cereals.
- (c) There were many excellent accounts of the method of making shortcrust pastry. Reasons for the method followed were well known. Candidates scored well.
- (d) The temperature for baking shortcrust pastry was not always known.
- (e) There were few good explanations of the changes which take place when shortcrust pastry is baked. Most answers stated that fat melts and the pastry sets. Better answers noted that starch gelatinises and the starch dextrinises causing the pastry to brown. It was seldom noted that trapped air expands and that water turns to steam. Most candidates, however, were able to give some correct information.

**Question 3**

- (a) There were many excellent accounts on soya. It was known to contain all the indispensable amino acids, making it the only plant source of HBV protein. Textured vegetable protein was usually mentioned and examples of TVP products identified. Soya products, for example tofu, soya milk and soya flour were sometimes noted and some of the nutrients in soya were identified. All correct information was credited and many candidates scored good marks.
- (b) Those who were familiar with using yeast as a raising agent were able to give very good accounts with accurate detail. The conditions required for yeast to reproduce were usually given. The best answers named some or all of the enzymes which play a part in fermentation and showed a clear understanding of the process. Again, all correct information was credited and there were many good scores.
- (c) Different uses of sugar were not always well discussed, although there were many very good attempts to identify and give examples of uses. Sugar for sweetening was usually given, as was the use of sugar as a preservative, for example in jam. Several candidates were able to explain why bacteria were unable to reproduce in high sugar concentration. Caramelisation was sometimes given as a use of sugar; some mentioned its use as food for yeast to begin the fermentation process. Icing and decorations were mentioned as were sweets and other confectionery. Some information was vague; it was insufficient to state that sugar adds colour or it can be used in cake-making unless additional information was given. It was acceptable to state that sugar and margarine, when creamed together, trap air, which is used as a raising agent in rich cakes. No credit was given for simply stating that sugar can be used as a raising agent.

#### Question 4

- (a) Few candidates were able to name two types of bacteria although many could name one, usually salmonella.
- (b) It was pleasing to note that many candidates were able to state the effect of different temperatures on bacteria.
- (c) Many accounts, although accurate, did not address the question. The question related to the safe storage, preparation, cooking and serving of meat but answers suggested that the word 'safe' had been overlooked. It was expected that storage in a refrigerator or freezer would have been mentioned. It would have been valuable to have noted the temperature for storage in each, with information on the effect of those temperatures. The need to defrost frozen food thoroughly before cooking could have been mentioned as well as the dangers of cross-contamination when preparing meat. Many candidates correctly noted that meat must be thoroughly cooked in order to destroy bacteria and that it should be served as soon as possible after cooking so that bacteria are not given the opportunity to reproduce. In a few answers reference was made to the need to cool meat before it is put in the refrigerator for future use and that it should be stored for no more than 24 hours before it is used again. No credit could be given for general information on methods of tenderising and cooking meat because it was not relevant to the question.
- (d) Many candidates found it difficult to give accurate information on ways in which enzymes can bring about changes in foods. Yeasts, moulds and bacteria and enzymes are terms often used interchangeably. Enzymes are not alive so they cannot be destroyed by heat; they can be denatured. Some candidates correctly noted that enzymes can bring about changes in colour, flavour and texture, they can oxidise vitamin C, especially in green vegetables and are responsible for the ripening and spoilage of foods. It was encouraging that a number of answers gave information on the use of papain and bromalin for tenderising meat. Credit was given to all correct information on the changes brought about by enzymes.

#### Question 5

- (a) This was a popular question and it was answered well by many candidates. It was expected that many points on meal planning would be discussed. These would include consideration of money available, equipment available, the season, the occasion and many others. The need to include a variety of colours, flavours and textures in a meal could also have been considered. While many answers did include a discussion on many of these points, others emphasised ways of including each nutrient in the meal or considered the needs of each member of the family. The best answers considered a range of different points, illustrating each point with examples.
- (b) The special nutritional needs of teenagers were well known. Most candidates were able to highlight those nutrients, which are specially required by this group. They include protein, iron, vitamin C, calcium, phosphorus, vitamin D, starch and vitamin B. It was hoped that reasons for these nutrients would have been identified together with suggestions of ways to incorporate them in meals. Many answers listed all nutrients and while all are essential in a balanced diet, the focus of the question was on the special nutritional needs of teenagers. Again, credit was given for all correct information as long as it was relevant to the question.
- (c) The problems associated with a high fat diet were usually well explained. Most candidates noted that one of the results could be obesity and another could be coronary heart disease. Descriptions were often given of the effect on the arteries of cholesterol from saturated fat. Candidates were generally well informed and gave accurate information.

