

C A R I B B E A N E X A M I N A T I O N S C O U N C I L

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

MAY/JUNE 2006

FOOD AND NUTRITION

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GENERAL PROFICIENCY EXAMINATION
JUNE 2006
GENERAL COMMENTS

The Caribbean Examinations Council administered its twenty-fifth examination in Food and Nutrition in June 2006.

Paper 01 – Multiple Choice

Paper I was a multiple-choice paper which consisted of 60 items and carried a maximum of 60 marks. Marks ranged from 0 to 59 and the mean mark was 40 out of 60.

Paper 02 – Structured Essay Questions

This paper consisted of seven questions divided into two parts. Part A comprised three compulsory questions, one from Module 3: Diet, Health and Nutritional Status, one from Module 6: Food Preservation, and the other from module 11: Food Preparation Methods.

Part B comprised four questions which were taken from the remaining Modules of the syllabus. Candidates were expected to answer two questions from the optional section. Candidates were required to answer a total of five questions. Each question was worth 16 marks, for a total of 80 marks on the paper. Questions 1, 2 and 3 were compulsory. Questions 4, 5 and 6 were popular choices of candidates whereas Question 7 was the least popular.

Overall the performance of candidates was only fair. The marks ranged from 0 to 69 and the mean was 40 out of 60. Many candidates did not take time to read questions carefully and so missed the key words or phrases. Others gave general responses to a topic instead of the specific responses as requested.

Generally, most responses were well set out, and posed no difficulty in marking.

Paper 03 – School-Based Assessment

This paper was the School-Based Assessment and 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.

The mean mark on Paper 03 (SBA) was 47 out of a possible maximum of 60, with marks ranging from 1 to 60.

DETAILED COMMENTS

Paper 02 – Structured Essay Questions

Question 1

This question was a compulsory one and did not pose a severe challenge to the majority of candidates.

In part (a), candidates were required to define *undernutrition* and *diabetes*.

In part (i) many candidates attributed the condition to a lack of all the nutrients in the body instead of severe deprivation of the essential nutrients. Many confused undernutrition with malnutrition.

From the responses given to part (a) (ii), many candidates expressed the view that a high consumption of sugar was the principal cause of diabetes. It should be noted that this is a common misconception. The hormone insulin which is produced by the pancreas is needed for glucose sugar metabolism. If the pancreas malfunctions, little or no insulin is produced, therefore glucose remains in the blood.

Generally, candidates' performance in part (b) was fair. They were expected to state two rules which should be followed in planning meals for a convalescent. It was evident that many candidates mis-read the question and gave rules for preparation and service of the meal, and as a result did not gain marks.

Part (c) was based on a situation where a doctor diagnosed that her patients were suffering from anaemia, goitre and osteomalacia respectively. Candidates were required to state a symptom and recommend a food to treat each condition. A significant number of candidates gave correct responses to the first part of the question but lost marks on the second part in failing to name specific foods. Popular incorrect responses were *iron rich foods*, *foods rich in iodine* and *dairy foods*, instead of *liver*, *sea fish*, *milk*, *eggs*, *cheese*.

Part (d) focused on health benefits to be derived from a strict vegetarian diet and difficulties consumers may encounter through the use of such a diet. This was satisfactorily answered. Many candidates were able to state that diseases/conditions such as obesity, constipation, cardio-vascular diseases, colon cancer could be prevented. They were also able to state that some of the difficulties encountered by consumers were monotony in choices, synthesised products such as T.V.P. were expensive and that the diet may be unbalanced and not provide adequate amounts of some nutrients, especially vitamin B12.

Question 2

This question dealt with food additives and food preservation and was designed to test the candidates' understanding of (a) reasons for using additives in food processing, (b) chemical preservatives, (c) procedures for freezing fresh gungo (pigeon) peas, (d) criteria for judging a bottle of pineapple jam and (e) how to remedy mango jam which failed to set.

This question was not very well answered. In part (a) the responses given by the majority of candidates were limited in scope as candidates stressed mainly enhancement properties such as colour, texture and flavour. Other popular responses were the addition of nutrients, prolonging of shelf life and prevention of spoilage. Very few candidates gave responses such as *thickeners*, *antioxidants*, *emulsifiers*.

Part (b) was very well answered with the majority of the candidates giving the correct responses. Popular responses were *salt*, *sugar* and *vinegar*. It should be noted that *alcohol*, *spices* and *smoke* also fall into this category.

