

**CARIBBEAN EXAMINATIONS COUNCIL**

**REPORT ON CANDIDATES' WORK IN THE  
SECONDARY EDUCATION CERTIFICATE EXAMINATION**

**JUNE 2008**

**FOOD AND NUTRITION**

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**FOOD AND NUTRITION**  
**GENERAL PROFICIENCY EXAMINATION**  
**MAY/ JUNE 2008**  
**GENERAL COMMENTS**

The Caribbean Examinations Council administered its twenty-seventh examination in Food and Nutrition in June 2008.

**Paper 01 – Multiple Choice Questions**

Paper I was a multiple-choice paper which consisted of 60 items and carried a maximum of 60 marks.

**Paper 02 – Structured Essay Questions**

This paper consisted of seven questions divided into two parts, Part A and Part B.

Part A comprised three compulsory questions, Questions 1, 2 and 3 and these were taken from Module 3: Diet, Health and Nutritional Status, Module 6: Food Preservation and Module 11: Food Preparation Methods, respectively.

Part B comprised four questions, taken from the remaining Modules of the syllabus. Candidates were expected to answer any two of the four questions in this section. Candidates were therefore required to answer a total of five questions. Each question was worth 16 marks, for a total of 80 marks on the paper. Questions 4, 5 and 7 were extremely popular while Question 6 was the least popular.

Overall the performance of candidates on this paper was fairly good. However, candidates continue to give general responses to a specific scenario and as a result lose valuable marks. In addition they do not read questions carefully and miss key words and phrases. Generally, most responses were well set out, and posed no difficulty in marking.

**PAPER 03 SCHOOL-BASED ASSESSMENT**

The School-Based Assessment consisted of three practical assignments. The first and third assignments were set and marked by the teacher. The second practical assignment was set by the teacher and assessed jointly by the teacher and an external examiner.

**DETAILED COMMENTS**

**Paper 02 – Structured Essay Questions**

Question 1

This question dealt with Diet, Health and Nutritional Status. Generally, the performance on this question was satisfactory. In Part (a), candidates were required to define the term ‘food fallacy’; (b) (i) name one nutritional disorder in young children caused by a deficiency of protein and energy in the diet and (b) (ii) list three symptoms or signs of a deficiency of protein and energy in the diet of young children. In Part (c), candidates were asked to suggest four guidelines that should be followed when preparing meals for elderly diabetics and in Part (d), they were required to name a disease or condition that might be affecting each member of the Smith family based on the symptom described. Candidates were also required to identify a nutrient that might be deficient in the diet in each case, according to the following issues highlighted in the family: (i) the father cannot sleep at nights (ii) the mother fell and broke her arm in several places (iii) the daughter has a swollen gland on her neck.

Part (a) of this question posed a challenge to many candidates. They gave answers such as, “a deficiency disease” and “lack of food in a country”. Still others stated that it was “something that may or may not be true”, while others stated that it was “a belief that was handed down from generation to generation”. The latter was not accepted as beliefs may be true or false. An acceptable definition reads, “Incorrect information on foods based on myths, superstitions, customs and religious beliefs handed down through generations or by pharmaceutical companies to sell their products”.

Part (b) (i) was very well answered, as the majority of candidates correctly named the diseases, kwashiorkor or marasmus. Part (b)(ii) was also very well known, as the majority of the candidates received fifty percent or more of the marks. For kwashiorkor, correct responses such as oedema, soft flabby muscles, cracked or pealed skin and thin reddish hair were given. In the case of marasmus correct responses such as old man’s face, very underweight, retarded growth, may suffer bouts of infection and diarrhea were often given.

