

Caribbean Examinations Council



CSEC® **Home** **Economics**

Textiles, Clothing and Fashion

Food and Nutrition

Family and Resource Management

SYLLABUS
SPECIMEN PAPER
MARK SCHEME
SUBJECT REPORTS

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CARIBBEAN EXAMINATIONS COUNCIL

**Caribbean Secondary Education Certificate®
CSEC®**

HOME ECONOMICS SYLLABUS

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Home Economics Syllabus

◆ RATIONALE

Home Economics is an interdisciplinary field of study that comprises three major options: Family and Resource Management; Textiles, Clothing and Fashion; and Food, Nutrition and Health. Family and Resource Management is concerned with effective use of resources to achieve individual and family goals. Textiles, Fashion and Clothing focuses on the development of skills in the use and care of fabrics and the study of fashion and design. Food, Nutrition and Health deals with the science of food, planning, preparation and service of meals for the health and well-being of the family.

Students pursuing this syllabus will develop competencies in an appropriate mix of knowledge, skills and abilities. The syllabus is geared towards helping learners matriculate to higher learning, sustain lifelong learning, integrate readily and attain employment in industry in a wide variety of careers in Family Support Services, Health Sector Food and Hospitality industries, Fashion and Interior Design.

This field of study incorporates competencies and experiences which are responsive to the Caribbean context of vulnerability to natural disasters, food insecurity, and instability in family life and lifestyle diseases. Additionally, the availability of a variety of materials which can be transformed into products that contribute to economic growth and sustainability underscores the need for this syllabus.

Upon completion of the course of study, the individual will exemplify the attributes of the CARICOM Ideal Person: self-confidence; love of life; respect for diversity; the ability to think critically and creatively and sensitivity to issues surrounding the family, community and the environment. This holistic development of students aligns with the development of the competencies advocated in the UNESCO Pillars of learning: learning to know, learning to do, learning to live together, learning to be and learning to transform oneself and society.

◆ AIMS

This syllabus aims to:

1. develop knowledge, skills and attitudes that will enable students to pursue post-secondary studies, future careers *and work associated with family and resource management, food, nutrition and health, clothing, textiles and fashion;*
2. *develop an understanding of the skills required for nurturing the growth of individuals and families and manage family life for successful living;*
3. *develop foundational competencies for the effective management of the interrelationships among nutritional needs, healthy lifestyle practices and the environment;*



◆ CAREER CHOICES

Home Economics offers to students' diversity in the career path they can chart. The skills and knowledge acquired through the study of the areas in this syllabus may be further developed through post-secondary and tertiary studies or through employment. The professions included are listed below:

FAMILY AND RESOURCE MANAGEMENT

- *Consumer Advocates*
- *Social Workers*
- *Family Therapists*
- *Event Planners*
- *Educators*
- *Entrepreneurs*
- *Personal/Home Care Practitioners*

FOOD, NUTRITION AND HEALTH

- *Public Health and Nutrition Educators/Promoters*
- *Entrepreneurs*
- *Nutritionists*
- *Food Chemists*
- *Quality Assurance Specialists*
- *Chefs*

TEXTILES, CLOTHING AND FASHION

- *Fashion Designers*
- *Textile Manufacturers and Designers*
- *Educators*
- *Entrepreneurs*
- *Wardrobe Consultants*
- *Garment Manufacturers and Merchandisers*
- *Costume/Mask Designers*

◆ SUGGESTED TIMETABLE ALLOCATION

A minimum of six *40-minute* periods per week over a two year period with at least one session to run for four consecutive periods in order to facilitate practical activities *is recommended*. The remaining two periods could be used for the theoretical aspects of the syllabus.

◆ CERTIFICATION

The syllabus is offered for Technical Proficiency Certification. A candidate's performance will be indicated on the certificate by an overall numerical grade on a six-point scale as well as a letter grade for each of three profile dimensions, namely, Knowledge, Use of Knowledge and Practical Skills.



Additionally, candidates who attain competence in the Units of Regional Occupational Standard for the Caribbean Vocational Qualification (CVQ) listed below and to which the School-Based Assessment is aligned, will be awarded a Statement of Competence in recognition of their performance once all requirements for issuing the award are met.

1. *Option A: Family and Resource Management, is aligned to units in the Food and Drink Service Level 1 and Floral Arrangement Level 1.*
2. *Option B: Textiles, Clothing and Fashion, is aligned to units in the Garment Production, Level 1.*
3. *Option C: Food, Nutrition and Health, is aligned to units in the Commercial Food Preparation, Level 1.*

This system informs the level of the quality of candidates' performance from mastery to the various levels of competency development.

◆ **SKILLS AND ABILITIES TO BE ASSESSED**

The knowledge and skills students are expected to develop on completion of this syllabus, have been grouped under three headings:

1. Knowledge;
2. Use of Knowledge;
3. Practical Skills.

◆ **DEFINITION OF PROFILE DIMENSIONS**

The skills and capabilities described in the three Options will be examined and reported under three Profile Dimensions described below:

1. Knowledge (K)

The ability to:

- (a) recall facts, concepts and principles;
- (b) identify, access, organise and communicate facts, concepts and principles.

2. Use of Knowledge (UK)

The ability to:

- (a) make critical judgement;
- (b) adopt a problem solving approach;



- (c) account for or justify decisions made;
- (d) apply theory to practice in familiar situations.

3. Practical Skills

The ability to:

- (a) collect, display and analyse data gathered through observations;
- (b) apply results obtained from doing practical activities to new situations;
- (c) test informed guesses, conjectures, and hunches by doing practical activities;
- (d) do practical tasks accurately and economically with regard to time, energy and other resources; and
- (e) use appropriate tools with dexterity and care.

◆ FORMAT OF THE EXAMINATION

The examination is offered at the Technical Proficiency Level. The assessment comprises three papers, Paper 01, Paper 02 and Paper 03.

Papers 01 and 02 are assessed externally. Paper 03 is a School-Based Assessment and is assessed internally by the teacher and moderated by CXC.

Paper 01 (30 percent) *Paper 01 consists of 60 multiple-choice items assessing **all areas of the syllabus**. All questions are compulsory*
(1 hour 30 minutes)

The sixty items on Paper 01 will test skills (knowledge and use of knowledge) in the ratio of 1:1 that is 30 marks for Knowledge and 30 marks for Use of Knowledge.

This Paper contributes 60 marks to the candidate's final grade.

Paper 02
(40 percent)
(2 hours 30
minutes)

Paper 02 consists of six compulsory questions testing all Sections in the syllabus.

Each question in this Paper is worth 16 marks: 6 marks for Knowledge and 10 marks for Use of Knowledge. The Paper contributes 96 marks to the candidate's final score.

Paper 03
School-Based
Assessment
(30 percent)

This component will test Profile 3 – Practical Skills. Candidates will complete a set of practical activities for the School-Based Assessment in which the relevant Level 1 standards for the CVQ are integrated. Candidates may be awarded Statements



of Competence for those units in which they show competence.

The School-Based Assessment component will comprise THREE assignments testing practical skills. See exemplars on pages 51 to 58, 112 to 119 and 188 to 193.

Assignment One is set by the teacher using criteria provided in the syllabus and marked by the teacher using criteria provided in the syllabus.

Assignment Two is set by the teacher using criteria provided in the syllabus and **jointly assessed by the teacher and an External Examiner using mark schemes provided in the syllabus and following procedures outlined on pages 54, 115, 116 and 191 of the syllabus.**

Assignment Three is set by the teacher, using criteria provided in the syllabus and marked by the teacher, using criteria provided in the syllabus. It is recommended that the first of these assignments should be done in the third term of year one of the course. The second and third assignments should be done during terms one and two, respectively, of year two of the course.

Teachers must follow the CVQ assessment guidelines and regulations for all candidates who are to be assessed for the CVQ Level 1 Units of Competence.

WEIGHTING OF PAPERS AND PROFILE DIMENSIONS

The percentage weighting of examination components and profiles is as follows:

Profile Dimensions	Paper 01	Paper 02	Paper 03 SBA	TOTAL RAW SCORE	TOTAL Weighted	(%)
Knowledge	30	36	-	66	60	(30)
Use of Knowledge	30	60	-	90	80	(40)
Practical Skills	-	-	60	60	60	(30)
Total	60	96	60	216	200	(100)

◆ REGULATIONS FOR PRIVATE CANDIDATES

Private candidates will be required to sit all components of the examination for the selected syllabus. Private candidates are required to write Papers 01, 02 and 03. A private candidate must enter through a school, a recognised institution (technical institute or community college) or the Local Registrar's Office. The institution of learning will be required to accept responsibility for the assessment of the School-Based Assessment component of the syllabus. The name, school, and



territory of the identified teacher or tutor should be submitted to the Council on registration for the subject.

◆ REGULATIONS FOR RESIT CANDIDATES

Resit candidates must rewrite Papers 01 and 02 of the examination for the year in which they re-register. However, resit candidates who have earned a moderated score 50 per cent or more of the maximum score for the School-Based Assessment component may elect not to repeat this component, provided they rewrite the examination no later than 2 years immediately following their first attempt.

Resit candidates who have obtained a moderated score of less than 50 per cent of the maximum score for the School-Based Assessment component must repeat the component at any subsequent sittings. Resit candidates may enter through schools, recognised educational institutions or the Local Registrar's Office.

◆ **HOME ECONOMICS SYLLABUS**

FOOD, NUTRITION AND HEALTH

◆ SYLLABUS FOR EXAMINATION IN FOOD, NUTRITION AND HEALTH

The Food, Nutrition and Health Syllabus is intended to provide opportunities for the development of skills in the planning, preparation and presentation of foods. This is a basic requirement for health and wellbeing. In addition, the course provides an understanding of the nature of food and the principles of nutrition.

ESSENTIAL KITCHEN EQUIPMENT

Cutting boards	Egg slicer
Pastry boards	Egg wedger
Sieves	Scoops
Whisks	Can openers
Kitchen shears	Spatulas. Slotted, perforated and solid
Cake mixers	spoons. Kitchen forks, ladles
Blenders	Food tongs
Food processors	Icing thimbles
Microwave oven	Skewers
Juicers	Meringue tubes
Graters	Cookers
Rolling pins	Refrigerator
Wooden spoons	Microwave oven
Variety of cutters	Stainless steel bowls
Pastry brush	Measuring cups
Frying pans of different sizes	Measuring spoons
Vegetable mashers	Kitchen scales
Colanders	Thermometer
Kitchen shears	Beverage mugs
Muffin pans	Platters ,mainly medium and small
Patty pans	Oven ware
Loaf pans	Custard bowls
Griddle/tawa	Casseroles-mainly medium and small
Sandwich pans	Dinner set
Baking sheets	Tea set
Cake tins	Coffee set
Roasting pans	Cake stands
Cooling racks	Napkin rings
Sturdy cooking pots	Serving /table spoons
Double boiler	Dinner knives
Pressure cookers	Dessert knives
Assortment of sturdy kitchen knives	Dessert spoons
Vegetable peeler /slicers	Tea spoons
Pastry wheeler	Dessert forks
Mixing bowls	Trays



SECTION 1: DIET AND HEALTH

GENERAL OBJECTIVES

On completion of this Section, students should:

- 1. develop an understanding of the relationship between diet and good health;*
- 2. understand the factors that determine eating patterns and dietary choices in the Caribbean;*
- 3. appreciate the importance of physical activity as an important component of a healthy lifestyle.*

SPECIFIC OBJECTIVES

Students should be able to:

- 1. explain the term “diet” in relation to health;*
- 2. evaluate different types of diets which contribute to good health and well-being;*
- 3. explain various types of diet-related health problems and their impact on the Caribbean;*
- 4. discuss the basic dietary guidelines for the Caribbean;*
- 5. discuss the factors that influence eating patterns and dietary choices in the Caribbean;*
- 6. discuss factors which contribute to changes in dietary needs;*
- 7. prepare a basic activity plan to maintain optimum health throughout the life cycle;*
- 8. explain the importance of community nutrition;*
- 9. explain the term “vulnerable groups” and the nutritional problems associated with each one;*
- 10. discuss the factors that threaten the food security of these vulnerable groups within a community;*
- 11. discuss the roles of various organisations involved in community nutrition;*

SECTION 1: *DIET AND HEALTH (cont'd)*

CONTENT

1 and 2. Diet

- (a) Define:
 - (i) diet;
 - (ii) health (according World Health Organization 1948);
 - (iii) nutritional status:
 - methods of assessment.
- (b) Aspects of health; physical, mental, social.
- (c) Role of diet in maintaining good health.
- (d) *Types:*
 - (i) *balanced;*
 - (ii) *special:*
 - *reducing;*
 - *diets which contribute to good health and well-being:*
 - *high fibre diet;*
 - *low fat, sugar and salt diet;*
 - *vegetarian diet.*

3. Diet-related health problems and their impact

- (a) *Lifestyle diseases:*
 - (i) *definition;*
 - (ii) *description of each.*
- (b) *Overweight and obesity.*
- (c) Diabetes Mellitus.
- (d) Hypertension.
- (e) Iron deficiency anaemia.

SECTION 1: *DIET AND HEALTH (cont'd)*

- (f) *Dental caries.*
- (g) Eating disorders:
 - (i) *Anorexia nervosa.*
 - (ii) *Bulimia.*
- (h) Heart diseases (stroke).
- (i) Impact of diet-related health problems **on Caribbean citizens:**
 - (i) *human resource capacity;*
 - (ii) *disposable income spent on health;*
 - (iii) *government expenditure on health bills.*

4. Dietary guidelines for the Caribbean

- (a) *Definition of dietary guidelines.*
- (b) *Importance of dietary guidelines.*
- (c) *Basic dietary guidelines for the Caribbean.*

5. Factors that influence eating patterns and dietary choices in the Caribbean

- (a) *Advertisement.*
- (b) *Dietary needs.*
- (c) *Religious.*
- (d) *Cultural.*
- (e) *Income.*
- (f) *Medical – non-communicable.*
- (g) *Age-group.*
- (h) *Food fads and fallacies.*
- (i) *Personal likes and dislikes.*
- (j) *Technological development.*
- (k) *Availability of foods.*
- (l) *Government policy.*



SECTION 1: *DIET AND HEALTH (cont'd)*

(m) National disasters.

6. Factors contributing to changes in dietary needs:

(a) *Age.*

(b) *Gender.*

(c) *Level of activity.*

(d) *Occupation.*

(e) *State of health.*

(f) *Special needs:*

(i) pregnancy and lactation;

(ii) convalescence.

(g) *Food availability.*

Natural disasters.

7. Basic physical activity plan to maintain optimum health for various groups

(a) *Groups:*

(i) *toddlers;*

(ii) *children;*

(iii) *the adolescents;*

(iv) *adults;*

(v) *the elderly.*

(b) *Basic forms/types of exercise (for each of the groups listed above):*

(i) *duration;*

(ii) *benefits.*



SECTION 1: DIET AND HEALTH (cont'd)

8. Community Nutrition

- (a) Define *community nutrition*.
- (b) *Importance of community nutrition*.

9. Vulnerable groups in community and their nutritional problems

- (a) *Vulnerable groups in the community:*
 - (i) *infants, toddlers, elderly;*
 - (ii) *pregnant and lactating women;*
 - (iii) *specially abled;*
 - (iv) *poverty stricken.*
- (b) *Nutritional problems of the various vulnerable groups within the community:*
 - (i) *Malnutrition:*
 - *under-nutrition;*
 - *over-nutrition.*
 - (ii) *Special nutrients needs.*
 - (iii) *Balanced diet.*

10. Factors that threaten food security of these groups and bring about under-nutrition and starvation

- (a) *Age.*
- (b) *Socio economic status.*
- (c) *Infectious diseases.*
- (d) *Natural disaster.*

11. Organisations involved in community nutrition

- (a) *Local Government and non-government organisations in individual countries.*
- (b) *Regional and international organisations:*
 - (i) *World Food Programme (WFP);*



SECTION 1: *DIET AND HEALTH (cont'd)*

- (ii) World Health Organization (WHO);
- (iii) Food and Agriculture Organization (FAO);
- (iv) United Nations Children’s Fund (UNICEF);
- (v) *United Nations Development Programme (UNDP);*
- (vi) *Pan-American Health Organization (PAHO);*
- (vii) *Canadian Public Health Association (CPHA);*
- (viii) *Caribbean Food and Nutrition Institute (CFNI).*

Suggested Teaching and Learning Activities

To facilitate students’ attainment of the objectives in this Section, teachers are advised to engage students in the following teaching and learning activities.

1. *Place students in groups representing different needs. Have them prepare and present a role play in which a nutritionist advises clients on how to develop a diet plan based on their needs.*
2. *Assign students to prepare and present PowerPoint presentations depicting different types of diets and diet related health problems. Groups can be a combination of students who are studying CSEC, Physical Education, and Food, Nutrition and Health Syllabuses.*

SECTION 2: NUTRITION AND HEALTH

GENERAL OBJECTIVES

On completion of this Section, students should:

- 1. understand the principles of nutrition and their influence in diet and good health;*
- 2. understand the nutritive value of food, their structure and how they are used in the body;*
- 3. appreciate the importance of correct eating habits and healthy lifestyle in the achievement of optimum nutritional status.*

SPECIFIC OBJECTIVES

Students should be able to:

- 1. discuss the basic principles of nutrition;*
- 2. describe various nutrition-related problems;*
- 3. classify nutrients according to dietary requirements;*
- 4. discuss the classification, sources and functions of carbohydrate, fats and protein in the diet;*
- 5. describe various health conditions associated with the intake of carbohydrates, fats and protein;*
- 6. discuss the classification, food sources and functions of vitamins and minerals in the diet;*
- 7. explain the importance of calcium and iron in the diet of special groups of persons;*
- 8. demonstrate how vitamins are conserved during food preparation;*
- 9. discuss the absorption of calcium and iron in the diet;*
- 10. describe various health conditions associated with the intake of minerals and vitamins;*
- 11. discuss the sources and functions of water in the diet;*
- 12. describe various types of health conditions associated with the intake of water;*
- 13. discuss the factors that affect the nutritive value of food;*
- 14. describe the physical and chemical changes that take place during the digestion of food;*
- 15. assess the credibility of nutrition information from different sources.*



SECTION 2: NUTRITION AND HEALTH (cont'd)

CONTENT

1. Principles of nutrition

- (a) *Defining food, nutrition, nutrients, nutritive value of food, nutritional status and digestion.*
- (b) *Functions and importance of food.*
- (c) *Chemical elements of which food is composed.*

2. Nutrition-related problems

- (a) Definition/description:
 - (i) malnutrition;
 - (ii) under nutrition;
 - (iii) over nutrition.
- (b) Deficiency diseases:
definitions with suitable examples.

3. Classification of Nutrients

Classification:

- (a) *macro-nutrients;*
- (b) *micro-nutrients.*

4. Carbohydrates, fats and proteins in the diet:

- (a) Carbohydrates:
 - (i) *chemical composition;*
 - (ii) production of carbohydrates:
 - photosynthesis.
 - (iii) classification of carbohydrates:
 - simple (monosaccharides, disaccharides);



SECTION 2: NUTRITION AND HEALTH (cont'd)

- complex carbohydrates (polysaccharides, non-starch polysaccharides).
- (iv) dietary fibre:
 - soluble;
 - insoluble.
- (v) functions of carbohydrates in the diet;
- (vi) sources of carbohydrates.
- (b) Fats:
 - (i) *structure of chemical composition of fats:*
 - *triglycerides (definition and chemical structure);*
 - (ii) *fats and oil; difference between them;*
 - (iii) *cholesterol;*
 - (iv) fatty acids:
 - *saturation:*
 - *explanation;*
 - *('good' vs 'bad' fats).*
 - *classification of fatty acids:*
 - *saturated fatty acids;*
 - *unsaturated fatty acids (monounsaturated, polyunsaturated).*
 - *essential fatty acids;*
 - *trans fatty acids.*
 - (v) functions of fats in the diet;
 - (vi) sources of fats:
 - animal sources;
 - plant sources;
 - Visible fats, Invisible fats.

SECTION 2: NUTRITION AND HEALTH (cont'd)

- (c) Protein
- (i) chemical composition:
- *importance of nitrogen;*
 - *the protein molecule and its constituents;*
 - *amino acids:*
 - *essential amino acids;*
 - *non-essential amino acids.*
- (ii) biological value:
- high biological value;
 - low biological value;
 - complementary proteins.
- (iii) functions of protein:
- protein sparing.
- (iv) food sources of proteins;
- animal sources;
 - plant sources.

5. **Health conditions associated with improper intake of carbohydrates, proteins and fats**

- (a) *Daily intake of macronutrients:*
- *percentage of each nutrient diet should comprise.*
- (b) *Signs and symptoms of each disease:*
- (i) *health conditions associated with improper intake of carbohydrates:*
- *obesity;*
 - *low energy;*
 - *constipation;*



SECTION 2: NUTRITION AND HEALTH (cont'd)

- *diverticulitis;*
- *diabetes;*
- *heart disease.*

(ii) *health conditions associated with improper intake of fats:*

- *heart disease;*
- *high cholesterol;*
- *stroke;*
- *hypertension.*

(iii) *health conditions associated with an improper intake of proteins:*

- *protein energy malnutrition (PEM) or protein calorie malnutrition (PCM):*
 - *kwashiorkor;*
 - *marasmus;*
- *weight gain (excess).*

6. Vitamins and minerals

(a) Micronutrients:

(i) *classification:*

- *vitamins;*
- *minerals.*

(b) Vitamins (A, B1, B2, B12, C, D, E, K and folic acid):

(i) Chemical names.

(ii) Sources of vitamins:

- *animal sources;*
- *plant sources.*



SECTION 2: NUTRITION AND HEALTH (cont'd)

- (c) *Functions of each vitamin.*
- (d) Minerals (calcium, iron, phosphorus, sodium, iodine, fluoride):
 - (i) *classification of minerals;*
 - (ii) sources:
 - animal sources;
 - plant sources;
 - heme and non-heme iron sources.
 - (iii) Functions of minerals.

7. Importance of calcium and iron to special groups

- (a) Babies.
- (b) Pregnant and lactating women.
- (c) Young girls and women during menstrual cycle.
- (d) Athletes.
- (e) Persons convalescing after major surgery.
- (f) Strict vegetarians.

8. Conservation of vitamins in food preparation

- (a) *During pre-preparation.*
- (b) *Cooking and holding.*

9. Foods that impact the absorption of calcium and iron

- (a) Inhibit absorption of calcium and iron.
- (b) Promote absorption of calcium and iron.

10. Health conditions associated with an improper intake of minerals and vitamins

Health condition associated with inappropriate intake of:

- (i) vitamins:
 - night blindness;



SECTION 2: NUTRITION AND HEALTH (cont'd)

- beriberi;
- scurvy;
- retarded growth in children.
- (ii) minerals:
 - rickets;
 - osteoporosis;
 - anaemia (iron deficiency, pernicious);
 - goitre.
- (iii) signs and symptoms of these health conditions.

11. Water

- (a) Sources.
- (b) Functions.

12. Health conditions associated with an improper intake of water

- (a) Dehydration.
- (b) Constipation.
- (c) Signs and symptoms of these health conditions.

13. *Factors that affect the nutritive value of food*

- (a) *Agricultural practices (organic and inorganic).*
- (b) *Conditions during transportation.*
- (c) *Processing:*
 - (i) *enrichment;*
 - (ii) *fortification;*
 - (iii) *additives.*
- (d) *Food purchasing and preparation practices.*
- (e) Effects of enzymes.



SECTION 2: NUTRITION AND HEALTH (cont'd)

- (f) Food combinations:
 - (i) high and low biological value;
 - (ii) iron absorption;
 - (iii) calcium absorption;
 - (iv) alkalis and acids.

14. *Digestion of food*

- (a) Digestive system:
 - parts of the digestive system.
- (b) *Definition of terms:*
 - (i) *digestion;*
 - (ii) *mastication;*
 - (iii) *absorption;*
 - (iv) *bolus;*
 - (v) *peristalsis;*
 - (vi) *chyme.*
- (c) *Digestion:*
 - (i) *mouth:*
 - *physical;*
 - *chemical.*
 - (ii) *stomach:*
 - *physical;*
 - *chemical.*
 - (iii) *small and large intestines:*
 - *physical;*
 - *chemical.*

SECTION 2: NUTRITION AND HEALTH (cont'd)

15. Credible nutrition information sources

- (a) Online media.
- (b) Magazines.
- (c) Newspaper.
- (d) Radio.
- (e) Television.
- (f) Textbooks.

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives in this Section, teachers are advised to engage students in the following teaching and learning activities.

1. *Have students prepare and present a sixty second clip for "Health TV" on how to stay healthy. Students are encouraged to use available technologies (cameras or smart phones) to video tape their work. Students are to be asked to identify clearly the health tips given in the clip and confirm if they are accurately stated.*
2. *Create nutrition portfolio with drawings and pictures to clearly show the relationship among food, food nutrients and the human body.*

SECTION 3: MEAL PLANNING, PREPARATION AND DINING

GENERAL OBJECTIVES

On completion of this Section, students should:

- 1. demonstrate a working knowledge of the principles of nutrition in planning meals for all stages of the life cycle;*
- 2. demonstrate knowledge of planning, preparing and serving nutritionally balanced, attractive and appetizing meals;*
- 3. demonstrate an appreciation for the use of appropriate dining implements;*

SPECIFIC OBJECTIVES

Students should be able to:

1. explain terms associated with meal planning;
2. outline the factors to be considered in the planning of meals;
3. explain the importance of food groups in meal planning;
4. plan meals using the multi-mix principle;
5. plan menus and prepare meals for different occasions;
6. plan and prepare meals for different groups;
7. describe the various types of vegetarians and their nutritional requirements;
8. plan and prepare meals for the various types of vegetarians;
9. plan and prepare meals to prevent various nutritional disorders;
10. plan and prepare nutritious low-budget meals;
11. plan and prepare packed meals for different groups;
12. set the table attractively for different meals and occasions.



SECTION 3: MEAL PLANNING, PREPARATION AND DINING (cont'd)

CONTENT

1. Meal Planning

Definition of terms:

- (a) meal;
- (b) breakfast;
- (c) brunch;
- (d) lunch;
- (e) dinner;
- (f) supper;
- (g) tea (high tea);
- (h) menu;
- (i) a la carte;
- (j) table d'hôte;
- (k) course;
- (l) appetizer;
- (m) hors d'oeuvres;
- (n) dessert;
- (o) main course;
- (p) entrée;
- (q) *accompagnement*.

2. Factors to be considered when planning meals

- (a) The nutritional requirements, age, sex, occupation, physical activity and health of each member of the family.



SECTION 3: MEAL PLANNING, PREPARATION AND DINING (cont'd)

- (b) Food preparation facilities.
- (c) *Food affordability and availability.*
- (d) *Time and energy for the preparation and presentation of the meals.*
- (e) *Individual preferences.*
- (f) *Variety (colour, texture, flavour, temperature, garnishes and decoration, serving dishes and cooking methods.*
- (g) *Traditions and customs.*
- (h) *Religion.*
- (i) The occasion.

3. Food groups

- (a) *Caribbean's Six Food Groups:*
 - (i) *categorizing food into food groups;*
 - (ii) *essential nutrients supplied by each food group.*
- (b) *Caribbean's dietary guide.*

4. Multi Mix principle

- (a) *Definition.*
- (b) *Two or double mix.*
- (c) *Three mix.*
- (d) *Four mix.*
- (e) *Plan meals.*

5. Menus for different times/ occasions

- (a) *Write menus, prepare dishes/meals for various times/occasions:*
 - (i) *cocktails;*



SECTION 3: MEAL PLANNING, PREPARATION AND DINING (cont'd)

- (ii) *brunch;*
- (iii) *birthday parties (children, adult; male, female);*
- (iv) *mother's/father's day;*
- (v) *buffet part;*
- (b) *Style/format of menu for each time/occasion:*
 - (a) *suitability of- dishes/items chosen, courses;*
 - (b) *nutritionally balanced;*
 - (c) *plan and prepare meals.*

6. Meal planning for different groups

- (a) **Groups:**
 - (i) *toddler;*
 - (ii) *child:*
 - *nutrient requirements;*
 - *developing positive eating habits;*
 - (iii) *adolescent*
 - *nutrient requirements for:*
 - *adolescent;*
 - *adolescent female;*
 - *athletic adolescent.*
 - (iv) *pregnant and lactating women:*
 - *'eating for two';*
 - *breastfeeding vs bottle feeding;*
 - *complementary breast feeding.*

SECTION 3: MEAL PLANNING, PREPARATION AND DINING (cont'd)

- (v) *elderly:*
 - *identify those considered as elderly;*
 - *problems that affect their nutritional status.*
 - (vi) *suitable foods for each group listed;*
 - (vii) *plan and prepare meals for each group listed (breakfast, dinner, snack).*
- (b) Occupational group:
- (i) the sedentary worker, the manual worker;
 - (ii) athletes and other sports-related occupations:
 - definition of sedentary and manual worker;
 - nutritional requirements;
 - suitable foods for each group;
 - plan and prepare and serve meals for these groups (breakfast, dinner, snack).
- (c) *Special groups*
- Convalescent:*
- (i) *definition;*
 - (ii) *nutritional needs;*
 - (iii) *suitable foods;*
 - (iv) *plan meals.*

7 and 8. Vegetarians

- (a) *Definition.*
- (b) *Types:*
 - (i) *lacto- vegetarian;*
 - (ii) *lacto-ovo vegetarian;*
 - (iii) *vegan.*



SECTION 3: MEAL PLANNING, PREPARATION AND DINING (cont'd)

- (c) *Nutritional requirements.*
- (d) *Suitable foods eaten by each type of vegetarian.*
- (e) *Planning meals for the different types of vegetarians.*

9. Planning meals and modify dishes to prevent various nutritional disorders

- (a) *Obesity.*
- (b) *Diabetes (type 2).*
- (c) *Osteoporosis.*
- (d) *Hypertension.*
- (e) *Anemia.*
- (f) *Modify recipes to suit the different special diets.*
- (g) *Plan meals for the different disorders.*

10. Planning nutritious low-budget meals

- *Breakfast, lunch and dinner using indigenous foods.*

11. Planning packed meals for different groups

Plan packed meal for pre-schoolers, adolescents and an office worker:

- (a) *lunch and snack for a picnic;*
- (b) *suitable packaging for packed meals, materials and utensils used in packing the meals.*

12. Dining

- (a) *Table appointments.*
- (b) *Table linens.*
- (c) *Table decorations:*
 - *utilising fresh flowers, fruit, vegetables, animate and inanimate objects.*
- (d) *Lay table for different meals/occasions:*
 - (i) *definition of the term 'cover';*



SECTION 3: MEAL PLANNING, PREPARATION AND DINING (cont'd)

- (ii) dining etiquette;
- (iii) breakfast;
- (iv) dinner;
- (v) tray service.

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives in this Section, teachers are advised to engage students in the following teaching and learning activities.

1. *Engage students in an activity based on the following instructions: create a food journal for yourself, a family member or a friend. Document what was eaten and the time of day it was eaten. At the end of the week analyse the journal to determine if food choices made were appropriate for the individual's age and activities. Prepare a report with recommendations for the individual. If you had done a personal journal, be sure to document what you need to do differently.*
2. *Assign student the task to create games that can be used to educate individuals about the importance of making appropriate food choices for different groups of people. This may include, menu rhymes done to the tune of one of your favourite nursery rhymes; food jeopardy, food bingo, cross word and jig saw puzzles.*
3. *Analyse the menus of two different types of restaurants within your locale and suggest what dishes/meals are suitable for what groups of persons and document the variations observed with the how tables are set for different meals. Compare this with what you have learnt in class. Write a report and present to your class.*

SECTION 4: FOOD SCIENCE AND TECHNOLOGY

GENERAL OBJECTIVES

On completion of this Section, students should:

- 1. understand the production system of basic food commodities and the science behind the reaction of the components during processing and preparation to impact health;*
- 2. understand the principles of food preservation;*
- 3. understand the chemical changes of basic food commodities on exposure to heat;*

SPECIFIC OBJECTIVES

Students should be able:

- 1. outline the production system of commonly used food commodities;*
- 2. discuss the factors that contribute to food spoilage and contamination;*
- 3. distinguish between perishable and non-perishable foods;*
- 4. explain how microorganisms contaminate food;*
- 5. explain the development and prevention of food-borne illnesses;*
- 6. outline methods of preventing food contamination;*
- 7. discuss the importance of food preservation;*
- 8. explain the methods of preserving foods;*
- 9. outline the importance of food additives in manufactured foods;*
- 10. explain the principles of heat transfer in the cooking of food;*
- 11. discuss the effects of heat on the chemical composition and structure of foods;*
- 12. discuss the use of raising agents in flour mixtures;*
- 13. explain the precautions to be observed when using these raising agents.*

SECTION 4: FOOD SCIENCE AND TECHNOLOGY (cont'd)

CONTENT

1. Production of common food commodities

Inputs and processes of:

- (a) *sugar (brown sugar, granulated sugar, icing sugar);*
- (b) *cereals:*
 - (i) *wheat Flour (whole wheat and white flour, self-rising flour);*
 - (ii) *rice;*
 - (iii) *maize (corn meal, corn flour and corn starch).*
- (c) *dairy products (milk, butter, cheese):*
 - (i) *milk;*
 - (ii) *yogurt;*
 - (iii) *butter;*
 - (iv) *cheese.*
- (d) *eggs;*
- (e) *oil:*
 - (i) *margarine;*
 - (ii) *soya bean:*
 - *oil;*
 - *textured vegetable protein.*
- (f) *cassava.*

2. Food spoilage and contamination

- (a) *Define food contamination.*
- (b) *Factors that impact food spoilage and contamination:*
 - (i) *warm temperature;*



SECTION 4: *FOOD SCIENCE AND TECHNOLOGY (cont'd)*

- (ii) moisture;
- (iii) improper storage;
- (iv) poor food handling;
- (v) unhygienic surroundings;
- (vi) enzymatic actions.

