

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
CARIBBEAN SECONDARY EDUCATION CERTIFICATE® EXAMINATION**

MAY/JUNE 2013

**FOOD AND NUTRITION
GENERAL PROFICIENCY EXAMINATION**

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GENERAL COMMENTS

The 32nd Food and Nutrition examination was administered by the Caribbean Examinations Council in May/June 2013.

This examination took the form of two externally marked papers: a multiple-choice paper (Paper 01) of 60 items worth 60 marks and a structured essay paper (Paper 02) of seven questions worth 16 marks each.

Paper 02 was divided into Parts A and B and reflected two profiles: Knowledge (candidates' ability to recall information), and to Use of Knowledge (the ability to use such information to give context).

Part A comprised three compulsory questions which were based on the following modules: Module 3 — Diet, Health and Nutrition; Module 6 — Food Preservation, and Module 11 — Food Preparation Methods.

Part B comprised four optional questions which were taken from the remaining nine modules of the syllabus. Candidates were required to choose any two optional questions in addition to the compulsory questions. Eighty marks were available for this paper.

Paper 03 consisted of three practical assignments, each worth 20 marks, for a maximum of 60 marks. All assignments were structured by the class teacher or groups of teachers. Assignments 1 and 3 were assessed by the class teacher, while Assignment 2 was jointly assessed by the class teacher and an external moderator.

Paper 01 — Multiple-Choice Questions

The mean score on Paper 01 was 39.08 with a standard deviation of 8.63. The performance on Paper 01 was very good. Ninety-one per cent of the candidates gained passes in this paper.

Paper 02 — Structured Essay Questions

Question 1

Candidates were required to state the symptoms or signs of a deficiency in Vitamin B, (thiamine) in the diet; identify the factors that may influence the eating habits of persons; discuss three effects of protein energy malnutrition and justify the following statements:

- (1) Persons should reduce the amount of salt they consume.
- (2) Iron-rich foods should be taken in conjunction with foods rich in Vitamin C.
- (3) Eggs contain cholesterol and should not be eaten on a daily basis.
- (4) The use of lean meat and fish is not the only way to reduce fat in the diet.

Part (a) was not well done as many candidates gave symptoms related to other vitamins mainly, Vitamins A and C. Correct responses given were: inflamed nerves, loss of appetite and feeling depressed.

In Part (b) most candidates were able to identify the factors that influence eating habits. Correct responses included:

- Advertising
- Peer pressure

In Part (c) most candidates were able to discuss three effects of protein energy malnutrition.

Correct responses included:

- Severe underweight due to a depletion of tissue mass.
- Constant hungry feeling due to inadequate quantities of food being digested.
- Oedema on lower extremities and face due to the replacement of muscle mass by water.

For Part (d) the majority of candidates were unable to give a full justification for the statements, in most cases only a partial justification was given.

Correct responses included:

Justification for reduction of salt in diet

- Excess salt gives rise to an increase in blood pressure.
- Reduces the possibility of developing stroke.
- May reduce the risk of renal failure.

Vitamin C foods taken with foods that are rich in iron

- Vitamin C facilitates the absorption of iron.

Eggs should not be consumed daily

- Cholesterol in eggs may increase heart attacks.
- Cholesterol in eggs may give rise to atherosclerosis.

Ways of reducing fat other than by the use of lean meat and fish

- Use of non-stick frying pans to avoid the use of oil and fat.
- Eat more complex carbohydrate foods.
- Avoid the use of trans-fat.

Question 2

Candidates were required to name the methods, other than freezing, by which green beans could be preserved and name a preservative that could be used to preserve green beans and give a reason for its use. Candidates were also required to define the term 'enzyme activity,' identify two undesirable effects of enzyme action on green bananas if they are not blanched before freezing and identify two procedures to be followed prior to freezing green beans giving a reason for each procedure. Candidates were also asked to provide a scientific explanation for two stages that the cell wall of a normal green bean goes through during and after freezing.

For Part (a), candidates were able to name two methods for preserving bananas. Parts (b) and (c) were well done, as the majority of candidates accurately named vinegar and salt as suitable preservatives and provided an accurate reason for using the preservative.

Part (d) was not done very well; candidates were only able to provide a partial definition for the enzyme action.

