

CARIBBEAN EXAMINATIONS COUNCIL

**REPORT ON CANDIDATES' WORK IN THE
CARIBBEAN ADVANCED PROFICIENCY EXAMINATION®**

MAY/JUNE 2013

FOOD AND NUTRITION

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GENERAL COMMENTS

Overall performance on Unit 1 was comparable with that of 2012 with 99 per cent of candidates achieving Grades I–V. Candidates' performance on the School-Based Assessment improved. Candidates performed better on Module 2 (Food Selection and Meal Planning) and Module 3 (Food Preparation and Service: Principles and Methods) than on Module 1 (Principles of Nutrition and Health).

Overall performance on Unit 2 was comparable with that of 2012 with 99 per cent of candidates achieving Grades I–V. Candidates' performance on the School-Based Assessment also comparable to performance in 2012. Candidates performed best on Module 1 (Caribbean Food Ways and Systems) followed by Module 3 (Food Preparation and Science) followed by Module 2 (Food Science and Technology).

DETAILED COMMENTS

UNIT 1

Paper 01 – Multiple Choice

Paper 01 consisted of 45 multiple-choice items with 15 items from each module. Candidates' performance on this paper was good.

Paper 02 – Structured Essay

Section I – Compulsory Question Modules 1, 2 and 3

Question 1

This question tested candidates' understanding of mineral consumption, its importance and deficiencies in adolescents; genetically engineered foods; and cooking methods.

The compulsory question was attempted by all candidates. Overall, performance was good.

In Part (a) (i), the majority of candidates was able to name the minerals that are most likely to be deficient in the adolescent Caribbean female and also gave suitable reasons for the deficiencies.

In Part (a) (ii), candidates were required to discuss the importance of the two minerals identified in Part (a) (i). In most cases, candidates were able to discuss the importance of the minerals.

For Part (b), candidates were required to discuss advantages and disadvantages of genetically engineered foods for the food industry in the Caribbean. The majority of candidates was able to adequately discuss the advantages and disadvantages. However, a few candidates misinterpreted genetically engineered foods for convenience foods and gave responses such as ‘genetically engineered foods are easy to prepare since they are semi-cooked and they are less time-consuming’.

In Part (c), candidates were required to compare the following pairs of cooking methods in terms of aesthetic appeal and nutrient value.

- (i) Oven barbequing vs. barbequing on open coals
- (ii) Deep frying vs. stir frying
- (iii) Braising vs. broiling

The majority of candidates was able to compare the first two pairs of terms; however, braising and broiling posed difficulty for most of them. Candidates confused broiling with boiling and were unable to define braising. A significant number of candidates explained aesthetic appeal and nutritive value for individual cooking methods rather than making a comparison between the pairs as expected, thus, maximum marks were not awarded. Expected comparisons include the following:

- (i) Oven barbequing vs. barbequing on open coals

During barbequing on open coals, food is exposed to a large quantity of direct heat which causes charring, denaturation and the loss of vitamins; during oven barbequing, the food is exposed to a small quantity of direct heat and therefore fewer nutrients are lost. The aesthetic appeal of food barbequed on open coals tends to be greater because of the charred taste and look of the food.

- (ii) Deep frying vs. stir frying

Stir-fried foods are considered healthier than deep-fried foods because food is prepared using a minimal amount of fat. Deep-fried foods are more appealing in both colour and taste than stir-fried foods especially when they are coated with a batter.

(iii) Braising vs. broiling

Braising is a combination method which involves both moist and dry heat; broiling is a dry method of cooking. Nutrients tend to be lost during broiling because of the high temperatures associated with it whereas nutrients are retained during braising. Braised dishes are usually more aesthetically pleasing since many herbs and spices are normally used and flavours are normally retained.

Section II – Optional Questions

Module 1

Question 2

This question tested candidates' understanding of hunger and appetite; nutrients; the multi-mix principle of meal planning; and calculating caloric intake.

Fifty-five per cent of the candidates responded to this question and overall performance was very good.

In Part (a), the majority of candidates correctly differentiated between hunger and appetite.

In Part (b) (i), most candidates were able to use the multi-mix principle to plan a menu for a pre-school child. However, a significant number of them did not explicitly state the type of triple-mix used to plan the meal and as such, they were not awarded maximum marks.