3. **Perishable and Non- Perishable foods**

- (a) *List of perishable and non-perishable foods.*
- (b) *Water activity.*
- (c) *Difference(s) between the two groups.*
- (d) *Suitable storage of these foods.*

4. **Microorganisms that contaminate food**

- (a) *Bacteria.*
- (b) *Yeast.*
- (c) *Moulds:*
 - (i) *describe each microorganism;*
 - (ii) *explanation of how they contaminate food.*

5. **Food-borne illnesses**

- (a) *Development and prevention of food borne-illnesses:*
 - (i) *definition;*
 - (ii) *causes;*
 - (iii) *symptoms.*
- (b) *Food infection and food intoxication and chemical illnesses:*
 - (i) *food infection, food intoxication:*
 - *definition;*



SECTION 4: FOOD SCIENCE AND TECHNOLOGY (cont'd)

- *difference between these two;*
- *causes;*
- *signs and symptoms.*
- (ii) *chemical food illnesses:*
 - *natural toxins;*
 - *toxins unintentionally added:*
 - *agricultural products;*
 - *industrial chemicals and metals.*
 - *toxins intentionally added:*
 - *food additives;*
 - *toxic chemical deliberately added.*
 - *signs and symptoms.*

6. Methods of preventing food contamination

- (a) *Preventing food contamination during the purchasing, handling, storing and preparation and service of food:*
 - (i) *temperature - temperature danger zone;*
 - (ii) *appropriate hygiene and safety practices.*
- (b) *Preventing cross-contamination.*

7. Importance of food preservation

- (a) *Food preservation:*
 - (i) *underlying principles;*
 - (ii) *reasons foods are preserved.*
- (b) *Food spoilage;*
 - (i) *causes:*
 - *natural decay;*



SECTION 4: FOOD SCIENCE AND TECHNOLOGY (cont'd)

- *moisture loss.*

(ii) *signs of food spoilage:*

- *action of enzymes;*

- *contamination;*

- *moistures loss.*

8. Methods of preservation

(a) Methods used to preserve foods:

(i) *cold;*

(ii) *heat;*

(iii) *chemicals;*

(iv) *removal of moisture;*

(v) *physical;*

(vi) *irradiation.*

(b) Suitable foods for each method.

(c) *Preservation of various foods at home:*

(i) *fruits and vegetables (heat/chemicals, moisture removal):*

- *selection;*

- *equipment used;*

- *steps and precautions.*

(ii) *foods from animals (meat/ seafood, milk, eggs):*

- *methods (moisture removal);*

- *freezing (suitable packaging, thawing of frozen foods);*

- *heat (sterilization, pasteurization, ultra-heat);*

- *chemicals.*



SECTION 4: FOOD SCIENCE AND TECHNOLOGY (cont'd)

9. Food additives

- (a) *Reasons they are added to foods.*
- (b) *List with appropriate examples.*

10. Principles of Heat Transfer

- (a) Conduction.
- (b) Convection.
- (c) Radiation.

11. Effects of heat on the composition and structure of various foods

- (a) *Carbohydrate foods (dry heat, moist heat):*
 - (i) *sugars;*
 - (ii) *starches;*
 - (iii) *define terms such as: dextrin, gelatinization, caramelization, crystallization.*
- (b) *Proteins (dry heat, moist heat):*
 - (i) *animal protein (eggs, meat/poultry, fish);*
 - (ii) *plant protein;*
 - (iii) *define terms such as: denaturation, coagulation, maillard reaction, syneresis.*
- (c) *Fats and oils (dry heat, moist heat):*
 - (i) *fats;*
 - (ii) *oils;*
 - (iii) *define terms such as; smoke point, flash point.*

12. Raising agents in food preparation

- (a) *Function(s) of raising agents in flour mixtures.*
- (b) *Classification of raising agents:*
 - (i) *mechanical;*
 - (ii) *chemical;*



SECTION 4: FOOD SCIENCE AND TECHNOLOGY (cont'd)

- (iii) *biological.*
- (c) *Description of how each raising agent works:*
 - (i) *baking powder;*
 - (ii) *baking soda;*
 - (iii) *yeast;*
 - (iv) *air/steam.*
- 13. **Precautions to observe when using these raising agents (baking powder, baking soda, yeast):**
 - (a) *measuring;*
 - (b) *mixing;*
 - (c) *cooking.*

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives in this Section, teachers are advised to engage students in the following teaching and learning activities.

1. *Have students create a poster on common causes, symptoms and preventions for food-borne illnesses in their community and present in to the class.*
2. *Have students prepare, package and display various preserves and products using different raising agents and walk viewers through the process used to make the items on display. Displays and products are to be appropriately labelled and supported by relevant charts/posters, recipes, dictionary of terms.*

SECTION 5: KITCHEN DESIGN AND EQUIPMENT MANAGEMENT

GENERAL OBJECTIVES

On completion of this Section, students should:

1. *understand basic kitchen layouts and organisational plans;*
2. *apply the principles of maintenance and hygiene practices to kitchen equipment.*

SPECIFIC OBJECTIVES

Students should be able to:

1. explain the factors to be considered in planning the layout and design of a kitchen;
2. assess the advantages and limitations of different kitchen layouts;
3. describe the use and maintenance of food preparation equipment and tools;
4. describe the use and maintenance of small electrical equipment;
5. describe special features on small electrical equipment;
6. describe the use and maintenance of large kitchen equipment;
7. explain how maximum efficiency can be achieved in the kitchen;
8. outline ways to conserve fuel, energy and time in the kitchen;
9. use and-maintain kitchen sinks;
10. describe first aid treatment for accidents that may occur in the kitchen;
11. administer first aid treatment for accidents that may occur in the kitchen.

CONTENT

1. Planning the layout and design of a kitchen

Factors:

- (a) space and appropriate layout;
- (b) work triangle;
- (c) storage units:



SECTION 5: KITCHEN DESIGN AND EQUIPMENT MANAGEMENT (cont'd)

- types;
- countertop surfaces.
- (d) work centres/stations;
- (e) lighting and ventilation;
- (f) walls;
- (g) floors.

2. Kitchen layouts

Advantages and disadvantages of kitchen layouts:

- (a) one-wall;
- (b) corridor;
- (c) L-shape;
- (d) U-shape.

3. Small non- electrical food preparation equipment

- (a) Types:
 - (i) scales;
 - (ii) pots;
 - (iii) pans;
 - (iv) glassware;
 - (v) ovenware;
 - (vi) flatware;
 - (vii) cutting tools.
- (b) Special features.
- (c) Construction materials.
- (d) Rules and guidelines for use, maintenance and storage.

SECTION 5: KITCHEN DESIGN AND EQUIPMENT MANAGEMENT (cont'd)

4. Small electrical equipment

- (a) Types:
 - (i) blenders;
 - (ii) food mixers and juicers;
 - (iii) toasters;
 - (iv) kettles;
 - (v) *coffee (grinders and makers);*
 - (vi) *food slicers and choppers;*
 - (vii) *food processors;*
 - (viii) *food steamers;*
 - (ix) *slow cookers.*
- (b) *Desirable features.*
- (c) *Construction materials.*
- (d) *Rules and guidelines for use, maintenance and storage.*
- (e) *Advantages and disadvantages of using these equipment.*

5. Special features on small electrical equipment

- (a) *Auto shut off/timers.*
- (b) *Attachments.*
- (c) *Speed(s).*
- (d) *Motor/power.*
- (e) *Materials.*
- (f) *Digital operation.*

SECTION 5: KITCHEN DESIGN AND EQUIPMENT MANAGEMENT (cont'd)

6. Large kitchen equipment

- (a) Types:
 - (i) cookers;
 - (ii) refrigerators;
 - (iii) freezers;
 - (iv) microwave ovens.
- (b) Factors to consider when choosing kitchen equipment.
- (c) Special features.
- (d) Construction materials.
- (e) Guidelines for use and maintenance.
- (f) Materials suitable for use in the microwave oven.

7. Working efficiently in the kitchen (food laboratory)

- (a) *Work triangle.*
- (b) *Work centre(s).*
- (c) *Time plans.*

8. Fuel, energy and time conservation

- (a) *Fuel conservation:*
 - (i) *fridge/freezer:*
 - *energy rating.*
 - (ii) *cooker:*
 - *stove top;*
 - *oven.*
 - *ingredients:*
 - *dried peas and beans;*



SECTION 5: KITCHEN DESIGN AND EQUIPMENT MANAGEMENT (cont'd)

- *thawing;*
 - *amounts of food cooked;*
- (iii) *pots/pans:*
- *construction materials;*
 - *pressure cooker;*
 - *slow cooker.*
- (b) Pre-preparation.
- (c) Preparation of time plans; time/motion conservation:
- (i) appropriate ingredients and equipment for the job;
 - (ii) order/plan of work;
 - (iii) Prepare and use time plans.

9. Kitchen sinks

- (a) *Guidelines and rules for use and maintenance.*
- (b) *Removing a simple blockage.*

10 and 11. Accidents in the kitchen

- (a) *First Aid treatment:*
- (i) *definition of First Aid;*
 - (ii) *applying First Aid.*
- (b) *Treating common injuries*
- Types:*
- (i) *burns;*
 - (ii) *scalds;*
 - (iii) *cuts;*
 - (iv) *falls;*
 - (v) *electrocution;*

SECTION 5: KITCHEN DESIGN AND EQUIPMENT MANAGEMENT (cont'd)

- (vi) *poisoning.*
- (c) *Causes of accidents in the home.*
- (d) *Prevention of accidents in the home.*

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives in this Section, teachers are advised to engage students in the following teaching and learning activities.

1. *Stage a competition where students work in groups to prepare a first-aid kit, safety posters and a manual on how to deal with accidents in the kitchen. Have a panel judge the completion and award the top performers. Students should be encouraged to collect information from user manuals, magazines and other relevant sources.*
2. *Students can prepare a list of questions on kitchen safety and first aid responses in preparation for the guest lecture. Invite resource persons to conduct guest lectures on kitchen safety, and conduct demonstrations on recommended first aid responses.*
3. *Arrange for students to conduct field studies at commercial/industrialised kitchens/food production laboratories, to collect data on the safety practices observed within these environments and make comparisons with practices within their kitchen at home.*

SECTION 6: CONSUMERISM AND PURCHASING OF FOOD

GENERAL OBJECTIVES

On completion of this Section, students should:

- 1. demonstrate an appreciation of the meaning of responsible consumerism in the purchasing of foods;*
- 2. demonstrate knowledge of the various types and forms of food items used in food preparation.*

SPECIFIC OBJECTIVES

Students should be able to:

- 1. define terminologies associated with consumerism;*
- 2. discuss the rights and responsibilities of consumers;*
- 3. explain the role and function of various consumer protection agencies;*
- 4. explain the factors which influence the purchasing behaviours of individuals and families;*
- 5. explain the points to consider when choosing to purchase food at the various types of shops where food preparation ingredients are be purchased;*
- 6. prepare a food budget;*
- 7. outline guidelines for the selection and purchase of fresh, frozen and processed foods;*
- 8. store fresh, frozen and processed foods appropriately after purchase;*
- 9. state the types and forms of meat, poultry, fish and dairy available for purchase;*
- 10. describe the information found on a food label;*
- 11. explain the importance of reading and using food labels in food preparation;*
- 12. interpret information on food labels;*
- 13. briefly explain various health and nutrient claims on food labels;*
- 14. distinguish between enriched and fortified as it relates to food products.*

SECTION 6: CONSUMERISM AND PURCHASING OF FOOD (cont'd)

CONTENT

1. Terms associated with consumerism

- (a) *Bulk shopping.*
- (b) *Consumer.*
- (c) *Credit.*
- (d) *Co-operative shopping.*
- (e) *Comparative shopping.*
- (f) *Green consumer.*
- (g) *Gross weight.*
- (h) *Impulse buying.*
- (i) *Unit pricing.*
- (j) *Universal product code (upc).*

2. Rights and responsibilities of a consumer

- (a) *Consumer education.*
- (b) *Rights of the consumer.*
- (c) *Healthy environment.*
- (d) *Accurate information.*
- (e) *Representation.*
- (f) *Obtaining redress.*
- (g) *Responsibilities of the consumer.*
- (h) *Consumer safety and protection laws.*
- (i) *Distinguishing between needs and wants.*

3. Role and function of consumer protection agencies

- (a) *Consumer Affairs Division.*
- (b) *Bureau of Standards.*



SECTION 6: CONSUMERISM AND PURCHASING OF FOOD (cont'd)

(c) *Weight and Measures Division.*

4. Factors that influence consumer purchasing behaviours

(a) *Personal.*

(b) *Social.*

(c) *Cultural.*

(d) *Psychological.*

5. Points to consider when choosing to shop at a particular food establishment

Types of food shops:

(a) *specialised shops;*

(b) *supermarkets;*

(c) *open markets;*

(d) *door-to-door sellers;*

(e) *internet/telephone shopping;*

(f) *small groceries.*

6. Food Budget

(a) *Guidelines for preparing a food budget.*

(b) *Preparation of a food budget.*

7. Selecting and purchasing fresh and frozen and processed foods

(a) *Fresh food:*

(i) *fruit;*

(ii) *vegetables;*

(iii) *meat, poultry, seafood;*

(iv) *eggs.*



SECTION 6: CONSUMERISM AND PURCHASING OF FOOD (cont'd)

- (b) *Frozen foods:*
 - (i) *fruit;*
 - (ii) *vegetables;*
 - (iii) *meat, poultry, seafood.*
- (c) *Processed foods:*
 - (i) *eggs;*
 - (ii) *milk and other dairy products;*
 - (iii) *bread, cakes, pastries, cookie/biscuits.*

8. Storage of Purchased Foods

- (a) *Perishable foods:*
 - (i) *fresh: fruits and vegetables;*
 - (ii) *chilled;*
 - (iii) *frozen;*
 - (iv) *appropriate location;*
 - (v) *appropriate storage containers.*
- (b) *Non-perishable- cereals, sugar, pulses, dried herbs, whole and ground spices:*
 - (i) *appropriate location;*
 - (ii) *appropriate storage containers.*
- (c) *Processed - dairy, fats and oils*
 - (i) *before opening;*
 - (ii) *after opening.*

9. Types and forms of meat, poultry, seafood and dairy available for purchase

- (a) *Meat - beef, pork, goat:*
 - (i) *various cuts;*



SECTION 6: CONSUMERISM AND PURCHASING OF FOOD (cont'd)

- (ii) *meat products.*
- (b) *Poultry - chicken, turkey, duck:*
 - (i) *whole;*
 - (ii) *jointed;*
 - (iii) *poultry products.*
- (c) *Seafood to include fish, shellfish (shrimp, crab):*
 - (i) *steaks;*
 - (ii) *cutlets;*
 - (iii) *cured;*
 - (iv) *fish products.*
- (d) *Dairy products:*
 - (i) *milk - dried, sweetened, evaporated, reconstituted;*
 - (ii) *milk products-cream, yogurt, butter, cheese;*
 - (iii) *eggs - whole, dried, liquid.*

10. Information found on the food label

- (a) *Parts of the food label.*
- (b) *Nutrition labelling.*

11. Importance of reading food labels

- (a) *Information – accuracy and adequacy.*
- (b) *Distinguishing one product from the other.*

12. Interpreting information on the food label

- (a) *Universal Product Code (UPC):*
 - (i) *definition;*
 - (ii) *advantages and disadvantages of UPC.*



SECTION 6: CONSUMERISM AND PURCHASING OF FOOD (cont'd)

- (b) *Content Labelling:*
 - (i) *ingredients listed;*
 - (ii) *importance of the order in which they are listed.*
- (c) *Date Stamping:*
 - (i) *types of dating on food products;*
 - (ii) *meaning of different dates and the 'freshness of food products':*
 - *'use by';*
 - *'sell by';*
 - *expiry date.*

13. Health and Nutrient claims on the food label

- (a) *Explain health and nutrient claim.*
- (b) *Health claims about:*
 - (i) *dietary fibre and cancer and coronary heart disease;*
 - (ii) *calcium, vitamin D, phosphorous and osteoporosis;*
 - (iii) *folate and neural tube defects;*
 - (iv) *sodium and hypertension.*
- (c) *Nutrient claims about:*
 - (i) *fats;*
 - (ii) *sugar;*
 - (iii) *cholesterol;*
 - (iv) *sodium.*

14. Adding nutrients back to processed foods

- (a) *Enriched*
- (b) *Fortified:*



SECTION 6: CONSUMERISM AND PURCHASING OF FOOD (cont'd)

- (i) *explain;*
- (ii) *indicate foods that are labelled 'enriched/fortified'.*

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives in this Module, teachers are advised to engage students in the following teaching and learning activities.

1. Arrange for students to design a data gathering instrument to collect information on their visit to the government ministry or agency with special responsibility for educating consumers about protection laws, standards, rights and responsibilities. Have them prepare a comic strip on their experiences as a consumer that has experienced inappropriate behaviour and how it compares with what they learnt.
2. *Have students create a portfolio on consumerism to include labels from brands of popular products used in their school and possible designs for packaging food products made in class.*
3. *Have students analyse case studies on shopping experiences. The case may be presented using different media (videos, narratives).*

SECTION 7: FOOD MANAGEMENT, PREPARATION AND SERVICE

GENERAL OBJECTIVES

On completion of this Section, students should:

1. know the principles of nutrition in the selection, purchase and storage of foods for optimal nutrition and health;
2. understand the scientific principles involved in food hygiene and the different methods of preparing and cooking food;
3. know the art and creative skills in designing, developing, preparing and evaluating meals;
4. appreciate set standards as an essential part of food preparation, service and acceptance;
5. appreciate of the multicultural influence of food in the Caribbean.

SPECIFIC OBJECTIVES

Students should be able to:

1. observe stated guidelines for practicing good hygiene in food management;
2. outline the reasons for cooking food;
3. explain the principles underlying the different methods of cooking food;
4. discuss the advantages and disadvantages of different methods of cooking food;
5. appropriately enhance the appearance of and serve prepared dishes;
6. prepare foods using various methods according to set standards of food preparation;
7. prepare dishes using different kinds of convenience foods and economical ingredients;
8. prepare hot and cold beverages;
9. evaluate completed dishes against set standards;
10. explain the origins of simple world cuisine and their impact on Caribbean food habits;
11. accurately prepare the national/ethnic dishes of at least one country in the Caribbean.

SECTION 7: FOOD MANAGEMENT, PREPARATION AND SERVICE (cont'd)

CONTENT

1. Guidelines for good hygiene

Hygiene guidelines:

- (a) *personal hygiene:*
 - (i) *accurate hand washing;*
 - (ii) *protective clothing;*
 - (iii) *general grooming.*
- (b) *preparation and service:*
 - (i) *kitchen hygiene:*
 - *surfaces;*
 - *utensils;*
 - *waste disposal.*
 - (ii) *food handling:*
 - *receiving goods (raw foods);*
 - *cooked foods;*
 - *cross contamination;*
 - *storing cooked, ready-frozen and canned foods.*

2. Reasons for cooking food

- (a) *Micro-organisms.*
- (b) *Digestibility.*
- (c) *Food.*
- (d) *Variety.*
- (e) *Processing food.*



SECTION 7: FOOD MANAGEMENT, PREPARATION AND SERVICE (cont'd)

3. Methods of cooking food

(a) *Principles underlying:*

- (i) *moist heat (boiling, poaching, steaming, stewing);*
- (ii) *dry heat (baking, roasting, grilling;*
- (iii) *frying (dry, sauté, shallow, stir-frying, deep fat frying);*
- (iv) *conservative cooking;*
- (v) *microwave;*
- (vi) *pressure cooking.*

(b) *Foods which are best suited for each method.*

4. Advantages and disadvantages of each method

(a) Advantages and disadvantages.

(b) Impact of each method on:

- (i) taste (flavour);
- (ii) nutritive retention and loss;
- (iii) fuel and time conservation.

5. Appearance and service of completed dishes

(a) *Appearance of dishes:*

- (i) *garnishing;*
- (ii) *colour of food;*
- (iii) *decorating:*
 - *suitable items;*
 - *prepare garnishes and decoration.*

(b) *Service:*

- (i) *appropriate temperature;*



SECTION 7: FOOD MANAGEMENT, PREPARATION AND SERVICE (cont'd)

- (ii) *appropriate dishes and utensils;*
- (iii) *table décor;*
- (iv) *ambience;*
- (v) *style of service.*

6. Food Preparation skills

(a) *Demonstrating basic food preparation skills:*

- (i) *measuring/weighing;*
- (ii) *knife skills:*
 - *appropriately hold knife;*
 - *observe positioning of fingers;*
 - *slicing, julienne, chopping, cubing, dicing.*
- (iii) *paring;*
- (iv) *grating;*
- (v) *stirring;*
- (vi) *folding;*
- (vii) *whipping;*
- (viii) *mixing;*
- (ix) *creaming;*
- (x) *rubbing-in;*
- (xi) *kneading;*
- (xii) *blending:*
 - *performance of each skill competently;*
 - *description of each skill.*

SECTION 7: FOOD MANAGEMENT, PREPARATION AND SERVICE (cont'd)

- (b) *Preparation and service of various flour mixtures:*
 - (i) *define gluten;*
 - (ii) *formation of gluten;*
 - (iii) *description of the development of gluten strands in different flour mixtures;*
 - (iv) *types of flour used in different flour products.*
- (c) *Preparing and serving cakes:*
 - (i) *methods: rubbing-in, creaming, whisking, all-in-one;*
 - (ii) *functions of ingredients used in each method;*
 - (iii) *terms used in cake making:*
 - *sieve;*
 - *cream;*
 - *whisk;*
 - *fold;*
 - *curdle.*
 - (iv) *steps and precautions for each method;*
 - (v) *faults and remedies in cake making;*
 - (vi) *standards for the finished products and their service.*
- (d) *Decorating Cakes:*
 - (i) *types of cake decorations and their uses;*
 - (ii) *choosing suitable decoration for each method of cake making;*
 - (iii) *recipes and standards for the finished products and their service.*
- (e) *Preparing and serving pastry (savoury and sweet items):*
 - (i) *types of pastry - short crust and rough-puff pastries;*
 - (ii) *proportions of fat to flour;*
 - (iii) *variations of short-crust pastry;*

SECTION 7: FOOD MANAGEMENT, PREPARATION AND SERVICE (cont'd)

- (iv) *terms in pastry making:*
 - *bake blind;*
 - *rubbing in;*
 - *roll and fold.*
- (v) *steps and precautions for each method;*
- (vi) *functions of ingredients used in each method;*
- (vii) *appropriate filling;*
- (viii) *faults and remedies in pastry making;*
- (ix) *recipes and standards for the finished products and their service.*
- (f) *Preparing and serving quick breads:*
 - (i) *definition of quick breads;*
 - (ii) *classification:*
 - *batters – muffins, loaves;*
 - *doughs – scones, sada, fried dumplings/bakes, roti;*
 - *recipes and standards for finished products and service;*
 - *(appropriate serving dishes and utensils).*
- (g) *Preparing and serving yeast products:*
 - (i) *sweet yeast products – buns, tea rings;*
 - (ii) *savoury yeast products – loaves and rolls, various shapes, use of herbs, vegetables, cheese, meat;*
 - (iii) *steps and precautions;*
 - (iv) *functions of ingredients used in each method;*
 - (v) *terms used in bread making:*

SECTION 7: FOOD MANAGEMENT, PREPARATION AND SERVICE (cont'd)

- *scald;*
- *knead;*
- *knock down;*
- *proof;*
- *fermentation.*

- (vi) *faults and remedies in yeast products;*

- (vii) *recipes and standards for the finished products and service.*

- (h) *Preparing and serving batters:*
 - (i) *types – thin, coating and fritter batter;*
 - (ii) *definition;*
 - (iii) *uses;*
 - (iv) *ingredients;*
 - (v) *recipes;*
 - (vi) *standards for the finished products and their service.*

- (i) *Preparing and serving soups (broths, thickened soups and purees):*
 - (i) *definitions;*
 - (ii) *uses;*
 - (iii) *classification of soups;*
 - (iv) *ingredients:*
 - *including bouquet garni and mirepoix*
 - (v) *general guidelines and standards for the finished products and their service.*

- (j) *Preparing and serving sauces:*
 - (i) *classification of sauces;*
 - (ii) *uses;*

SECTION 7: FOOD MANAGEMENT, PREPARATION AND SERVICE (cont'd)

- (iii) *definition of terms; roux, puree, panada, mornay;*
- (iv) *recipes and standards for pouring, coating and binding sauces, sauces thickened by starch, protein, emulsification and puree;*
- (v) *steps and precautions for preparation of roux sauce- white, mornay; sauce thickened by emulsification, pureed sauce, salsas;*
- (vi) *standards for finished products and their service.*
- (k) *Preparing and serving desserts using a variety of products:*
 - (i) *desserts made from gelatin, corn starch, custard, fruits and others;*
 - (ii) *recipes and standards for the finished products and their service.*
- (l) *Preparing and serving cereals and cereal products:*
 - (i) *principles underlying the cooking of different kinds of cereals and cereal products:*
 - *cereals – rice, corn, oats;*
 - *cereal products for breakfast – porridge, ready to use cereals;*
 - *cereal products for desserts – puddings.*
 - (ii) *recipes and standards for the finished products and their service.*
- (m) *Preparing and serving vegetables:*
 - (i) *classification;*
 - (ii) *importance of salads;*
 - (iii) *food value of salads;*
 - (iv) *parts of a salad and their ingredients;*
 - (v) *preparation of:*
 - *salads;*
 - *salad dressings;*
 - *various vegetables;*

SECTION 7: FOOD MANAGEMENT, PREPARATION AND SERVICE (cont'd)

- *using various methods of cooking to include conservative method;*
 - *in flour products;*
 - *for various meals.*
- (vi) *recipes and standards for the finished products.*
- (n) *Using herbs and spices:*
- (i) *definition of herbs;*
 - (ii) *definition of spices;*
 - (iii) *importance of herbs and spices;*
 - (iv) *guidelines for the selection and appropriate use of herbs and spices;*
 - (v) *preparation of sweet and savoury dishes using various herbs and spices;*
 - (vi) *recipes and standards of finished products.*
- (o) *Preparing and serving combination dishes using eggs, milk and cheese:*
- (i) *general rules for eggs, milk and cheese cookery;*
 - (ii) *preparation of the following:*
 - omelets;
 - scrambled;
 - quiches;
 - puddings;
 - au gratin;
 - and other appropriate egg, milk and cheese dishes.
 - (iii) *recipes and standards for the finished products and their service.*
- (p) *Preparing and serving meats using dry and moist methods of cooking:*
- (i) *general rules for handling beef, pork, mutton and poultry;*

SECTION 7: FOOD MANAGEMENT, PREPARATION AND SERVICE (cont'd)

- (ii) preparation of the following using suitable cuts:
 - stews;
 - roasts;
 - grilled.
 - (iii) suitable accompaniments and garnishes;
 - (iv) *recipes and standards for the finished products and their service.*
- (q) Preparing and serving fish using dry and moist methods of cooking:
- (i) general rules for handling fish;
 - (ii) preparation of fish dishes using different cuts; whole fish, steaks, cutlets, fillet:
 - frying – sauté, shallow, deep fat frying;
 - grilling;
 - steaming;
 - baking.
 - (iii) suitable accompaniments and garnishes;
 - (iv) *recipes and standards for the finished products and their service.*
- (r) *Preparation and serving of sandwiches:*
- (i) *definition;*
 - (ii) *components;*
 - (iii) *types – open face, party, hot/cold, novelty;*
 - (iv) *fillings – suitable ingredients;*
 - (v) *assembling the sandwich;*
 - (vi) *recipes and standards for finished products and their service.*

SECTION 7: FOOD MANAGEMENT, PREPARATION AND SERVICE (cont'd)

7. Preparing and serving dishes using different kinds of convenience foods

- (a) Frozen, canned, dehydrated convenience foods:
 - (i) general rules for preparing and serving convenience foods;
 - (ii) preparation and service of:
 - appetizers;
 - main dish;
 - side dishes;
 - desserts;
 - breakfast items.
 - (iii) *standards for the finished products and their service.*
- (b) Preparing economical dishes.
- (c) One pot meals – preparation and service of one pot meals using:
 - (i) pasta;
 - (ii) rice;
 - (iii) vegetables;
 - (iv) meats/poultry seafood;
 - (v) dairy;
 - (vi) pulses;
 - (vii) *recipes and standards for the finished products and their service.*

8. Preparing hot and cold beverages

- (a) *Guidelines using manual and electrical equipment for tea (leaves, bags, herbs), coffee, cocoa, chocolate:*
 - (i) *appropriate sweeteners for each;*



SECTION 7: FOOD MANAGEMENT, PREPARATION AND SERVICE (cont'd)

- (ii) *stimulants, appropriate flavor development;*
- (iii) *suitable utensils;*
- (iv) *service at appropriate temperature (hot or cold).*
- (b) *Guidelines for preparing and serving cold beverages such as tea, juices, drinks and punches made from vegetables and fruits.*
- (c) *Preparation of syrups.*
- (d) *Garnishes/decorations for beverages.*
- (e) *Recipes and standards for the finished products and their service.*

9. Evaluation of completed dishes

- *Using Sensory evaluation to evaluate the flavor and appearance of completed dishes against set standards/outcomes.*

10. Origins of simple world cuisine

- (a) *Countries from which dishes originate, for example:*
 - (i) *dumplings;*
 - (ii) *pastas;*
 - (iii) *pizza;*
 - (iv) *roti;*
 - (v) *crepe;*
 - (vi) *wanton;*
 - (vii) *tortillas;*
 - (viii) *sausages;*
 - (ix) *tapas.*
- (b) *Impact on Caribbean food habits:*
 - (i) *food outlets (supermarkets, grocery store, open-market);*
 - (ii) *food service industries (restaurants, hotels, fast-food outlets);*
 - (iii) *eating habits.*

SECTION 7: FOOD MANAGEMENT, PREPARATION AND SERVICE (cont'd)

11. Preparing the national/ethnic dish of one Caribbean country

- (a) *Name of the dish.*
- (b) *Recipes.*
- (c) *Sensory characteristics (taste, texture, appearance).*
- (d) *Aesthetics.*
- (e) *Recipes and standards for the finished product and its service.*

Suggested Teaching and Learning Activities

To facilitate students' attainment of the objectives in this Section, teachers are advised to engage students in the following teaching and learning activities.

1. *Create a recipe book with national dishes for at least ten countries across the Caribbean. Compare at least two with the national dish of your country.*
2. *Prepare and display the national dishes of countries across the Caribbean with recipes. Displays are to be appropriately labelled, themed and labelled.*
3. *Invite chefs to demonstrate food presentation and garnishing ideas or have students visit and/or participate in events/competitions where these skills and ideas are showcased. Upon their return have each student perfect one of the ideas and use for presenting a dish made in class.*

◆ GUIDELINES FOR SCHOOL-BASED ASSESSMENT

RATIONALE

The School-Based Assessment (SBA) is an integral part of student assessment in the Home Economics syllabus. It is intended to assist students in acquiring certain knowledge and skills that are associated with the subjects. The activities for the SBA are linked to the syllabus and should form part of the learning activities to enable the student to achieve the objectives of the syllabus.

During the course of study in Home Economics, students obtain marks for the competence they develop and demonstrate in undertaking the SBA assignments. These marks contribute to the final marks and grades that are awarded to students for their performance in the examinations.

The guidelines and samples provided in the syllabus are intended to assist teachers and students in selecting activities that are valid for purposes of SBA. The assessment criteria provided are intended to assist teachers in awarding marks that are reliable estimates of the achievement of students on the SBA and other components of the syllabus.

The School-Based Assessment component of the syllabus will comprise of assignments which integrate the CVQ Level 1 standards. Students will complete assignments which incorporate relevant CVQ Level 1 units. Candidates who successfully complete the CSEC examination will be awarded the CSEC Technical certificate. Where applicable candidates may also be awarded a Statement of Competence with the Units for which they have attained competence for the Level 1 CVQ.

NATURE OF SBA

School Based Assessments should be made in the context of normal practical coursework exercises.

It is not intended that the exercises used for assessment should be artificial and meaningless. The teacher should work with the student and set, conduct and mark a series of assignments in keeping with the guidelines provided by CXC. Teachers should also provide students with feedback on their performance on these assignments. Assessments should be made only after students have been taught the skills and given enough opportunity to develop them.

Sixteen practical assignments over the two year period, or four practical assignments per term, would be considered the minimum number for students to develop their skills and on which to base realistic assessments.

School-Based Assessment will test skills under the Profile Dimension, Practical Skills, a breakdown of which is provided on page **five** of the syllabus. Each candidate is required to keep a workbook containing all practical assignments done over the two-year period prior to the examination. All practical assignments should be dated and an index of the assignments done should be made by the candidates.

Three of these assignments are to be identified for CXC moderation and the marks entered in the form provided.

Those practical assignments assessed for CXC should be clearly indicated along with the marks awarded for each assignment. It is recommended that the first of these practical assignments be



done in the third term of Year One of the course. The second and third practical assignments should be done during Terms One and two respectively, of Year Two of the course.