**Question 6**

- (a) Most candidates were able to give some accurate information on creaming. Descriptions of the process and the ingredients were usually given and a named example of a dish made using the method included. It was expected that a named example of a suitable fat for creaming would have been named.
- (b) Basting was not a term understood by a number of candidates. Full marks could have been scored for stating that it is the term that describes the pouring or spooning of hot fat over the surface of food to prevent drying or burning. It adds to the food flavour from the fat and from the extractives. It is used when roasting or barbecuing meat.
- (c) There were many very good explanations of the method of making a roux. The ingredients were correctly identified and the main points of the process identified. Cheese sauce was often the example given but there were many others. Some descriptions were of the entire process of making a roux sauce although the roux refers only to the cooked mixture of fat and flour which is used for thickening the sauce or soup.
- (d) Saut eing was not well described although most candidates who attempted this question were able to give one or two correct facts. It was expected that saut eing would be identified as a type of frying using a small amount of fat. The food should be continually moved about until all the fat has been absorbed. Because it is a quick method, only thin or small pieces of food are suitable. Onions, mushrooms and potatoes were the most popular examples given.
- (e) It was usually noted that stock is used to flavour dishes. It can be made from meat, fish or vegetables. Some candidates described how stock could be made by boiling bones or small pieces of food for a long time in order to extract flavour. It is used instead of water in soups and stews. It was often mentioned that stock can be made by using commercial stock cubes; this information was credited because it is an example of the use of a convenience food to make stock.

**Question 7**

- (a) Although most answers gave some information on types and examples of convenience foods there were few candidates who could identify four types. It was expected that mention would have been made of frozen, canned, dried and ready to eat foods and appropriate examples of each type given.
- (b) It was clear that many candidates had a sound understanding of the topic and were able to discuss each point well. There were numerous advantages and disadvantages stated which were often supported by examples. It was usually stated that convenience foods save time and effort, save fuel and can be stored easily. They are widely available in many varieties so it is possible to enjoy foods out of season and from other countries. Sometimes the cook may not have the expertise to produce an equivalent dish. It was usually noted that convenience foods can be expensive, and may contain high levels of fat, sugar and salt and a low level of NSP. Many candidates mentioned that convenience foods often contain artificial additives, which may have a detrimental effect on health.
- (c) This section of the question often proved to be challenging. Mention was frequently made of the use of a microwave oven which cooks food quickly. It was often correctly stated that it is better to make a large batch of food than small amounts on separate occasions and that the whole family should be given the same meal. Frying and pressure-cooking are also quick methods of cooking. Few candidates mentioned cutting food into smaller pieces or using tender cuts of meat in order to quicken the cooking process. Labour-saving equipment was rarely cited as a way of saving time, and only a few candidates suggested that time could be saved by not peeling potatoes or carrots.
- (d) There were many possible reasons for packaging foods. Most candidates gave one or two reasons but there were few good answers to this part of the question. Packaging protects the food from damage during transport or storage and prevents food waste. Packaged foods are often easier to handle because boxes can be stacked. Labels on packages can attract customers to buy goods and can give information on cooking, storing and weight as well as important nutritional information. The shelf life of the food can be extended because the food is more hygienically wrapped; most of them cannot be touched by hand so the risk of contamination by bacteria is reduced. There are many other points that could have been made regarding packaging but few were mentioned.

**Paper 6065/02****Practical****General comments**

It was pleasing to see a general improvement in the standard of work this year. Most candidates completed all sections of the paper fully and presented their work in a legible and orderly manner. The work was fastened together in the correct order and, as required, most Centres attached the mark sheets securely to the front of the work of each candidate. It was very helpful that many Centres attached photographs showing the results of the work of their candidates. This certainly helped in confirming the marks awarded in the results section. It is important that the mark schemes for all sections of the work are followed carefully. Examiners should not be allocating marks according to their own schemes. This did occur in some of the marking of results. Some adjustments were necessary where marks awarded were too high, usually when instructions and mark allocations were not followed carefully.

In the preparation for the practical examination marks are allocated for choice and plan of work. The choice section should show a clear list of the dishes which the candidate has chosen to answer the question. These could be labelled parts **(a)** and **(b)** according to the question set. There should be sufficient dishes to fill the allocated time and these should answer the requirements of the test. Candidates should not have time to include additional dishes and dishes which do not form part of the test should not be marked. Dishes should be arranged in the correct order and it should be clear which dishes are for which part of the test. It was not always shown clearly which dishes were to form part of the meal. Meals, where required, should be complete including accompaniments and desserts. Marks should be deducted where candidates plan insufficient dishes to complete the meal. A good variety of skills and processes should be shown and marks should be deducted in choice, method and results sections where the work is very simple. When meals are planned these should be balanced, attractive and suitable for the persons who are to eat the meal. Next to each chosen dish there should be a clear list of ingredients, showing specific types and amounts to complete the dish. Candidates should choose ingredients wisely so that the same foods are not used repetitively in different dishes and that economy is shown. The instructions state that dishes made should usually be suitable for serving two to three people so it is not necessary to order large amounts of food. On some occasions candidates chose too much food which was later wasted. On the mark sheet for the choice section it is necessary that Examiners give detailed annotation to explain how the marks have been awarded.