Part (c): Although it is widely known, some candidates nevertheless wrote general rules for planning meals for the elderly. Guidelines such as, “prepare soft food due to absence of teeth” and “cut food into small pieces”, were often given. Others discussed, serving the meals. Responses such as, “serving meals on time”, “observing hygienic practices” and “preparing meals out of the sight and smell of the diabetic”, were given instead of the preparation of the food such as:

- Using starch carbohydrate foods, such as pulses, whole wheat bread, cassava, and brown rice.
- Using fresh fruits and vegetables
- Cooking foods by healthy methods which include boil, steam, grill/ broil, bake.
- Reduce fat, sugar, and salt in the diet.

In Parts (d) (i) and (ii) the majority of candidates responded favourably. However, in (d) (ii) many candidates attributed the mother’s condition to osteomalacia instead of osteoporosis.

## Question 2

This question was a compulsory question and dealt with Food Preservation. Candidates were required to (a) define the term ‘dehydration’ and (b) name an additive that is used to (i) increase the nutritive value of margarine (ii) preserve fish, (iii) stabilize the oil in the preparation of mayonnaise and (iv) tenderize meat prior to cooking.

In Part (c), candidates had to explain what causes the bananas and apples to become discoloured when making of a fruit salad and discuss how the discolouration could have been avoided. In part (d), candidates had to state two possible causes of each of the following faults in jam making, (i) the jam was not set (ii) sugar crystals were formed and (iii) there were signs of fermentation.

Part (a) was widely known. However, many candidates stated that it was the removal of water, but omitted to state that heat was needed or osmosis was required. As a result they did not receive full marks.

In Part (b) (i), many candidates gave reasons for using additives in the manufacture of margarine, instead of identifying Vitamins A and D. Part (b) (ii) was reasonably well answered by the majority of candidates. However, many of the other candidates stated that egg was the stabilizer in the production of mayonnaise (implying that the whole egg was used,) instead of stating that the lecithin in the egg yolk was necessary. Part (b) (iv) was also very well answered as the majority of the candidates were able to name correctly tenderizers such as papain, lime and lemon juice, and vinegar, and also commercial tenderizers.

Part (c) (i): Many candidates attributed the discolouration in bananas and apples to enzymatic browning, oxidation, and were able to explain the process which is the reaction of the enzyme (oxydase) with the oxygen in the air. Part (c) (ii) posed some problems to the candidates as they were unable to state that the acid in lime and vinegar, would prevent discolouration.

Part (d) was very well answered. Candidates were able to state quite clearly the possible causes of the given faults in jam making.

### Question 3

Food Preparation Methods was the focus of this question. In Part (a) (i), candidates were required to define the terms 'poach and steep/infuse' and in (a) (ii), they were required to state two disadvantages of grilling. Part (b) required candidates to suggest two precautions that should have been taken to prevent fruit from sinking during the baking of a cake. In Part (c) (i), candidates were requested to identify the most appropriate batter to use when preparing fritters; (c) (ii), to name two suitable garnishes that can be used to enhance the appearance of fish fritters and in (c) (iii) to suggest two ways in which white rice can be prepared to make it more attractive. In Part (d), candidates were asked to suggest three different ways in which milk can be used in sweet and savoury items or dishes, in order to make milk more appealing to someone who does not like it.

In Parts (a) (i) and (ii), the general performance of the candidates seemed to suggest that much emphasis was not placed on this section of the syllabus as these sections presented the most difficulty to candidates. The responses given suggested that they were unfamiliar with the terms. Some candidates gave examples of foods/items that were poached or steeped/infused but were unable to write the definition. In poaching the food is cooked in water below simmering point and in steeping or infusing, boiling water is poured over food to extract flavour.

In Part (a) (ii), some candidates gave the advantages of grilling while others gave explanations such as "the food burns" instead of stating that the 'food requires constant attention' or 'careful timing is needed to prevent over cooking' or 'expensive cuts of meat have to be used'. Part (b) was very well answered. The majority of the candidates gave correct responses for the prevention of fruit sinking in a cake. Correct responses included "dry fruit before using", "use small fruit or cut fruit into small pieces", "lightly flour fruit before using", "use the correct oven temperature", "do not move the cake in the oven before it sets".