The first and third practical assignments are to be set and marked exclusively by the teacher using the criteria and mark scheme provided in the syllabus. The SECOND practical assignment will be set by the teacher using criteria provided in the syllabus and assessed jointly by the teacher and a second examiner assigned by the Local Registrar, using the mark scheme provided in the syllabus. The procedures for the joint assessment include provision for prior discussions of task and criteria between the classroom teacher and the second examiner. The SBA form further includes a section to record any significant discrepancy in their perceptions before they record their final independent score for each student.

REPORTING TO CXC

Teachers are NOT required to submit samples of candidates' workbooks unless specifically requested to do so by the Council. Teachers are expected to keep all practical workbooks, for a period of three months subsequent to the release of the results of the examinations. Marks should be submitted to CXC on a yearly basis on the SBA form provided. The forms should be dispatched through the Local Registrar to reach CXC by April 30 of the year of the examination. The SBA form should be completed in duplicate; the original for submission to CXC and the copy to be retained by the school.

Only one form will be required for each subject. The form makes provision for the marks for all three assignments. It carries one column for recording the marks for the first assignment and one for the third assignment. For these assignments, the only marks are those of the classroom teacher. However, there are three columns for the second assignment that will be jointly assessed by the classroom teacher and a second examiner. The first column records the marks awarded by the teacher, the second records the marks awarded by the second examiner and the third records the average of the two marks. These forms will be available on the CXC website.

THE ROLE OF THE SCHOOL

Schools are required to develop an SBA programme that:

1. specifies the various assessment tasks and the assessment criteria and mark scheme for each task;
2. provides a schedule of the tasks designed for the entire course, identifying clearly the three tasks that are to be used for CXC moderation;
3. lists the materials, including quantities and equipment, that will be needed for each candidate to complete the SBA tasks;
4. includes procedures for providing meaningful feedback on each candidate's performance in all assessment tasks;
5. allows for collaboration among teachers to ensure that there is consistency in procedures among all cognate subjects in Home Economics; and
6. maintains records of marks awarded to each student for all assessment tasks in candidates' workbooks.



SELECTING SUITABLE SBA TASKS

*In selecting practical assignments that are suitable for SBA, teachers should be guided by the skills and abilities tested for the Practical Skills profile dimension described on page **five** of the syllabus. Teachers are advised to give assignments during their normal classroom teaching that would test students' ability to:*

- 1. collect, display and analyse data gathered through observations;*
- 2. apply results obtained from doing practical activities, to new situations;*
- 3. test informed guesses, conjectures, hunches, by doing practical activities;*
- 4. do practical tasks accurately and economically, with regard to time, energy and other resources; and*
- 5. use appropriate tools with dexterity and care.*

In selecting tasks for SBA, teachers should choose those that lend themselves readily to testing these skills and capabilities, noting that one assignment may test either a single skill or a combination of skills. Each syllabus is provided with a list of objectives that may be useful in assisting teachers to develop appropriate SBA assignments. The syllabus also provides Exemplars intended to assist teachers in selecting activities that are valid for the purposes of SBA.

**EXEMPLAR – FOOD, NUTRITION AND HEALTH
SCHOOL-BASED ASSESSMENT
ASSESSMENT PLAN
ASSIGNMENT 1**

Assignment 1 is aligned to Prepare Sandwiches (THHCFP0281A) in the Commercial Food Preparation (Cookery), Level I (CCTHH10309) Regional Occupational Standards, and will also focus on assessing Clean and Maintain Premises (THHCFP0251A), Present Food (THHCFP0231A), and Receive and Store Stock (THHGA00141A)

CANDIDATE: _____

ASSESSOR: _____

<p>Elements: Prepare and present a variety of sandwiches Apply organisational skills for work flow planning and preparation Store sandwiches</p>	
Work Activities	Assessment Methods
<p>Your school is hosting a function honouring four community leaders. You are required to prepare and serve in one and a half hours, three different types of cold sandwiches using different fillings or combination of fillings.</p>	<ul style="list-style-type: none"> Practical demonstration Oral questions Product evaluation
Underpinning Knowledge and Skills	Range
<ul style="list-style-type: none"> Bread types. Ability to select bases from a wide range of bread types. Ingredients for fillings. Ability to select and combine ingredients for fillings so they are appropriate and compatible. Sandwich presentation techniques. Ability to present sandwiches using techniques of spreading, layering, piping, portioning, moulding and cutting. Equipment for toasting and heating. Ability to appropriately select and use equipment for toasting and heating. Proper hygiene and enterprise practices. Ability to present sandwiches in accordance with proper hygiene and enterprise practices. 	<ul style="list-style-type: none"> Types of Sandwiches - three different types of cold sandwiches Materials- tuna, chicken, sausages, vegetables, mayonnaise, mustard, bread Techniques- spreading, layering, piping, portioning, moulding, cutting Equipment tools- blender chopper, cutting board, knives, palette, knives, bowls, measuring tools, wooden spoons, food tong Serving dish and storage- flat, china storage, plastic wrap/ foil, storage container
<p>Candidate's Signature: _____ Date: _____</p> <p>Assessor's Signature: _____ Date: _____</p> <p>Internal Verifier's Signature: _____ Date: _____</p>	



**EXEMPLAR – FOOD, NUTRITION AND HEALTH
ASSIGNMENT 1**

DIMENSIONS OF COMPETENCY

Assignment 1 is aligned to Prepare Sandwiches (THHCFP0281A) in the Commercial Food Preparation (Cookery), Level I (CCTHH10309) Regional Occupational Standards and will also focus on assessing Clean and Maintain Premises (THHCFP0251A), Present Food (THHCFP0231A), and Receive and Store Stock (THHGA00141A)

WORK ACTIVITY:	
Your school is hosting a function honouring four community leaders. You are required to prepare and serve in one and a half hours, three different types of cold sandwiches using different fillings or combination of fillings.	
TASK SKILLS	TASK MANAGEMENT SKILLS
Candidate has to: <ul style="list-style-type: none"> • interpret activity; • follow health and safety requirements; • select the necessary tools, equipment and materials; • weigh and measure ingredients; • demonstrate cutting, slicing and rolling skills; • use various techniques- spreading, layering, portioning moulding; • present sandwiches attractively; • using suitable garnishes and service ware; • store sandwiches to maintain freshness and quality. 	Prepare/ organize/ co-ordinate by <ul style="list-style-type: none"> • Interpret and plan activity. • Select tools, equipment and materials. • Apply health and safety procedures. • Organize work station. • Work in a logical and sequential manner within the required time frame. • Present and serve sandwiches at the correct temperature. • Perform all necessary housekeeping.
CONTINGENCY MANAGEMENT SKILLS	EMPLOYABILITY/ JOB ROLE/ ENVIRONMENT SKILLS
What if ...? <ul style="list-style-type: none"> • a refrigerator is not available to chill prepared ingredients; • prepared mayonnaise is not available for combining with some fillings. 	The candidate can: <ul style="list-style-type: none"> • collect, analyze and organize information (<i>research and present recipes</i>); • communication (<i>communicate with supervisor</i>); • plan and organise activity (<i>tools, equipment, materials</i>); • use mathematical ideas and techniques (<i>weighing, measuring, portioning</i>); • solve problems (<i>as they arise</i>); • technology skills (<i>use of blender chopper, palette knives</i>).

Assessor's Signature: _____

Date: _____



EXEMPLAR – FOOD, NUTRITION AND HEALTH

ASSIGNMENT 1

ASSESSOR EVALUATION

Assignment 1 is aligned to Prepare Sandwiches (THHCFP0281A) in the Commercial Food Preparation (Cookery), Level I (CCTHH10309) Regional Occupational Standards Clean and Maintain Premises (THHCFP0251A), Present Food (THHCFP0231A), and Receive and Store Stock (THHGA00141A)

Institution/ Centre: _____

Candidate's Name: _____

ASSESSMENT CRITERIA	ASSESSOR				
	1	2	3	4	5
1. PLANNING					
(a) Interpret activity					
(b) Select appropriate tools, equipment material					
(c) Follow health and safety procedures					
(d) Organize workstation					
2. PROCESS					
(a) Measure, wash, cut and combine ingredients for filling					
(b) Prepare sandwiches using techniques for cutting, slicing and rolling					
(c) Use of techniques- spreading, layering and garnishing					
(d) Sequence work flow in logical and efficient manner					
(e) Sanitize the work station at the end of preparation					
3. PRODUCT					
(a) Sandwiches presented neatly and attractively					
(b) Use of appropriate garnishes and service ware					
(c) Fillings of the correct consistency, textures and flavour					
(d) Sandwiches stored hygienically and at the correct temperature					

Comment/ Feedback:

Rating Scale:

1. Cannot perform this task.
2. Can perform this task with **constant** supervision and **considerable** assistance.
3. Can perform this task with **constant** supervision and **some** assistance.
4. Can perform this task satisfactorily with periodic supervision.
5. Can perform this task satisfactorily with little or no supervision.

Assessor's Signature : _____

Date: _____

Candidate's Signature : _____

Date: _____



**EXEMPLAR – FOOD, NUTRITION AND HEALTH
SCHOOL-BASED ASSESSMENT
ASSESSMENT PLAN
ASSIGNMENT 2**

Assignment 2 is aligned to Prepare Egg Dishes (THHCFP0641A) in the Commercial Food Preparation (Cookery), Level I (CCTHH10309) Regional Occupational Standards and will also assess Clean and Maintain Premises (THHCFP0251A), Present Food (THHCFP0231A), and Receive and Store Stock (THHGA00141A)

CANDIDATE: _____ **ASSESSOR:** _____

<p>Elements: Prepare for production of items Prepare and garnish egg dishes Store prepared egg dishes not for immediate use</p>	
Work Activities	Assessment Methods
<p>Your Community Group is having a Food Fair to demonstrate the “Versatility of Eggs” in food preparation. You are required to prepare and display four (4) different egg dishes/items incorporating EACH of the following methods:</p> <ul style="list-style-type: none"> • aerating; • setting; • enriching; • emulsifying. 	<ul style="list-style-type: none"> • Practical demonstration. • Oral questions. • Product evaluation.
Underpinning Knowledge and Skills	Range
<p>Written or oral questions could include:</p> <ul style="list-style-type: none"> • storage of eggs; • steps to prevent cross contamination; • Accompaniments to specific egg dishes • examples of dishes eggs can be used in binding, coating, glazing, thickening, garnishing etc. 	<ul style="list-style-type: none"> • Materials - eggs..... • Techniques - Aerating, Setting, Enriching, Emulsifying • Equipment tools - pots, pans, bowls, dishes, moulds, sieves, spoons, graters, knives, choppers, tin openers, ladles, forks • Serving dish and storage -
<p>Candidate’s Signature: _____ Date: _____</p> <p>Assessor’s Signature: _____ Date: _____</p> <p>Internal Verifier’s Signature: _____ Date: _____</p>	



**EXEMPLAR – FOOD, NUTRITION AND HEALTH
ASSIGNMENT 2**

DIMENSIONS OF COMPETENCY

Assignment 2 is aligned to Prepare Egg Dishes (THHCFP0641A) in the Commercial Food Preparation (Cookery), Level I (CCTHH10309) Regional Occupational Standards and will also assess Clean and Maintain Premises (THHCFP0251A), Present Food (THHCFP0231A), and Receive and Store Stock (THHGA00141A)

WORK ACTIVITY:	
<p>Your Community Group is having a Food Fair to demonstrate the “Versatility of Eggs” in food preparation. You are required to prepare and display four (4) different egg dishes/items incorporating EACH of the following methods:</p> <ul style="list-style-type: none"> • aerating; • setting; • enriching; • emulsifying. 	
TASK SKILLS	TASK MANAGEMENT SKILLS
<p>Candidate has to:</p> <ul style="list-style-type: none"> • interpret activity; • select recipes for each method; • follow health and safety procedures; • select the necessary tools, equipment and materials; • weigh and measure ingredients; • follow method in recipe as directed; • demonstrate skills in incorporating methods; • using suitable garnishes and decorations Use suitable service ware. 	<p>Prepare/ organize/ co-ordinate by</p> <ul style="list-style-type: none"> • Interpret and plan activity. • Select tools, equipment and materials. • Apply health and safety procedures. • Organize work station. • Work in a logical and sequential manner within the required time frame. • Present and serve dishes/items at the correct temperature. • Perform all necessary housekeeping.
CONTINGENCY MANAGEMENT SKILLS	EMPLOYABILITY/ JOB ROLE/ ENVIRONMENT SKILLS
<p>What if ...?</p> <ul style="list-style-type: none"> • egg mixture curdles in preparation of batters. 	<p>The candidate can:</p> <ul style="list-style-type: none"> • collect, analyze and organize information (<i>research and present recipes</i>); • communication (<i>communicate with supervisor</i>); • plan and organise activity (<i>tools, equipment, materials</i>); • use mathematical ideas and techniques (<i>weighing, measuring, portioning</i>); • solve problems (<i>as they arise</i>); • technology skills (<i>use of blender, electric hand mixer, palette knives</i>).

Assessor’s Signature: _____

Date: _____



KEY Competent - Range 3 and above Not Yet Competent - below Range 3
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**EXEMPLAR – FOOD, NUTRITION AND HEALTH
ASSIGNMENT 2**

ASSESSOR EVALUATION

Assignment 2 is aligned to Prepare Egg Dishes (THHCFP0641A) in the Commercial Food Preparation (Cookery), Level I (CCTHH10309) Regional Occupational Standards and will also assess Clean and Maintain Premises (THHCFP0251A), Present Food (THHCFP0231A), and Receive and Store Stock (THHGA00141A).

Institution/ Centre: _____

Candidate's Name: _____

ASSESSMENT CRITERIA	ASSESSOR				
	1	2	3	4	5
1. PLANNING					
(a) Interpret activity					
(b) Select recipe for each method					
(c) Select appropriate tools, equipment, serving dishes and materials					
(d) Follow health and safety procedures					
(e) Organize workstation					
2. PROCESS					
(a) Weigh and measure ingredients for dishes					
(b) Sequence work flow in logical and efficient manner					
(c) Follow procedures in recipes as directed					
(d) Demonstrate techniques in using eggs in aerating, setting, enriching and emulsifying					
(e) Prepare and cook dishes/items at the correct temperature					
(f) Decorate or garnish dishes					
(g) Sanitize the work station at the end of preparation					
3. PRODUCT					
(a) Dishes/items of the correct consistency, texture and					
(b) Dishes/items served at the correct temperature					
(c) Dishes/items attractively decorated or garnished.					

Comment/ Feedback:

Rating Scale:

1. Cannot perform this task.
2. Can perform this task with constant supervision and considerable assistance.
3. Can perform this task with constant supervision and some assistance.
4. Can perform this task satisfactorily with periodic supervision.
5. Can perform this task satisfactorily with little or no supervision.

Assessor's Signature: _____

Date: _____

Candidate's Signature: _____

Date: _____



FINAL ASSESSMENT RECORD SHEET

Qualification: _____

Code

Title

Institution/ Centre: _____

Centre Number: _____

Candidate's Name: _____

Candidate's Number: _____

Cycle Start: _____ End: _____

Unit Code	Element Code	For each item place a tick (✓) to indicate candidate's competence. Where the candidate is not yet competent place a circle (O).																					Range Completed	Underpinning Knowledge & Skills Completed	Critical Employability Skills Completed										
		Performance Criteria Number																																	
		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21													

Note to Assessor: Place an X in the box after the last Performance Criteria Number of each element.

Stamp	Assessor Name & Number	Assessor Signature/ Date	Internal Verifier Name & Number	Internal Verifier Signature/ Date
-------	------------------------	--------------------------	---------------------------------	-----------------------------------

Record of Reasonable Adjustment

Assessment Date: _____

Assessor's Name: _____

Assessor's Signature: _____

Date: _____

This table is used by the assessor when there is an adjustment in the prescribed assessment tool given.

Adjustment to Assessment Procedures

Performance Criteria	Evidence Type	Reason for Adjustment	New Activity Details	Competent	Not Yet Competent	Comments



INSTRUCTIONS FOR TEACHERS

Guidelines for completing Assessment Plan

1. **Unit Code and title(s) assessed** – indicate information such as **Unit Code** and **Unit title** of assessment completed in the standard.
2. **Context of Assessment** refers to – on the job or institution/school, which will be a simulated activity.
3. **Work Activity Assigned** – Assessors should document:
 - (a) Task/Activity designed and developed may be integrated to assess several performance criteria in one (1) unit or several units
 - (b) Projects
 - (c) Field trips
 - (d) All questions and responses
 - (e) Case studies

All supporting evidence should be attached to the assessment package.

4. **Assessment methods** – Assessors should indicate the assessment methods to be used in conducting the assessments.
5. **Underpinning knowledge and skills** – Assessors should indicate the critical underpinning knowledge and skills related to the unit.
6. **Range, Conditions under which assessment took place**
For example, Occupational Health and Safety requirements
Range of equipment, processes and procedures

Guidelines for Completing the Dimensions of Competency Form

The Dimensions of Competency includes a measurement of all aspects of work performance. The assessment of competency should involve a demonstration of competence in every aspect of the Dimension of Competency, including:

Task Skills:

Identify the various skills required to perform the activity. This can be obtained from examining the performance criteria and range statements

Task Management Skills:

Refer to the ability to manage the various task skills identified

Contingency Management Skills:

Refer to the ability to respond appropriately to irregularities and breakdowns in routine



Employability/ Job Role/ Environment Skills:

Refer to the need to fulfil the requirements and expectations of the organization. Seven (7) generic skills were identified for this purpose, namely:

- Collect, analyse and organise information
- Communicate ideas and information
- Plan and organise activity
- Work with others and in a team
- Use mathematical ideas and techniques
- Solve problems
- Use technology

The Assessor is required to show how these seven generic skills relate to the activity given.

Guidelines for Completing the Assessor Evaluation Form

The Assessor Evaluation form is used by the assessor to record the outcome of the activity completed.

Institution/ Centre – name of the Training Provider

Candidate Name – name of person being assessed (Use BLOCK letters)

Qualification – the occupational area, code and level should be identified

Unit Competency – indicate specific **unit code** and **Unit Title** from the occupational standards used for the assessment

Each activity given to candidates should be evaluated under three (3) broad headings, namely **planning**, **process** and **product**.

- **PLANNING:** identify all skills required in planning the activity.
- **PROCESS:** involves the assessment of the steps the learners goes through in order to perform the tasks.
- **PRODUCT:** reflects the evaluation of the final outcome expected.

Comment/ Feedback: would include evaluation comments discussed with the candidate.

Rating Scale – the guide listing specific criteria for grading or scoring (rating of 1 – 5 is used).

Key – identifies what value the ratings hold regarding assessment judgments of COMPETENT or NOT YET COMPETENT.



Guidelines for completing Record of Reasonable Adjustment

This form should be completed during the planning stage of the assessment. This is used for candidates who have physical disabilities or impediments and require adjustments in assessments usually done under normal assessment conditions.

Assessment Date – state the date for which the assessment is to be conducted

Assessor's Name – full name required

Assessor's Signature – place your signature after the assessment was conducted

Date – state the date the assessment was conducted

Performance Criteria (PC) – critical outcomes/ steps which have to be achieved and the standard of performance required (Taken directly from the standards)

Evidence Type – refers to evidence required to assess each performance criteria. Minimum of three (3) type of evidence needed for each performance criteria

Reason for Adjustment – state the purpose for the adjustment. For example , candidate has a hearing impairment

New Activity Details – state how the assessment/ activity was altered for the candidate

Competent – state the judgement at the end of the assessment. For example, candidate deemed competent

Not Yet Competent – state the judgement at the end of the assessment

Comments – any feedback given to candidate

Guidelines for completing Final Assessment Record Sheet

Summary of the evidence collected after the candidate has been deemed competent

- The Assessor should complete the form as indicated.
- The **unit code** and **element code** should be named.
- The performance criteria completed should be indicated by a tick (✓) and an (X) after the last performance criteria number.
- **Range Statement completed** indicated by a tick (✓) – includes all the conditions under which the task must be informed in each unit.
- **Underpinning Knowledge and Skills completed** indicated by a tick (✓) - includes the knowledge and skills required by each performance criteria
- **Critical Employability Skills** should be indicated by a tick (✓) at the end of each unit.



Guidelines for completing Achievement Sheet

The Achievement Sheet is used by the Assessor **to claim** for the CVQ Qualification and unit award/s.

1. The heading of the Achievement Sheet should be filled out by the Assessor, i.e. Training Provider, School's Name and Address, Cycle Start and End, and the Assessor Name, Number and Signature.
2. Candidate ID – Use the candidate's CVQ number.
3. Candidates should be listed in alphabetical order. Use block letters. The same order of listing should be followed on both sheets.
4. Candidates' home address should be entered in the address column on one line. The region code of the candidates' address is listed at the bottom of the Achievement Sheet.
5. In the column of Units Previously Achieved use the letter NA (not applicable) if units were not previously achieved. If the candidate has previously completed units in the occupational standards, the code and the number/s of the units/s should be recorded.
6. Only if all units in the occupational standard have been completed can the full qualification be ticked as Yes, if not tick No.
7. If all twenty (20) lines have not been used on the Achievement Sheet, then the assessor should draw a line diagonally on the sheet from left to right.
8. The Internal Verifier will sign at the base of the Achievement Sheet after the sampling of the candidate's work has been completed.
9. All pages of the Achievement Sheet should be completed. On all pages of the Achievement Sheet the listing of candidates' names should follow the same order as the first sheet. The units of the Occupational area are identified so that assessors can tick (✓) units completed and indicate an (✗) if units were not completed.
10. The school stamp should be placed at the base of all pages of the Achievement Sheet in the designated space, i.e. "Centre's Stamp". The Principal / Vice Principal should sign adjacent to the school stamp.



Portfolio Development

A portfolio is an organised convenient means of collection and presentation of materials which records and verifies a candidate's learning achievements and relates them to the depth and breadth of work required by each unit of the occupational standards. The depth and breadth of work should include a diversity of exhibits which reflects the following **criteria**:

- Writing, Reading and Comprehension Skills
- Critical Thinking and Problem Solving Skills
- Technology Skills
- Practical Skills
- Teamwork Skills

The outline of the portfolio should include information under the following headings:

- Cover Page
- Title Page
- Table of Contents
- Introduction
- Supporting Evidence (Depth & Breadth of Work)
- Self-Assessment/Reflection

Details of EACH Heading

Cover Page

- Name of School
- Occupational Area CVQ Level 1
- Assessors Name
- Candidate's Name
- Year

Title Page

- Caribbean Vocational Qualification
- CVQ Level 1
- Occupational Area
- Year

Table of Contents

- By units
- Number pages

Introduction

- Portfolio of candidate to include personal data, background information on education/training experiences and expectations.



Supporting Evidence

Provides information on the key formative and summative assignments / projects undertaken by the candidates to achieve the performance criteria in each unit on the Occupational Standards. All evidence supplied by the candidate should be reviewed by the assessor using the **criteria given**. **Evidence must be signed and dated on the date of the review by the assessor.**

Suggestions for supporting evidence:

- Written Assignment
- Oral Questions (checklist format)
- Projects
- Work Samples
- Research Assignments
- Fieldtrip reports
- Summative evaluation of practical work
- Digital photographs of candidates performing critical tasks

Self-Assessment/Reflections

Allows candidates to rate their performance against the requirements of the relevant unit/s of competency and allows candidates to reflect in writing whether their expectations have been achieved in the particular occupational area.

Summary

Each candidate in every occupational area *must* prepare a portfolio which will showcase:

- Growth and development of the candidate during the two year period.

Portfolios *must* be kept for evaluation by the Internal Verifier, External Verifier and the Quality Assurance auditor of the Caribbean Examination Council.

RESOURCES

FOOD, NUTRITION AND HEALTH

- | | |
|---------------------------|---|
| Ballam, J. and Wilson, J. | <i>Food 2</i> . New Zealand: Blake Education, 2010. |
| Rankine, P. | <i>Beautiful Hospitality Plus</i> . Kingston: Peggy Rankine, 2002. |
| Tull, A. and Coward A. | <i>Caribbean Food and Nutrition for CSEC</i> . London: Oxford University Press, 2009. |
| Tull, A. | <i>Food and Nutrition</i> . London: Oxford University Press. 1997. |
| Wynn, B. | <i>Food Investigations</i> . London: Oxford University Press. 1981. |



WEBSITES

<http://www.youtube.com/watch?v=nokFu-29YWY>

http://www.hc-sc.gc.ca/fn-an/alt_formats/hpfb-dgpsa/pdf/nutrition/nvscf-vnqau-eng.pdf

http://www.hc-sc.gc.ca/fn-an/nutrition/reference/cons_info-guide_cons-eng.php

<http://lpi.oregonstate.edu/infocenter/index.html>

<http://www.youtube.com/watch?v=fnmLtQs9ybl>



◆ GLOSSARY OF EXAMINATION TERMS

<u>WORD/TERM</u>	<u>DEFINITION/MEANING</u>
account for	Present reason for action or event
annotate	add a brief note to a label
apply	use knowledge of principles to solve problems
assess	present reasons for the importance of particular structures, relationships or process
calculate	arrive at the solution to a numerical problem
classify	divide into groups according to observable characteristics
comment	state opinion or view with supporting reasons
compare	state similarities and differences
construct	use a specific format to make and draw a graph, histogram, pie chart or other representation using data or material provided or drawn from practical investigations, build (for example, a model), draw scale diagram
deduce	make a logical connection between two or more pieces of information; use data to arrive at a conclusion
define	state concisely the meaning of a word or term
demonstrate	show; direct attention to...
describe	provide detailed factual information of the appearance or arrangement of a specific structure or a sequence of a specific process
determine	find the value of a physical quantity
design	plan and present with appropriate practical detail
develop	expand or elaborate an idea or argument with supporting reasons
diagram	simplified representation showing the relationship between components.
differentiate	state or explain briefly those differences between or among items which can be used to define the items or place them into separate categories.

<u>WORD/TERM</u>	<u>DEFINITION/MEANING</u>
discuss	present reasoned argument; consider points both for and against; explain the relative merits of a case
draw	make a line representation from specimens or apparatus which shows an accurate relation between the parts
estimate	make an approximate quantitative judgement
evaluate	weigh evidence and make judgements based on given criteria
explain	give reasons based on recall; account for
find	locate a feature or obtain as from a graph
formulate	devise a hypothesis
identify	name or point out specific components or features
illustrate	show clearly by using appropriate examples or diagrams, sketches
investigate	use simple systematic procedures to observe, record data and draw logical conclusions
label	add names to identify structures or parts indicated by pointers
list	itemise without detail
measure	take accurate quantitative readings using appropriate instruments
name	give only the name of
note	write down observations
observe	pay attention to details which characterise a specimen, reaction or change taking place; to examine and note scientifically
outline	Give basic steps only
plan	prepare to conduct an investigation
predict	use information provided to arrive at a likely conclusion or suggest a possible outcome
record	write an accurate description of the full range of observations made during a given procedure



<u>WORD/TERM</u>	<u>DEFINITION/MEANING</u>
relate	show connections between; explain how one set of facts or data depend on others or are determined by them
sketch	make a simple freehand diagram showing relevant proportions and any important details
state	provide factual information in concise terms outlining explanations
suggest	offer an explanation deduced from information provided or previous knowledge. (... a hypothesis; provide a generalisation which offers a likely explanation for a set of data or observations.)
test	to find out, following set procedures

Western Zone Office
April 2015





TEST CODE **01221010**

SPEC 2015/01221010

**CARIBBEAN EXAMINATIONS COUNCIL
CARIBBEAN SECONDARY EDUCATION CERTIFICATE®
EXAMINATION**

FOOD AND NUTRITION

SPECIMEN PAPER

Paper 01 – General Proficiency

1 hour 15 minutes

READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

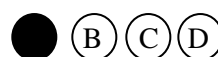
1. This test consists of 60 items. You will have 1 hour and 15 minutes to answer them.
2. In addition to this test booklet, you should have an answer sheet.
3. Each item in this test has four suggested answers lettered (A), (B), (C), (D). Read each item you are about to answer and decide which choice is best.
4. On your answer sheet, find the number which corresponds to your item and shade the space having the same letter as the answer you have chosen. Look at the sample item below.

Sample Item

Meat is an important source of

- (A) protein
- (B) minerals
- (C) vitamin D
- (D) carbohydrate

Sample Answer



The correct answer to this item is “protein”, so (A) has been shaded.

5. If you want to change your answer, erase it completely before you fill in your new choice.
6. When you are told to begin, turn the page and work as quickly and as carefully as you can. If you cannot answer an item, go on to the next one. You may return to that item later.
7. Figures are not necessarily drawn to scale.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

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1. The term 'diet' refers to
 - I. controlled intake of food to reduce weight
 - II. the food a person eats each day
 - III. the meal eaten at any one sitting
 - (A) I only
 - (B) III only
 - (C) I and II only
 - (D) II and III only

2. Which of the following factors influence dietary choices in the Caribbean?
 - I. Religious beliefs
 - II. Availability of foods
 - III. Cultural considerations
 - (A) I and II only
 - (B) I and III only
 - (C) II and III only
 - (D) I, II and III

3. Which of the following organizations are involved in food and nutrition activities within the Caribbean region?
 - I. Pan American Health Organization (PAHO)
 - II. World Health Organization (WHO)
 - IV. Organization of American States (OAS)
 - (A) I and II only
 - (B) I and III only
 - (C) II and III only
 - (D) I, II and III

4. Which of the following nutrients are closely linked to the growth spurt in adolescents?
 - (A) Iron and protein
 - (B) Carbohydrates and protein
 - (C) Fat and carbohydrates
 - (D) Vitamins and minerals

5. Which of the following nutrients contain the HIGHEST amount of energy?
 - (A) Fats
 - (B) Sugars
 - (C) Starches
 - (D) Proteins

6. Type I diabetes is caused by
 - (A) a high intake of fat
 - (B) a high consumption of sugar
 - (C) the body's inability to manufacture glycogen
 - (D) failure of the pancreas to produce insulin

7. Which of the following are NOT micronutrients?
 - (A) Iron and vitamin C
 - (B) Thiamine and vitamin B₁₂
 - (C) Carbohydrate and protein
 - (D) Calcium and phosphorus

8. Which of the following substances inhibits the absorption of iron?
 - I. Oxalic acid
 - II. Caffeine
 - III. Tannin
 - (A) I only
 - (B) III only
 - (C) I and II only
 - (D) I, II and III

9. Calcium and phosphorus are required for
 - (A) preventing anaemia
 - (B) preventing malnutrition
 - (C) producing healthy babies
 - (D) promoting healthy teeth and bones

10. Which of the following shows the correct order of meals eaten during the day?

- (A) Breakfast, Lunch, Dinner, Supper
- (B) Breakfast, Brunch, Dinner, Supper
- (C) Breakfast, Brunch, Lunch, Supper
- (D) Breakfast, Lunch, Brunch, Supper

11. Sally has been diagnosed with osteoporosis. She should therefore increase her intake of

- (A) iron
- (B) calcium
- (C) thiamine
- (D) riboflavin

12. Which of the following ingredients should be avoided when preparing packed meals for a picnic?

- (A) Oil
- (B) Rice
- (C) Bread
- (D) Mayonnaise

13. Which of the following is NOT a flatware?

- (A) Fork
- (B) Knife
- (C) Plate
- (D) Spoon

14. The heat from a grill reaches the food to be grilled by

- (A) radiation
- (B) induction
- (C) conduction
- (D) convection

15. The role of food additives is to

- I. thicken
 - II. flavour
 - III. preserve
- (A) I and II only
 - (B) I and III only
 - (C) II and III only
 - (D) I, II and III

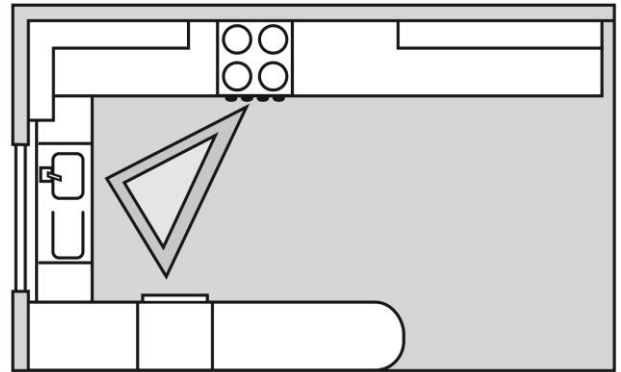
16. Which of the following processes is important in the production of cheese?

- (A) Oxidation
- (B) Hydrolysis
- (C) Fermentation
- (D) Nitrate reduction

17. Which of the following is the MOST suitable temperature for storing food in a refrigerator?

- (A) -18°C
- (B) 7°C
- (C) 20°C
- (D) 34°C

Item 18 refers to the following diagram of a kitchen layout.



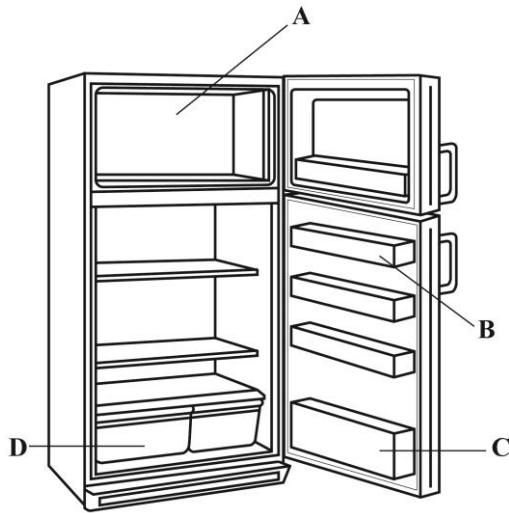
18. Which of the following terms correctly identifies the type of layout in the diagram?