Part (e) was widely known by the majority of candidates. Correct responses given included:

- Discoloration due to inactivation of enzyme
- Microbial activity in the bean leading to textural change
- Loss of nutritional value due to inactivation of enzyme

For Parts (f) and (g), while most candidates were able to identify correct procedures, they were unable to give suitable reasons for the procedures identified. Correct responses included:

- Cool quickly in cold water or ice to avoid over-heating.
- Drain well as frost or ice crystals which may appear on the surface can affect the texture and appearance of the green beans.
- Seal to prevent loss of moisture from the beans or to reduce the amount of air that comes into contact with the beans.

Part (f) was poorly done, as most candidates were unable to provide scientific explanations for the two stages. The expected response was “when normal green beans are frozen slowly large ice crystals form on the cell and ruptures the cell. When they are thawed the ice crystals melt and the beans become soggy”.

Question 3

Candidates were required to provide one example of a herb and one example of a spice; state two advantages of conservative cooking and two advantages of steaming; and outline how each of the following techniques are done, suggesting why each technique is important in making short crust pastry items:

- sifting
- rubbing in
- glazing

Candidates were also provided with a list of problems encountered in the SBA and identified by the moderators and they were asked to suggest one effective way to prevent a recurrence of each problem.

Part (a) was well done as most candidates were able to give an example of a herb and an example of a spice.

Part (b) was well done, with the majority of candidates being able to state two advantages of conservative cooking and two advantages of steaming. Correct responses included:

Advantages of conservative cooking

- Cooking time is short.
- Shape of food is retained.
- Needs little or no attention.

Advantages of steaming

- Little or no attention is required.
- Loss of nutrients by leaching is reduced.
- A whole meal can be cooked on a single burner.

For Parts (c) (i) and (c) (ii) the majority of the candidates were able to explain why each technique is important in making short crust pastry items; however, they were unable to outline how the techniques were done.

Part (d) was done very well; the majority of candidates were able to provide accurate suggestions for the prevention of the problems. Correct responses included:

Baked custard curdled

- Bake in a water bath at the correct temperature.
- Do not over-cook.
- Beaten egg should be poured slowly on to hot milk.

Beaten egg whites did not rise in peaks

- Do not over-beat egg white.
- Do not beat egg white in a greasy container.
- Use egg white at room temperature.

Dark ring around the yolk of boiled egg

- Plunge egg in cold water immediately on cooking.
- Do not use stale eggs.
- Eggs should not be over-boiled.

The part of the question that provided the greatest challenge was how to prevent cocoa from tasting starchy. The expected response is “cocoa powder should be boiled in milk or water causing the starch to gelatinize completely”.

Question 4

This optional question was very popular. Candidates were required to; classify carbohydrates; give one function of carbohydrates; name the carbohydrate present in sweet corn and milk and discuss one factor that affects the nutritive value of corn either after harvesting or during preparation and cooking.

Candidates were also asked to suggest a suitable breakfast for a pregnant neighbour and to suggest four guidelines for developing positive eating habits for preschool children.

Parts (a), (b) and (c) were very well done. The majority of candidates were able to classify carbohydrates and state one function of carbohydrates as well as to name the carbohydrate found in sweet corn and milk.

Part (d) was not very well done; candidates were only able to provide vague answers without any discussion.

Part (e) (i) was well done, as the majority of candidates were able to suggest a suitable breakfast menu for a pregnant woman. It is worthy to note that a large number of candidates included green banana as a source of iron. It is a fallacy that green banana is a good source of iron. Part (e) (ii) was also well done with most candidates suggesting accurate guidelines for developing positive eating habits for preschool children.

Question 5

The question was the most popular optional question. Candidates were provided with a table of accidents and precautions and they were required to provide the missing information. They were also required to state the function of the thermostat and the glass oven door and suggest how personal hygiene practices during the preparation of meals, hygienic conditions of the place where the meals are prepared, and food handling practices during the preparation of meals might contribute to a person falling ill and experiencing vomiting and diarrhoea. Candidates were also required to suggest a method for clearing a blocked sink.

Part (a) was well done by the majority of candidates. Most candidates were able to correctly relate the accidents and their appropriate precautions.

Part (b) was well done by the majority of candidates who were able to accurately state the functions of the thermostat and the glass oven door.