In Part (c) (i), the majority of candidates responded correctly, however, many candidates mentioned the consistency of the batter such as, "dropping consistency" instead of stating 'fritter batter'. Part (c) (ii) was satisfactorily answered by the majority of candidates who gave some interesting garnishes. Responses to Part (c) (iii) however, suggests that many candidates did not fully understand what was required of them and resorted to naming garnishes again, instead of suggesting how the boiled white rice could be prepared to make it more attractive. In addition, many candidates mentioned 'moulding' the rice to make it look more attractive. Responses such as the addition of finely chopped vegetables, or the addition of curry or saffron, or use as a base for fried rice would have been correct.

In Part (d) many of the dishes/items mentioned were appropriate; however, some candidates did not take into consideration that the greater part of the dish/item should constitute milk. Popular correct responses were "chocolate/strawberry flavoured milk drinks", "ice cream", "custards", "milk puddings", "pies".

### Question 4

This was a very popular question, and was very well answered. Candidates were required to (a) define the term 'invisible fat' and give an example, (b) list four advantages of breast feeding, (c) outline four food preparation practices that can be used to conserve the nutritive value of vegetables and (d) state two reasons for the dietary requirements of (i) lactating mothers needing extra protein (ii) teenage girls needing extra iron, and (iii) convalescents needing extra Vitamin C.

Part (a) was widely known as a large percentage of candidates gave a precise response. In Part (c) however, some candidates disregarded the context of the question and wrote on general rules for cooking and storing vegetables to preserve nutrients. Examples of some practices are:

- Prepare foods raw if possible.
- Prepare just before cooking.
- Use a sharp knife as a dull knife damages the cells.
- Cook with skins on if possible, otherwise, peel thinly.
- Use the minimum amount of water and cook with the lid on the pan.
- Never use bicarbonate of soda as this destroys the vitamin C.

Part (d) appeared to be quite challenging for the candidates. Many candidates confused 'pregnant woman' with 'lactating mother' and focused on the needs of the baby and pregnant woman. Extra protein is needed for growth of cells, renewal of cell protein, secretion of enzymes and hormones and repair of worn out tissues.

In Part (d) (ii), most candidates knew that extra iron was needed to replace iron in the blood during menstruation, however, responses such as extra iron was needed for growth spurt and for repair and general wear and tear of the body would also have been correct. In part (c) responses such as fighting off infection, helping to heal wounds and working with iron to replace any blood loss and preventing anaemia were correct.

#### Question 5

This was a very popular question and reasonably well answered. Part (a) focused on food safety and personal safety in the preparation of food. In Part (b), candidates were asked to state two precautions that could prevent a clogged sink, while (c) (i) required the candidates to outline four features of a free standing food-mixer, and (c) (ii), required them to explain four benefits of owning a freezer.

In Part (a)(i), there was evidence that many candidates did not read the question carefully and as a consequence listed factors of personal hygiene and contamination of food due to micro-organisms such as yeast and moulds. Many candidates however, responded favourably by giving correct responses such as:

- Dirty counters or work stations
- Unclean storage facilities
- Poor ventilation
- Dirty cutlery, dish cloths, utensils/equipment
- Cross contamination
- Presence of pets, pests, vermin
- Contaminated water

Part (ii) was relatively well answered by the majority of candidates, however, some candidates interpreted the word 'falls' to mean equipment falling on the floor due to careless storage. The candidates who understood what was required of them provided correct responses such as:

- Mop up any spills immediately.
- Keep floor clear of any obstructions such as small children, pets, toys and such .
- Avoid over-polishing floor.
- There should be no loose tiles.
- Flooring should be even.
- Do not put loose mats on a highly polished surface.

Part (b) was also well answered. The majority of candidates knew what precautions should be taken to prevent a sink from clogging.