- (A) Island
- (B) U-shaped
- (C) L-shaped
- (D) Corridor

19. A kitchen layout should be placed in a triangular arrangement

- (A) to save space in the kitchen
- (B) for efficient storage of food
- (C) to save time in food preparation
- (D) to allow for proper cleaning of the kitchen

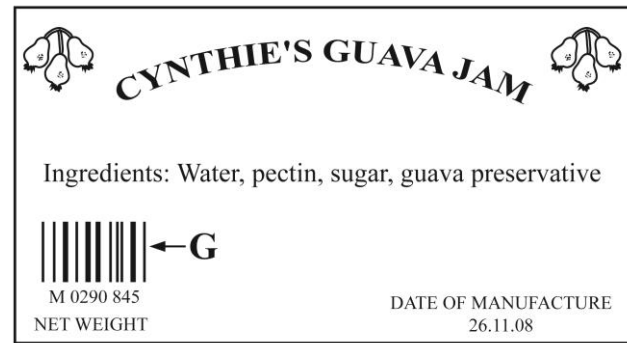
Item 20 refers to the following diagram of a refrigerator.



Which of the above labelled areas is used to store

20. eggs?
21. vegetables?
22. Which of the following is NOT a factor to be considered when preparing a food budget for a family?
- (A) Size of family
 - (B) Age of family
 - (C) Time available for food preparation
 - (D) Income of family members
23. The expiry date on a carton of coconut cream means that its contents
- (A) were packaged on that date
 - (B) should be thrown away on that date
 - (C) are of best quality if used before that date
 - (D) would no longer contain nutrients if not used by that date

Item 24 refers to the following label which is placed on a bottle of jam.



24. The feature labelled 'G' is the
- (A) bar code
 - (B) line graph
 - (C) code system
 - (D) identification mark
25. Which of the following information should be included on a food label?
- I. The name of the product
 - II. A list of ingredients
 - III. The cost of the product
- (A) I and II only
 - (B) I and III only
 - (C) II and III only
 - (D) I, II and III
26. A MAJOR consideration for a caterer should be
- (A) buying during sales
 - (B) bulk buying
 - (C) selling food at high prices
 - (D) buying cheap, low-quality foods

27. Which of the following is considered an advantage of convenience foods?
- (A) They are usually very attractively packaged.
 - (B) They are usually easy to store and have a long shelf life.
 - (C) They are not very tasty.
 - (D) Many contain additives and preservatives.

Items 28–30 refer to the following methods of cooking.

- (A) Boiling
- (B) Broiling
- (C) Stewing
- (D) Baking

In answering Items 28–30, each option may be used once, more than once or not at all.

Which of the above methods

28. is the MOST economical on fuel?
29. has the HIGHEST nutrient loss due to leaching?
30. uses radiant heat?
31. Jenny, a teenager, is experiencing headaches, dizziness and constant tiredness. Jenny is MOST likely suffering from
- (A) rickets
 - (B) beriberi
 - (C) hypoglycaemia
 - (D) iron deficiency anaemia
32. Dietary guidelines for the Caribbean can be used to reduce the risk of
- (A) eating disorders
 - (B) deficiency diseases
 - (C) communicable diseases
 - (D) chronic non-communicable diseases

33. For which of the following is obesity NOT a risk factor?
- (A) Diabetes
 - (B) Dental caries
 - (C) Heart disease
 - (D) Iron deficiency anaemia
34. Which of the following meals is BEST suited for a vegan or strict vegetarian?
- (A) Rice and pigeon peas, tomato salad, banana
 - (B) Pizza with cheese and sausage, fruit salad
 - (C) Yoghurt, ham sandwich, stewed guavas
 - (D) Split pea soup, peanut butter sandwich, custard
35. Which of the following vitamins will leach in the liquid when carrots are boiled?
- (A) Vitamin A
 - (B) Vitamin C
 - (C) Vitamin D
 - (D) Vitamin E
36. Which of the following is NOT a sign of protein energy malnutrition (PEM) in infants?
- (A) Bleeding gums
 - (B) Dry, flaky skin
 - (C) Weak muscles
 - (D) Swollen abdomen
37. Which of the following substances will NOT inhibit the absorption of iron?
- (A) Phytic acid
 - (B) Oxalic acid
 - (C) Citric acid
 - (D) Phenolic acid
38. Which of the following snacks are suitable for a person who wants to lose weight?
- (A) Cheese rolls
 - (B) Fruit scones
 - (C) Sponge fingers
 - (D) Chicken sandwiches

GO ON TO THE NEXT PAGE

39. Which of the following foods are recommended for an individual suffering from goitre?
- (A) Sea foods
 - (B) Citrus fruits
 - (C) Dairy products
 - (D) Peas and beans
40. Which of the following foods can be used to prepare low budget meals?
- (A) Canned sardines, dried pigeon peas, rice, eggs
 - (B) Fresh fish, canned peas and carrots, macaroni, chicken
 - (C) Beef steak, frozen fish, fresh pigeon peas, instant cornmeal
 - (D) Cream cheese, lamb, instant mashed potatoes, fish steaks
41. Which of the following snacks is most suitable for a pre-schooler?
- (A) Fruit yoghurt
 - (B) Peanuts
 - (C) Peanut butter
 - (D) Cream filled cookies
42. Which of the following combination of foods will provide a vegan with all of the essential amino acids?
- (A) Rice and steamed spinach
 - (B) Rice and pigeon peas
 - (C) Ground provision and pigeon peas
 - (D) Ground provision and curried pumpkin
43. Which of the following guidelines is the LEAST likely to be considered when planning meals for a convalescent?
- (A) Avoid fatty, fried foods
 - (B) Serve delicate small portions
 - (C) Use mainly convenience foods
 - (D) Observe strict hygiene in food preparation
44. An egg custard will set and retain its shape due to
- (A) Coagulation
 - (B) Caramelization
 - (C) Gelatinization
 - (D) Dextrinization
45. Fish will break up when cooked for long periods because
- I. it has little connective tissue
 - II. connective tissue contains elastin
 - III. connective tissue is easily hydrolysed
- (A) I and II only
 - (B) I and III only
 - (C) II and III only
 - (D) I, II and III
46. In which of the following foods is bacteria MOST likely to flourish if kept at room temperature?
- (A) Salted fish
 - (B) Tamarind ball
 - (C) Pickled cucumber
 - (D) Coconut custard pie
47. The heating process by which a potato is boiled is known as
- (A) radiation
 - (B) conduction
 - (C) convection
 - (D) circulation
48. Slicing, shredding and chopping of vegetables can be efficiently carried out using a
- (A) blender
 - (B) food mill
 - (C) stick blender
 - (D) food processor

49. Reduced cooking time is achieved when using a pressure cooker because

- (A) steam is forced through the food
- (B) steam is released through the vent
- (C) boiling water is the cooking medium
- (D) water boils faster in a pressure cooker

Item 50 refers to the following first aid treatment.

- I. Cover area with a clean cloth to reduce risk of infection.
- II. Cool the whole area with cold water to reduce risk of blistering.
- III. Remove jewellery if possible as the area may swell.
- IV. Protect blisters, do not burst them.

50. The activities are MOST likely used to treat

- (A) a cut
- (B) bleeding
- (C) an electrical shock
- (D) a scald and burn

51. Which of the following is a disadvantage of using the pressure cooker?

- (A) Economical on fuel
- (B) Retains food nutrients
- (C) Meals can be prepared quickly
- (D) Requires a special safety skill

52. Which of the following is a useful guideline for a consumer with a household of ten and a small income?

- (A) Buy in bulk
- (B) Buy unhealthy foods
- (C) Select top brands
- (D) Select expensive foods

Items 53–55 refer to following ways by which a family can spend wisely.

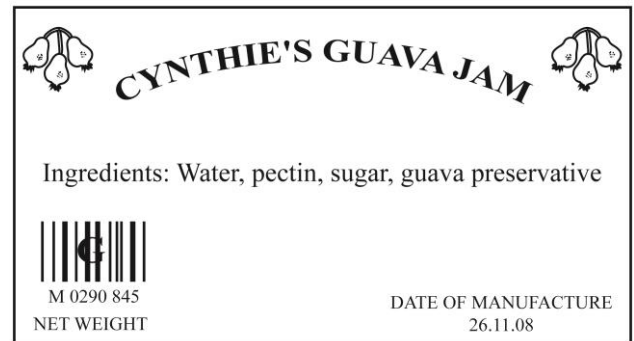
- (A) Buying in bulk
- (B) Comparative shopping
- (C) Preparing a shopping list
- (D) Investigating new products

In answering Items 53–55, each option may be used once, more than once or not at all.

Which of the above ways is given the MOST consideration when

- 53. different brands of the same food are sold at supermarkets?
- 54. items are used in large quantities?
- 55. planning to purchase food?

Item 56 refers to following label which is placed on a bottle of jam.



56. What vital information is NOT written on the label?

- I. Expiry date
 - II. Main ingredients in order of priority
 - III. Manufacturer's name and address
 - IV. Net weight
- (A) I and IV only
 - (B) II and IV only
 - (C) II, III and IV only
 - (D) I, II, III and IV

Items **57–59** refer to thickeners used in sauces.

- (A) Starch
- (B) Protein
- (C) Emulsifier
- (D) Pureé

In answering Items **57–59** each response may be used once, more than once or not at all.

Which thickener

- 57.** must be blended with liquid before cooking?
- 58.** is made from fruits/vegetables?
- 59.** will gelatinize?

60. Pancakes are usually made from which one of the following?

- (A) Roux
- (B) Fritter batter
- (C) Pouring batter
- (D) Coating batter

END OF TEST

CSEC FOOD AND NUTRITION

Specimen - Paper 01

2015

ITEM	SYLLABUS OBJECTIVE	PROFILE	KEY
1	1.1	P1	C
2	1.5	P1	D
3	1.4	P1	C
4	1.5	P1	B
5	2.4	P1	A
6	2.5	P1	D
7	2.3	P1	C
8	2.9	P1	D
9	2.6	P1	D
10	3.1	P1	C
11	3.9	P1	C
12	3.11	P1	D
13	3.12	P1	C
14	4.10	P1	A
15	1.9	P1	D
16	4.1	P1	C
17	4.2	P1	B
18	5.2	P1	B
19	5.2	P1	C
20	5.6	P1	C
21	5.6	P1	D
22	6.6	P1	C
23	6.12	P1	C
24	6.10	P1	A
25	6.12	P1	A
26	6.4	P1	B
27	7.7	P1	B
28	7.4	P1	A
29	7.4	P1	A
30	7.4	P1	B

ITEM	SYLLABUS OBJECTIVE	PROFILE	KEY
31	1.3	P2	D
32	1.4	P2	D
33	1.3	P2	B
34	1.2	P2	D
35	2.6	P2	B
36	2.5	P2	A
37	2.9	P2	C
38	2.5	P2	C
39	2.10	P2	A
40	3.10	P2	A
41	3.11	P2	B
42	3.8	P2	B
43	3.6	P2	C
44	4.3	P2	A
45	4.3	P2	B
46	4.4	P2	D
47	4.10	P2	C
48	5.4	P2	D
49	5.4	P2	A
50	5.10	P2	D
51	5.4	P2	D
52	6.4	P2	A
53	6.1	P2	B
54	6.1	P2	A
55	6.1	P2	C
56	6.10	P2	D
57	7.3	P2	A
58	7.3	P2	D
59	7.3	P2	A
60	7.6	P2	C



TEST CODE **01221020**

SPEC 2015/01221020

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
C A R I B B E A N S E C O N D A R Y E D U C A T I O N C E R T I F I C A T E[®]
E X A M I N A T I O N

FOOD AND NUTRITION

SPECIMEN PAPER

Paper 02 – General Proficiency

2 hours 30 minutes

READ THE FOLLOWING INSTRUCTIONS CAREFULLY.

1. This paper consists of SIX questions.
2. Answer ALL questions.
3. Write your answer in the space provided in this answer booklet.

DO NOT TURN THIS PAGE UNTIL YOU ARE TOLD TO DO SO.

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Answer ALL questions.

1. (a) Define the term 'food'.

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(2 marks)

(b) Name TWO high biological value protein foods.

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.....

(2 marks)

(c) Betty had a meal of bread, cheese, oranges and water for lunch.

(i) List TWO minerals present in the meal.

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(2 marks)

- (ii) Describe TWO ways by which the water consumed will assist in the digestion and absorption of the meal.

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(4 marks)

(iii) Describe the physical and chemical digestion of the bread in the mouth.

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(6 marks)

Total 16 marks

2. (a) Define the following terms:

(i) Breakfast

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(2 marks)

(ii) À la carte

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(2 marks)

(iii) Table appointments

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(2 marks)

- (b) (i) Plan a nutritious lunch menu for a toddler using TWO food groups.

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(3 marks)

- (ii) Identify the MAJOR nutrient found in each food group in the menu.

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(2 marks)

GO ON TO THE NEXT PAGE

- (iii) Choose ONE of the nutrients identified in (ii) and explain how it is beneficial to the toddler.

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(2 marks)

- (c) Your grandmother is diagnosed with diabetes mellitus. Suggest THREE guidelines that she should follow to ensure that her condition is well managed.

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(3 marks)

Total 16 marks

3. (a) List TWO microorganisms that can contaminate food.

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(2 marks)

(b) Distinguish between 'food intoxication' and 'food infection'.

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(4 marks)

(c) Jane is preparing muffins for breakfast.

(i) Suggest THREE rules to be observed when adding baking powder to the muffin mixture. Give ONE reason for each rule suggested.

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(6 marks)

- (ii) Describe how the baking powder works to raise the muffins.

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(4 marks)

Total 16 marks

4. (a) State the purpose of each of the following features of gas cookers:

(i) Thermostat

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(2 marks)

(ii) A section of the oven door made of glass

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(2 marks)

(iii) Fan in the oven

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(2 marks)

- (b) Mrs Edey intends to prepare a meal consisting of stewed beef, rice and dried peas, and pineapple drink. Discuss **THREE** strategies that she may use to demonstrate how time and energy may be conserved while preparing this meal.

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(6 marks)

- (c) Mrs Edey intends to remodel her kitchen. Explain TWO factors that she should consider while planning to remodel the kitchen.

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(4 marks)

Total 16 marks

5. Deryk's Food and Nutrition class was required to prepare a brochure on responsible consumerism for parents attending Open Day at his school.

(a) Define the term 'green consumer'.

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(2 marks)

(b) List TWO consumer organizations that are responsible for protecting the consumer.

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(2 marks)

(c) State ONE role of EACH consumer organization listed in (b).

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(2 marks)

(d) Suggest FOUR guidelines for preparing a food budget.

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(4 marks)

- (e) Discuss THREE factors to be considered when purchasing kitchen equipment in order to get the best value for money.

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(6 marks)

Total 16 marks

6. (a) Define the following terms:

(i) Bake blind

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(2 marks)

(ii) Batter

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(2 marks)

(iii) Sensory evaluation of food

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(2 marks)

- (b) (i) Your food and nutrition teacher has selected your group to conduct a sensory evaluation of baked fish that was prepared for a hypertensive person. State TWO factors which the group may evaluate during the testing process.

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(2 marks)

- (b) (ii) For each of the factors stated in (i), discuss ONE observation that may be made by the group..

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(4 marks)

(c) Describe how the following may be used to enhance the appearance of dishes.

(i) Bread

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(2 marks)

(ii) Limes

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(2 marks)

Total 16 marks

END OF TEST

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
H E A D Q U A R T E R S

C A R I B B E A N S E C O N D A R Y E D U C A T I O N C E R T I F I C A T E[®]
E X A M I N A T I O N

F O O D A N D N U T R I T I O N

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P a p e r 0 2 - G e n e r a l P r o f i c i e n c y

K E Y A N D M A R K S C H E M E

**Food and Nutrition
Specimen Paper
Paper 02 – General Proficiency
Key and Mark Scheme**

Ques.	Syll. Ref.	Possible Response	Instructions or Comments	MARKS		
				K	UK	Total
1 (a)	2.1	Definition of food: Any solid or liquid substance which, when taken by the body, provides it with the necessary materials to enable it to grow, to replace worn-out and damaged parts, and to function normally.	Full definition, 2 marks Partial definition, 1 mark.	2	0	2
(b)	2.4	High biological value protein foods: <ul style="list-style-type: none"> • Meat • Fish • Eggs • Cheese • Milk 	Any two high biological value protein foods listed, 2 marks	2	0	2
(c) (i)	2.6	Minerals present in the meal: <ul style="list-style-type: none"> • Calcium • Sodium • Chloride • Potassium • Fluoride • Iodine 	Any two minerals identified, 2 marks	2	0	2
(c) (ii)	2.11	How water assists with the digestion and absorption of the meal: <ul style="list-style-type: none"> • Water is required for the production of digestive juices which contain enzymes responsible for the breaking down of food. • Nutrients are dissolved in water for proper absorption/Nutrients dissolve in water and are transported through the bloodstream. • Water is required for the production of mucous which enables food to move around the digestive system. Mucous lubricates the food and the membranes of the system which enables the food to move easily. 	Any two ways described, 2 marks Partial description, 1 mark 2 x 2 = 4	0	4	4

**Food and Nutrition
Specimen Paper
Paper 02 - General Proficiency
Key and Mark Scheme**

Ques.	Syll. Ref.	Possible Response	Instructions or Comments	MARKS		
				K	UK	Total
(c) (iii)	2.14	<p>Digestion of the bread in the mouth</p> <p>Physical digestion: The teeth tear, rip and grind the bread into pieces small enough to swallow (1). The tongue pushes the food round the mouth and down the throat (1). The salivary glands produce saliva to moisten the food and make it easy to swallow (1).</p> <p>Chemical digestion: Salivary amylase (1) produced by the salivary glands converts some of the cooked starch (1) in the bread to maltose and dextrin (1).</p>	<p>Physical digestion, 3 marks</p> <p>Chemical digestion, 3 marks</p>	0	6	6
			TOTAL	6	10	16

**Food and Nutrition
Specimen Paper
Paper 02 – General Proficiency
Key and Mark Scheme**

Ques.	Syll. Ref.	Possible Response	Instructions or Comments	Marks		
				K	UK	Total
2(a) (i)	3.1	Breakfast: first meal taken after rising from a night's rest.		2	0	2
(ii)	3.1	À la carte: Items are priced and ordered separately.	Complete definition, 2 marks each	2	0	2
(iii)	3.1	Table appointments: Items used to set and decorate a table for dining.	Partial Definition, 1 mark	2	0	2
(b) (i)	3.3	<u>Menu</u> Correct format (1) Should comprise suitable food in each group. Food from animal and staple or legumes and staple. Dishes should be free of bones and easy to digest. (2)		0	3	3
(ii)	3.3	Main nutrient in each food group Protein: food from animals legumes Carbohydrates: staples	Each nutrient, 1 mark	0	2	2
(iii)	2.4	Proteins: Needed for growth and for the repair and maintenance of tissues OR Needed for the production of carbohydrates to help prevent infection and disease OR Production of haemoglobin, the blood protein responsible for the transport of oxygen around the body OR Production of enzymes which are required for reactions in the body Carbohydrates: Provides energy needed for daily activities OR Provides a source of fibre which helps with the elimination of waste materials	Complete explanation, 2 marks Partial explanation, 1 mark	0	2	2

**Food and Nutrition
Specimen Paper
Paper 02 – General Proficiency
Key and Mark Scheme**

2(c)		<p>Guidelines for the management of diabetes mellitus:</p> <ul style="list-style-type: none"> • Eat small portions of food • Eat fruits, vegetables and foods high in fibre • Avoid sugar sweetened beverages • Exercise regularly • Drink plenty of water 	3 x 1 = 3 marks	0	3	3
TOTAL				6	10	16

**Food and Nutrition
Specimen Paper
Paper 02 – General Proficiency
Key and Mark Scheme**

Ques.	Syll. Ref.	Possible Response	Instructions or Comments	Marks		
				K	UK	Total
3 (a)	4.4	Microorganisms that contaminate food: <ul style="list-style-type: none"> • Mould • Yeast • Bacteria 	Any two microorganisms listed, 2 marks 2 x 1 = 2	2	0	2
(b)	4.5	Food intoxication – illness produced by microbial toxin production in a food product that is consumed; the toxin produces the illness. Food infection – illness produced by the presence and growth of pathogenic microorganism in the gastrointestinal tract, they are often, but not necessarily present in large numbers.	1 mark for each	4	0	4
(c) (i)	4.13	Rules to be observed when adding baking powder to the muffin mixture: <ul style="list-style-type: none"> • Use the correct proportion of baking powder for the recipe – too much baking powder can cause coarse grain, bad flavour, excessive surface browning and an off colour. Too little baking powder will result in a dense product. • Sift baking powder with the flour – baking powder must not become wet until the latter stage of the mixing process when the liquid ingredients are combined with the dry ingredients or they will begin to release carbon dioxide. • Place product in the oven to be baked immediately after adding liquid ingredients – to prevent excessive loss of leavening gas before baking. The gas must be available during baking to produce the desired effect. If too much gas is lost before baking begins, the product will not be sufficiently leavened and will become compact and heavy. 	Each rule suggested, 1 mark Reason for each rule, 1 mark 3 x 2 = 6	0	6	6

**Food and Nutrition
Specimen Paper
Paper 02 – General Proficiency
Key and Mark Scheme**

Ques.	Syll. Ref.	Possible Response	Instructions or Comments	Marks		
				K	UK	Total
(c) (ii)	4.12	<p>How the baking powder works to raise the muffins during baking:</p> <ul style="list-style-type: none"> • Carbon dioxide is produced by the action of heat and moisture on the baking powder • The carbon dioxide enlarges the air cells and aerates the mixture. • The gases produced expand on heating and raises the mixture. 	<p>Any two points described, 2 marks</p> <p>Partial description, 1 mark</p>	0	4	4
			TOTAL	6	10	16

**Food and Nutrition
Specimen Paper
Paper 02 – General Proficiency
Key and Mark Scheme**

Ques.	Syll. Ref.	Possible Response	Instructions or Comments	Marks		
				K	UK	Total
4 (a) (i)	5.6	Thermostat: to control the temperature of the oven so that the temperature is maintained	Purpose fully explained, 2 marks Partial explanation, 1 mark	2	0	2
(ii)	5.6	A section of the oven door is made of glass so that the cooking process may be observed <u>without opening the oven door</u> and therefore <u>minimizes the loss of heat</u> .	1 mark for each underlined part	2	0	2
(iii)	5.6	A fan in the oven <u>allows the convectional current to flow evenly</u> and this allows products to be <u>baked in an uniform manner</u> .	1 mark for each underlined part	2	0	2
(b)	5.8	Strategies to save time and energy during preparation: <ul style="list-style-type: none"> • Cut the beef into small pieces; clean and marinate it and soak the dry peas overnight • Choose the most suitable sequence of preparation, for example, the pineapple juice may be prepared first so as to serve it chilled; also the stewed beef may be prepared before the rice. • Use appropriate equipment, for example, a pressure cooker may be used to cook the beef. 	Each strategy fully discussed, 2 marks 3 x 2 = 6 Partial discussion, 1 mark	0	6	6
(c)	5.1	Factors <ul style="list-style-type: none"> • The material which the kitchen floor is made of, the material should be non-slippery and easy to clean to prevent accidents • The kitchen layout must be appropriate - the layout must allow for an easy and simple workflow. 	Full explanation, 2 marks 2 x 2 = 4 Partial explanation, 1 mark	0	4	4
			TOTAL	6	10	16

**Food and Nutrition
Specimen Paper
Paper 02 – General Proficiency
Key and Mark Scheme**

Ques.	Syll. Ref.	Possible Response	Instructions or Comments	Marks		
				K	UK	Total
5(a)	6.1	Definition of green consumer: A customer who buys things that have been produced in a way that protects the natural environment/buys things that are environmentally friendly.	Full definition, 2 marks Partial definition, 1 mark	2	0	2
(b)	6.3	Consumer protection agencies: <ul style="list-style-type: none"> • Consumer affairs division • Bureau of standards • Weight and measures division 	Any two listed, 2 marks 2 x 1 = 2 marks	2	0	2
(c)	6.3	Roles of consumer protection agencies: <ul style="list-style-type: none"> • Consumer affairs division - promotes the rights and responsibilities of the consumer • Bureau of standards - prepares, promotes and encourages the maintenance of standards for the improvement of goods and services, processes and practices either produced or used in the territory • Weights and measures division - promotes uniformity in weights and measures laws, regulations and standards to achieve equity between buyers and sellers in the marketplace. 	1 mark for each role 2 x 1 = 2 marks	2	0	2
(d)	6.6	Guidelines for preparing an economical food budget: <ul style="list-style-type: none"> • Plan meals and snacks in advance according to the established budget. • Include meals that will 'stretch' expensive food items (stews, casseroles, stir-fried dishes). • Make a grocery list and buy only what is on the list. • Check for sales and coupons in the local newspaper, on websites and consider discount stores. • Do not cut coupons out before you make your grocery list 	Any four guidelines, 1 mark each 4 x 1 = 4 marks	0	4	4

**Food and Nutrition
Specimen Paper
Paper 02 – General Proficiency
Key and Mark Scheme**

Ques.	Syll. Ref.	Possible Response	Instructions or Comments	Marks		
				K	UK	Total
(e)	6.2	<ul style="list-style-type: none"> • Ask about loyalty cards at the grocery store. • Make use of the farmer's market. • Do not buy pre-packaged foods • Buy in bulk where possible – you will pay less. • Do not buy more than you need. • Eat foods that are in season. • Eat before grocery shopping. <p>Factors to be considered when purchasing kitchen equipment in order to get the best value for money:</p> <ul style="list-style-type: none"> • Find out about kitchen equipment in detail before buying and compare different types and makes for quality, value, design, after-sale service, and suitability • Ask for a demonstration of use for large pieces of equipment to ensure that the equipment is suitable for your needs. • Read instructions and information leaflets carefully and thoroughly, particularly guarantees and servicing details. • Ask various people who have bought a similar item their opinions about it and consult consumer magazines. • Keep all receipts and sales agreements for large pieces of equipment and services in case the equipment malfunctions and you need redress. • Do not let yourself be pressured into buying equipment that you have not had the time to consider. 	<p>Full discussion, 2 marks 3 x 2 = 6 marks</p> <p>Partial discussion, 1 mark</p>	0	6	6
			TOTAL	6	10	16

**Food and Nutrition
Specimen Paper
Paper 02 – General Proficiency
Key and Mark Scheme**

Ques.	Syll. Ref.	Possible Response	Instructions or Comments	Marks		
				KC	UK	Total
6 (a) (1)	7.6	Bake blind: the baking of <u>pastry cases without any filling</u> . (1)	Complete definition, 2 marks Partial definition, 1 marks	2	0	2
(ii)	7.6	Batter: <u>Mixture of flour, eggs and liquid</u> (1) <u>beaten</u> (1).	Complete definition, 2 marks Partial definition, 1 marks	2	0	2
(iii)	7.6	Sensory evaluation of food: <u>use of the senses</u> (1) to test food for <u>certain characteristics</u> (1).	Complete definition, 2 marks Partial definition, 1 marks	2	0	2
(b) (i)	7.9	Factors that may be considered during testing: <ul style="list-style-type: none"> • Taste/flavour • Appearance/sight • Smell/odour • Texture/touch 	Each factor stated, 1 mark 2 x 1 = 2	0	2	2
(b) (ii)	7.9	<u>Taste/flavour</u> <ul style="list-style-type: none"> • Fish is too salty and therefore this may increase blood pressure OR • Fish has a bland flavour; this may help to control the blood pressure as there is little sodium OR • Fish is too greasy indicating saturated fat may be present. OR • Fish has a good flavour and this would stimulate appetite. <u>Texture/touch</u> <ul style="list-style-type: none"> • Fish may have a texture indicating that the fish was undercooked. 	Appropriate observation fully discussed, 2 marks Observation only, 1 mark 2 x 2 = 4	0	4	4

**Food and Nutrition
Specimen Paper
Paper 02 – General Proficiency
Key and Mark Scheme**

Ques.	Syll. Ref.	Possible Response	Instructions or Comments	Marks		
				KC	UK	Total
		<u>Appearance/sight</u> <ul style="list-style-type: none"> • Fish has a dark appearance indicating that it was overcooked. OR • Fish has a pale appearance which indicates that the fish is undercooked. <u>Smell/odour</u> <ul style="list-style-type: none"> • Fish may have a bad odour which indicates that the fish was not thoroughly prepared for cooking. OR • Fish may have a good odour indicating that the fish is fresh. 				
(c) (i)		Bread can be used to make croutons, bread can be cut into several shapes, for example, triangles and squares and used to garnish foods	Full discussion, 2 marks each 2 x 2 = 4	0	4	4
(c) (ii)		Limes may be sliced into wedges or they may be used to make butterflies to garnish foods.	Partial discussion, 1 mark			
			TOTAL	6	10	16

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**

JUNE 2004

FOOD AND NUTRITION

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FOOD AND NUTRITION
GENERAL PROFICIENCY EXAMINATION
JUNE 2004

GENERAL COMMENTS

The Caribbean Examinations Council administered its twenty-third examination in Food and Nutrition in June 2004.

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 - 56 and the mean mark was 38 out of 60.

Paper 02 – Structured Essay Questions

This paper consisted of seven questions divided into two parts. Part 1 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 2 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 more or less equal in popularity. Question 7 was by far the least popular.

Overall, the performance of candidates was only fair. The marks ranged from 0 to 66 and the mean was 28 out of 80. Many candidates did not take time to read questions carefully and so missed the key words or phrases in some questions.

Generally, responses were well set out. However, some candidates when responding to questions, failed to list the question numbers on the front of the booklet. This made it difficult for the Examiners, since it entailed them having to scan all of the questions and then listing the numbers on the front of the booklet.

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 46 out of a possible maximum of 60, with marks ranging from 2 to 60.

DETAILED COMMENTS

Paper 02 – Structured Essay Questions

Question 1

This question was a compulsory one and was handled very well. Marks ranged from 0 to 16, with the majority of candidates earning more than half of the marks.

This question tested the candidates' ability to list two disorders or diseases that could be caused from a deficiency of Vitamin A, Vitamin B1 (thiamin) and calcium. Candidates were required to (a) suggest two guidelines under the headings diet and lifestyle in coping with hypertension; and (b) to explain briefly two reasons for each of the following statements:

- (i) It is possible to have a balanced meal without including meat and fish.
- (ii) It is not necessary to skip meals in order to lose weight successfully
- (iii) It may be harmful to eat too much fat

Part (a) was very well done. The majority of candidates were able to give the correct response. However, a few candidates got some of the diseases confused, and some others wrote the functions of the nutrients.

In Part (b), although many candidates performed well, quite a few confused “diet” with “lifestyle” and “hypertension” with “diabetes”.

Part (c) (i) was very well answered. The majority of candidates were able to state that “foods such as cheese, eggs, milk, cereals, and pulses would supply protein so it would be possible to have a balanced diet”. Many candidates, however, stated that it would be possible to have a balanced diet without eating meat and fish, but never mentioned the foods needed or that one needed protein to have a balanced diet.

In Part (c) (ii), candidates were asked to explain why it was not necessary to skip meals in order to lose weight successfully. Most candidates stated that when one skipped a meal one would probably eat much more because one would be hungry, instead of stating that one needed to eat smaller servings and cut down on foods which contained large amounts of fat, sugar and starch.

Part (c) (iii) was very well answered. The majority of candidates were able to explain the harmful effects to the body if one consumed too much fat.

Question 2

This question focused on food preservation skills. It was poorly answered. Marks ranged from 0 to 14, with the majority of candidates gaining less than half of the total marks.

Part (a) (i) required candidates to describe either the “wrinkle test” or the “flake test”. The majority of the candidates were unable to describe either, with many mixing both tests to come up with a description.

Part (a) (ii) requested candidates to define the term “pectin”. Many candidates were aware that “pectin” was found in fruits and vegetables and assisted in the setting of jams and jellies, but very few stated what types of fruits and vegetables. Candidates also omitted to say that pectin was a polysaccharide.

Part (a) (iii) required candidates to give two qualities of a well-made jam. This part was not very well done. Candidates gave responses such as “good flavour” and “good consistency” or “not hard” or “not runny”, “good colour”. Correct responses such as “rich flavour characteristic of fruit used”, “consistency firm, jelly-like and easy to spread”, and “colour should be bright and should also have a clear appearance”, “fruit should be evenly distributed” were sometimes given.

Part (b) sought to determine two changes which occur in drying green papaws, pickling cucumbers and sterilizing milk. Many candidates were able to mention the removal of water and the destruction of micro-organisms. Some candidates mentioned the ripening of the papaw, changing of the colour to yellow, to the rotting of the papaw.

In Part (b) (ii), candidates linked the pickling of the cucumbers with an acidic medium and hence microbial destruction. A small percentage of the candidates associated the principle of osmosis with the process. However, no candidate mentioned a low pH.

In relation to the sterilization of milk in Part (b) (iii), many candidates mentioned that micro-organisms were partially destroyed rather than completely destroyed. Many candidates also mentioned that nutrients were lost, but neglected to state which ones.