In Part (b) (ii), candidates were able to state the nutrients provided by the triple-mix lunch and listed functions of each nutrient.

Part (c) (i), which required candidates to calculate the total caloric intake of a meal, was well done. However in Part (c) (ii), some candidates had challenges accurately calculating the alcohol percentage of the total caloric intake. The expected response was:

$$\text{Carbohydrate} = 240 \times 4 \quad 960$$

$$\text{Protein} = 120 \times 4 \quad 480$$

$$\text{Fat} = 50 \times 9 \quad 450$$

$$\text{Alcohol} = 5 \times 7 \quad \underline{35}$$

$$\text{Total calories} = \quad \quad \quad 1925$$

$$\% \text{ Alcohol} = \frac{35 \times 100}{1925} = 1.8\%$$

Question 3

This question tested candidates' understanding of the benefits of breastfeeding; the digestion process and absorption of food; and their ability to calculate total caloric percentage and the caloric content of a meal. It was attempted by 45 per cent of the candidates; performance was very good.

In Part (a), candidates demonstrated that they were familiar with the general benefits of breastfeeding. However, some of them were unable to distinguish between those which were specific to the mother and those which were specific to the child.

In Part (b), most candidates were able to adequately explain the digestion process of a meal consisting of rice and curried chicken.

Part (c) required candidates to calculate the caloric value of a meal. Most candidates were able to accurately calculate the total calories provided by the meal. However, some candidates had difficulty calculating the percentage of calories from fat. The expected response is given below.

$$4 \text{ kcal} \times 50 \text{ grams protein} = 200 \text{ kcal}$$

$$4 \text{ kcal} \times 150 \text{ grams carbohydrates} = 600 \text{ kcal}$$

$$9 \text{ kcal} \times 20 \text{ grams fat} = 180 \text{ kcal}$$

$$\text{Total kilocalories} = 980$$

% of calories from fat:

$$\frac{180}{980} \times 100 = 18\%$$

980

Section III – Optional Questions

Module 2

Question 4

This question tested candidates' understanding of the benefits of consuming a vegetarian diet; guidelines for preparing vegetables to minimize nutrient loss; and menu planning. It was attempted by 53 per cent of the candidates. Overall performance was excellent.

Performance on Part (a) was very good. Candidates were able to adequately discuss the health benefits that can be derived from adopting a vegetarian diet.

Part (b) was well done as most candidates were able to give suitable guidelines to minimize nutrient loss when preparing vegetables.

Part (c) was done very well as evidenced by candidates' ability to plan appropriate three-course dinner menus to be served at a graduation ball and outline suitable accompaniments for each course.

Question 5

This question tested candidates' understanding of menu planning principles and the use of convenience foods.

The question was attempted by 47 per cent of the candidates. Overall, performance was very good.

Performance on Part (a) was good. The stimulus information noted that a sixteen-year old teenage boy complained frequently about meals his hypertensive mother prepared. He said that they were bland and had a mushy taste, and she often cooked the same type of dishes. Candidates provided suitable responses in explaining the principles of menu planning that would improve the meal preparation and presentation skills.

In Part (b), only a few candidates were able to give suitable reasons why meals prepared by a hypertensive mother appeared unattractive to her son. Some candidates were not able to make the connection between the hypertensive condition of the mother and the son's perception of the unappetizing meal. They gave inappropriate responses such as 'The meal may appear unappetizing because it does not smell appealing to the son and because of poor presentation the food will not look appealing'. Expected responses included:

- Mother being hypertensive plans meals to suit her therapeutic diet
- Less frying done at home so meal is mushy
- Adequate herbs may not be used when preparing meal
- Preparation methods may be monotonous
- Foods may be bland with low use of salt
- Low fat/skimmed milk is preferred by the mother

In Part (c), most candidates were able to plan a day's menu suitable for a hypertensive mother and a teenage boy with the aid of convenience foods. Some candidates were not awarded maximum marks because they included inappropriate convenience foods such as those high in sodium and fat. Additionally, some candidates wrote one menu as opposed to a day's menu.