It was apparent that in Part (c) the word 'feature' created some confusion in the minds of many candidates. Some of the candidates listed the advantages of using the mixer. The candidates who understood what was required of them, gave responses such as:

- Has the capacity and power to do multiple tasks.
- Easy to clean and maintain.
- Made of suitable and durable material.
- Deep bowl to contain the mixture during mixing
- Attachments can easily fit into it or be removed

Part (c) was correctly done by a significant number of candidates and resulted in them earning more than half of the allocated marks. It was interesting to note that one of the benefits was based on their own experience, that is, using the freezer as an income generator.

### Question 6

This question was the least popular and proved to be a challenge to the majority of candidates who attempted it. In Part (a), candidates were requested to give the definition of the term 'unit price' and give an example. In Part (b), candidates were asked to state two qualities to look for when purchasing fresh fish, while in Part (c), they were asked to outline the difference between the processing of white flour and whole-wheat flour and in Part (d), candidates were given an illustration of a box of flour mix which could be used to make fried bakes, dumplings or johnny cakes and were required to: (i) name one important item of information missing from the front label, and (ii) provide directions for making one of the products listed on the label. In Part (iii) the candidates were asked to describe the changes that occur when the starch in the product mentioned in (ii) was cooked.

Part (a) proved to be quite challenging to the majority of candidates. The unit price is the price or amount to be paid per unit or part of the product, for example per pound per kilogram, per single item.

Part (b) was very well done. The majority of the candidates were able to state the qualities of fresh fish.

In Part (c), the majority of candidates were greatly challenged. Many referred to the obvious, one being white and the other brown, rather than describing how the processes differed, that is, white flour is heavily milled and sieved to remove the bran and the germ, while with whole-wheat flour, the whole grain is crushed into flour.

Candidates' performance in Part (d)(i) indicated that it was very well known. The candidates were able to state that the 'net weight', 'date by which product should be used/expiry date' and optimal storage conditions were missing from the front label. In Part (d) (ii), most candidates were unable to write the directions in a logical sequence. Candidates were expected to give the following directions:

- Pour contents into a bowl and gradually add liquid, mixing after each addition, until a soft dough is formed.
- Cut off pieces and either roll into balls or shape as desired.
- Fry in hot fat until golden brown.
- Bake in a hot oven until golden brown.

In Part (d) (iii), most of the candidates were unable to give complete responses. Candidates should have described the change as the starch will change colour from pale cream to shades of brown and the starch on the surface is reduced to dextrin. While the product is cooking, the starch grains absorb the liquid, swell and gelatinize.

### Question 7

This question was fairly popular and reasonably well answered. In Part (a)(i) candidates were requested to give the definition of either the term 'plate service', or 'hors d'oeuvres' and in part (b) to state four advantages of using a microwave oven.

Part (c) focused on saving fuel when preparing meals. Candidates were asked how fuel can be saved when using (i) the stove and (ii) the oven in preparing a meal of baked chicken, macaroni pie, and coconut buns. In Part (d) candidates were asked to plan a nutritionally balanced breakfast for a construction worker.

Responses to Part (a) (i) were fair, but it was obvious that the majority of candidates were not familiar with the term 'plate service'. In this type of meal service the food is portioned on individual plates in the kitchen/food preparation area and brought to the table. The term 'hors d'oeuvres' was well known. In Part (b) candidates were able to give correct advantages of using a microwave oven.

Part (c) (i) guidelines for saving fuel when cooking on top of the stove was also quite well answered. Candidates were able to give correct responses such as, for the macaroni:

- Use correct flame or burner size.
- Use pots with flat bottom.
- Pot should fit the size of the burner.
- Volume of water should be no more than three times the volume of the macaroni.
- Add macaroni as soon as water starts to boil.
- Do not cook for longer than stipulated cooking time.
- Cover food so that it can cook faster.

Part (c) (ii) focused on baking the chicken, macaroni pie and buns.