Part (c) required candidates to suggest four factors which may be responsible for a packet of frozen peas and carrots becoming discoloured, as well as developing crystals. This part of the question was not well answered. Popular responses which were correct included “poor packaging” and “vegetables not blanched or not blanched sufficiently”.

Question 3

This question focused on bread and pastry making. It was one of the compulsory questions and was fairly well answered. Marks ranged from 0 to 16.

In Part (a), candidates were asked to give two reasons for the use of each of the following ingredients in breadmaking:- (i) salt (ii) fat (iii) milk. This part of the question was reasonably well done and the majority of candidates were able to gain more than half of the marks.

Part (b) of this question required candidates to suggest four precautions which one should take in order to prevent the following faults: savoury rolls were small and dense, and short-crust pastry sausage rolls were hard and tough. This part of the question was poorly answered. Many candidates attributed faults associated with pastry making to that of breadmaking. However, some candidates were able to give correct responses such as “using fresh yeast, not destroying yeast by using hot liquid, allowing sufficient time for rising/proving when making bread rolls”. When making pastry, “not using too much water during mixing, avoiding use of too much flour during rolling and avoiding re-rolling”.

With regard to the qualities of a well-made cheese muffin, many candidates again described the qualities vaguely. Responses such as “good flavour, good texture” were common. However, many candidates were able to give correct responses such as “cheesy flavour”, “soft / moist texture, well risen, no peaks or tunnels.”

Question 4

This question was reasonably popular and focused on nutrition throughout the life cycle. It was quite well answered, and marks ranged from 0 to 16.

In Part (a), candidates were asked to state three benefits of breastfeeding. This part of the question was exceptionally well done with the majority of candidates getting full marks.

Part (b) focused on guidelines for successful complementary feeding (weaning). This part of the question was reasonably well done. A significant number of candidates, however, wrote about feeding the toddler. Responses such as “attractively-presented food, served with the correct cutlery” showed quite clearly that candidates confused the baby who would still be on breast milk with the toddler.

In Part (c), candidates were asked to suggest three nutritional factors which are responsible for under-nutrition in the elderly. This was reasonably well answered, and most candidates were able to gain more than half of the allocated marks.

In Part (d), candidates were required to name one vitamin and one mineral which would be increased during pregnancy and give one reason for the each nutrient selected. The majority of candidates were able to name the nutrients and give appropriate reasons for their selection.

Question 5

This question was also quite popular. It focused on hygienic and safety practices as well as factors which govern the planning, preparation and serving of meals for one hundred persons. Marks ranged from 0 to 15.

In Part (a), candidates were expected to state three hygienic practices which should be followed when (i) purchasing food and (ii) disposing of kitchen waste. Most candidates responded favourably to this part of the question. In some cases, however, candidates wrote about personal hygiene when purchasing food and when disposing of kitchen waste. Incorrect responses included “do not talk over the food”, “keep head covered”, “wash hands after disposing of kitchen waste”, “wear gloves when disposing of kitchen waste.” Responses such as placing the garbage bin outside of the kitchen and washing out the bin after use were also popular responses but there was no mention of hygiene.

Marks obtained and responses given in Part (b) were quite good. Candidates were asked to suggest four factors, apart from financial considerations, that were important when planning, preparing and serving one hundred lunches for the school’s Speech Day. However, some candidates did not address managing the overall situation and gave factors such as “time of day”, “number of persons”, “gender”, “age”. Although these are factors in general meal planning, they were not necessary here. Popular correct responses were “shopping and storage facilities”, “experience/capability of the cook”, “cooking equipment, cooking facilities and serving equipment”.

The final part of the question asked for two safety precautions which should be observed when preparing and serving the meal with regard to clothing, floor surfaces and the cooker. This was very well done; however, quite a few candidates referred to the “cooker” as the “person preparing the meal” or in some cases the “pressure cooker”.

Question 6

This question was also fairly popular and focused on consumerism and purchasing. Marks ranged from 0 to 16.

In Part (a), candidates were asked to give the definition for “impulse buying”. The majority of candidates were able to give a good definition. However, some candidates were unable to express themselves clearly to obtain full marks. Some candidates confused it with “bulk buying”.

Part (b) requested candidates to state four advantages of purchasing food in a large supermarket. This was very well done. It is heartening to note that candidates mentioned the technology that is used at the large supermarkets—UPC, which would lessen time spent at the cashier, and all items that were purchased would be recorded with the price on the bill.

Part (c) was not very well done. Candidates were asked to design a label for a “pasta” product. This would include macaroni, spaghetti, noodles, vermicelli, linguine, fettucini and a host of other products. However, many candidates did not know what pasta was and labels for jam, pickles, hair cream, shampoo, soft drinks were all mentioned. Further, many candidates listed the information without giving any particulars that should appear on the label, e.g. “net weight” instead of “net weight — 500g.” “name and address of manufacturer” instead of “Ben Lee, Industrial Compound, Arima, Trinidad and Tobago”. Also many candidates did not list the ingredients on the label in order of quantity.

Part (d) was very well done. It requested candidates to suggest four ways that a homemaker on a limited budget could get the most from the food dollar in order to provide nutritional meals for the family. Popular correct responses were “make use of a kitchen garden”, “buy cheaper cuts of meat and fish”.

Question 7

This question was the least popular and not very well answered. Marks ranged from 0 to 13.

In Part (a), candidates were required to list six guidelines that should be followed when planning and preparing a packed lunch to be eaten at a cricket match. The majority of candidates were able to give appropriate responses. However, a few candidates wrote about preparing the meal for the cricketers.

In Part (b), a place setting for a three-course meal was used as a stimulus and candidates were required to write a menu for a lacto-vegetarian that was compatible with the setting. This part of the question was not very well done as many candidates included meat and fish. Others wrote a two-course meal, as well as included a drink which was usually placed before the dessert. It should be noted that a drink is not necessary when writing such as menu.

In Part (c), the stimulus of a laid coffee tray proved very challenging for the candidates. Candidates were required to identify three faults and suggest how the faults could be corrected. The majority of candidates missed the point and made reference to the placement of the china, the spoon in the sugar bowl, the cup turned upwards, instead of saying that a teapot was used instead of a coffee pot, granulated sugar was used instead of brown sugar, and cold milk was used instead of hot milk.

SCHOOL-BASED ASSESSMENT

Performance on the School Based Assessment was good. The teacher and external examiner marked Assignment 2 of the School Based Assignment, and Assignment 2 was requested for moderation.

Administrative Details

In most cases, the guidelines for selecting the samples for moderation were adhered to, as most teachers provided a sample with a high, medium and low average. Candidates' details (component scores and total scores) were accurately recorded. The second assignment and mark schemes were not submitted in many cases, however.

Appropriateness of Activities

The majority of assignments submitted were relevant to the course and were of appropriate difficulty for the stipulated two-and-a-half hours. However, where mark schemes were submitted, some were not developed according to the generic mark scheme in the syllabus.

Adherence to Syllabus

The majority of assignments were selected according to the syllabus guidelines

Standard of Candidates' Performance

1. Choice of Activities

In most cases, the choice of activities was appropriate in terms of tasks selected, with sufficient attention paid to skill level, and economy of fuel, time and energy.

2. Selection of Equipment and Materials

Some candidates are still listing quantities of ingredients that are too large for the stated tasks. Special equipment and materials should only include equipment specific to the tasks and not general equipment such as measuring spoons and mixing bowls, for example.

3. Plan of Work

The majority of plans were well written. However, there are still a few areas of weakness.

- (a) Unrealistic time allocation for certain dishes/items
- (b) Times given for completion of activities not adhered to.

Quality of Teachers' Assessment

This was generally satisfactory as there was a high correlation between the external examiners' marks and the teachers' marks.

RECOMMENDATIONS TO TEACHERS

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

The following suggestions are made to teachers.

1. Experiences should be provided for candidates to answer questions with a variety of key words such as define, discuss, explain, describe, select, list, suggest and state.
2. Encourage candidates to read questions carefully, paying particular attention to key words and phrases.
3. 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.
4. Candidates should make special note of the technical terms at the beginning of Modules, learn their meanings and apply them to other aspects of the Module.
5. Candidates should be taught the correct names and uses of equipment, for example, a cooker is made up of a stove and oven; a coffee pot is tall and slim while a tea pot is short and round. They should also be taught the appropriate words when describing jam/jelly. Instead of "good flavour", "the characteristic flavour of the fruit" or "rich fruity flavour" would be more explicit, and instead of "good texture", "firm, but easy to spread". Instead of "correct proportion of ingredients", candidates should say "too little or too much" of the ingredient, and in the case of oven temperatures "too hot or too cool an oven" instead of "correct or incorrect temperature". Although some of these answers may appear in texts the teacher should encourage candidates to use the appropriate terminology.
6. Candidates should be advised to develop responses fully, paying attention to the marks allocated for each question.
7. Teachers should emphasize the correct format for writing menus. Note that the drink or beverage is not necessary when writing a menu.
8. Candidates should be given practice in numbering each part of the 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 the failure of various procedures in food preparation.

School-Based Assessment

1. Prepare assignments and Mark Schemes in accordance with guidelines contained in the syllabus.
2. Submit Assignments/Mark Schemes and Plans of Work for the assignment requested by CXC, by the stipulated time.
3. Complete Record of Marks fully and accurately and use whole numbers for entering candidates' component and total scores.

CARIBBEAN EXAMINATIONS COUNCIL

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

MAY/JUNE 2005

FOOD AND NUTRITION

FOOD AND NUTRITION
GENERAL PROFICIENCY EXAMINATION
MAY/JUNE 2005

GENERAL COMMENTS

The Caribbean Examinations Council administered its twenty-fourth examination in Food and Nutrition in June 2005.

Paper 01 – Multiple Choice Questions

Paper 01 was a multiple-choice paper which consisted of 60 items and carried a maximum of 60 marks. Marks ranged from 0 - 58 and the mean mark was 39 out of 60.

Paper 02 – Structured Essay Questions

This paper consisted of seven questions divided into two sections. Section I comprised three compulsory questions, on Nutrition, Food Preservation, and Food Preparation Methods respectively. Section II comprised four questions which tested the remaining modules of the syllabus. Candidates were expected to answer two questions from this section. Candidates were required to answer five questions in all. Each question was worth 16 marks. The maximum mark for the paper was 80. Questions 1, 2 and 3 were compulsory. Question 4 was the most popular question in the optional section.

Overall, the performance of candidates was fair. The marks ranged from 0 to 64 and the mean was 29 out of 80. Many candidates did not take time to read questions carefully and as a consequence missed the key words or phrases in some questions.

Generally, responses were well organized. However, some candidates responded to questions and failed to list the question number on the front of the booklet which created difficulties for the Examiners.

Paper 03 – School-Based Assessment

This paper was 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 0 to 60.

DETAILED COMMENTS

Paper 02 – Structured Essay Questions

Question 1

This question was a compulsory one and was handled very well. Marks ranged from 0 to 16, with the majority of candidates earning more than half of the marks.

Part (a) tested candidates' understanding of the benefits of dietary fibre and was very well answered. The majority of candidates were able to state correct responses.

Part (b) required candidates to list the causes of obesity and was also very well answered. Most candidates were able to gain the maximum marks. However, many candidates used words such as 'inheritance' or 'family inheritance' instead of 'heredity'. Quite a few candidates lost points when they listed 'too much fat', 'too many carbohydrates', 'too many calories' as separate points. Too much fat, and carbohydrates would mean that there are too many calories. As a result they were only able to gain one mark. Responses such as 'lack of exercise', 'abnormalities in metabolism', 'ignorance of dietary guidelines', 'emotional problems' are additional causes of obesity.

Part (c) (i) required nutritional reasons for consuming liver and orange juice together. The majority of candidates were able to gain full marks in this part of the question. There were some candidates who stated correct reasons as to why liver and orange taken together would, 'enrich one's blood'. However, instead of stating that the combination would provide 'haemoglobin', or 'build red blood cells' or 'prevent anaemia', they repeated part of the question 'enriches one's blood' and as a result did not receive full marks for that part of the question.

In Part (c) (ii), candidates were asked to support the statement that lacto-vegetarians could have a healthy diet. This was not done as well as it should have been as many candidates mentioned the nutrients but not the food sources, or vice versa. An example of the correct response would have been, 'Consumption of eggs, milk, cheese, TVP, pulses, legumes and cereals would provide protein. Carbohydrate intake would be had from cereals and cereal products and starch vegetables; fibre from fruits, vegetables and cereals; vitamins from fresh fruits and vegetables; minerals from dairy products and green and yellow vegetables; fatty acids from dairy products.'

Part (d) required candidates to suggest two symptoms of diabetes. Most candidates were able to get full marks by stating symptoms such as 'frequent urination, extreme thirst, itching of skin, blurred vision, numbness of feet, excessive hunger, weakness and tiring easily, tingly sensation'. Although there were many possible answers, some candidates were not able to gain any marks. Some of the incorrect responses were 'dizziness', 'regular urination' instead of 'frequent urination', 'poor eyesight' instead of 'blurred vision', 'heart attack'.

Question 2

This was also a compulsory question and focused on Preservation of Food and it was fairly well answered.

Part (a) required candidates to define the term 'dehydration' as used in food preservation. This was done quite well, although some candidates referred to 'dehydration of the human body'.

Part (b) requested candidates to list four reasons for preserving food. This was quite well answered. Many candidates scored full marks. The most popular responses were 'to make it last longer', 'to make use of food when it is cheap and plentiful and to store it for future use', 'to prevent microbial decay'.

In part (c), candidates were asked to suggest two reasons for each of the following statements:

- (i) *Pigeon (gungo) peas should be blanched before freezing.* This was fairly well answered. Most candidates gained one mark. The most popular response was 'to destroy micro-organisms/bacteria'. Correct responses such as 'to inactivate organisms', 'to prevent discolouration', 'to prevent textural change', or 'to prevent loss of flavour and aroma' were seldom stated.
- (ii) *Vitamins A and D must be added in the manufacturing of margarine.* This was not well answered. Some candidates gave the functions of the vitamins, totally ignoring the words 'during manufacturing of margarine'. Many were able to state 'to add nutritional value'. Few candidates were able to state that margarine was a substitute for butter and as mandated by law must contain the same nutrients as butter. Therefore, vitamins A and D must be added to make it acceptable. Some candidates stated that vitamin D was an antioxidant and therefore prevented rancidity and this was acceptable.
- (iii) *Colouring is added to certain foods during processing.* The majority of candidates were able to give one correct response. Many candidates incorrectly stated 'to add food value'. However, the majority were able to state correctly, 'to replace colouring lost during processing'. Other correct responses were 'to make it more appealing to the eye/palate', 'to increase demand'.

Part (d) dealt with faults in jam making. Responses to this part of the question were fairly good. Candidates were required to suggest two factors that would cause jam to be thick and sticky. Many candidates gave at least one correct response. The popular correct response was 'too much sugar'. However, correct responses such as 'overcooking of jam' and 'too little liquid' were also mentioned. Candidates were also required to suggest two factors that would cause jam to ferment. This was answered fairly well. Quite a few candidates gave the same responses for both parts of the question.

Question 3

This was also a compulsory question and focused on Food Preparation and Service and it was not well answered.

Part (a) required candidates to define the terms (i) herbs and (ii) spices. On the whole, this part of the question was poorly answered. Many candidates gave the same definition for both terms. Also, many candidates wrote about the medicinal attributes of certain herbs. Nevertheless, a reasonable number were able to state that herbs were used in food preparation for flavour.

In Part (b) candidates were asked to state two guidelines to be followed when using garnishes in food preparation. Candidates were able to answer this part very well. However, some candidates did not gain marks as they listed names of garnishes, or stated that sweet garnishes should be used for sweet dishes, or that garnishes should be edible. Decorations are used on sweet dishes. Garnishes are never used on sweet dishes. In order for any item to be classified as a garnish it must be edible.

Part (c) required candidates to suggest three guidelines that should be followed during (i) the making and (ii) serving of a salad. This was quite well answered and most candidates received full marks. However, some candidates were inclined to be repetitive, e.g. 'wash vegetables', 'clean vegetables', 'remove any insects from vegetables'. These were given as three points. Candidates were only awarded one mark. Many candidates strayed from the point and wrote about the personal hygiene of the individual preparing the salad, as well as that of the kitchen, ages of the persons, and the size of the family to eat the salad.

Part (d) asked candidates to suggest one way in which the following faults in beverage preparation could be avoided: (i) a cup of cocoa has a raw flavour and (ii) a pot of tea has a bitter taste. This proved to be very

challenging to the majority of candidates, as very few obtained any marks. Some candidates referred to the 'raw flavour' of the drink as that of 'raw cocoa bean'; others referred to 'raw cow's milk', 'not using enough milk', 'not adding enough sugar', 'too much cocoa used'. Very few candidates mentioned that the cocoa powder had to be blended with a cold liquid in order to prevent lumps, then added to hot milk or water, then boiled to ensure thorough cooking of starch grains. With reference to a pot of tea with a bitter flavour, far too many candidates wrote about a 'saucepan or cooking pot' rather than a teapot, and stated that the pot may have had other foods cooked in it. Many stated that the tea was boiled for too long. Some others stated that the 'bush' used was bitter. Very few candidates mentioned that the water had to be freshly boiled and the tea infused for three to five minutes.

Question 4

This question dealt with Nutrition and Meal Planning. It was a very popular question and was answered very well.

In Part (a), candidates were asked to state three conditions during which extra water was needed by the body. This was very well done, although some candidates gave the function of water instead. Correct responses such as 'during illness where a raised temperature results in increased sweating', 'when the body is dehydrated due to excessive vomiting and/or diarrhoea', 'in lactation when extra water is required for milk production', 'after intense physical activity and in very hot weather' were very common.

Part (b) was very well answered as the majority of candidates were able to give three functions of fat.

Part (c) (i) was also very well answered. Candidates were required to suggest three ways by which vitamin A and calcium could contribute to the health of the elderly. Some candidates did not note the words 'in the diet of the elderly' and gave general responses such as 'build strong bones and teeth' and 'necessary for growth' in the case of vitamin A. Correct responses were 'required to make a substance called visual purple, which is formed in the retina of the eye to see in dim light', 'required to keep the mucous membranes in the throat and the digestive, bronchial and excretory systems moist and free from infection', 'required for the maintenance and health of the skin'.

Part (c) (ii) required candidates to plan a three-course meal for an elderly person. The meal should include rich sources of vitamin A and calcium. Good sources of calcium are milk, cheese, yoghurt, ice cream, canned fish in which the bones are eaten, e.g. salmon, sardines, herring and green vegetables. Good sources of vitamin A are milk, cheese, eggs, butter, oily fish, liver and kidney. Beta carotene is found in carrots, pumpkin, spinach and tomatoes. The majority of candidates included dishes made from milk and cheese as the sources of calcium and yellow or green vegetables and liver as the source of vitamin A.

A three-course meal should be written using the following format:

Appetizer
Main Course
Dessert

Appetizers include soups, fruits and fruit juices.

A Main course should include a meat or fish or pulse dish, starch dish and a raw salad. Cooked vegetable/s can also be used. A combination protein and starch dish with a raw salad is another example of a main course. Cooked vegetable/s could also be included.

Desserts include fruit salads, ice cream, gelatine based cold sweets and cakes.

Many candidates omitted the appetizer, and included a drink. Many candidates wrote the drink in the main course. If a beverage is included it should be written after the dessert. A fruit drink is not necessary.

Although the majority of candidates obtained full marks for the menus, some lost marks because the menus were not nutritionally balanced. When planning meals, candidates must ensure that the meal contains protein, carbohydrates, vitamins A and C, iron and calcium. Some methods of cooking plus the nutrient content of the item/dish result in meals that are rarely devoid of fat. Suitable examples of menus given by candidates were:

Pumpkin Soup	Cream of Callaloo Soup	Fruit Cup
Stewed Pigeon Peas Spinach and Rice Tossed Salad	Grilled Flying Fish Scalloped Potatoes Buttered Carrots	Baked Chicken Breast Fried Breadfruit Slices Sauteed Squash
Mango Ice Cream	Fruit Salad	Chocolate Cake
.....
Goat Water	Lentil Soup	Shrimp Cocktail
Red Beans and Rice Steamed Bodi/Bora Tossed Salad	Cheese Sandwiches Mixed Green Salad	Macaroni Pie Steamed Callaloo Arranged Vegetable Salad
Carrot Cake	Sweet Potato Pudding	Coconut Mousse

It should be noted that a few candidates selected a breakfast menu as a three-course meal. This is not correct as a breakfast menu does not have courses. Candidates should also note that the method of cooking used in the preparation of a dish should be written in the past tense as in 'Stewed Red Beans', 'Fried Chicken', 'Curried Beef'.

Question 5

This was not a popular question but was reasonably well answered.

The focus of this question was on kitchen equipment. Part (a) was reasonably well done. Candidates were required to list three desirable features or qualities that must be present in (i) a stainless steel saucepan or pot and (ii) a free-standing mixer. Candidates were able to gain marks for each of these. The most popular correct responses for the saucepan/pot were 'durability', 'a flat base that sits well on the burner', 'a lid that fits well and is easy to remove', and 'well fitting handles and knobs that do not become loose'. Popular correct responses for the free-standing mixer were 'attachments which are easy to use, assemble and dismantle', 'made of a durable material' and 'easy to clean and maintain'.

In Part (b) (i), candidates were expected to discuss two benefits a person would gain and one adjustment a person would have to make when using an upright freezer, after using a chest type for many years. This was fairly well done. Most candidates were able to give correct responses such as 'the upright freezer would take up less space', 'it would be easier to see contents', 'easier to pack and unpack'. For the adjustments, most candidates were able to state that 'it would be more costly and that large bulky foods could not be stored'. Many candidates confused an upright freezer with a one-door refrigerator and mentioned that the upright freezer did not hold as much as the chest type.

Part (b) (ii) required candidates to suggest five guidelines for storing food in the freezer. Candidates were able to give correct responses for this section.

In Part (c), candidates were asked to explain the procedure for the treatment of a scald. Most candidates were able to gain marks by stating that the hand should be placed under cold running water. However, the other acceptable responses such as 'pat dry with sterile cotton wool and apply burn cream' were not commonly provided by candidates.

Question 6

This question was not very popular and posed a challenge to the candidates.

Part (a) required candidates to define either the term 'smoke point' or 'rancidity'. Many candidates mentioned that a 'faint blue haze or smoke should rise from the heated fat' and were able to gain points. Many candidates stated that the 'blue haze should rise from the food'. Some candidates confused the term 'flash point' with 'smoke point'.

Very few candidates were able to give a correct response for a definition of the term 'rancidity'. Some mentioned 'spoilage of food' and 'rancidity of food'. The expected response was 'spoilage of fat caused by the action of water, oxygen, bacteria, or enzyme (lipase)'.

In Part (b), candidates were asked to state the differences between the processing of dried (powdered) milk and condensed milk. Few candidates were able to give correct responses to this question. Many candidates knew that most of the liquid was removed during the manufacture of powdered milk. However, in the case of condensed milk, candidates did not state that 60% of the water was removed and 40% sugar was added and that the milk was homogenized.

Part (c) was very well answered. The majority of candidates were able to state two disadvantages of bulk buying.

Part (d) focused on raising agents and performance was poor. Very few candidates were able to score marks. Candidates were requested to select two items from the list below and explain how a suitable raising agent worked in preparation of the items. The items were:

- (i) Swiss Roll
- (ii) Pancakes
- (iii) Chocolate Cake

Candidates did not provide clear explanations as to how raising agents worked. They focused on products that produced carbon dioxide e.g. yeast, baking powder and bicarbonate of soda. Some candidates even described the method of incorporating the raising agent as in, 'sift baking powder with flour'.

The three common raising agents are air, steam and carbon dioxide. Acceptable responses would have been:

Swiss Roll - during baking, hot air rises and moisture is converted to steam.

Pancakes - during frying, liquid is converted to steam and hot air will cause trapped air to rise.

Chocolate Cake - during baking, carbon dioxide gas is liberated from baking powder and vaporization of steam results in consequential rise.

Part (e) required candidates to describe the changes that take place during the boiling of porridge and the scrambling of an egg. This was very well done for the most part and many candidates received full marks. However, some candidates described the changes that take place when an egg is boiled or fried by mentioning

the changes that take place in the yolk and the white separately.

Question 7

This was the least popular question.

Part (a) required candidates to explain the principles involved in (i) pressure cooking and (ii) microwave cooking. This posed a challenge to the candidates. Many candidates were unable to differentiate between guidelines for use and principles involved in the processes.

In Part (b) (i), candidates were requested to suggest six ways, apart from the use of labour saving equipment, by which time and fuel may be saved during the preparation of a meal. There were over fifteen suggested responses for the question, yet candidates failed to score full marks. Although candidates were asked to exclude labour-saving equipment, many nevertheless gave responses such as the 'blender', 'food processor' and 'pressure cooker' could be used.

Some suggested responses are listed below:

- Prepare an efficient time plan and stick to it.
- Use quick methods of cooking, e.g., frying, grilling.
- Use convenience foods where possible.
- Use tender cuts of meat, chicken, fish.
- Prepare raw salads and desserts.
- Match pan and ring sizes on electric cookers.
- Regulate heat to avoid wasteful boiling / use residual heat.

In Part (b) (ii), candidates were asked to give four guidelines that should be followed in order to ensure that a buffet service is efficient. Many candidates gave general rules for meal planning such as 'the age, health, sex, number of persons eating the meal', others discussed 'the table cloth and decorations'. Very few focused on efficient buffet service. Generally, candidates did not score high marks on this question.

Candidates continue to use words and phrases from questions which they believe are correct answers to other questions. This should be discouraged.

Paper 03 – SCHOOL-BASED ASSESSMENT

Overall, the performance on the practical assignments ranged from good to satisfactory. Assignment TWO was assessed jointly by the examiner and the subject teacher. The maximum mark was 20, and many candidates were able to obtain high scores.

Administrative Details

A significant number of schools sent the correct assignment with the corresponding samples. However, in many cases, the assignments and mark schemes were not submitted.

Appropriateness of Activities

Assignments were structured by individual teachers or done collaboratively within individual territories. It was evident that specific modules and objectives in the syllabus formed the basis of these assignments. Primarily the samples submitted mirrored varying levels of skills and difficulties. To a limited extent, teachers did not

take full cognizance of the two and a half hours allotted for the practical session and as a consequence, the heavy demands imposed by the assignment necessitated more time for the completion. Conversely, the assignments that demanded less required less time.

Adherence to the Syllabus

The majority of assignments selected were in accordance with the syllabus guidelines.

Standard of Candidates' Work

Invariably, many candidates utilized a high percentage of indigenous foods. A small percentage of candidates did not demonstrate mastery in adapting recipes, thus extravagant quantities were produced.

Selection of Equipment and Materials

Some candidates misunderstood the requirements in this regard. Equipment was listed at random as the list was not specific to the tasks, while others completed a list of basic electrical appliances and in a few cases no list was prepared.

It must be reiterated that Special Equipment comprises items which are essential for the preparation and service of the dish/item. A list of basic tools and equipment such as measuring spoons, measuring cups, pots and pans, for example, is unacceptable.

Plan of Work

In spite of the fact that there was marked improvement in areas such as sequencing of activities, dovetailing and washing up, special attention should be paid to the following areas:

1. Organisation of activities should follow some logical sequence.
2. Weighing and measuring should be featured prominently.
3. Oven temperatures and length of baking time should be mentioned and adhered to as much as possible.
4. Time allocations for activities should not go beyond 15 to 20 minutes.
5. Handwriting should be legible and words properly spaced.

Quality of Teachers' Assessment

The assessment was satisfactory. A comparison of the teachers' score with that of the examiners suggests that the difference was marginal.

RECOMMENDATIONS TO TEACHERS

On the basis of the candidates' performance in the 2005 examination, there is need to re-emphasize the suggestions made in previous reports.

1. Every effort should be made to cover the syllabus as thoroughly as possible. Since in Part A of the examination there are three compulsory questions, one from each section of the syllabus and based on Modules 3, 6 and 11, teachers should test these Modules as often as possible.
2. Teachers should ensure that candidates are familiar with what is expected of them when command words such as *state*, *define*, *explain*, *outline*, *discuss* and *evaluate* are used to formulate questions.

3. During the course of study, candidates should become familiar with the vocabulary associated with the subject and should be able to spell these subject-specific words correctly.
4. Teachers should ensure that candidates develop examination techniques which are essential to high performance in the examination. For example, candidates should be encouraged to:
 - (a) read questions carefully and thoroughly in order to fully understand what is required, underlining the key words which indicate exactly what the response must address.
 - (b) answer all parts/sections of a question and to set out their responses clearly with correct numbering.
 - (c) present facts in a logical manner, avoiding lengthy responses which have no relevance to the question being answered, and to tabulate responses when required.
 - (d) express themselves clearly, through the practice of oral presentations or class discussions.

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

FOOD AND NUTRITION
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 of 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.

CARIBBEAN EXAMINATIONS COUNCIL

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

MAY/JUNE 2007

FOOD AND NUTRITION

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FOOD AND NUTRITION
GENERAL PROFICIENCY EXAMINATION
MAY/JUNE 2007

GENERAL COMMENTS

The Caribbean Examinations Council administered its twenty-sixth examination in Food And Nutrition in June 2007.

Paper 01 – Multiple Choice

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

Performance on this paper was satisfactory. The mean score was 34 out of 60 and marks ranged from 0 to 52.

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 tested the remaining Modules of the syllabus. Candidates were expected to answer two questions from the optional section for 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. Question 4 was the most popular, while Questions 5 and 7 were of equal popularity. Question 6 was the least popular.

Overall, the performance of candidates was fairly good. However, candidates continue to miss key words and phrases and give general responses to a specific topic and as a result lose valuable marks.

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 external examiner.

DETAILED COMMENTS

Paper 02 – Structured Essay Questions

Question 1

This question related to Diet, Health and Nutritional Status. Generally the performance on this question was satisfactory.

In part (a) candidates were required to outline two reasons why some individuals become vegetarians, in part (b) they were required to list two symptoms of anaemia, and in (c) explain why dietary fibre was important in the diet. In part (d) (i) candidates were given a menu for Mr. Smart an elderly convalescent, and asked to identify

and justify which items or dishes were unsuitable for him, and in (d) (ii) to adapt the identified dishes/items to make them suitable for Mr. Smart. Additionally in (d) (iii) candidates were requested to give four guidelines that should be followed when planning and preparing meals for Mr. Smart.

Parts (a), (b), (c) and (d) (i) were very well answered with many candidates obtaining full marks. However, in part (d) (ii) the word *adapt* seems to have been misunderstood by some candidates. Candidates were required to change the method of cooking to suit the age and condition of Mr. Smart; however, many gave entirely new dishes such as grilled lamb, stewed beef, baked fish, boiled rice, macaroni salad. Dishes such as baked, steamed, grilled, boiled or stewed chicken or potatoes would have been the appropriate choices.

Part (d) (iii) also posed a problem to many of the candidates as they gave general rules for preparing, planning and in some cases serving meals instead of focusing on an elderly convalescent individual. Inappropriate responses such as *time of day or year, climate, experience of the cook, use of colourful china, serving small quantities* were often given.

Responses such as - *Doctor's orders should be obeyed; Meals must be prepared out of the sight and smell of the patient; Food must be fresh and of good quality; Strict hygienic practices must be observed, Avoid re-heated foods; Avoid spicy foods;* would have been acceptable.

Question 2

This question was a compulsory question and dealt with Food Preservation.

Part (a) focused on food additives; part (b) required candidates to list two changes that could occur during the process of dehydration; and, part (c) requested candidates to give possible effects on green beans that were not blanched before freezing. In part (d) candidates were asked to provide one reason for given steps in the pickling of onions.

Part (e) dealt with fermentation and crystallization of jam.

Part (a) was very well done with the majority of candidates gaining full marks.

Part (b) was not very well answered. However, the majority of candidates were able to give at least one correct answer. Part (c) was fairly well answered. A significant number of the candidates were able to state that there would be changes in the colour, texture and flavour of the beans.

Part (d) proved to be challenging to the majority of candidates. They were unable to give the scientific reasons for the steps involved in the pickling of the onions. Correct responses would have been:

- (i) Soak onions in brine for 12 -24 hours
Reasons: – micro organisms would be destroyed/the development of microbes is retarded /there is a reduction in the water content of the onions due to osmosis/ the tissues are hardened due to the removal of starch from cells.
- (ii) Drain thoroughly, then put onions in bottle
Reason: – draining of the onions prevents the dilution of the vinegar.
- (iii) Pour vinegar into bottle to cover onions
Reason: – the presence of the vinegar will retard the development of the micro-organisms due to a low ph medium.
- (iv) Secure bottle with non-metal cover
Reason: – the cover of the pickle will not erode.

Parts (e) (i) and (ii) were very well answered. Candidates were able to give logical reasons for the fermentation of jam as well and give precautions to prevent crystallization of jam.

Question 3

Food Preparation Methods was the focus of this question. Candidates were required to

- (a) state three uses of cheese in food preparation;
- (b) suggest one accompaniment for
 - (i) fresh green salad
 - (ii) steamed pudding,
 - (iii) pumpkin soup; and,
- (c) name and describe the preparation, cooking and service of a one-pot dish using uncooked rice, raw chicken, dried peas or beans and fresh and dried seasonings.

Candidates performed creditably on this question. In part (a) many candidates were able to give correct responses for the uses of cheese in Food Preparation. However, far too many gave incorrect responses such as *coating* and *binding*.