Section IV – Optional Questions

Module 3

Question 6

This question tested candidates' understanding of categories of kitchen equipment; entrees appropriate for the elderly; and the use of food garnishes. Performance on this question was good. The question was attempted by 15 per cent of the candidates.

The stimulus in the question referred to the setting up of a special kitchen to prepare meals for elderly persons who are on special diets. Part (a) posed difficulty for the majority of candidates as they were required to select and provide examples of the categories of tools and equipment needed for setting up the special kitchen. In most cases, this part was not attempted and where responses were given for the categories of tools and equipment, they were incorrect. Popular responses given were 'knives, spoons, pots, stove and mixer'. Expected responses included:

- Cleaning tools and equipment examples — dishwasher, sinks, mops, brooms
- Labour-saving devices examples — mixer, pressure cooker ,food processor
- Cutting and grinding examples — knives , graters, chopping boards
- Pots and pans examples — frying pans, wok, muffin pans, pudding moulds
- Measuring tools examples — scales, measuring cups and spoons
- Cookers and other large equipment examples — ovens, microwave ovens, steamers and freezer

Part (b) was not done well as most candidates were unable to suggest entrées that are appropriate and regularly prepared for the elderly. They seemed not to be familiar with the term *entrée* and gave examples of main course and two course meals. However, most of them were able to state suitable garnishes for the entrées identified while a few candidates did not understand the difference between garnishes and decorations and as such gave examples like cherries and whip cream. Expected responses included:

- Fish dishes, for example, steamed fish, baked fish, grilled fish, fish loaf garnished with lemon wedges, orange slice, parsley
- Chicken dishes, for example, baked chicken, stewed chicken, braised chicken garnished with carrot curls, parsley, onion rings, chives, celery
- Dishes made with legumes, for example, stewed peas, lentil loaf, pilau garnished with parsley, tomato rose, tomato wedges, celery
- Veal or other lean meat dishes, for example, stews, braised dishes garnished with sweet pepper, eschallot, chives, red onion rings

- Soya textured vegetables, for example, chunks stew, chunks loaf, mince stew garnished with sweet pepper, tomato rose, chives

Question 7

This question tested candidates' understanding of kitchen layouts; work centres; work triangles; kitchen safety; and the use and care of knives.

Performance on this question was very good. The question was attempted by 85 per cent of the candidates.

Performance on Part (a) was good. However, some candidates had challenges sketching an efficient kitchen layout showing the major work centres and the work triangle. In other cases, the work triangle and major work centres were not clearly identified or labelled and as such candidates were not awarded maximum marks.

Part (b) was well done as evidenced by the ability of candidates to adequately discuss safety measures used to prevent potential dangers in the kitchen.

Part (c) required candidates to discuss the use and care of kitchen knives making reference to different types. A majority of the candidates were able to adequately provide general information on the use and care of knives but did not reference specific knives and as such they were not awarded maximum marks.

UNIT 2

Paper 01 – Multiple Choice

Paper 01 consisted of 45 multiple-choice items with 15 items from each module. Candidates' performance on this paper was good.

Paper 02 – Structured Essay

Section I – Compulsory Question

Modules 1, 2 and 3

Question 1

This question tested candidates' understanding of the indigenous and modern tools used in the preparation of Caribbean dishes. It also tested candidates' ability to assess the nutritional importance of callaloo or spinach; chemical and natural preservatives; nutritional information on food labels; multi-mix principles of menu planning; and HACCP principles.

Overall, performance on this question was good.

In Part (a) (i), most candidates were able to adequately list indigenous tools used in the preparation of Caribbean dishes, suggest alternative modern equipment and state advantages of using them compared to using indigenous tools. Only a few candidates were unable to correctly state indigenous tools; they gave responses such as 'oven and stove'; as such they were not awarded maximum marks.

In Part (a) (ii), most candidates were able to accurately assess the nutritional importance of using callaloo or spinach in the diet. In most cases, candidates emphasized that regular intake of callaloo or spinach prevents iron deficiency anaemia and provides fibre in the diet.

Part (b) (i) was generally well done by candidates as evidenced by their ability to provide examples of natural and chemical preservatives used in the home.