- Pre-heat the oven for no more than 10 to 15 minutes.
- Bake macaroni pie, chicken and buns at the same time.
- Use thermometer to check to see if the chicken is done.
- Use residual heat for the chicken.
- Do not overcook chicken or macaroni pie. Use a timer and note time the food was put in.
- Cover chicken and macaroni pie to cook faster and brown near the end of cooking time.
- Do not open the oven door unnecessarily while items are baking.

In Part (d), many candidates experienced some difficulty with the menu. Many of them ignored the fact that the items on the menu were to be suitable for a construction worker. Quite often the menus presented did not provide adequate calories. Also, in some instances, candidates knew what the menu should entail, but did not follow the requisite format. The format required: Fruit or fruit juice, Cereal, Protein, Breadstuff, Beverage – tea or coffee.

### **SCHOOL – BASED ASSESSMENT**

Performance on the School Based Assessment was good, and seems to be consistent with previous years' results. Marks of the moderator and the subject teacher were the same in most cases. The maximum mark was twenty and a large number of candidates received that score. Candidates should be thoroughly prepared for this component to give them a fair opportunity. This will not only enhance their performance, but will also develop their confidence.

Positive observations made by external examiners were as follows:

Assignments administered by teachers were appropriate in terms of tasks selected, with sufficient attention to skill level and economy of time and energy. Candidates exhibited a wide range of culinary skills. Implementation of tasks was done methodically in an examination atmosphere. The level of creativity demonstrated by most of the candidates was commendable. The majority of candidates was adequately prepared. Candidates developed legible well-structured time plans which bore the essential elements of the assignments. Managerial skills such as sequencing and dovetailing in the plans were evident.

The following areas need special attention:

- Assignments should be allocated in alphabetical order. It is envisaged that a spread will lessen the demands on limited resources such as cookers and sinks and as such tasks will be performed with expediency.
- Prior to the activity, time should be spent ensuring that the Food Labs are scrupulously clean and equipment and appliances are in good working condition.
- Special equipment and materials should only include those specific to the tasks and not general equipment such as measuring spoons and mixing bowls.
- Weighing and measuring are part of the examination.
- Large quantities or extra ingredients and extra equipment should be discouraged.

- Time allocations should not exceed 20 minutes and should be realistic, for dishes/items.
- Times given for completion of dishes should be adhered to.
- Dovetailing of tasks should be encouraged.
- All dishes/items should follow through from preparation to service.
- Excessive handling of food should be discouraged.
- Greater emphasis should be placed on table setting and meal service.

### **RECOMMENDATIONS TO TEACHERS**

Overall, the performance in most of the questions on the Food and Nutrition examination was fairly good. Teachers are advised to use the recommendations suggested as a guide to improve candidates' performance.

The following suggestions are made to teachers.

1. Every effort should be made to cover the syllabus as thoroughly as possible.
2. Candidates should be given a copy of the syllabus in order to assist them when studying on their own.
3. Experiences should be provided for candidates to answer questions with a variety of key words such as define, discuss, list, suggest, explain and state.
4. Encourage candidates to read questions carefully, paying attention to key word and phrases.
5. Provide numerous opportunities for candidates to work on the use of knowledge profile of questions so that they will be exposed to analysis, synthesis and evaluation.
6. Candidates should note the technical terms at the beginning of the Modules and learn to apply them to other aspects of the Module.
7. When asked for guidelines / rules for planning meals for specific groups, candidates should be encouraged to give the specific rules / guidelines instead of general rules / guidelines.
8. Candidates should be advised to develop responses fully, paying attention to the marks allocated for each question.
9. During demonstrations and at evaluation procedures in practical sessions, teachers should ensure that reasons are given for the different steps in the preparation of dishes or items, and the reasons for failure of various procedures in food preparation.
10. Teachers are encouraged to make use of past examination papers for homework, class discussions and class examinations.