In Part (b) many candidates were unable to distinguish between an accompaniment for a dish or item and accompaniments for a complete meal. As a result, responses such as a protein dish and starch dish for example, *baked chicken and fried rice* were popular, instead of a french dressing for the fresh green salad. As an accompaniment for the steamed pudding many candidates substituted decorations such as whipped cream and fresh fruit instead of jam or fruit sauce. The majority of candidates were able to give *croutons* as one of the correct responses for the pumpkin soup.

Part (c) was challenging to most candidates. The main difficulty appeared to be the requirement to list steps in the procedures named. Many responses did not follow a logical sequence although candidates were not penalized for answering in that form. The majority of candidates were able to give the correct points for the preparation. However, the cooking aspect was not answered correctly. Many candidates omitted important points such as softening of the dried peas or beans, reducing the heat, and the recognition of doneness. The service of the dish was also not well answered. Many candidates stated that the rice should be put on a plate after having been cooled, and garnished, instead of *serve in an appropriate dish or platter, garnish with a suitable item for example, a sprig of parsley, wedge of tomato or slices of sweet pepper. Serve hot or at once.*

Question 4

This question was the most popular of the optional questions, and very well answered. The question was designed to test:

- (a) (i) functions of water,
- (ii) vitamin A , and
- (iii) protein,

- (b) nutritional needs of
- (i) active teenage boys,
 - (ii) elderly women and
 - (iii) young children and
- (c) factors which could affect the nutritional value of food after harvesting and before reaching the consumer.

Part (a) was exceptionally well done. Candidates had a good understanding of the functions of the different nutrients and were able to obtain full marks.

In part (b) candidates were required to give two reasons why the following foods should be included in the diet of each named group.

- (i) Active teenage boys : Liver, dark green leafy vegetables, red meat, dried peas and beans. Popular correct responses given were: these foods are rich sources of iron needed to provide blood for the growth spurt, general wear and tear of the body and the prevention of anaemia.
- (ii) Elderly women : Milk, cheese, cereals, sardines and other fish with edible bones. Candidates were able to state that these foods are rich sources of calcium which is necessary. As women get older, calcium is not replaced therefore it is necessary to prevent bone degeneration (osteoporosis.)
- (iii) Young children: Fortified milk, oily fish, margarine, and red meat. Candidates were again able to note that these foods are rich sources of Vitamin D which promotes growth in young children as well as to provide minerals to bones and teeth and increase absorption of calcium.

The majority of candidates were able to identify the specific nutrient as it related to the list of foods for the named group. However, quite a number of candidates misread the word *elderly* and discussed *adult* women, mentioning incorrect responses which involved pregnancy, lactation and menstruation.

Part (c) was fairly well done. Many candidates discussed pre harvesting effects such as the use of fertilizers and preparation of the soil instead of post harvesting.

Correct responses were:

- Over-exposure to light
- Careless handling or breaking of leaves and stalks
- Delays in transportation
- Poor storage facilities for example heat, rodents, insects
- Delays in processing
- Poor packaging
- Use of additives in processing: if too much is used it can be detrimental to health.

Question 5

This question dealt with purchase, use and care of equipment, as well as precautions to prevent food contamination.

Candidates were required to

- (a) identify the features of a pot or saucepan and a free standing mixer;
- (b) suggest safety measures to be taken during filleting and frying fish;
- (c) suggest how fish could become contaminated at the place of sale; and,
- (d) develop guidelines for the proper use of blenders.

In Part (a) it was apparent that many candidates did not read the question carefully and gave points on choosing each piece of equipment, rather than stating its features. Incorrect responses such as *the price, size suitable for the family*, were very popular. Many candidates gave incomplete answers such as *handle, base and material*.

Examples of some features of a pot or saucepan were:

- The pot should be manufactured from durable material
- The base should be thick and flat
- The handle should be easy to grip
- The cover should be tightly fitted with a heat-resistant knob
- The handle should be constructed from heat-resistant material

Examples of some features of a free-standing mixer were:

- It should have the power and capacity to do a range of jobs.
- It should be easy to keep clean and maintain
- It should be made of a durable material
- The attachments should be easy to fit
- It should be easy to operate

Part (b) was also challenging for candidates. Instead of focusing on measures to be taken when filleting and frying the fish, they wrote about general accidents which could happen in the kitchen.

Part (c) was fairly well answered, although many candidates focused on contamination in the food preparation area rather than the place of sale.

Part (d) proved to be challenging to some candidates as well. They were requested to develop guidelines that a Food and Nutrition teacher could implement in the food laboratory to ensure proper use of the blenders. Many candidates gave administrative reasons for the teacher to use rather than how to use the blenders efficiently.

Examples of acceptable responses were:

- The machine should not run beyond the stipulated time as this would result in overheating
- Large pieces of food should not be placed in the goblet as this may dull the blade.
- The manufacturer's instructions must be followed.
- The base should not be immersed in water.
- Sharp objects such as knives should not be placed in the goblet when in use.
- The recommended capacity of the goblet should be adhered to.
- The lid must be placed on the blender when in use.

Question 6

This question was the least popular.

In part (a) candidates were required to state two advantages of the Universal Product Code (UPC); (b) state two characteristics of a fresh egg; (c) explain the principle by which heat is transferred through radiation; (d) describe three ways of introducing air as a raising agent into mixtures, other than by sieving, and give an example of an item or dish that can be prepared by the method; and, (e) briefly describe the physical changes that take place in oats when oatmeal porridge is prepared.

Part (a) of the question proved very challenging to the majority of candidates as they were unable to state the advantages of the UPC. Examples of acceptable responses were:

- It shows an itemized receipt so that the consumer can read the name and price of the item.
- Less time is spent at the check out counter.
- It is accurate as the cashier cannot punch incorrect prices.
- The consumer can get information on stock of the product available.

Part (b) was quite well answered, although some candidates gave characteristics of a stale egg. Part (c) was also very well answered. In part (d) candidates also did very well, although in some cases the incorrect example was given.

In part (e) many candidates described quite accurately the physical changes that would take place when oatmeal porridge was prepared, although many never mentioned that heat was required for gelatinization to take place.

Question 7

This question required candidates to (a) differentiate between a 'menu' and a 'main course'; (b) give one advantage of a u-shaped kitchen and one disadvantage of a one-wall kitchen, (c) (i) develop four guidelines that could be used in planning a three-course packed lunch and (ii) outline factors to be considered when packing the items; and, (c) suggest how eggs, flour, and root vegetables should be stored at home.

Part (a) proved to be somewhat challenging to the majority of candidates. They were able to define the term *menu* but did not fare so well with the term *main course*. Some candidates wrote that it was *the main meal of the day*, others *the main dish in a meal*. The correct definition was *a set of dishes or a dish (one - pot) which includes protein, carbohydrates, fat, vitamins and minerals*.

Part (b) was fairly well answered. However, many candidates incorrectly stated that the one-wall layout was smaller, therefore there was less room to move around. Candidates scarcely mentioned the work triangle.

In part (c) (i) many candidates gave general guidelines for meal planning instead of focusing on packed meals. Many candidates wrote menus even though they were directed not to do so. Part (c) (ii) was reasonably well answered. Examples of correct responses were:

- Plastic or styrofoam containers should be used for packing.
- Vacuum flasks or insulated bags should be used for hot or cold beverages, dishes or items.
- Aluminium foil and plastic cling wrap should be used for wrapping.
- Care should be demonstrated in packing.
- All items should be well sealed to prevent spills.

Part (d) was very well answered with the majority of candidates obtaining full marks.

SCHOOL-BASED ASSESSMENT

Performance on the School-Based Assessment was good. The assessment given by the External Examiners seemed to suggest that the integrity of the examination 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 were appropriate in terms of tasks selected.
- Sufficient attention was paid to skill level, and economy of time, fuel 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 were adequately prepared.
- Candidates developed legible, well-structured time plans which bore the essential elements of the assignments.

The following areas need special attention:

- Where feasible, it is suggested that candidates do not all do the same assignment. It is envisaged that a spread will lessen the demands on limited resources such as cookers and sinks. Thus tasks will be performed with expediency.
- Prior to the activity, time should be spent ensuring that the Food Laboratories 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.

- 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 be followed 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 below as a guide to improve candidates' performance.

1. Every effort should be made to cover the syllabus as thoroughly as possible.
2. Candidates should have access to a syllabus in order to assist them in their preparation.
3. Experiences should be provided for candidates to answer questions with a variety of key words such as define, discuss, 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 application, 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 or rules for planning meals for specific groups, candidates should be encouraged to give the specific rules or guidelines instead of general rules or 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.

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.

CARIBBEAN EXAMINATIONS COUNCIL

**REPORT ON CANDIDATES' WORK IN THE
SECONDARY EDUCATION CERTIFICATE EXAMINATION
MAY/JUNE 2009**

FOOD AND NUTRITION

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FOOD AND NUTRITION
GENERAL PROFICIENCY EXAMINATION
MAY/JUNE 2009
GENERAL COMMENTS

The Caribbean Examinations Council administered its twenty-eighth examination in Food and Nutrition in May/ June 2009.

Paper 01 – Multiple-Choice Questions

Paper 01 was a multiple-choice paper which consisted of 60 items for a maximum of 60 marks.

Paper 02 – Structured Essay Questions

This paper consisted of seven questions presented in two parts. Part A comprised three compulsory questions based on Module 3: Diet, Health and Nutritional Status, Module 6: Food Preservation and Module 11: Food Preparation Methods, respectively.

Part B comprised four optional questions, drawn from the remaining Modules of the syllabus. In addition to the compulsory questions, candidates were expected to answer two questions from the optional 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 and 6 were extremely popular while Questions 5 and 7 were less popular.

Overall the performance of candidates was good.

Paper 03 – School-Based Assessment

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

DETAILED COMMENTS

Paper 02 – Structured Essay Questions

Question 1

This question dealt with diet, health and nutritional status. Generally, the performance was satisfactory. Candidates were required to identify three factors, other than a knowledge of nutrition, that influence people's food choices; list three signs or symptoms of diabetes; outline three nutritional guidelines to be followed when planning meals for patients convalescing from major surgery; suggest three nutritional guidelines to be followed in specific cases; and explain why two statements concerning anemia and diabetes were incorrect.

In part (a) the majority of candidates were able to identify at least two factors that inform food choices. Popular responses were

- income
- availability of food
- peer pressure
- advertisement
- religious beliefs
- taste preferences

However, a few responses that included knowledge of nutrition were not considered because the question particularly stated **other than knowledge of nutrition**.

In part (b) many candidates stated correct signs and symptoms of diabetes, for example,

- frequent urination
- increased thirst
- always hungry
- frequent itching
- numbness of the feet
- blurred vision

In a few instances symptoms given were related to conditions such as hypertension and food poisoning rather than diabetes.

Part (c) was generally well done by a significant number of candidates. Many accurately specified guidelines such as

- obey doctor's instructions
- increase the amount of protein in the diet to repair worn out tissues
- avoid the use of leftover food
- consider likes and dislikes of the daughter
- food should be fresh and of the best quality
- reduce energy-giving foods.

A few gave points on preparing and serving meals instead.

In part (d) many candidates gave nutritional guidelines consistent with the problem Merle was experiencing with her teeth and blood respectively, such as the need to consume calcium-rich foods and foods rich in vitamin K for blood clotting. A few candidates did not fully comprehend the question and therefore identified iron for blood clotting and suggested proper hygiene for the teeth.

Parts (e) (i) and (e) (ii) were relatively well answered. A large percentage of candidates explained that a shortage of iron in the blood causes anemia and diabetes is caused by the inability of the pancreas to produce insulin for glucose metabolism and not an excessive intake of sugar.

Question 2

This question, dealt with food preservation. Candidates were required to define the terms 'bottling' and 'blanching'; state two qualities that must be considered when selecting fruits for making jam; identify features of utensils used for making jams and explain the importance of each feature identified; explain why pigeon (gungo) peas became soft after thawing; name one additive used by

In part (a) (i) a large percentage of candidates failed to give a precise definition of bottling, such as a process which involves the packing of fruit in clean bottles that are covered with water or syrup and sterilized. However, in many of the definitions given the word 'sterilize' featured prominently, for which candidates scored a point.

In part (a) (ii) a large number of candidates accurately defined blanching as a process in which food is brought to the boil or treated with boiling water and transferred to cold water. However, some candidates referred to the consequences of 'blanching', for example, the destruction of enzymes for which they earned a mark.

Part (b) was widely known. Most candidates were able to state two qualities that govern the selection of fruits for jam making and were therefore able to obtain full marks. Some responses were fruit should be

- firm
- rich in pectin
- free from blemishes
- have a low pH

In part (c) most candidates identified a feature of a pot as having one of these characteristics

- thick or sturdy base
- flat bottom and
- insulated handle

and the spoon as having a long handle made of wood or thermoplastic.

In most cases the reason corresponded with the feature given.

Part (d) was extremely challenging for most candidates. Few obtained full marks, and the majority failed to give the correct scientific explanation required: 'beans were frozen too slowly for a long period hence cells expanded to capacity and as a consequence collapsed on thawing'.

Many candidates responded well to parts (e) (i) and (e) (ii) respectively, earning at least 50 per cent of the marks. Examples of some additives in margarine are:

- vitamins A, D, E
- colouring agent
- salt
- BHA, BHT

and in mayonnaise

- oil
- vinegar
- lecithin/ egg yolk
- mustard

and almost all were able to state the function of the additive they identified.

Question 3

This question, designed to test food preparation methods, required candidates to define the term 'bake blind'; outline two advantages of boiling and grilling; state two ways in which eggs can be used in food preparation giving a relevant example; identify an appropriate method of cake making based on a quantity of ingredients given, describing three steps in the method selected and suggest one factor that may have contributed to (i) large tunnels, and (ii) poor flavour in muffins.

Although few candidates did not give a concise definition of 'bake blind' in part (a) they had a fair understanding of the information required. Some candidates were unfamiliar with the term, an acceptable definition of which is 'baking of pastry shell or single crust without a filling'.

Most candidates were able to state acceptable advantages of boiling as required in (b) (i); examples of answers were

- heat fairly rapidly and efficiently
- food is unlikely to burn
- healthy method
- requires little attention

Most candidates were able to state acceptable advantages of grilling as required in (b) (ii); examples of answers were

- quick method
- various foods can be cooked at the same time
- an attractive way of cooking
- healthy method, as fat is drained from meat

Part (c) was widely known. The majority of candidates indicated ways of using eggs and specified an item to correspond with each use such as:

- coating – rissoles
- glazing - pastries
- binding - croquettes
- as a main dish – egg mornay

However, some candidates stated methods of cooking eggs such as ‘boiling’ and ‘frying’

In part (d) many candidates were able to correctly identify the creaming method and listed the following steps.

- Cream sugar and margarine until light and fluffy.
- Beat eggs into the mixture.
- Stir or fold in flour preferably with a metal spoon.

However, a few candidates incorrectly named the ‘all in one method’.

Part (e) was reasonably well answered as many candidates were able to obtain full marks for both (e) (i) and (e) (ii). They attributed the large tunnels in (e) (i) to

- over- stirring
- over- mixing
- excess baking powder

and the poor flavor in (e) (ii) to insufficient or rancid cheese.

Question 4

This was a very popular question. Candidates were required to define the term ‘complementary feeding’; state three advantages to the infant of continuing breastfeeding during complementary feeding; state the main function of protein in an infant’s diet; suggest two foods that can be combined with potatoes to ensure a nutritionally adequate meal for a five-month-old baby; describe the method of preparation and cooking of the meal suggested; identify one vitamin that may be present in the meal suggested; state one function of this vitamin and suggest two nutritional guidelines that breastfeeding mothers should follow.

Generally the question was well answered. Part (a) was clearly and adequately answered by many of the candidates. A few of the candidates mentioned the introduction of foods without taking into account that breast feeding had to be continued.

Parts (b) and (c) were well done. Some advantages given by candidates included

- correct composition and proportion of nutrients are provided
- easily available and convenient
- virtually all the milk is digested by the baby
- immunity from certain diseases is passed on to the baby from the mother to help build the body's resistance.

In parts (d) (i) and (d) (ii) candidates correctly identified the foods and gave the requisite steps to be followed in the preparation of the meal. Consequently a large number of candidates earned 75 per cent of the marks.

Part (d) (iii) was well done. Most of the candidates were able to identify a vitamin in the meal for the baby and state its requisite function.

In Part (d) (iv) most candidates performed satisfactorily. However, some candidates gave guidelines for the baby instead of guidelines that would be beneficial to the lactating mother, such as

- increase protein for milk production
- provide an extra 500 kcal /day
- increase liquid consumption
- increase minerals such as iron and calcium.

Question 5

This question was not very popular. Candidates were required to define the term 'star rating' (star marking) as it related to the use of the refrigerator; state one purpose of the oven fan and the thermostat of a cooker or stove; list two factors other than an oven fan and a thermostat which customers should consider when selecting a cooker or stove; suggest two dishes or items that can be prepared using rice and carrots, identify a suitable small electrical appliance that can be used in preparing each dish or item; suggest two first aid measures used to treat burns and suggest four kitchen hygiene practices that must be followed when preparing foods.

Part (a) proved quite a challenge to most of the candidates. The definition given lacked the requisite information. An adequate definition is as follows:

'Stat-rating' indicates the recommended storage time and temperature for frozen food.

In parts (b) (i) and (ii), most candidates were able to explain that the thermostat controls oven temperature while a few perceived the oven fan as a feature which provides even cooking on all shelves.

Some candidates incorrectly indicated that the purpose of the oven fan is to cool the oven.

Part (c) was well done by candidates, as most were able to list valid factors such as:

- size in relation to family's needs
- colour to complement decor
- brand name
- easy to clean and operate.

In (d) (i), most candidates were able to suggest two dishes /items that could be prepared from rice and carrots and correctly identified a small electrical appliance that could be used in preparing each dish or item as required in (d) (ii).

Part (d) (iii) was also well done, as most candidates were able to outline the correct measures for treating burns. These are:

- immerse in cold water for several minutes to ease the pain
- protect area with sterile cloth to reduce risk of infection.

Part (d) (iv) was well done and most candidates were able to score full marks. However, some candidates stated personal hygiene rules instead of kitchen hygiene practices such as cover bins tightly and do not use dish cloths to wipe the floor.

Question 6

This question was very popular and manageable. Candidates were required to state two advantages of purchasing foods in large supermarkets; identify two 'convenience foods'; and to state one advantage and one disadvantage of using convenience foods in meal preparation; suggest four guidelines that should be followed when shopping for food to ensure nourishing meals are prepared; state one reason why bread flour should be used instead of cake flour for making bread and describe four effects of heat on beef after it has been stewed.

Part (a) was very well done, as candidates were able to respond adequately by listing guidelines such as:

- A wide range of goods available
- Prices are generally cheaper for many items
- Food is usually of good quality and fresh
- The standard of hygiene is usually high.

In part (b) (i) most of the candidates were able to correctly identify convenience foods and state one advantage and one disadvantage of using such foods in meal preparation as required of (b) (ii) and (b) (iii) respectively.

Many candidates were able to suggest acceptable guidelines that should be followed when shopping for food as required in part (c) (i). Some popular responses included:

- Make a shopping list
- Compare prices, stores and brands
- Purchase meat extenders.

Part (c) (ii) presented some difficulty to many candidates. Few were unable to explain that cake flour is unsuitable for making bread because it is weak or low in

Most candidates were able to give a partial definition of 'brunch', 'cocktails', and 'table d'hôte' in (a) (i), (ii) and (iii) respectively, and thus were able to obtain at least 50 per cent of the marks.

Complete definitions for each term are as follows:

- (a) (i) 'Brunch' a go – between breakfast and lunch. Food items or dishes are usually heavier than normal breakfast foods and lighter than lunch dishes.
- (ii) 'Cocktails' – usually refer to hors-d'oeuvres, finger and bite-size foods, also a mixture of juices – fruit and vegetables, with or without alcohol, served at a social gathering.
- (iii) 'Table d'hôte' – a menu offering a complete meal for a set price.

Candidates were able to obtain at least 50 per cent of the marks for part (b) (i). Some of the acceptable factors given were:

- Food should be easy to digest.
- Increased requirement for vitamin D to prevent decalcification of the bones and teeth.
- Increased fibre intake.
- Increased requirement for iron to prevent anaemia.

Part (b) (ii) was well answered by most candidates, as many of them planned menus in accordance with the instructions given in the stem of the question. However, some candidates failed to state ways of conserving fuel **in relation to the meal selected** in part (iii), and gave general points for saving fuel. Most candidates scored well on this question.

CARIBBEAN EXAMINATIONS COUNCIL

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

MAY/JUNE 2010

**FOOD AND NUTRITION
GENERAL PROFICIENCY EXAMINATION**

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GENERAL COMMENTS

The 29th Food and Nutrition Examination was administered by the Caribbean Examinations Council in May/June 2010.

Paper 01 – Multiple-Choice Questions and Paper 02 – Structured Essay Questions

This examination took the form of two papers: (i) a multiple choice paper of 60 items worth 60 marks and (ii) a structured essay paper of seven questions worth 16 marks each. The structured essay paper was divided into Parts A and B respectively and reflected two profiles: candidates' ability to recall information, represented by the symbol K, and to use such information to give context, represented by the symbol UK.

Part A comprised three compulsory questions which were taken from 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. In terms of popularity rankings, Question 5 was extremely popular; Questions 4 and 7 were of medium popularity while Question 6 was the least popular.

Overall candidates' performance was satisfactory.

Paper 03 – School Based Assessment

This paper consisted of three practical assignments; each valued 20 marks with a maximum total of 60 marks. All assignments were structured by the class teacher or groups of teachers. Assignments one and three were assessed by the class teacher, while assignment two was jointly assessed by the class teacher and an external moderator.

DETAILED COMMENTS

Paper 02 – Structured Essay Questions

Question 1

This question focused on Diet, Health and Nutritional Status. Generally the performance was satisfactory.

Candidates were required to explain the term 'vegan'; name one organization within the region that provides information on the benefits of becoming a vegan; state three effects other than obesity of a high-fat diet and explain two benefits of having adequate fibre in the diet. In addition, candidates were asked to plan an appropriate two-course lunch menu for a vegan and to suggest two lifestyle practices, other than diet, that one can follow to reduce body weight.

Part (a) was widely known. Most candidates were able to give a suitable definition for the term 'vegan' such as '*a strict vegetarian is someone who eats only plant food*'. Some candidates who may not have been familiar with the term 'vegan' indicated that a vegan is someone who wants to lose weight.

In Part (b), many candidates named known organizations such as CFNI, PAHO and local Home Economics associations that were involved in providing information on the benefits of becoming a vegan. A large number of candidates named local organizations for which they were awarded the mark.

Part (c) was generally well known by candidates. Popular answers were

- heart disease
- hypertension
- cancer
- stroke
- diabetes

Although the question specifically requested that candidates state three effects, **other than obesity**, of a high-fat diet on the body, a few candidates disregarded this and gave obesity as a response.

Part (d) (i) posed some difficulty to many candidates. They were able to state the benefits of having adequate fibre in the diet but struggled to provide an explanation.

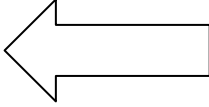

Some complete responses were as follows:

- Prevents varicose veins and hernias due to faeces being soft and bulky
- Fills the stomach and thus provides a feeling of fullness or satiety
- Soluble fibre lowers serum cholesterol by binding bile or fatty compounds
- Fibre absorbs water and binds other food residues to itself, thus ensuring that the faeces are soft and bulky and pass easily out of the body in minimum time
- Makes faeces soft and bulky thus prevents constipation

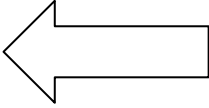
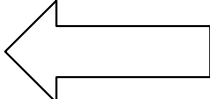
Many candidates were able to score at least 50 per cent of the marks available for Part (d) (ii). The unsuitability of the menu based on the fact that they listed meat and fish dishes coupled with an incorrect format made candidates lose marks. The format of a two-course menu comprises either **a main course and a dessert or an appetizer and a main course**. The menu should reflect dishes rather than ingredients or food as was seen in many of the menus produced by the candidates.

A sample of both menu types is as follows

A

Stewed Chunks and Beans Boiled Rice Red Cross Salad	Main Course 
Patriotic Pudding	Dessert 

B

Cream of Pumpkin Soup	Appetiser 
Casserole Chunks Seasoned Pasta Tossed Garden Salad	Main Course 

Please note carefully the basic features of the menus

- Correctness of format
- Suitability of dishes for a vegan
- Nutritionally balanced
- Variety in colour, texture and flavour

The majority of candidates suggested **exercise** as the lifestyle practice that one can follow in order to reduce body weight in Part (d) (iii). Very few candidates gave responses such as

- reduce stress
- obtain sufficient sleep
- limit alcohol intake
- eat meals on time
- avoid shopping when hungry
- do not watch television or read while eating
- seek counselling if you are emotionally disturbed

Although the question asked specifically to suggest two lifestyle practices, **other than diet**, few candidates gave diet-related practices.

Question 2

This question focused on Food Preservation. Candidates were required to state two benefits of preserving food, explain the term 'pickling' as used in food preservation, name two food preservation methods other than pickling and explain why pickled cucumber developed mould and string beans became discoloured and soft after removal from the freezer.

Additionally, candidates were required to explain how the removal of water and the use of chemicals could be applied in preserving fish that is scaled, washed and towel dried.

Part (a) (i) of this question was widely known as most candidates stated correctly two benefits of preserving food and therefore obtained full marks. Some suggested responses were as follows:

- To add variety and flavour to the menu by making foods available out of season
- To make use of food when it is cheap and plentiful and to store it for use
- Preserved foods are easier to handle, distribute and transport on a large scale than are fresh foods
- Prevent or retard natural and microbiological decay
- For convenience as frozen and canned foods are quick to prepare

In Part (a) (ii), many candidates explained with precision the term pickling which is the '**immersion of vegetables in vinegar to prolong shelf life or destroy microorganisms and enzymes**'.

Part (a) (iii) was well done as many candidates correctly identified two preservation methods **other than pickling**. The responses included

- dehydration
- bottling
- canning
- freezing
- sterilization

However, a significant number of candidates erroneously listed blanching as a method of food preservation. This misconception may be obvious since 'blanching' is aligned to the preservation of food particularly vegetables.

Part (a) (iv) (a) was challenging, although many candidates were able to give a correct response in favour of the development of mould in pickled cucumber, they found it difficult to give a plausible reason for its occurrence. Some popular responses were

- pickled cucumber was stored in a warm place which fostered the growth of mould
- bottles were not properly sealed hence air entered which facilitated mould growth
- the cucumber initially was spoilt therefore it became more susceptible to mould growth
- the contents of the bottle were submerged in the vinegar making room for mould to develop

In Part (a) (iv) (b), many candidates obtained at least two marks for explaining that discoloration and softening of the string beans, on its removal from the freezer was due to failure to blanch and as a consequence oxidation caused spoilage or discoloration. However, a large number of candidates attributed the softness of the beans to the formation of large ice crystals, but, were unable to explain in a scientific manner that the beans were frozen slowly, therefore the cell walls became swollen to capacity, ruptured and collapsed.

In Part (b), many candidates were unable to explain in a scientific manner how the **removal of water and use of chemicals** could be applied to preserving fish that is scaled, washed and towel dried. It was observed that some candidates misused the terms 'enzymes', 'bacteria' and 'micro-organisms' and invariably interchanged them.

A model answer to show the use of the scientific principles reads as follows:

*Add salt to fish to remove water by osmosis which leads to the destruction of micro-organisms.
Provide heat treatment to fish by solar drying or any other form to remove additional moisture
by evaporation which leads to the destruction of micro-organisms.*

Question 3

Food Preparation Methods was tested in this question and the performance was satisfactory. Candidates were asked to state two dry methods of cooking and two methods of steaming. They were also required to state two advantages of steaming, suggest an item that can be prepared from yeast dough and explain one effect excess sugar would have on a yeast dough product other than being too sweet. Candidates were asked to suggest one step that caused the crust of a mango pie made from short crust pastry to become hard and tough during the preparation of the pie and explain the steps taken to ensure a perfectly smooth, lump free roux-based cream of pumpkin soup.

Part (a) (i) of this question was well known. Many candidates obtained full marks. For Part (a) (ii), a large percentage of candidates were unable to state correctly two methods of steaming, however, they were able to describe the process accurately and therefore gained marks. There was also the element of guessing as methods of cooking were randomly named.

Examples of appropriate methods are

- plate method
- saucepan method
- tiered steamer
- stepped steamer
- perforated steamer

Many candidates were able to obtain full marks for correctly stating two advantages of steaming in Part (a) (iii).

Examples of popular responses were:

- Loss of nutrients by leaching is reduced as the food does not come in direct contact with water
- Food is easy to digest and has a light texture
- Healthy method of cooking hence suitable for convalescent cookery

- More than one food can be steamed at the same time
- Food maybe cooked quickly
- Little attention is required while the food is cooking except to replenish the water supply

The majority of candidates earned the mark that was awarded for Part (b) (i) by suggesting an item that can be prepared from yeast dough. Part (b) (ii) presented difficulty to some candidates as they were unable to explain the effect of excess sugar on the yeast dough other than being too sweet. An acceptable response for this section was *'too much sugar could retard the action of the yeast and weaken the gluten resulting in a product with a close texture'*.

In Part (b) (iii), many candidates explained with clarity why the crust of a mango pie was hard and tough and therefore earned full marks. Examples of responses were:

- The ingredients were too warm
- Over-kneading and heavy handling of pastry
- Incorrect proportion of ingredients, that is, too much water, too much flour, insufficient margarine
- Oven temperature too cool

A few candidates misinterpreted the question in Part (c). Rather than outlining the steps that contributed to a smooth lump free soup they wrote on the qualities of a good soup.

Suggested steps to follow to make the soup are dependent on one of two methods — the One Stage or the Roux method.

One Stage Method

- 1) Cook pumpkin until soft
- 2) Pass through a sieve or blend until smooth
- 3) Place fat, flour and liquid in a saucepan
- 4) Heat gently, stirring all the time until the mixture boils
- 5) Continue cooking for three minutes, stirring all the while until of a pouring consistency
- 6) Add pumpkin puree to roux stirring all the time
- 7) Bring to the boil and cook over moderate heat for 2 minutes, stirring all the time

Roux Method

- 1) Cook pumpkin until soft
- 2) Pass through a sieve or blend until smooth
- 3) Melt fat and flour, heat gently and stir for 1– 3 minutes
- 4) Remove from heat, gradually add the liquid stirring well at each addition
- 5) Return to the heat and bring to the boil, stirring all the time
- 6) Add vegetable to roux, stirring all the time
- 7) Bring to the boil and cook over moderate heat for 2 minutes, stirring all the time

Question 4

This question was of moderate popularity and generally candidates performed satisfactorily. Candidates were required to name two nutrients that can be obtained from the bran of the wheat grain, state two food preparation practices used prior to cooking that could affect the nutritive value of coloured vegetables, and to state two functions of protein in the diet of pre-schoolers. Candidates were also required to explain how the multi-mix principle could ensure adequate protein in the diet of pre-schoolers, suggest four guidelines mothers could follow to ensure that pre-schoolers eat nutritious foods and explain how one physical and one financial factor may negatively affect the nutrition of some elderly citizens.

This question was fairly well answered. Candidates were able to easily name dietary fibre or carbohydrate as one of the nutrients present in wheat bran and earned 50 per cent of the marks for Part (a) (i). However, iron, thiamine B1, riboflavin B2 and niacin are other nutrients present that were only considered by a few candidates.

It was quite clear that there was some misunderstanding with regard to Part (a) (ii) of the question as candidates gave methods of cooking rather than stated two practices done prior to cooking that may affect the nutritive value of coloured vegetables.

Acceptable responses included:

- Deep peeling that will remove vitamins and minerals under the skin
- Soaking
- Chopping and shredding very finely
- Slicing or peeling vegetables long before cooking

In Part (b) (i), most candidates obtained maximum marks by correctly stating two functions of proteins in the diet of pre-schoolers. In Part (b) (ii), it was evident that some candidates had a general idea of the 'multi-mix principle' and gave responses such as '*include foods from the six food groups*'.

Points to illustrate the multi-mix principle are as follows:

- Combine staple with food from animal
- Combine staple foods with legumes
- Combine two Low Biological Protein Foods

In Part (b) (iii), many candidates obtained maximum marks. They experienced no difficulty in suggesting four guidelines mothers could follow to ensure that pre-schoolers eat nutritious foods. Part (b) (iv) also did not pose any difficulty to most of the candidates as they gave some excellent points on physical and financial factors that are responsible for poor nutrition among some elderly.

Question 5

This question was the most popular of the optional questions. Candidates were required to state one use of each of four food preparation items in the illustration, and identify two features other than the ice maker and water dispenser to consider when selecting a refrigerator. In addition, candidates were required to name two items from a first aid kit that will be needed to treat an injury in which a small piece of broken glass was lodged in

Sarah's foot; to describe the correct steps to treat the injury; and finally to suggest four guidelines that should be given to a butcher in the local market to ensure that the meat sold is safe to eat.

Part (a) (i), was widely known. The majority of candidates correctly stated one use of each of the items in food preparation and service and therefore obtained maximum marks for that section. For Part (a) (ii), a number of candidates gave general points to consider when purchasing a refrigerator rather than identify two features found on modern refrigerators.