Part (c) was not very well answered. Very few candidates were able to describe accurately the correct stages for freezing peas. The following responses were frequently provided:

- Wash peas properly
- Blanch the peas
- Place in a plastic bag
- Put in the freezer

Candidates were able to gain a few marks.

The preferred presentation of the stages are as follows:

- Wash the peas thoroughly to remove any foreign matter
- Plunge into boiling water and leave for 3 to 5 minutes
- Cool rapidly in ice water
- Drain well using a large sieve or colander
- Pack in dry airtight bags and place in freezer

Part (d) was very well answered. However, many candidates gave vague responses such as good colour, correct consistency, good flavour, easy to spread.

Candidates need to give more detailed responses such as

- clear, bright, yellow colour
- flavour characteristic of the pineapple
- texture firm and easy to spread
- fruit evenly distributed
- fruit tender

Part (e) posed challenges to many of the candidates. Many of them gave responses such as *put the jam back on the stove, add more sugar, add more fruit*. However, correct responses such as *add more acid (lemon juice)* or *commercial pectin* and *boil the jam until set* were often given.

Question 3

In this question candidates were requested to (a) define the term 'conservative cooking', (b) list advantages of pressure cooking, (c) suggest causes of short crust pastry being tough although the ingredients used were accurate (d) explain why a gelatine mixture failed to set when fresh pineapple was added to it and (e) outline the qualities of a Cream of Pumpkin Soup.

Part (a) posed a challenge to many candidates as a significant number of them were unable to give the correct response. Many of them stated that it was *the cooking of convenience foods which saved time and energy*, or *cooking of many dishes at the same time*. Conservative cooking is best defined as the cooking food quickly which results in the retention flavour, colour, texture and nutrients. Vegetables such as carrots, christophene, (cho cho) patchoi, green beans, bora, broccoli, cut into small pieces or cut thinly, or thin strips of chicken, fish, shrimp can be cooked by this method.

In part (b), the advantages of pressure cooking were very well known by the majority of candidates. Some candidates, however, stated that pressure cooking made tough meat tender, but neglected to state that this was done in a shorter space of time than other methods of cooking.

In part (c), many candidates did not realize that the question stated that the ingredients were correct and therefore the problems would arise from the rolling out and baking of the pastry. Candidates stated that *the ingredients were not measured correctly* or *too much water was added during mixing*. They also stated that the oven was not at the correct temperature, but did not state whether it was too hot or too cool. However, a significant number of candidates were able to state the correct responses which were:

- Too cool an oven
- Conditions for preparation of pastry were not cool enough
- Insufficient air introduced to act as a raising agent
- Heavy handling of pastry which pressed the air out
- Too much flour used in rolling out
- Turning the pastry over during rolling, or re-rolling

In part (d), only a marginal number of candidates were able to explain that the enzyme bromelain in the pineapple was not deactivated by cooking, therefore the protein (gelatine) was not digested, thus preventing the mixture from setting. However, many candidates knew that the pineapple had to be cooked before being added to the gelatine. Many candidates confused *gelatine* with *pectin*.

Part (d) was widely known. However many candidates did not obtain the maximum score because they failed to accurately describe the Cream of Pumpkin Soup. Some of the incorrect responses were, *right flavour*, *good colour*, *not too runny*, *not too thick*.

A more accurate description of the soup would have been the following:

- Should not have lumps, but a smooth, creamy consistency.
- The colour and flavour should be characteristic of the pumpkin.
- It should not be greasy.
- There should be no signs of curdling.

Question 4

This question was designed to test (a) guidelines to be followed when planning meals for teenaged girls, (b) problems that could affect the nutritional status of the elderly, (c) ways by which toddlers may be encouraged to eat nutritious meals and (d) changes which take place when a red snapper is baked.

The responses clearly indicated that the majority of the candidates were not fully prepared to deal with every aspect of the question.

In part (a), many candidates gave general rules for meal planning instead of focusing on the teenaged girl. Responses such as *meals must be attractive*, *meals must be balanced*, *meals must be nutritious* were often given. However, many candidates were able to gain marks with the following responses:

- Protein needed for growth of tissue and development of muscles
- Extra iron to increase red blood cells due to growth spurt and replacement of blood loss due to menstruation.
- Vitamins needed for bodily activities.
- High energy foods needed depending on the level of activity.