Part (b) (ii) required candidates to list the specific nutritional information that must be included on food labels. Many candidates experienced difficulty in accurately providing specific nutritional information and gave general information found on food labels such as 'the name and address of

the manufacturer, list of ingredients in descending order and expiry date'. Additionally, some candidates were not able to accurately give examples of how each type of information is shown on the labels and as such, they were not awarded maximum marks. Expected responses included:

- Serving or portion size: Amounts of food customarily eaten at one time, serving sizes are standardized to make it easier to compare similar foods. They are provided in familiar units such as cups or pieces, followed by the metric amount, for example, number of grams. On the label it would be shown as *1 cup, 8 oz, 2 bars*.
- Servings per container: The number of servings in the container. On the label it would be shown as *1 serving, 2 servings*.
- Calories from fat: The number of calories of fat in one serving. On the label it would be shown as *72 calories*.
- Daily reference values: Given for key nutrients in a serving of food based on the needs of a person requiring 2000 calories per day. These are based on public health experts' advice. The daily reference values are recommended levels of intake. On the label it would be shown as *fat 6%, sodium 25%*.

In Part (c) (i), candidates were required to use the three mix to plan a two-day cycle menu for a daycare centre catering for children ages one to three. Most candidates were able to plan suitable menus. However, some candidates did not indicate the type of three mix used to plan the meal while others gave a day's menu as opposed to two days thus, preventing them from being awarded maximum marks.

Part (c) (ii) was not done well. Candidates were required to use the HACCP principles to explain the critical control points (CCP) during the cooking, holding, serving, cooling and reheating of a beef patty. Most candidates had difficulty explaining the critical control points for each process and gave general information such as 'when serving, each food should have its specific utensils to prevent cross contamination", "check on the critical control points", "do not hold beef patty for too long with your hands", "ensure beef patty is cooled before eating". Others gave the meaning for the acronym HACCP and in other cases, this part was not attempted. Expected responses included:

- Cooking: The patty will be cooked to the established end point temperature to kill any pathogens bacteria. This is considered CCP because the patty could be served at this point.
- Holding: The beef patty must be held at an appropriate temperature to retard bacterial growth. This is considered a CCP.

- Service: If the patty is held for a short time during service, the concern regarding this time will be addressed. This is NOT considered a CCP. A short serving period is NOT considered a CCP.
- Cooling: The patty must be cooled at an appropriate holding temperature. This is a CCP since reheating would be needed before consumption
- Reheating: Reheating to an appropriate temperature for a specific period would kill any disease causing bacteria. Reheating would be a CCP.

Section II – Optional Questions

Module 1

Question 2

This question tested candidates' understanding of factors that influence the food choices of children and their ability to develop original recipes.

Overall, performance on this question was very good. The question was attempted by 71 per cent of the candidates.

Part (a) was well done as evidenced by the ability of candidates to give factors that influence food choices of children in the Caribbean. Most candidates emphasized the importance of parental involvement and available resources as major factors.

In Part (b), candidates were required to develop a recipe for a main meal/dish salad using local fruits and vegetables. Most candidates misinterpreted the question and developed a vegetable salad instead of a main meal salad. Additionally, some candidates only listed the ingredients and the proportions but did not provide the method of preparation, which prevented them from being awarded maximum marks. Expected responses included:

- Local fruits and vegetables
- Protein, for example, ham, chicken, tuna
- Carbohydrates, for example, grains, pasta, ground provisions
- Dressings and flavourings
- Procedure for preparation

Question 3

This question tested candidates' understanding of food hygiene and healthy lifestyle guidelines. It was attempted by 29 per cent of the candidates. Performance on this question was excellent.

The stimulus in this question referred to the importance of food safety as outbreaks of food-borne illnesses have resulted in substantial costs to individuals, food industries and governments.

In Part (a) (i), candidates were required to suggest and justify topics that should be included in a food hygiene course. Most candidates were able to state suitable topics. However, the majority of them was unable to write plausible justifications for the inclusion of the topics. In other cases, a few candidates gave topics that were not related to food hygiene such as 'food handlers' permit' while others stated the topics without any form of justification and as such were not awarded maximum marks.