Acceptable responses for this section include

- digital displays
- push button defrosting
- automatic defrosting
- star rating for frozen food compartment
- temperature control button

Part (b) was well answered by most candidates. Most candidates named items in a first aid kit such as tweezers, cotton wool among others that would be necessary for the treatment of Sarah's cut and scored the marks allocated. For Part (b) (ii), most candidates obtained about 75 per cent of the marks by correctly describing the steps to treat Sarah's injury. For example:

- Raise injured foot
- Remove broken glass with tweezers
- Apply pressure with a clean pad for two minutes
- Clean cut by washing preferably with antiseptic solution
- Apply dressing or adhesive plaster firmly on cut

Part (c) was also fairly well done as most candidates suggested some practical ways to ensure that hygiene and safety practices are observed in the butcher shop.

Some interesting guidelines given by candidates were as follows:

- Ensure shop has a supply of running water
- Avoid using wooden cutting boards
- Do not refreeze thawed meat
- Sanitize cutting boards and knives
- Do not handle money and sell meat
- Ensure that the meat has been stamped

Question 6

This question was the least popular. Candidates were required to state two disadvantages of using convenience foods; explain the term 'extraction rate' as used in the processing of wheat into flour; state three characteristics that should be considered when purchasing 'fresh' fish; identify three methods by which heat is transferred during the frying of fish that is coated with batter; describe how each method of heat transfer identified works when frying fish; and describe three effects that heat will have on the batter (made from flour and water only) during frying.

Part (a) was done very well. Most candidates were able to state two disadvantages of convenience foods and therefore obtained full marks.

For Part (b), most candidates were unable to explain the term 'extraction rate' as used in the processing of wheat into flour. It was clear nevertheless that candidates were aware that the term is associated with the processing of flour, but they were unable to explain the term correctly. Extraction rate is described as the percentage of whole grain that remains in the flour after milling.

Part (c) (i) was well done. Many candidates stated three characteristics that should be considered when purchasing 'fresh' fish and therefore obtained full marks for this section. For Part (c) (ii), most candidates identified conduction and convection as the methods by which heat is transferred during the frying of fish but could not describe how each method works. Correct responses are as shown below:

Conduction

- Heat passes through the base of the pan due to vibration of molecules and gets in contact with the oil which becomes hot.

Convection

- As the oil is heated it becomes less dense and rises. Cooler oil being heavier flows downwards to heat source then the less dense oil goes to the top. This action continues until the item is cooked.

In Part (c) (iv), most candidates described two effects heat will have on batter (made from flour and water only) during frying. A small percentage of candidates included acceptable terms in their responses such as 'gelatinization', and 'dextrinization' and were awarded marks accordingly. Some correct responses are as follows:

- Batter will dextrinize on the outside due to the presence of starch and dry heat
- Due to the presence of moist heat gelatinization will occur within the batter
- Water will vaporize due to the presence of heat

Question 7

This question was of medium popularity. Candidates were required to define the terms 'à la carte' and 'buffet service'; state two factors to be considered when planning meals; plan a three-course dinner menu for an engagement party using rice, chicken, carrots, bread and tomatoes as the main ingredients; discuss two factors to be considered when planning the layout of the kitchen in order to enhance its efficiency; and explain how a pressure cooker works.

In Part (a) (i), most candidates stated a partial definition of the term 'à la carte'. The correct response is 'a list of dishes individually priced'.

In response to Part (a) (ii), a few candidates described buffet service as follows: *This is where a variety of foods is kept in warmers so that a person may pass with a plate and choose or take his own meal.* However, the description given by the majority of candidates reads thus: *Service in which the food and tableware are arranged on the serving table and guests help themselves.* Both descriptions were acceptable.

In Part (b) (i), candidates listed two factors to be considered when planning meals but in many cases they did not plan a three-course menu as required for Part (b) (ii). The components of a three-course meal are as follows:

First course or appetizer	Carrot Soup - Croutons
Second or main course	Baked Chicken with Onion Sauce Vegetable Rice Tomato Salad
Third course or dessert	Trifle

The scores obtained by many of the candidates for Part (b) (iii) seem to suggest that much emphasis was not given to this area of the syllabus. Whereas candidates were able to state appropriate factors, these factors were not discussed.

The following factors may be beneficial in planning an efficient layout of the kitchen:

- Consider where and how to position the sink, cooker, and refrigerator to minimize walking
- Kitchen surfaces should be easy to clean, to contain the spread of microbes
- Work tops should be of the correct height for the safety and comfort of the individuals
- Ensure good lighting and ventilation, to make accidents less likely
- Adequate ventilation, to get rid of steam and food smell
- Provide a first aid box or kit to treat common accidents
- Cupboards should be easy to reach, to avoid unnecessary stretching that may result in injury
- Floor should be non-slip to prevent accidents
- Provide a work surface next to the cooker to put hot pots and pans

A small percentage of candidates had adequate knowledge of how the pressure cooker works for Part (b) (iv) but for the most part, it was poorly answered. Many candidates resorted to giving the function of the parts of the pressure cooker. A complete response in point form reads:

- The pressure increases, indicated by a hissing sound
- Water boils at a higher temperature
- Steam is forced through the food, cooking it quickly

CARIBBEAN EXAMINATIONS COUNCIL

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

MAY/JUNE 2011

**FOOD AND NUTRITION
GENERAL PROFICIENCY EXAMINATION**

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GENERAL COMMENTS

The 30th Food and Nutrition examination was administered by the Caribbean Examinations Council in May/June 2011.

This examination took the form of two papers: (i) a multiple-choice paper (Paper 01) of 60 items worth 60 marks and (ii) a structured essay paper (Paper 02) of seven questions worth 16 marks each. Paper 02 was divided into Parts A and B respectively and reflected two profiles: candidates' ability to recall information, represented by the symbol K, and to use such information to give context, represented by the symbol UK.

Part A comprised three compulsory questions which were taken from the following modules: Modules 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. In terms of popularity, Questions 4 and 6 were of equal popularity, Question 5 was most popular while Question 7 was least popular.

Overall candidates' performance was satisfactory.

Paper 03 consisted of three practical assignments, each valuing 20 marks with a maximum of 60 marks. All assignments were structured by the class teacher or groups of teachers. Assignments one and three were assessed by the class teacher, while assignment two was jointly assessed by the class teacher and an external moderator.

DETAILED COMMENTS

Paper 02 – Structured Essay Questions

Question 1

Candidates were required to explain the term *nutritional status*, identify food habits that have a negative effect on nutritional status and state one condition which may occur as a result of each food habit identified.

Candidates were asked to suggest two guidelines that should be followed when preparing meals to reduce the intake of fat and salt; outline signs and symptoms associated with vitamin K deficiency and suggest a food which could be used to correct vitamin A deficiency. In addition, candidates were provided with a menu intended for a convalescent and asked to identify one dish on the menu that was unsuitable, giving reasons for its unsuitability.

For Part (a) (i), the definition given by most candidates was not concise or accurate enough to earn full marks; most candidates focused on the over-nutrition aspect only.

For Part (a) (ii), most candidates were able to identify a food habit that would affect the status of an individual's health negatively and to correctly state a condition associated with the food habit.

Part (b) was answered very well by the majority of candidates. Candidates were able to provide two guidelines that could reduce the intake of fat and salt. Popular answers were

- Use healthy methods of cooking such as grilling, baking and stewing
- Use low fat products or use fat sparingly
- Cook with less salt or no salt
- Use less preserved foods.

The majority of candidates responded correctly to Part (c); the most popular response was *night blindness*. Candidates were also able to identify a food that could be used to correct the deficiency.

For Part (d), most candidates correctly identified the fried chicken as the unsuitable dish giving appropriate reasons for its unsuitability.

Question 2

Candidates were required to define the term *food additive* and to give advantages of using food additives; they were also required to give guidelines to follow when selecting mangoes for making chutney and to explain the role of vinegar as a preservative in the mango chutney.

Additionally, candidates were required to suggest a suitable material, giving a reason, from which a saucepan for cooking the chutney should be made; describe the method of preparation of chutney and outline giving reasons steps/procedures for bottling chutney.

Generally, this question was answered satisfactorily.

For Parts (a) (i) and (ii) the definition of *food additive* as well as the advantages of using food additives was well known by most candidates.

Candidates' performance on Part (b) (i) was also satisfactory.

For Part (b) (ii), candidates seemed to be struggling with the scientific aspect of the discipline which was evident in the partial response to how vinegar functions as a preservative. Very few candidates gave detailed explanations of the action of vinegar in the chutney. The correct answer is *the vinegar lowers the pH so that the chutney becomes too acidic for microorganism to grow*.

Part (c) (i) was challenging as most candidates named materials without considering the context. Some popular but incorrect responses were 'copper', 'brass' and 'aluminium'. Part (c) (ii) was well known with most candidates stating that the material used is to prevent corrosion.

Part (c) (iii) was satisfactorily done.

Parts (c) (iv) and (v) were challenging; although some candidates associated chutney-making with jam-making, they failed to transfer the bottling principles learnt to the bottling of chutney and therefore failed to earn maximum marks.

Question 3

Food preparation methods was tested in this question and performance was satisfactory. Candidates were asked to distinguish between a *garnish* and a *decoration* and to suggest ways of improving the presentation of food other than by garnishing.

Candidates were also asked to give general guidelines to be followed when garnishing foods and to state an appropriate garnish for baked fish and one for cream of pumpkin soup.

Candidates were provided with some observations of students' practical work and they were required to suggest the factors which were responsible for the observations.

In addition, they were provided with some characteristics of a roux-based sauce and were required to suggest the ways by which these characteristics were achieved.

In Part (a) (i), most candidates responded that *garnish* is for *savoury foods* and *decoration* is for *sweet foods* and were awarded full marks.

Part (a) (ii) was widely known by the majority of candidates as they were able to score maximum marks. Examples of some correct responses were

- Use various colours
- Cut food into various shapes
- Use dishes of various shapes and colour
- Use different textured food
- Use decorations

For Part (a) (iii), the majority of candidates gave the correct response. Examples of correct responses were

- Colour of garnish should complement food
- Garnish should not dominate dish
- Garnish should not overhand the dish
- Should be fresh and edible
- Arranged artistically

Part (b) was fairly well done. The ideas given brought out the creativity of many candidates. However, very few candidates suggested accompaniments such as bread rolls and croissants.

For Part (c), candidates' performance depended on the observation that was being evaluated.

Observation (1), *the bananas in the fruit salad did not become discoloured*, was done very well by the majority of candidates. They recognized that it was the presence of an antioxidant such as lime or lemon juice. Other valid responses given were

- Bananas were not prepared long in advance
- Syrup or sugar added early to the bananas

Observation (2), *the oil in the mayonnaise Jeffrey made remained stable*, was poorly done by the majority of candidates. Examples of good responses were

- Egg was used at room temperature
- Oil was added slowly
- Scrupulously clean equipment was used

Observation (3), *The batter Rhonda made to coat the chicken leg did not come off during frying*, was poorly done by the majority of candidates. Examples of correct responses were

- Clean oil was used to fry the chicken leg
- Frying was done at the correct temperature
- Deep fat frying was used
- Chicken was fried at the correct temperature

Observation (4), *Rita's coffee had an extremely bitter flavor*, was not done very well. Correct responses were

- The coffee was allowed to boil
- The coffee was reheated
- The coffee was brewed for a long period

Observation (5), *The sugar crystallized in the syrup Sandy made*, was done very well by the majority of candidates who stated that excess sugar was responsible for the crystallization of the sugar in the syrup. Correct responses were

- Insufficient boiling or boiling too fast
- Insufficient acid used or no acid used
- Syrup over-boiled

For Part (c) (ii), many candidates did not fully grasp what was required of them. Many of them treated the characteristics as one and restated the information in the stem. Acceptable responses for each characteristic were

1. Lump-free sauce
 - Fat was melted then the flour was added
 - Sauce cooked at the right temperature
 - Roux and liquid mixed smoothly
2. Non-starch flavour
 - Complete gelatinization of starch grains
 - Roux completely cooked
 - Sauce cooked at a moderate temperature
3. Correct pouring consistency
 - Roux was not over cooked
 - Sauce was not over cooked
 - Sauce was stirred continuously

Question 4

This optional question was similar in popularity to Question 6 and generally candidates performed satisfactorily. Candidates were required to state one function of iodine and one function of phosphorus.

Candidates were also required to name two minerals other than iodine and phosphorus that would be required in increased amounts by a pregnant woman and to give a benefit of each mineral named. Candidates were required to plan a nutritionally adequate dinner menu for an adolescent. In addition, candidates were required to outline the steps for making cheese muffins and to give the nutrients that are present in the cheese muffins that contribute to the energy requirements of an individual.

For Part (a), many candidates could not recall the function of iodine. However, they earned 50 per cent of the marks by stating the function of phosphorus.

The minerals required in increased amounts for a pregnant woman as well as their functions were well known. Candidates were able to identify the benefits for the mother and the unborn child.

The menu required for Part (b) (iii) was assessed for format, nutritional adequacy, texture, flavour and iron content. In most cases, candidates scored full marks for the menu.

For Part (c) (i), candidates' performance was poor; they did not adequately outline the steps for making muffins.

Part (c) (ii) was well done. The majority of candidates were able to identify the nutrients in the muffin that are energy providers.

Question 5

This question was the most popular optional question and candidates' performance was satisfactory.

Candidates were required to state desirable features of kitchen knives and cake mixers; procedures to be followed when cleaning cake pans and symptoms and signs of food poisoning together with the name of the bacteria that may cause food poisoning in baked chicken.

Candidates were also required to suggest personal hygiene practices which the person serving the baked chicken that caused the food poisoning might not have followed and essential steps that should be taken to clean the oven used to bake the chicken. In addition, candidates were required to suggest factors that could have caused a person to accidentally cut one of her fingers because of incorrect use of the knife.

The majority of candidates obtained maximum scores for Parts (a) (i), (ii); (b) and (c) (i).

For Part (c) (ii), very few candidates were able to name the bacteria that might have been present in the baked chicken.

In Part (c) (iii), many candidates were unable to make a clear distinction between kitchen hygiene practices and personal hygiene practices and therefore suggested a combination of both.

For Parts (c) (iv) and (d) the majority of candidates provided the correct responses.

Question 6

This optional question was similar in popularity to Question 4.

Candidates were required to state the roles of consumer organizations in their countries; state how customers can determine that the eggs purchased from the supermarket are fresh and state forms of textured vegetable protein available in supermarkets. Candidates were also required to suggest reasons why consumers may not benefit from bulk buying and to identify the main raising agent in swiss rolls and pancakes. In addition, candidates were asked to explain the scientific principles underlying the use of a chemical raising agent and the methods of heat transfer during the baking of a fruit cake.

Part (a) was poorly done by the majority of candidates. Part (b) was very well done as many candidates were familiar with methods used to determine the freshness of eggs.

Part (c) was not done well by the majority of candidates as many of them named soya beans rather than its by-products such as soy milk, soy sausage and soya chunks.

Many candidates scored at least 50 per cent of the marks awarded in Part (d). Responses given were

- Family members may grow tired of the product
- Takes up storage space
- Extra money is required

In Part (e) (i), a significant number of candidates were not familiar with the making of swiss rolls as they named yeast rather than air as the raising agent. For Part (e) (ii), the majority of candidates were familiar with the making of pancakes and they named air or baking powder as the main raising agent.

The responses to Parts (f) (i) and (ii) clearly indicated candidates' inability to explain concisely the scientific principles involved in the use of chemical raising agents and the methods of heat transfer in the context of baking cakes. In Part (f) (i), many candidates gave a partial response such as 'the cake will rise' rather than being explicit in stating that *heat causes the chemical to liberate carbon dioxide which in turn causes the mixture to rise*.

In Part (f) (ii), the pattern in responding mirrored that of Part (f) (i). Candidates named the method of heat transfer such as 'radiation', 'conduction', or 'convection' for which they gained a mark but could not explain the scientific principles associated with them.

Question 7

This question was the least popular question and candidates' performance was generally satisfactory.

This question was designed to test candidates' ability to define the term *cover/place setting*; state ways of enhancing a tray for tray service; give reasons why the layout of a kitchen will ensure maximum efficiency; plan a lunch menu for a preschool child and state how any one of the items in the menu should be appropriately packaged. Candidates were also required to suggest the qualities of flour and fat required to produce 48 biscuits from a given list of ingredients.

In Part (a) (i), many candidates obtained 50 per cent of the marks because they limited the definition of a *cover* to 'a place provided at the table' rather than *a place arranged on the table with cutlery for a dinner*.

For Part (a) (ii), the majority of candidates were able to obtain maximum marks for ways to enhance a tray to be used for serving a meal.

Part (b) (i) was not done well with most candidates perceiving that the cupboards were to be built; most candidates were able to obtain the maximum marks for Part (b) (ii).

For Part (c) (i), a high percentage of candidates scored the maximum marks; for Part (c) (ii), the majority of the candidates demonstrated knowledge of good packaging techniques.

The responses to Part (d) were excellent as the majority of candidates were able to calculate accurately the quantity of flour and fat.

CARIBBEAN EXAMINATIONS COUNCIL

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

MAY/JUNE 2012

**FOOD AND NUTRITION
GENERAL PROFICIENCY EXAMINATION**

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GENERAL COMMENTS

The 31st Food and Nutrition examination was administered by the Caribbean Examinations Council in May/June 2012.

This examination took the form of two papers: (i) a multiple-choice paper (Paper 01) of 60 items worth 60 marks and (ii) 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: candidates' ability to recall information, represented by the symbol K, and to use such information to give context, represented by the symbol UK.

Part A comprised three compulsory questions which were taken from the following modules: Modules 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.

Overall, candidates' performance was satisfactory.

Paper 03 consisted of three practical assignments, each worth 20 marks with a maximum of 60 marks. All assignments were structured by the class teacher or groups of teachers. Assignments one and three were assessed by the class teacher, while assignment two was jointly assessed by the class teacher and an external moderator.

DETAILED COMMENTS

Paper 02 – Structured Essay Questions

Question 1

Candidates were required to define the term *over-nutrition*, identify signs of over-nutrition, name conditions associated with mineral deficiencies and suggest reasons for and health benefits of a vegetarian diet. Candidates were also asked to plan a two-course meal for a vegetarian.

For Part (a), the majority of candidates were able to describe *over-nutrition* as *a condition triggered by an over consumption of food or nutrients*.

For Part (b), candidates were able to identify signs of over-nutrition; responses included

- diabetes mellitus
- hypertension
- obesity
- heart disease.

In Part (c), most candidates were able to identify a condition associated with calcium deficiency; however, most candidates were unable to correctly identify a condition associated with sodium deficiency. Expected responses included

- muscle cramps
- loss of appetite
- vomiting.

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

- allergies
- objection to animals being slaughtered
- religious beliefs.

For Part (d) (ii) many candidates knew the health benefits of consuming a vegetarian diet. Expected answers included

- incidence of heart diseases is reduced because of the lower intake of cholesterol and saturated fats
- Due to the high presence of dietary fibre, the incidence of diverticular disease is reduced.

For Part (d) (iii), the majority of candidates were able to plan an appropriate two-course lunch.

Question 2

Candidates were required to define the term *blanching*, outline benefits of preserving food and to give an example of a food packaged using aluminium foil, giving one reason for the use of the aluminium foil. Candidates were also required to discuss guidelines to be used when selecting mangoes for making jam and to describe how the *plate test* or *flake test* is used to determine when a jam mixture is ready for bottling.

Part (a) was partially answered by most candidates; while candidates emphasized heat treatment, they omitted to state that the food should be transferred to cold water to complete the process. Part (b) was done very well, most candidates were able to outline the benefits of preserving food.

Part (c) was very well done, most candidates were able to give an example of a food usually packaged in containers lined with aluminium foil and also suggest a correct reason for the practice. Responses included

- retain nutritional value
- provides barrier to light
- retains flavour
- prevents contamination
- provides a barrier to moisture
- retains colour.

Parts (d) (i) and (d) (ii) were done very well. Acceptable responses included

- should be free from blemishes and mould growth to prevent other forms of spoilage
- should be clean to prevent the entry of contaminants
- should be firm (not ripe, slightly under-ripe) because at this stage it contains large quantities of pectin and acid
- pectin is required for the jam to set
- acid is required to extract pectin and to hydrolyse the sugar.

Part (d) (iii) was also very well done with most candidates correctly describing the *plate test* and the *flake test*. The correct response is:

Plate or Wrinkle test

- Spoon a small amount of jam on a cold plate or saucer.
- Allow to cool slightly and push with finger to observe wrinkle.

Flake test

- Dip wooden spoon into jam, cool slightly and allow to run slightly over side of spoon.
- If it comes off the spoon in wide flakes, jam has reached setting point.

Question 3

Candidates were required to list methods of cake making, state one function of specified ingredients in cake making and identify sweet dishes other than cakes where egg is the main ingredient. Candidates were also required to explain principles of heat transfer and to give the stages involved in the preparation of a corn starch base for ice-cream.

The majority of candidates obtained the maximum marks for Part (a); however, for Part (b), a large number of candidates were unable to state a function of the specified ingredients in cake making. Correct responses included:

Flour

- Forms the structure of the cake
- Increases volume of cake

Sugar

- Sweetens the mixture
- Helps to entangle air in the mixture
- Increases the volume of the cake
- Adds colour
- Moistens
- Raises the temperature at which the proteins in the egg and flour coagulate

Butter or margarine

- Has the ability to entangle and hold air in the mixture
- Adds flavour
- Improves keeping quality
- Adds colour
- Adds moisture

Part (c) was challenging, most candidates were unable to identify sweet dishes other than cakes where egg is the main ingredient. Correct responses included:

- Flan
- Meringue
- Soufle'
- Custards
- Milk pudding

For Part (d), the majority of candidates understood the methods and principles of heat transfer and were able to explain them in a clear and concise manner.

Part (e) was poorly done by the majority of candidates as most of them seemed to be unfamiliar with the product corn flour. The correct response is:

- carefully measure corn starch
- blend cornstarch with some cold milk
- heat some milk
- pour in the blended starch and stir continuously until it thickens

Question 4

This optional question was the most popular of all the optional questions and was very well done. Candidates were required to outline the functions of specific nutrients, identify the nutrients present in brown rice that made it more nutritious than white rice and to justify whether the dishes provided were suitable or unsuitable for an elderly person. Candidates were also asked to suggest guidelines for planning and preparing meals for a teenaged secretary.

Part (a) was very well done as the majority of candidates were able to outline the functions of the specific nutrients. Candidates were unable to identify the nutrients present in brown rice that made it more nutritious than white rice. Responses included:

- Vitamin B1 or thiamin
- Vitamin B2 or riboflavin
- Vitamin B3 or niacin
- Calcium
- Potassium
- Iron
- Dietary fibre

Part (c) was very well done by most candidates. Correct responses included:

- steamed fish is easy to digest
- steaming is a healthy method
- due to the fat content in the potato chips, the bedridden individual may be susceptible to obesity and heart-related conditions.

Part (d) was very well done by most candidates. Correct responses included:

- meals should not be too bulky as they may take longer to digest
- energy dense snacks should be eaten in moderation
- cut down on carbohydrate and fatty foods
- cook foods by healthy methods such as grilling, baking and steaming
- include iron-rich foods and foods containing vitamin C
- include various textures.

Question 5

This question was the second most popular in the optional section. Candidates were presented with a scenario which required their class to prepare a checklist for observing food handling practices while on a field trip to food outlets. Candidates were required to identify factors that contributed to food contamination which should be included in the checklist and to give desirable hygiene practices which should be observed at the food outlets.

The question also tested candidates' knowledge of consumerism and required them to discuss one advantage of purchasing a gas cooker rather than an electric cooker and also to state factors other than warranty to be considered before purchasing a cooker. Candidates were also asked to suggest reasons for specific actions in the application of first aid treatment to a burn.

Part (a), was well done. Most candidates were able to identify the factors that could contribute to food contamination and to give desirable hygienic practices that should be observed in the food outlets.

Part (b) was well done, with candidates discussing advantages that were both relevant and practical and also correctly stating the factors to be considered before purchasing a gas cooker.

Part (c) was well done. Most candidates explained that cold water is applied to the burnt area to ease the pain and reduce the risk of blisters and that the burnt area is covered to reduce the risk of infection.

Question 6

This question was the least popular of the optional questions. Candidates were required to show their knowledge of the information found on a UPC or bar code, define the terms *comparative shopping* and *impulsive buying*; assess the nutritional content of two boxes of carrot cake mix and identify factors other than income that influence the purchasing of food in a supermarket. Candidates were also required to give one effect

of dry heat on sugar and moist heat on flour during the process of making bread and to use the terms *smoke point* and *flash point* to explain how oil catches fire during frying.

For Part (a), only a small number of candidates were familiar with the information found on a barcode or UPC. Correct responses included

- country in which the product was manufactured
- name of the manufacturer
- packet size
- nature of the content
- serial number (batch number)
- date of manufacture.

In Part (b), many candidates were unable to give a complete definition for the two terms. Correct responses are:

- Comparative shopping is the act of comparing prices and quality of a specific item in different stores.
- Impulsive buying is an unplanned decision to buy a product.

Part (c) was very well done. Candidates were able to correctly assess the nutritional content of the two boxes of carrot cake and to indicate factors that influenced the purchasing of food in a supermarket.

For Part (d) (i), while the majority of candidates was able to state the effect of dry heat on sugar, they were unable to state the effect of moist heat on flour, and for Part (d) (ii) the majority of candidates experienced difficulty in applying the terms *smoke* and *flash point* in a practical context.

Question 7

This question was the third most popular in the optional section. Candidates were required to show their knowledge of packaging materials, state the difference between a menu and a main course and give guidelines for conserving food when using an oven. Candidates were also required to give the order of preparation for three specialized dishes and to justify the order given.

For Part (a), the majority of candidates were able to identify suitable packaging material. In part (b), while most candidates understood what a menu was they were unable to explain the concept of a main course.

Part (c) was very well done, the majority of candidates were able to give the correct order of preparation of the three dishes and to justify the order given.

Part (d) was very well done with most candidates giving correct guidelines for conserving fuel when using an oven.

RECOMMENDATIONS

- Students should be discouraged from using ‘*text*’ or cell phone language.
- Students should be encouraged to spell technical terms correctly.
- Teachers should cover the entire syllabus using different teaching techniques.
- Students should be encouraged to read the recommended texts.
- Students should be encouraged to underline the salient points in questions before attempting to answer them.

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.

CARIBBEAN EXAMINATIONS COUNCIL

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

MAY/JUNE 2014

**FOOD AND NUTRITION
GENERAL PROFICIENCY EXAMINATION**

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GENERAL COMMENTS

The 33rd Food and Nutrition Examination was administered by the Caribbean Examinations Council in May 2014. Over ten thousand candidates participated.

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 Use of Knowledge (the ability to use such information to give context).

Part A, worth a total of 48 marks 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, worth a total of 32 marks comprised four optional questions which were taken from the remaining nine modules of the syllabus. Candidates were required to choose any two 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 39.57 with a standard deviation of 8.58. The performance on Paper 01 was very good. Ninety-five per cent of the candidates gained passes in this paper.

Paper 02 — Structured Essay

SECTION A

Question 1

This compulsory question was designed to test Module 3 of the syllabus: Diet, Health and Nutritional Status. The performance was satisfactory.

This question specifically tested

- (a) signs and symptoms of diabetes
- (b) effects of high levels of fat in the diet apart from developing diabetes
- (c) guidelines for the reduction of fat and sugar in the diet
- (d) health benefits in consuming a vegetarian diet apart from managing diabetes

Part (a) was well done as most candidates correctly stated the symptoms/signs of diabetes.

Although Part (b) limited the effects of a high intake of fat to conditions other than developing diabetes, it was apparent that few candidates did not exercise care in reading the question and repeated diabetes. The majority of candidates however handled this question well and gave correct responses such as

- Acne
- Stroke
- Cancer

In Part (c) responses given indicated that the majority of candidates interpreted the question precisely and gave suitable guidelines for the reduction of both sugar and fat in the diet. It should be noted however that

some candidates restated what was stated in the question for example “reduce the intake of fat”; “cut down on fat” and “eat less fat”.

In Part (d) the responses given about the benefits derived in consuming a vegetarian diet were inadequate. Many candidates stated relevant points but failed to discuss, develop or elaborate on each.

Correct responses included:

- Less at risk for heart disease since her diet will contain less saturated fat
- Less chances of getting diverticular disease or constipation since her diet will consist of more fibre.

Question 2

This compulsory question was designed to test Module 6 of the syllabus: Food Preservation. The question tested

- (a) use and over-use of food additives
- (b) principle involved in the removal of excess water from cucumber during pickling
- (c) selection of bananas to be made into jam
- (d) process that causes bananas to darken

In Part (a) (i) a large number of candidates named sugar as the agent responsible for setting jams and jellies instead of pectin the correct response.

Correct responses to (a) (ii) included stabilizers such as egg and lecithin. Part (a) (iii) was not well answered as candidates named nutrients that did not improve the nutritional value of margarine. Correct responses included bicarbonate of soda, salt commercial meat tenderizers, and natural tenderizers such as papain named as meat tenderizes in Part (a) (iv).

In Part (b) many candidates gave correct responses for the use of additives in moderation. Correct responses included

- Children may suffer from hyperactivity
- May predispose one to diabetes
- Flavor enhancers may encourage over eating thus predisposing one to obesity
- Excessive use may be toxic

For Part (c) most candidates were unable to explain the scientific process involved in the removal of water from cucumbers during pickling. The correct response is ‘the movement of water from a high to a low concentration through a semi-permeable membrane’. Some candidates got the terms diffusion and osmosis mixed up.

In Part (d) (i) most candidates were able to state the guidelines used to select the bananas. However they were unable to provide explanation for the guidelines. In Part (d) (ii) most candidates suggested how the darkening of the bananas could have been avoided rather than to describe the process oxidation. Candidates response to this question was less than satisfactory.

Question 3

This compulsory question was designed to test Module 11 of the syllabus: Food Preparation Methods. The question tested

- (a) types of icing or frosting used to decorate cakes
- (b) function of liquid (milk or water) and eggs in cake making
- (c) reasons for folding flour into cake mixture
- (d) effects of adding too much sugar in an yeast dough mixture
- (e) rules for making batter
- (f) procedures in making a baked egg custard

In Part (a), most of the candidates obtained full marks as they were able to list the icing or frosting used to decorate cakes.

Part (b), was done well, most candidates were able to state a function of liquid and eggs in cake making. Part (c), was also done well with most candidates giving correct reasons for the folding of flour into a cake mixture. Part (d), was poorly done as most candidates were unable to explain the effects of adding too much sugar to yeast dough. The correct response is too much sugar will retain the action of the yeast reaching in a dose or dense texture.

Part (e), was poorly done as most candidates were unable to give reasons for following the rules of batter making.

Part (f), was also poorly done, most candidates did not know the procedure for making a baked egg custard. Most candidates gave the procedure for making a cake.

Candidates performance on this question was less than satisfactory.

SECTION B

Question 4

This optional question was designed to test candidates' ability to:

- (a) define the term hydrogenation
- (b) name a hydrogenated product
- (c) state a guideline in planning meals for three health conditions other than diabetes
- (d) explain the effects of a prolonged deficiency in water
- (e) describe the effects of heat on flour, eggs and sugar in a sponge cake.

Part (a) was not well done, most candidates were unable to define the term hydrogenation and to give an example of a food product that is prepared by hydrogenation.

Part (b), was well done as the majority of the candidates were able to state appropriate guidelines for planning meals for the specified health conditions.

In Part (c), while most candidates were able to state the effects of a deficiency of water in the diet they were unable to explain the consequences of these effects on the functioning of the body.

Part (d) was poorly done, most candidates misinterpreted this question and stated the functions of the three ingredients in cake making instead of describing the effect of heat on the ingredients as required by the question.

Candidates performance on this question was fair.

Question 5

This optional question was the least popular and tested Modules 4 and 5 of the syllabus. The question tested

- (a) materials used to manufacture saucepans
- (b) use of first aid items
- (c) factors responsible for the spoilage of cherries
- (d) care of packaging material to prevent spoilage during freezing
- (e) guidelines to prevent spoilage of cherries during freezing
- (f) factors of food hygiene and safety

Part (a) (i) and (ii) were well done by the majority of candidates as they were able to name materials used in the manufacture of saucepans and to state the advantages of using these materials. Part (b) was well done as most candidates were able to state the use of the first aid items.

Part (c), was well done by most candidates. Part (d) was also well done with most. Candidates being able to suggest workable factors of food hygiene and safety.

Candidates performance on this question was satisfactory.

Question 6

This optional question was designed to test Modules 7 and 8. The question tested

- (a) knowledge of Textured Vegetable Protein (TVP) products provides
- (b) meaning of term 'expiry date'
- (c) food labelling information
- (d) disadvantages of using convenience foods
- (e) categories of convenience food that are suitable for the preparation of a main dish for a lunch menu

Part (a) (i) was not well done by most candidates. Most candidates were not aware of the term "Textured Vegetable Protein' (TVP).

Part (a) (ii) and (a) (iii) were well done. Most candidates were able to explain the term expiry date and to give information that is normally found on nutritional labels.

Part (b) (i) was not well done as some candidates chose to discuss one advantage and not the FOUR disadvantages as required by the question.

Part (b) (ii) was not well done as candidates did not seem to understand the term 'main dish'. Candidates response to this question was fair.

Question 7

This question was the most popular optional question. It was designed to test Module 10. The question tested

- (a) factors that guide meal planning
- (b) knowledge of cutlery
- (c) knowledge of hygiene practices
- (d) the process of cooking using a pressure cooker

Part (a) was well done. Most candidates were able to state factors to be considered when planning meals. Part (b) was well done with most candidates scoring the maximum marks for matching the utensils with their names. Part (c) was also well done, most candidates were able to suggest suitable hygiene practices.