The time plan should show how the candidate has chosen to complete the work. A sensible sequence needs to be shown so the dishes which need to be set/chilled or have several stages need to be started early. Some candidates failed to do this so that drinks were served still warm and cakes were decorated while still hot. A brief indication of methods, cooking times and temperatures should be shown here. Candidates often omitted these. Work should follow a sequence so that several dishes are interlocked or dovetailed. Candidates should not be wasting time waiting for dishes to cook before they begin another process. The full cooking time should be utilised. Some candidates finished early as insufficient work was planned. If this occurs it should be reflected in the marks allowed for all areas of the test, including method and results marks. One area which would benefit from improvement this year would be in the serving of the final meals. Hot dishes should be served hot at the end of the test and should be served in the correct order for the meal. The cooking should be planned in such a way that it is not necessary to reheat dishes at the end of the test. This may affect the final appearance of the dishes when they are served and may result in contamination of the food if the dishes are left standing about for a length of time. Many candidates still served their dishes as soon as they were ready so no orderly meal was served. Serving details should be shown in the time plan, such as the sequence of serving or finishing touches which would be made to the dishes.

The shopping lists were completed well by most candidates. In this section ingredients should be described and totalled showing the exact requirements. This should correspond with the list of ingredients in the recipes given in the choice section. Most candidates listed correctly the special equipment required for the test.

Careful study of the mark scheme is required at each stage of the marking. Plans should be marked before the actual cooking begins and comments should be made about the marks awarded.

When marking the actual method of cooking, high marks should not be awarded for simple skills and poor timing. The mark scheme does state that a mark of 44/55 should only be awarded “for very good methods, excellent timing and a variety of skills”. Some Centres were awarding very high marks for very little work. It could be easy for a candidate to score high marks in this section when insufficient work has been planned but Centres need to mark the work fairly, particularly when some candidates produce a lot of work and are very organised. When more detailed annotation is required, “good” and “satisfactory” do not explain why certain marks were awarded.

In marking the quality of dishes/results, comments should be made about the flavour, texture and edibility of each dish. This should include a sequence of serving and final appearance of the dishes. The maximum marks for each dish are shown clearly on the mark scheme and these should not be exceeded. On some occasions high marks were awarded without any clear justification, this is where photographs would help to confirm marks.

### **Comments on specific questions**

#### **Question 1**

This was a popular question and many candidates chose suitable main courses and desserts. Occasionally very low amounts of protein were served in the meal. Vegetarians should always be provided with good protein alternatives to meat or fish. Some candidates served one drink only when the question asked for a choice, while others chose two very similar drinks, e.g. orange juice and lemon juice, when two very different drinks could have shown more skill. Quite a few candidates did not make a cake by the whisking method but made Victoria Sandwich cakes by the creaming method which was incorrect.

#### **Question 2**

This question was also a popular choice. The majority of candidates chose a good selection of dishes to illustrate the methods of cooking and showed a variety of skills. A few candidates, however, chose simple dishes with little skill and repeated main ingredients in the three dishes. Main meals were not always clearly indicated and often candidates omitted additional accompaniments and sauces which would make the meal complete.

#### **Question 3**

This was the most popular question of all. Candidates chose dishes well, providing two sweet and two savoury dishes which showed skill, looked attractive and were suitable for a party. A wide variety of snacks were served and drinks were suitable.

#### **Question 4**

This question was not such a popular choice. Vegetable dishes were prepared well although some showed only simple skills e.g. salad making. Some additional dishes were prepared but again, on many occasions, candidates did not include sufficient accompaniments to make a full meal.

#### **Question 5**

Few candidates answered this question. A reasonable variety of food was chosen to provide low calorie lunchtime meals and suitable drinks were made. The two dishes for the evening meal should have been very different from the packed lunch in flavour, colour and texture. Suitable sauces were included.

#### **Question 6**

This was another less popular question. The three pieces of equipment listed in the question were used correctly in the preparation of three main course dishes. One of these dishes was included in the meal for two boys but on many occasions the meal provided was not very filling for the boys who would be hungry after a long walk.



**Question 7**

Candidates made some very skilful dishes incorporating fish in the meal for children. Generally the meals were reasonably balanced with accompaniments, desserts and cold drinks being served. For part **(b)** candidates were asked to make one batch of pastry into two different dishes. Some candidates made one sweet and one savoury dish in the correct way. However, some candidates made only one savoury dish from the pastry as required but made a sweet dish with a different type of pastry.

**Question 8**

This again was a popular question. Meals were chosen well including good sources of iron and Vitamin C. In part **(b)** many varieties of small cakes were chosen, some of which were not made by the rubbing in method as required by the question. Biscuits made by the melting method could have been ginger biscuits or flapjack. Other methods of making biscuits should not have been acceptable to answer this question.