Part (b) was extremely well answered. The majority of candidates were able to score the maximum number of marks under the headings

- Finance
- Physical aging
- Poor nutrition
- Emotion

In part (c), many candidates gave general points for planning and preparing meals for the toddler instead of focussing on ways to encourage the toddler to eat. Some candidates gave unusual responses such as *inviting children in the neighbourhood while he/she is eating*, *play games while the child is eating*, *let the whole family eat the same meal as the toddler*.

Correct responses which many of the candidates gave were:

- Make meals attractive, tasty and appetizing.
- Serve small portions and allow child to ask for more.
- Offer many different foods.
- Make the child comfortable at meal time – let him/her rest a little before meals and feel relaxed while eating.
- Do not force child to eat foods they dislike .
- Serve favourite foods with those they dislike.
- Introduce new foods one at a time and with familiar foods, especially when they are hungry
- Do not be afraid to set rules, such as refusing to let child have foods that you think that they should not have.

Part (d) posed a challenge to the candidates. The majority of the candidates received very few marks. Responses such as *the colour changes from red to brown, water oozes out of the fish* had no scientific merit.

Changes the red snapper would undergo during baking are:

- Protein coagulates.
- Fish shrinks slightly and becomes opaque.
- Connective tissue changes to gelatine causing flesh to flake easily.
- Bacteria and parasites are destroyed.
- Minerals, vitamins and extractives dissolve into the cooking liquid.
- There is some loss of vitamin B group.
- Vitamins A and D remain unchanged.

Question 5

This question focused on food safety, storage and selection, and was very well answered by the majority of the candidates.

In part (a), candidates were asked to name the micro-organisms which cause (i) milk to curdle, (ii) bread to spoil and (iii) mango drink to ferment. The majority of the candidates were able to answer this part of the question correctly. Candidates' performance in part (b) was fairly good. Some of them discussed how food should be stored in the freezer. However, the majority were able to give correct responses such as:

- Cover / wrap food to prevent absorption of odours and evaporation.
- Never place hot foods in the refrigerator.
- Store food in the respective compartment.
- Do not pack food tightly.

Part (c) was extremely well done. The majority of candidates were able to gain maximum marks.

Candidates were required to list symptoms as a consequence of students consuming baked chicken from a catering establishment.

Many candidates were unable to differentiate clearly between kitchen hygiene and food hygiene. Responses such as *place where the chicken was bought was contaminated, the chicken was not thawed properly, chicken was not cooked thoroughly*, were given instead of :

- Unsanitary working surfaces
- Presence of household pests
- Unclean cupboards
- Use of dirty kitchen cloths
- Use of unclean utensils
- Contaminated water

Candidates also confused accidents in the kitchen with kitchen hygiene. However, candidates gave correct responses to personal hygiene practices.

Part (d) tested guidelines to be followed by caterers in purchasing fresh vegetables. This was reasonably well answered.

However, many candidates emphasized guidelines specific to the vegetables and did not take into account the vendor and the environment in which the vegetables were sold. The following conditions are important in ensuring safe food:

- Hygienic surroundings
- Workers clean and properly attired
- No evidence of rodents and other pests
- No animals on the premises
- Adequate ventilation
- Efficient storage
- Clean wrappings
- Pleasant odour and atmosphere.

Question 6

This question was fairly well answered.

Candidates were required to (a) define the term *impulse buying*, (b) suggest ways in which a family can spend money wisely in order to ensure proper nutrition for its members, (c) suggest information on content labeling that should be included on a packet of sweet buns and (d) explain what may cause each of the following : (i) A dark grayish discolouration around the yolk of a boiled egg (ii) An overbaked macaroni pie with a topping that was tough, greasy and dry (iii) A white sauce made by the roux method that was lumpy.

Part (a) was very well answered by the majority of the candidates They were able to produce acceptable responses.

However, candidates gave general guidelines for shopping instead of focusing on what was asked of them with respect to spending money wisely. Correct responses were:

- Buy cheaper cuts of meat and fish as they were just as nutritious as expensive cuts.
- Pulses could be used instead of meat
- Buy in bulk when it is cost-effective and needed.
- Compare prices per unit weight, volume, portion or pack to get the best value
- Look for competitive prices and special offers.

In part (c), the majority of the candidates did not get the maximum number of marks as they gave general information on labelling at the expense of content labelling. Candidates gave responses such as *ingredients* instead of *ingredients written in descending order of weight*. Another popular, however, incorrect response was *name and address of manufacturer, UPC*. Many candidates mentioned *the expiry date* which was correct.