In Part (b), candidates provided suitable reasons for providing food hygiene training to food handlers. They emphasized the importance of providing safe foods for consumers and increasing business sales.

Part (c) was done well by most candidates who discussed guidelines that family members could adopt to maintain a healthy lifestyle. The majority of candidates emphasized the importance of eating balanced meals and exercising regularly in order to maintain a healthy lifestyle.

Section III – Optional Questions

Module 2

Question 4

This question tested candidates' understanding of food additives and their ability to calculate the selling price of products, and distinguish between fortification and enrichment. It was attempted by 69 per cent of the candidates. Overall, performance on this question was good.

Performance on Part (a) was good. Candidates were required to discuss the advantages and disadvantages of using food additives. Most candidates were able to adequately discuss the advantages. However, discussing the disadvantages proved to be challenging. Popular responses for the advantages included: *increase shelf life* and *enhances the colour and flavour of food*. Inappropriate responses given for disadvantages included 'some foods have to be rehydrated', 'nutrients loss will occur' and 'may cause product to be less appealing to consumers'. Expected responses for disadvantages included:

- Some food additives are toxic in large quantities, for example, sodium benzoate and benzoic acid
- Some food additives may be carcinogenic, for example, sodium nitrate has been shown to cause cancer in mice and may also cause cancer in human beings.
- Some food additives may have side effects such as allergy and hyperactivity, for example, MSG may be responsible for the ‘Chinese Restaurant syndrome’ — headaches, thirst and chest pains.
- The yellow colouring tartrazine (E102) may cause hyperactivity in children. Sulphur dioxide and sulphites can cause allergies and breathing difficulties in people suffering from asthma.

In Part (b), candidates were required to define *fortification* and *enrichment* and to state one example of a food treated by each method. Some candidates were able to clearly distinguish between the two terms while others had challenges making that distinction. However, most of them were able to provide suitable examples of foods treated by each method. Expected responses included:

- Fortification is the addition of nutrients not found in the food in its natural state or present in significant amounts.
- Enrichment is the addition of nutrients which were lost during processing in order to meet the specified standards for food.

Part (c) required candidates to calculate the selling price of a home-based food product. Most candidates demonstrated an understanding of the steps involved in calculating the selling price of a product. However, important aspects such as the name of the dish, cost per portion and percentage mark-up were not included in some cases and as such candidates were not awarded maximum marks.

Question 5

This question tested candidates’ understanding of the processing of plantain chips; food packaging and labelling. It was attempted by 30 per cent of the candidates. Overall, performance on this question was fairly good.

Part (a) required candidates to describe the stages of processing plantain chips. Some candidates were able to adequately describe the stages involved in the processing of the plantain chips while in other cases, candidates focused only on the cultivating and post-harvesting handling of the

plantain prior to processing. A few candidates only described the steps involved in marketing the plantain chips and as such they were not awarded maximum marks. Expected responses included:

- Selection of raw materials: Select unripe plantains for preparing chips. Bigger size fruits are preferred to produce large-sized slices and an attractive product. Different varieties give products of different colour, flavour and taste. Cross-wise slicing gives uniformity.
- Preparation of raw material: Separate individual fingers from the bunch. Peel and immediately slice cross-wise into thin circular shapes, about one or two millimetres thick. Brush them with a solution of ascorbic acid or lemon/lime juice or honey.
- Heat treatment: Heat vegetable oil to 180° – 200 °C. Use a thermometer to check the temperature of the oil. Place the chips into the mesh basket, this will be lowered in the hot oil, shake. Remove chips from the oil when golden brown.
- Cooling and shaping: Leave the chips in the basket to drain off excess oil. When the chips have been slightly cooled, while they are still sticky and warm, add the desired flavourings such as salt, chilli powder and pepper.
- Packaging: Place in an airtight bag and seal the bag.
- Labelling: Apply food labelling and nutrition information.

Performance on Part (b) was fair. Candidates were required to explain the criteria that should be used when selecting packaging for plantain chips and suggest the most suitable one. Most candidates were able to explain the criteria and gave correct responses such as *durable, seals well, easy to open and light weight*. Most candidates gave plastic as a suitable packaging for the plantain chips.