In Part (c) many candidates were able to identify the unhygienic practices that caused the illness. However, some candidates were unable to link the practices correctly to the three areas in the questions.

Part (d) was done very well, and most candidates gave various suggestions on how to clear a clogged sink.

Correct responses for Part (d) included:

- Pour boiling water and grease stripper.
- Gently put a soft wire down the plug hole to try to remove the blockage.
- Use a suction pump to shift the blockage.

Question 6

This optional question was popular and presented some difficulty to candidates. Candidates were required to list two factors to be considered when purchasing a fresh cut of beef and leaf lettuce; define the term 'expiry date' ; explain how a peanut punch label could ensure that someone knows that peanuts and milk are the main ingredients; describe the process of ultra-heat treatment of peanut punch and explain how yeast works as a raising agent in the preparation and baking of bread rolls.

Part (a) was well done as candidates were able to respond correctly by listing the factors to be considered.

Correct responses included:

A fresh cut of beef

- Flesh should be moist and not dripping.
- Should have a pleasant odour.
- Flesh should be springy to the touch.
- Fat should be creamy/pale yellow.

Leaf lettuce

- Free from insect bites.
- Leaves should be crisp and firm.
- Leaves should be bright green.
- Should show no indication of wilting.

Part (b) was done very well as most candidates were able to define 'expiry date'. An example of a correct response was "it is the date when a product becomes unsuitable for consumption".

Part (c) was not done very well, as most candidates were unable to explain how the peanut punch label could indicate that peanuts and milk are the main ingredients. The correct response is that the list of ingredients is written in descending order by weight.

Part (d) was done satisfactorily by some candidates who were able to describe the critical stages in the ultra-heat treatment of peanut punch. An example of a correct response is given below:

"Peanut punch is heated in a heat exchanger at 132°C (270°F), for approximately one to six seconds; then rapidly cooled. It is then packed in a foil lined container and sealed".

In Part (e) the majority of candidates struggled to explain how yeast works during the preparation and baking of bread rolls. A few candidates were able to provide the correct responses as outlined below:

- Enzymes in the yeast are activated.
- Maltase converts maltose to glucose.
- Invertase converts sucrose to fructose and glucose.
- Zymase converts glucose and fructose to carbon dioxide and ethanol.

Question 7

This was the least popular question among the optional questions. Candidates were required to state guidelines to be considered when organising a buffet service; state the position of the dinner fork and soup spoon in a place or cover setting; suggest ways caterers can save time, other than shopping ahead of time; calculate the weight of cakes, in pounds, from which 1000 slices could be obtained and; plan a two-course lunch menu in which an indigenous food is used in one of the courses.

In Part (a) very few candidates obtained full marks. The majority focused on general rules in meal planning, rather than the organization of a buffet service.

Correct responses included:

- Provide two serving stations if required.
- Prepare a separate station for beverages.
- Arrange food, cutlery and crockery so that guests can help themselves.
- Provide warmers for dishes that should be served hot and chillers for dishes that should be served cold.
- Decorate the table with flowers or any other appropriate items.
- Use coloured table cloths or pastel colours depending on the occasion.
- Label dishes.

Part (b) was done well by the majority of the candidates: as they were able to correctly state the positions of the utensils. Some candidates, however, were unable to correctly place the soup spoon.

Part (c) (i) was done very well, as most candidates were able to provide correct ways that a caterer could use to save time.

Correct responses included:

- Use energy efficient pots and pans.
- Ensure appliances and equipment are in good working condition.
- Make use of labour saving equipment.
- Manager the cooker in an efficient way.
- Engage in pre-preparation activities.

Part (c) (ii) was not done very well; candidates were unable to do the calculations correctly, and for Part (c) (iii), while candidates did not conform to the prescribed format when listing the dishes, they were able to provide a wide variety of territorial dishes to satisfy the indigenous component of the menu.

Correct format is as shown below:

First course

Should comprise an appetiser or an hors d'oeuvre.

Main course or second course

Should comprise dishes in order; a protein dish, a carbohydrate dish and a dish of mainly coloured vegetables called the salad dish.

Dessert or third course

Sweet dishes comprise this course.

RECOMMENDATIONS

- Students should be taught test-taking techniques.
- Food and Nutrition teachers should work closely with science teachers to ensure that students understand the scientific principles involved in Food and Nutrition.