Other correct responses were:

- Net quantity of buns
- Net weight of buns
- Picture of the buns
- Instructions for storage
- Length of time when buns would be at their best
- Date of manufacture

Part (d) posed challenges to the candidates as it was poorly answered.

- (i) The dark grayish ring around the yolk of the egg is due to the iron in the egg yolk reacting with hydrogen sulfide in the white.
- (ii) The protein in the cheese coagulates, thus hardens and shrinks and squeezes out the fat. Thus the topping of the macaroni pies becomes tough, greasy and dry.

Part (d) (iii) was reasonably well answered. The majority of the candidates were able to give at least two correct responses. Correct responses were:

- Fat was too hot when flour was added.
- Roux was not cooked sufficiently.
- Liquid was added too quickly without sufficient stirring.
- Insufficient stirring during cooking.

Question 7

This question was the least popular.

In part (a), candidates were required to define the terms *buffet*, *brunch* and *cover*. Candidates were able to give correct response for the term *buffet*. However, the term *brunch* was not well answered. Many candidates stated that brunch was late breakfast and early lunch, instead of a meal which comprised a combination of breakfast dishes or items and lunch dishes or items and served between 10.00 am and 2.00 pm. The term *cover* was defined by many candidates as a piece of equipment used to cover food for protection from insects. However, the majority of candidates were able to give the correct response which was *an individual place setting for a meal*.

In part (b), many candidates misunderstood the word *refurbish* and gave information on the placement of the refrigerator, cooker and sink and height of cupboards. However, a large number were able to give correct responses such as:

- Use smooth and durable material.
- Material used should be heat and stain resistant.
- Material should be quiet to work on and resistant for cutting.
- Should be easy to clean

In part (b) (ii), the guidelines for refurbishing the floor was well answered.

Very few candidates were able to receive maximum marks for part (c). In many cases, candidates could not ascertain the difference between *à la carte* and *table d'hôte* meals. Additionally, most candidates did not construct the menu according to the specifications. Reference could be made to the 2005 Food and Nutrition School Report for details in writing three-course meals. With regard to the menu card, it was almost completely ignored. Also, the prices of the individual dishes/ items of the *à la carte* meal and the price of the *table d'hôte* meal were often not indicated.

SCHOOL-BASED ASSESSMENT

The assessment given by the external examiners seemed to suggest that the integrity of the School-Based Assessment was not compromised. In the majority of cases, teachers' marks varied slightly from those of the external examiners or both were identical.

Positive observations made by external examiners were as follows:

- Assignments administered by teachers satisfied syllabus requirements.
- Candidates exhibited a wide range of culinary skills and made ample use of indigenous foods.
- 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 were adequately prepared.
- Candidates developed legible and well structured plans which bore the essential elements of the assignments.

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 ovens and sinks. Thus tasks will be performed with expediency.
- Excessive handling of food should be discouraged.
- Prior to the exercise, time should be spent to ensure that the Food Labs are scrupulously clean and equipment and appliances are working efficiently.
- Practice is needed to solve the problem of poor time management.
- Greater emphasis should be placed on table setting, and meal service.

RECOMMENDATIONS TO TEACHERS

Overall, the performance in most questions on the Food and Nutrition examination was fair.

Teachers are advised to use the following recommendations as a guide to improve candidates' performance.

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, explain, describe, list, suggest and state.
4. Encourage candidates to read questions carefully, paying attention to key words 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 make special note of the technical terms at the beginning of Modules and learn to apply them to other aspects of the Module.
7. Candidates should be encouraged to use the appropriate words when describing qualities of items, for example, jam. Instead of *good flavour*, *the distinctive flavour of the fruit*, or *a rich fruity flavour* would be more appropriate. Instead of *good colour*, it would be preferable to state *the characteristic colour of the fruit*, or *bright red* or *bright yellow* depending on the fruit. *Firm*, and *easy to spread* instead of *not runny or thick*; instead of *correct or incorrect proportion of nutrient/s*, candidates should state *too much or too little of the ingredient/s* and in the case of oven temperatures, instead of *incorrect oven temperature*, candidates should state *too hot or too cool an oven*.
8. Teachers should develop standards for different items such as jams, soups, salads and yeast bread so that candidates are able to use them when the need arises.
9. Candidates should be advised to develop responses fully, paying attention to the marks allocated for each question.
10. Teachers should emphasize the correct format for writing menus. Note that the drink or beverage is not necessary when writing a menu.
11. 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 the failure of various procedures in food preparation.