In Part (c), candidates were required to outline appropriate details for food safety, health claim and nutritional/nutrient content claims on the label of a package of plantain chips. Most candidates were able to provide general information such as *nutritional/nutrient content claims — carbohydrate, fats and oils, sodium, total calories, vitamin; food safety — this will show customers that selective measures and precautions were used in the preparation of the chips; and health claims — important as it should not contain any misinformation such as weight gain* instead of providing pertinent details related to the plantain chips. Expected responses included:

- Food safety: This product is packed on equipment that also packages products that contain milk, soy and nuts. No trans fat added, Keep refrigerated.
- Health claims: Diets low in sodium may reduce the risk of high blood pressure.
- Nutrition/nutrient content claims: Low fat, No sugar added.

Section IV – Optional Questions

Module 3

Question 6

This question tested candidates' ability to use menu planning tools and resources when planning menus. It was attempted by 35 per cent of the candidates. Overall, performance on this question was very good.

In Part (a), candidates were required to discuss menu planning tools or resources that can be used when planning meals for a college cafeteria. Some candidates had challenges interpreting the phrase *menu planning tools and resources* and generally provided responses in relation to tools and equipment used in food preparation such as 'large cutting boards', 'stove' and 'heat trays'; such responses were not awarded maximum marks. Other candidates gave factors to consider when planning meals such as 'nutritionally balanced', 'special needs', 'availability of food', and 'suitable methods of cooking'. Expected responses included:

- Meal planner software: A daily meal planner makes it easier to prepare healthy, economical meals by helping to organize recipes and meals for each day.
- A core set of seven to ten recipes/recipe books: Using these, a schedule of meals can be created that repeat each week or each month by utilizing a rotating menu of favourite recipes.
- Standardized recipes: A standardized recipe is one that has been tried, adapted and retried several times and has been found to produce the same good results and yield every time.
- Food exchange lists: These are used in meal planning to cater to people suffering from various diseases as well as for weight reduction. Meals planned using the food exchange system are generalized, allowing foods from the food exchange lists to be inserted into the menu based on food preferences.
- Caribbean six food groups: A great tool for planning a nutritious and balanced meal plan for each day. It outlines various food groups and food choices that if eaten in the right quantities, form the foundation of a healthy life.

Part (b) was well done as the majority of candidates was able to plan suitable six-course menus. A few candidates did not include a fish or salad course and as such, they were not awarded maximum marks.

Question 7

This question tested candidates' understanding of portion sizes; quality assurance measures when preparing and serving meals; and planning and organizing large-scale service.

The question was attempted by 65 per cent of the candidates. The overall performance was fairly good.

In Part (a) (i), candidates were required to suggest measures that can be employed to minimize the long waiting time between placing an order and receiving the meal. Most candidates were able to suggest appropriate measures and gave popular responses such as *ensure adequate pre-preparation is done, develop a delivery service and briefing staff members*.

Performance on Part (a) (ii) was good as the majority of candidates was able to suggest feasible measures to reduce the service of small portion sizes and gave responses such as *use standardized recipes, ensure sufficient ingredients are available and train staff in portioning*.

Part (b) required candidates to discuss guidelines to be followed by restaurant staff to ensure effective planning and organization of work in order to serve 300 patrons. Some candidates were able to adequately discuss the guidelines and gave responses such as *ensure that there is adequate staff available for serving, ensure that there is adequate seating and make plans in advance to ensure that everything flows smoothly*. In other cases, candidates focused on guidelines for preparing meals rather than those for serving meals and were therefore not awarded maximum marks.

Paper 03 – School-Based Assessment

This paper consisted of a portfolio comprising two pieces of work which tested objectives across all modules. Students, in consultation with their teachers and the guidelines provided by the Caribbean Examinations Council, selected the activities.

The first assignment was marked out of 30 while the second was marked out of 60. Overall performance has shown great improvement.

The majority of portfolios was very well presented. Most of the illustrations were clear and creative. In some cases, the quality of the assignments was appropriate for the CAPE level while others were not of the standard expected at this level. It is imperative that teachers are aware that a portfolio should be submitted, instead of two distinct pieces.

This year, there was an increase in the number of exemplary portfolios students submitted. This indicated that more teachers are following the recommendations outlined in the feedback reports. Conversely, it is evident that schools which are offering the subject for the first time need some guidance. The work of the students with exemplary portfolios was rigorous and scientifically based. These students are to be highly commended for their efforts. In some instances, the students used a thematic approach where the research assignment was linked to the product development.

One major area of concern continues to be the communication of information. While some students were able to communicate information in a logical manner with few grammatical errors, several students continue to present information with numerous grammatical errors; this reduced the overall quality of the portfolios.

Module 1 – Research

Most students selected appropriate topics and demonstrated knowledge of relevant facts. In some cases, literature reviews were not comprehensive; students often did not utilize appropriate formats for citations and, in some cases, the sources used were not cited.

Data were well presented, but very little reference was made to the data. The discussion of finding lacked depth of interpretation. In some cases, findings were not based on the research conducted. Instead, generalizations from the literature or guidelines were made regarding the topics.

In several cases, no inferences, predictions, or conclusions were attempted by students. Sometimes the conclusions and recommendations were not accurately or scientifically based and did not support the analysis of data.

Although communication of information was satisfactory in some cases, the standard of communication for this level was extremely poor. Spelling and grammatical errors that can be easily corrected using the spell check on a computer were often overlooked.

Module 2 – Experimental and Recipe Modification

Many creative products and modifications were attempted and most students utilized sensory evaluation to determine the quality of the product. Students selected appropriate experiments and demonstrated knowledge of relevant facts.

Many reports were not well written and presented. Most students formulated hypotheses that were not realistic. The procedures for experiments were, in most cases, not clearly documented. Students who modified products more than three times must be commended. Some students did not modify the product until a good quality was maintained or the requirements of the hypothesis were met. A large majority of the students showed very little evidence that they modified the product after critical or unexpected outcomes.

Recommendations to Teachers

Students should be encouraged to:

- Read questions carefully, paying attention to key words.
- Place emphasis on comprehending reasons for certain principles and procedures, rather than just learning by rote.
- Develop responses fully, paying attention to the marks allocated for each part of the question.
- Answer questions with a variety of key words, namely: *discuss; explain; list; describe;* and *define*. Ignoring these command words and simply listing responses when required to explain, for example, resulted in students' inability to gain as many marks as possible.
- Participate in mock examinations using past examination papers administered under examination conditions in order to develop good examination techniques.
- Utilize different media to become familiar with current nutritional issues.
- Place emphasis on research techniques, case studies and problem solving.
- Engage in field trips and work attachments to help them fully understand concepts such as methods for assessing the nutritional status of children; complementary feeding and breast feeding; nutrition-related disorders; and practices and procedures for ensuring food safety.
- Develop ideas and demonstrate clarity of expression. In many cases, students showed some knowledge of the concept being tested, but could not adequately respond to questions at the required standard for CAPE.

- Seek guidance in choosing topics for projects as well as throughout the entire exercise.
- Select topics that are of interest to them and that relate to a problem in the region or community. This should ensure that there is ownership and motivation for the project.
- Note that literature reviews for each assignment do not have to be extensive but should be thorough enough to outline the problem and research relevant to the same. This *cannot* be adequately done in two to three pages, therefore, literature reviews must be no less than 2,000 words. Students must utilize a variety of sources. There was a heavy reliance on the internet and in many cases this was the only source cited. At this level, it is critical that students be exposed to the correct method of citing references. It is suggested that students be taught the APA referencing style for citing sources and developing a reference list.
- Develop rationales and explain the significance of the topic.
- Present and discuss the data for the research project. They are not expected to present data on all the questions but should discuss all questions asked on the questionnaire or interview. Field observations must be adequately highlighted and discussed.
- Provide a summary or conclusion at the end of the project.
- Write a detailed report which accurately records and reports all observations for the experimental and recipe modification.
- Repeat and modify experimental methods after critical or unexpected outcomes.
- Explain each modification in detail, giving reasons why the particular modification was done. After an expected outcome, changes should be noted by making a statement concerning the specific modification. For example, *when making a jam, the product did not set; therefore more lime juice was added to the next modification*. Examiners are not expected to compare the recipes to verify the changes that were made to the recipes.