Part (d) was not done very well as most candidates were unable to explain the process of cooking used by a pressure cooker.

Candidates performance on this question was very good, overall.

RECOMMENDATIONS

- Food and Nutrition is grounded in science. Therefore scientific terminologies and principles must be used and understood in its delivery.
- Students should be taught test-taking techniques, and shown how to interpret key words such as 'explain', 'discuss' and 'suggest'.
- Students should be helped with understanding of 'effect'.

CARIBBEAN EXAMINATIONS COUNCIL

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

MAY/JUNE 2015

**FOOD AND NUTRITION
GENERAL PROFICIENCY EXAMINATION**

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GENERAL COMMENTS

The 34th Food and Nutrition examination was administered by the Caribbean Examinations Council in May 2015. Over ten thousand candidates participated.

This examination took the form of two externally marked papers: Paper 01 (multiple-choice) which consisted of 60 items worth 60 marks and Paper 02 (structured essay) which consisted 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 Use of Knowledge (the ability to use such information to give context).

Part A, worth a total of 48 marks, 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, worth a total of 32 marks, comprised four optional questions which were taken from the remaining nine modules of the syllabus. Candidates were required to choose any two 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.

DETAILED COMMENTS

Paper 01 — Multiple Choice

The mean score on Paper 01 was 35.54 with a standard deviation of 8.62. Candidates performed very well on Paper 01. Eighty-nine per cent of the candidates gained passes in this paper.

Paper 02 — Structured Essay

Section A

Question 1

This compulsory question was designed to test Module 3 of the syllabus: Diet Health and Nutritional Status. Performance was satisfactory. The question specifically tested

- a) deficiency diseases
- b) dietary guidelines for losing weight
- c) the effects of diet on health.

For Part (a), most candidates were able to name the nutrient whose deficiency led to night blindness. Part (b) was well done as most candidates correctly stated four dietary guidelines. Correct responses given were:

- *Use foods high in fibre.*
- *Avoid eating heavy foods at night.*
- *Modify recipes to reduce fat, sugar, starch and protein foods.*
- *Cut down on foods high in calories.*
- *Consume foods cooked by healthy methods such as steaming, grilling and boiling.*

In Part (c) (i), many candidates correctly evaluated the diet, explaining that the diet predisposed the students to conditions such as obesity, clogged arteries/atherosclerosis, dental caries, diabetes mellitus, hypertension and deficiency diseases. However, most candidates were unable to link particular items in the diet with the specific conditions identified.

Correct responses included:

- *The foods eaten are low in vitamins and mineral salts and this could lead to various types of deficiency diseases.*
- *Since the foods eaten are deficient in iron, this could lead to anaemia.*
- *The foods eaten are rich in fats and this may cause obesity and increased cholesterol levels.*
- *Excessive intake of fat over a prolonged period may cause obesity and a rise in blood cholesterol.*

In Part (c) (ii), some candidates seemed to have misunderstood the question and rewrote the menu provided in the question. Some candidates provided a replacement menu but used an incorrect format. Instead of specifying dishes such as boiled rice and raw vegetable salad, they specified food items such as rice and vegetables.

An example of a replacement menu is as follows:

Baked chicken
Boiled corn and rice
Thinly sliced cabbage, tomato and cucumber salad
Orange and carrot cake

Question 2

This compulsory question was designed to test Module 6 of the syllabus: Food Preservation. The question specifically tested

- a) reasons for preserving food
- b) food additives
- c) sterilization
- d) scientific principles of food preservation

Part (a) (i) was widely known by the majority of candidates. Correct responses include:

- *To make foods available all year round.*
- *Persons can become entrepreneurs by preserving fruits and other products on a large scale and repackaging for sale.*
- *Wastage could be minimized or prevented by purchasing foods when there is a glut and storing for later use.*

Part (a) (ii) was also well done by the majority of candidates. In addition to naming *salt, sugar* and *spices* as correct additives candidates also named *antioxidants, emulsifiers, pectin* and *tenderizers*.

Part (a) (iii) was not done very well by most candidates. Some candidates were unable to correctly define *sterilization*. The correct definition is *the complete destruction of microorganisms by heat*.

For Part (b), most candidates were unable to explain the scientific principles involved in food preservation of select foods. Correct responses were:

- **Guava jam** – The high concentration of sugar retards the growth of microorganisms and delays spoilage.
- **Pickled cucumber** – The pH of the cucumber is lowered so that the environment becomes too acidic for microorganisms to grow due to the process of osmosis.

- **Salted cod** – The salt concentration outside is higher than the solution inside the cells of the fish and this causes the water to move out of the cells by the process of osmosis. The cells become dehydrated.

Part (c) (i) was fairly well done by most candidates. Correct responses include:

- Too much sugar was used causing crystal formation.
- Insufficient acid was used preventing the inversion of the sugar.

Part (c) (ii) was also fairly well done. A few candidates associated the darkening of the sorrel jelly with the colour of the fruit or the use of dark sugar rather than recognizing that *the solution was boiled for too long causing caramelization and darkening*.

Question 3

This question was designed to test Module 11 of the syllabus: Food Preparation Methods. The question specifically tested

- a) boiling as a cooking method
- b) the use of specific food preparation techniques
- c) the effect of specific practices on the making of flaky pastry
- d) precautionary measures to be taken during food preparation.

In Part (a) (i), most candidates defined boiling correctly as *immersing food in liquid at 100 degrees celsius*. Part (a) (ii) was also well done by the majority of candidates.

Part (b) was widely known as most candidates were able to associate *roux* with sauces, *saute* with frying food lightly and *garnish* with enhancing the appearance of savoury dishes.

Part (c) proved to be very challenging for the majority of candidates. Correct responses are:

The use of lemon juice

- The acid along with the shortening (fat) keeps the gluten strands from getting too long thus resulting in a tender baked flaky product.

Low oven temperature

Fat will melt and seep resulting in

- Heavy and greasy pastry
- Shrunken crust
- Pale and doughy crust
- Starch not completely gelatinized

Pastry dough stretched to cover tops of tarts and pies

- Dough will shrink, as a consequence the shape of the product will not be uniform.
- Stretching will result in tearing of the dough causing the filling to ooze and this would result in an unattractive product.

Pricking the tops of pastry

- The liquid within the crust will vaporize and exit through the tiny holes, hence the item will not be soggy.
- Items would have a uniform shape due to the expulsion of gas.

Part (d) also proved to be challenging. Most candidates misunderstood the question and gave answers concerning the precautions in jam and jelly making rather than jello making. Correct responses include:

- Pineapple should be given heat treatment to inactivate the enzyme bromelain present in the pineapple.
- Gelatin should be completely dissolved before adding hot liquid to avoid lumpiness.

- Fruit should be added when gelatin begins to thicken to allow for even distribution and to prevent sinking.
- Use slightly less cold liquid than usual for firmness.
- The dissolved gelatin should be poured slowly into the mixture stirring all the time to incorporate the gelatin completely.
- Gelatin mixture should not be boiled as this will toughen the jello.
- Cover the jello with plastic wrap if it is to be left overnight in the refrigerator. It would not form a rubbery skin on the surface.

Section B

Question 4

This optional question was designed to test Modules 1 and 2 of the syllabus: Nutritive Value of Food and Nutrition for the Life Cycle. The question specifically tested

- a) functions of proteins
- b) the parts of the egg
- c) complementary feeding.

Part (a) was well done; most candidates were able to correctly state two functions of proteins.

For Part (b) (i), most candidates were able to name the part labelled A correctly. However, very few candidates were able to name the part labelled B. The correct response for this part is *airspace*. Part (b) (ii) was not very well done; most candidates named nutrients that were not specifically linked to the egg yolk.

Part (c) (i) was done very well by most candidates. Most candidates correctly explained guidelines for complementary feeding. Correct responses include:

- Food should be fed frequently and patiently so that large quantities of food are not consumed at once.
- Foods should be soft in texture to allow for easy digestion.
- Breast-feeding should be continued while offering a variety of nourishing foods.

In Part (c) (ii), many candidates suggested a suitable meal, however, more often than not, they did not use the double-mix principle as was requested in the question.

Part (d) was well done by the majority of candidates. Correct responses included:

- A strong bond is fostered.
- Immunity from certain diseases is passed to the baby from the mother to build the baby's resistance.
- No preparation is required and there is little chance of gastric infections as the milk is sterile
- The milk is at the correct temperature and consistency.

Question 5

This optional question was designed to test Modules 4 and 5 of the syllabus: Equipment and Utensils for Food Preparation and Service and Food Hygiene and Safety. It specifically tested

- a) prevention and causes of burns
- b) guidelines to follow when storing food in the refrigerator
- c) food spoilage.

Part (a) (i) was well done; most candidates were able to correctly state the causes of burns in the kitchen. Correct responses were:

- Attempting to remove hot pots and pans with the naked hands
- Putting wet food into a pan with hot oil
- Pot handles turned towards traffic area

Part (a) (ii) was also well done; most candidates were able to correctly state ways of preventing burns. Correct responses were:

- Strike match before turning on gas.
- Turn pot handles inwards.
- Turn off burners when not in use.

Part (b) proved to be challenging for the majority of candidates as they were unable to explain why specific guidelines should be considered when storing foods in the refrigerator. Correct responses included:

Covering fresh milk

- To prevent strong odours from coming into contact with the milk
- To prevent the milk from being contaminated with other foods

Avoid storing hot or warm food

- Heat raises the temperature within the refrigerator thus freezing takes a longer time.
- Increased fuel consumption due to increased temperature.
- Possibility of spoilage because of increased temperature.

Avoid packing food tightly

- Circulation of air is impeded which may result in the food being spoilt.

Part (c) was not very well done. Many candidates linked the spoilage to bacteria but did not explain how the spoilage actually occurred. Correct responses included:

Fresh milk in a bottle turns sour

- The milk may not have been stored at the correct temperature, this led to an increase in bacteria which digest the lactose producing lactic acid which curdles the milk.

Mould growth on bread

- Bread was moist and this facilitated the growth of mould.
- The atmosphere was humid and this facilitated mould growth.

Oil becomes rancid

- Rancidity occurs by one of three methods: hydrolytic due to the presence of moisture, oxidative due to the presence of oxygen and microbial due to the presence of bacteria. The chemical structure of the oil is broken down/decomposed leading to rancidity.

Vegetables develop discolouration during peeling

- Oxygen enters the cells and reacts with the enzyme oxidase. This results in discolouration.

Question 6

This question tested Modules 7 and 8 of the syllabus: Consumerism and Purchasing, and Suitable Practices in Food Preparation. The question specifically tested

- a) factors to consider when purchasing food items
- b) the definition of net weight
- c) the manufacture of condensed milk.

Parts (a) (i) and (ii) were well done. Most candidates correctly stated the factors to be considered.

In Part (b), most candidates were able to define the term *net weight*. A few candidates confused net weight with gross weight.

Part (b) was not well done. Although some candidates were able to state the steps, they were unable to explain them. A correct response is as follows.

- Fresh milk is homogenized to distribute fat globules evenly
- Milk is heated at a very high temperature (176 degrees Fahrenheit) for 15 minutes to destroy bacteria.
- Fifteen per cent of sugar is added for colour and taste.
- Milk is heated under a vacuum to vaporize a large quantity of water
- Milk is cooled, poured into cans and sealed to prevent the entry of bacteria.

Part (c) required candidates to suggest reasons that could be used to convince a person to shop at a particular supermarket. Correct responses were:

- A wide range of foods are available.
- Prices are generally cheaper for many items.
- Food is usually of a good quality and fresh.
- Unusual foods may be stocked.

Question 7

This question was the least popular of the optional questions and tested Modules 9, 10 and 12 of the syllabus: Management of Food Preparation and Service, Meal Planning and Service, and Large-scale Food Preparation and Service. The question specifically tested

- a) hors d'oeuvres
- b) menus
- c) meal planning
- d) adjustment of recipes for large-scale use.

Part (a) (i) was well done. Most candidates were able to define the term *hors d'oeuvre*. Acceptable responses were:

- Small, bite-sized items served before a dinner
- First course of a meal
- Small savoury dish served as an appetizer at the beginning of a meal
- Food served in small portions before the main part of a meal
- Finger foods served at cocktails

Part (a) (ii) was also done very well. Most candidates were able to give a correct example of an *hors d'oeuvre*. Correct responses were:

- Spicy meat
- Fish
- Cheese
- Creamed food serve on crackers
- Meat and vegetable patties
- Meat and vegetable balls
- Savoury horns
- Cheese straws
- Puffs
- Bouchees
- Soup
- Kebabs

Part (b) was well done. Most candidates correctly stated the components of a three-course menu.

Part (c) was not very well done. Candidates were able to state the factors to be considered when planning meals, however, they were unable to discuss the factors so that they could achieve the maximum marks for the discussion.

Part (d) was done very well by most candidates. Candidates were able to calculate the adjustments to the recipe that would allow for an increase in the number of servings.

Recommendations to Teachers

- Formative and summative evaluations should be conducted to enhance teaching and learning.
- The theory and practical sessions should be linked during all lessons

CARIBBEAN EXAMINATIONS COUNCIL

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

MAY/JUNE 2016

**FOOD AND NUTRITION
GENERAL PROFICIENCY EXAMINATION**

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GENERAL COMMENTS

More than 10,000 candidates sat for the 35th Food and Nutrition examination administered by the Caribbean Examinations Council in May 2016.

This examination took the form of two externally marked papers: Paper 01 (multiple-choice), which consisted of 60 items for a total of 60 marks, and Paper 02 (structured essay), which consisted 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 Use of Knowledge (the ability to use such information in a variety of contexts).

Part A, worth a total of 48 marks, 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, worth a total of 32 marks, comprised four optional questions which were taken from the remaining nine modules of the syllabus. Candidates were required to choose any two 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.

DETAILED COMMENTS

Paper 01 — Multiple Choice

The mean score on Paper 01 was 37.92 with a standard deviation of 8.53. Candidates performed very well on Paper 01. Performance in this paper was very good.

Paper 02 — Structured Essay

Section A

Question 1

This compulsory question was designed to test Module 3 on the syllabus: Diet, Health and Nutritional status. It covered the following topics:

- (a) Under-nutrition
- (b) Protein energy malnutrition (PEM)
- (c) Anorexia nervosa
- (d) Dietary anaemia

Additionally, candidates were required to:

- (a) State the function of dietary fibre or roughage in the diet.
- (b) Plan a THREE-course meal for a vegan and
- (c) Discuss possible health benefits of consuming a vegan diet.

The content tested in Part (a) was widely known. However, some candidates were only awarded 50 per cent of the available marks as they failed to stress that under-nutrition stemmed from a total deprivation of all nutrients in the diet.

Examples of correct responses included:

- Insufficient total intake of all the nutrients
- A condition where persons constantly eat food below their required need and therefore are not acquiring all the nutrients
- Failure of individuals to consume foods that provide all the nutrients in the right quantities as required by the body

Part (b) was well done by the majority of candidates. In most cases the correct symptoms of the nutrition-related disorder were identified, with responses that addressed points such as:

- Weakness
- Wasted muscle tissue
- Water retention
- Stunted growth
- "Old persons' face"
- Severe weight loss
- Protein energy malnutrition (PEM)
- Rapid weight loss
- Predisposition to diseases
- Chronic nervousness
- Dizziness and regular fainting spells
- Tiredness

The content examined in Part (c) was widely known by a majority of the candidates. Correct responses included:

- Dietary fibre is necessary to stimulate peristalsis to prevent constipation.
- Dietary fibre has a high satiety value so when consumed it gives the individual a feeling of fullness for a long time.

For Part (d) most candidates planned breakfast and lunch menus for a vegan. This part was not done well as some candidates did not know the correct sequence.

Correct responses included:

- | | | | |
|---|--------------------------|---|------------------------|
| 1 | Vegetable Broth | 2 | Nut Rissoles |
| | Sweet and Sour Tofu | | Peas and Beans Stew |
| | Rice and Peas | | Boiled Brown Rice |
| | Roasted Mixed Vegetables | | Tossed Vegetable Salad |
| | Eggless Chocolate Cake | | Potato Pudding |

Part (e) was not well done, as most candidates did not elaborate on the discussion of the possible health benefits of a vegan diet.

Correct responses included:

- Consuming a vegan diet can aid in the prevention of constipation as dietary fibre is present in numerous cereals and nuts consumed by a vegan.
- Dietary fibre helps in attracting water to the bowels as it cannot be digested, enabling the faeces to pass out freely.

Expected responses included:

Possible health benefits of consuming a vegan diet:

- Weight control – Weight gains are lower for those who do not eat animal-derived foods. Vegans' lower body weights correlate with their high intakes of fibre and non-intake of animal-derived fat.
- Vegans tend to have lower blood pressure and lower rates of hypertension than non-vegetarians. Appropriate body weight helps to maintain a healthy blood pressure, as does a diet low in total fat and saturated fat, and high in fibre, fruits, vegetables, and soy protein.
- The incidence of heart disease and related deaths is slightly lower for vegans than for non-vegetarians, which may be explained partly by vegans' avoidance of meat and saturated fats.
- Vegans have a significant lower rate of cancer than the general population. Their low cancer rates may be due to their high intakes of fruits and vegetables.
- Vegan diets may help prevent osteoporosis. Vegetables and beans are a good source of calcium and high protein; non-vegan diets promote calcium loss through the urine.

Question 2

This compulsory question tested Module 6 of the syllabus: Food Preservation. The question specifically tested

- (a) The knowledge of tests to determine when jam sets
- (b) Guidelines for selecting mango for making mango jam
- (c) Ways of enhancing pectin content

Additionally, candidates were required to explain why each of the following procedures is important when freezing green beans:

- (a) Washing
- (b) Blanching
- (c) Sealing the package
- (d) Rate of freezing

For Part (a) (i), candidates were able to list correctly two methods to be used.

Part (a) (ii) was not very well done as most candidates were unable to describe the procedure for one of the methods listed in (a) (i).

Part (a) (iii) was well done, correct responses included:

- Must be free from blemishes
- Must be fresh
- Should have a high acid content

For Part (a) (iv) candidates suggested that the pectin content in fruit could be enhanced in the following ways:

- Add a commercial food pectin.
- Add an acid such as lemon or lime juice.
- Combine fully ripe with just ripe fruit.

For Part (b) (i) correct responses included:

- To minimise spoilage by moulds and bacteria
- To remove dust and dirt

For Part (b) (ii) correct responses included:

- To inhibit enzyme activity
- To prevent discolouration and reduction in flavour

For Part (b) (iii) correct responses included:

- To remove the air to prevent freezer burn
- To prevent the entry of oxygen which may oxidise the food and bacteria which may cause spoilage.
- To prevent cross-contamination.

An example of a good response from a candidate was:

Rate of freezing determines if large or small water crystals are formed in the beans. If the freezing occurs slowly, large crystals will form that may rupture the cells. If freezing is done quickly small ice crystals are formed in the cells of the beans so when thawed they have a desirable appearance and nutrients are not lost.

Part (b) (iv) was not done very well by the majority of candidates as most candidates were unable to explain the importance of the rate of freezing.

Question 3

This question was designed to test Module 2 of the syllabus: Food Preparation Methods. The question specifically tested candidates' knowledge of

- Batters
- Yeast products
- Cake making

Part (a) was poorly done as most candidates were not familiar with the term 'batter'.

Part (b) was not widely known by most candidates, who were unable to state one function of salt, sugar and eggs as it relates to yeast products.

Correct responses included points such as:

- Salt influences fermentation, strengthens the gluten and improves flavour.
- Sugar softens the dough, adds flavour and colour.
- Eggs enrich the dough, add colour to the product, moisten the dough and help to produce a lighter mixture.

Part (c) was not done very well by most candidates, as most candidates answered the question by providing one reason for all of the techniques. However, the question required a different reason for each technique.

Sieving:

- For removal of lumps and particles.
- To aerate the mixture.
- Sieving of dry ingredients apart from flour ensures even distribution.

Creaming:

- Creaming fat and sugar to trap air so that the cake will rise.
- To break down sugar crystals and to develop a light texture.

Whisking:

- Helps to incorporate air.
- Prevents curdling.
- Helps to emulsify fat.

Folding:

- Incorporates air
- Prevents loss of air from overbeating

Part (d) was satisfactorily done; most candidates were able to correctly explain a procedure that could have been used to prevent fruits from sinking.

Correct responses included:

To prevent fruits from sinking to the bottom of the cake

- Use the correct quantity of liquid. If the mixture is too wet the heavy fruit will not be held evenly throughout.
- Use the correct proportion of sugar, as too much sugar may cause the structure to collapse and the fruit to sink.
- Use the correct proportion of raising agent because too much may cause the structure to collapse and the fruit to sink to the bottom
- Ensure fruits are dry by removing any syrup or moisture with tissue and placing them in flour. Wet fruits add too much liquid to mixture.

To prevent the cake from sinking in the middle

- Use the correct proportion of sugar. Too much sugar or syrup will cause the gluten to become extremely soft and collapse.
- Refrain from opening the oven door prior to the setting of the gluten/mixture. A rush of cold air will make the mixture sink.
- Use the correct proportion of raising agent because too much may cause the gluten to overstretch and collapse.

Crisp sugary crust

- Use castor sugar; coarse crystals will not dissolve in time and will result in crystal formation.
- Use the correct amount of sugar; too much will contribute to a hard sugary crust.

Question 4

This optional question was designed to test Modules 1 and 2 of the syllabus: Nutritive Value of Food and Nutrition for the life cycle. The question tested the candidates' knowledge of

- Factors that influence the nutritional status of the elderly
- Food preparation practices that retain nutrients
- The importance of calcium, iron and dietary fibre in the diet of a pregnant woman

Part (a) was well done as candidates were able to correctly define invisible fat and to give an example.

Part (b) (i) was not done well; most candidates were not able to state the factors that influence the nutritional status of the elderly.

Correct responses included:

- Weak digestive tract
- Lower metabolism
- Reduced activities
- Inability to chew crunchy food

Part (b) (ii) was done well, most candidates were able to correctly suggest with reasons, food preparation practices that should be used to ensure the retention of nutrients.

Correct responses included:

Dried beans

- Soak to hydrate and boil in the same water in which the vitamins have leached.

- Avoid the use of bicarbonate of soda as the destruction of the vitamins is increased in an alkaline solution.
- If water remains after boiling beans utilise the water in stews, soups and sauces this water contains vitamins.

Apple

- Prepare shortly before use as Vitamin C is readily oxidised.
- Apply lemon juice, which acts as an anti-oxidant, to apple after it is cut to prevent the loss of Vitamin C.

Lettuce

- Use whole, rather than chopped leaves as this provides a smaller surface area from which Vitamin C may be lost.
- Chopping and allowing to stand for long periods results in the rapid loss of Vitamin C.
- Lettuce leaves should not be soaked in water due to the solubility of Vitamin C.

Part (c) (i) was fairly well done. Most candidates were able to explain the importance of calcium in the diet of a pregnant woman.

Correct responses included:

- Calcium is transferred from the teeth and bones of the woman to the foetus. This may result in weak teeth and osteoporosis.
- Calcium is needed for milk production.

Part (c) (ii) was well done. For example, one correct response stated

“Iron is necessary for the formation of haemoglobin, an essential part of the blood. During pregnancy the amount of blood in the body increases and therefore there is need for the body to make additional haemoglobin.”

Part (c) (iii) was well done, as most candidates understood the importance of dietary value in the diet of a pregnant woman.

Question 5

This optional question was designed to test Modules 4 and 5 of the syllabus: Equipment and Utensils for Food Preparation and Service and Food Hygiene and Safety. It specifically tested candidates' knowledge of

- (a) factors to be considered when choosing a refrigerator
- (b) electrical appliances suitable for the preparation of specific food items
- (c) symptoms of food poisoning
- (d) food contamination
- (e) hygiene and food safety.

Part (a) was well done. Most candidates were able to provide responses that dealt with

- Size and capacity according to need
- The family size
- The money available
- Space available
- The features available

Part (b) was also well done. Most candidates were able to state an electrical appliance suitable for the preparation of specific food items.

- Croutons: toaster oven, frying pan
- Fresh citrus fruit punch: blender, juice extractor, citrus juicer
- Mayonnaise: blender, food processor, hand-held and free-standing mixers

Part (c) (i) was also well done. Most candidates were familiar with symptoms caused by consuming contaminated food.

Common responses included:

- Abdominal pain
- Nausea
- Vomiting
- Diarrhoea
- Fever
- Cramps

Part (c) (ii) was well done, most candidates correctly explained the factors that might contribute to food contamination of chowder.

Correct responses included:

- Milk and fish, the main ingredients in the chowder (soup), were susceptible to contamination.
- The warm environment was conducive to the growth of micro-organism

- The length of time the chowder was left before serving would have promoted the growth of microorganisms

Part (c) (iii) was well done, most candidates correctly suggested hygiene and safety factors to be considered when purchasing milk and fish.

Correct responses included:

- Buy milk and fish from reputable shops where the food is handled and stored hygienically.
- Check for the expiry date on milk package.
- Fish and milk should be stored at the correct temperatures.
- Fish should be fresh, with bright red gills, full eyes/eyes not sunken, no unpleasant smell, firm flesh and full scales.

Question 6

This question tested Modules 7 and 8 of the syllabus: Consumerism and Purchasing and Suitable Practices in Food Preparation. This question specifically tested the candidates' knowledge of

- (a) The differences between 'oily' and 'white' fish
- (b) Methods of heat transfer
- (c) Shopping guidelines for providing nutritional meals
- (d) Food labels

Part (a) was not well done; most candidates were unable to distinguish between white fish and oily fish.

An appropriate response was

White fish contains less than 5% fat in its flesh, and the fat is stored in the liver, whereas oily fish contains more than 5% of fat in its flesh and that fat is interspersed in the flesh making it dark and difficult to digest.

Part (b) was also not well done; most candidates discussed methods of cooking and not methods of heat transfer. Correct responses were:

- Convection is the rapid transfer of heat energy by molecules through liquids and gases.
- Convective currents occur in liquids and gases. The liquid that is heated rises, and cooler liquid falls to the bottom to be heated again. The food is heated by this process.
- Conduction is the transfer of heat energy through solid from one molecule to another by contact.
- Radiation is the transference of heat through a vacuum (space).

Part (c) (i) was well done; most candidates were able to adequately discuss shopping guidelines for providing nutritious meals.

Correct responses included:

- Buy cheaper cuts of meat as they are just as nutritious as the expensive cuts and money can be saved.
- Buy foods in season as they are often cheaper and have a greater food value than foods out of season.
- Search for specials and discounts in magazines and newspapers where foods can be obtained at a cheaper cost to enhance the nutritional value of the meal.
- Buy food in bulk as this may prove cheaper.
- Purchase non-traditional edible leaves; they provide a good source of iron and calcium.

Part (c) (ii) was not very well done. While candidates were able to correctly suggest the information that should feature on the label of guava cheese they were unable to support their suggestions with reasons.

Correct responses included:

- The name of the product to ascertain its authenticity.
- Address of the manufacturer; in the event that the product has an issue the manufacturer can be easily located.
- A list of ingredients, as consumers would be made aware of any ingredients that they may be allergic to; also, they would have an idea of their calorie intake.

Question 7

This question tested Modules 9 and 10 of the syllabus: Management of Food Preparation and Service, and Meal Planning and Service respectively.

The question specifically tested the candidates' knowledge of:

- (a) Kitchen floor covering
- (b) Guidelines for writing a time plan
- (c) Menu plans
- (d) Food spoilage

Part (a) was well done; most candidates were able to name the material and to explain its suitability for the purpose of covering kitchen floors, with responses such as

<u>Floor covering</u>	<u>Reason for choice</u>
Non-skid ceramic tile	Resistant to chemicals, heat and water
Vinyl	Quiet, waterproof, easy to clean, inexpensive
Linoleum	Hardwearing, easy to clean, inexpensive

Part (b) was well done also. Most candidates correctly listed guidelines to be followed when writing a time plan. Correct responses included:

- Ensure methods of cooking and temperatures are included in the time plan.
- Ensure the preparation of dishes follows a logical sequence.
- Ensure all ingredients to be used in the preparation of the dishes are clearly stated.

Part (c) was well done and most candidates were able to write a plan suitable for the main course of a lunch menu.

Part (d) was also well done; most candidates were able to correctly explain how the spoilage of foods could be minimised during food storage.

Correct responses included:

Flour

- Store in a cool dry area. If the area is too warm food will lose quality and nutrients.
- Store in an efficient working refrigerator. This will extend the shelf life of the flour.
- Use flour based on the first- in first-out principle to prevent using expired products.
- Store in airtight containers and on clean shelves to keep out moisture to prevent lumping.

Oranges

- Store in cool, dry, well-ventilated area to prevent vaporisation of juice.
- Store in a refrigerator to prevent nutrient loss and to discourage mould growth.

Meat

- Store at low temperatures in a freezer or refrigerator to retard the growth of microorganisms.
- Wrap securely to prevent loss of moisture and flavour (freezer burn).
- When purchased in large quantities, separate and package into small portions to avoid thawing and refreezing.

CARIBBEAN EXAMINATIONS COUNCIL

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

JUNE 2017

**FOOD, NUTRITION AND HEALTH
GENERAL PROFICIENCY**

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GENERAL COMMENTS

Food, Nutrition and Health is a new syllabus examined for the first time in 2017. It comprises seven sections with corresponding objectives. Over 10,000 candidates wrote this examination.

Paper 01, the Multiple Choice component comprised sixty items worth 60 marks, 30 of which were allotted to the Knowledge profile and 30 to the Use of Knowledge profile. The purpose of this paper was to ensure wide coverage of the syllabus objectives.

Selective objectives were tested in six compulsory Structured Essay questions in Paper 02. Each question tested two profiles with 6 marks allocated to the Knowledge profile and 10 marks allocated to the Use of Knowledge profile, for a total of 36 Knowledge and 60 Use of Knowledge marks.

Paper 03, the School-Based Assessment (SBA) component was intended to assess practical aspects of the syllabus and took the form of three assignments. The value of each assignment was 20 marks or 60 marks overall. The assignments were constructed by the class teacher or groups of teachers. Assignments 1 and 3 were assessed independently by the class teacher whereas Assignment 2 was assessed jointly by an external moderator and the class teacher.

DETAILED COMMENTS

Paper 01 — Multiple Choice

The mean score on this paper was 37.97 with a standard deviation of 9.02. Candidates performed very well on Paper 01; 92 per cent of the candidates gained acceptable grades.

Paper 02 — Structured Essay

Question 1

This question tested Section 1 of the syllabus — Diet and Health. Candidates were required to:

- a) List diets which contribute to good health and well-being.
- b) Explain ways in which obesity impacts the Caribbean.
- c) List vulnerable groups in the Caribbean.
- d) Discuss factors that can threaten the food security of one of the vulnerable groups.

Part (a) was well done by many candidates who gave appropriate examples of diets such as :

- High fibre
- Low fat
- Low sugar
- Balanced
- Vegan or strict vegetarian

Part (b) posed some difficulty to most candidates, who explained the causes and effects of obesity rather than its impact on the Caribbean. Correct responses included:

Human resource capacity

- Individuals may become ill frequently, thus being unable to go to work regularly causing a decline in production.
- Obesity predisposes one to non-communicable diseases such as diabetes mellitus and cardiovascular disease. If these diseases are not properly managed, persons' health is likely to deteriorate and they may eventually die.

Disposable income spent on health

- Due to a high incidence of heart disease/cardiovascular disease, Type II diabetes mellitus and hypertension, more disposable income is spent on medication.
- More disposable income will be spent on transportation in order to seek medical attention.

Government expenditure on health

- Increased budgetary allocation on health facilities and subsidies on health services and medication.

For Part (c), many candidates did not know the term *vulnerable groups* and therefore listed incorrect responses such as food groups and forms of nutrition. Correct responses included:

- Infants/toddlers
- Elderly/senior citizens
- Pregnant and lactating women
- Destitute
- Unemployed

Part (d) was not well done, as many candidates were unable to discuss the factors that threaten food security. Correct responses included:

Age

- The elderly and infants/toddlers cannot independently provide for their nutritional requirements.
- Failure of care providers to adequately provide for the nutritional needs of the elderly may result in under-nutrition or starvation as they may not have access to food or be able to prepare meals.
- Once the diet of the elderly and infant is lacking in key vitamins and minerals they are most likely to suffer from deficiency diseases.
- Adequate nutrition is essential for the health and survival of infants and the elderly.

Socio-economic status

- Retirees on limited finances may be unable to adequately provide for their health and nutritional requirements.
- Social programmes such as welfare and soup kitchens may not be in close proximity to where the poverty stricken individual lives or these programmes may be non-existent.
- Pregnant women may be unable to work due to complications. If they are not entitled to National Insurance benefits, they would have reduced access to finances and be unable to meet nutritional demands.
- Poverty-stricken individuals who have limited finances are unable to purchase nutritious food and are most likely to suffer from deficiency diseases and ultimately starvation.

Infectious diseases

- All vulnerable groups are at risk of developing infections which, in some cases, inhibit the absorption of nutrients due to diarrhea and vomiting. This may lead to severe malnutrition and by extension death.

Natural disasters

- Disasters such as hurricanes can lead to flash floods. The water, as well as the crops, become contaminated and will result in a decrease in the quantity and quality of the crops.

Question 2

This question tested Section 2 of the syllabus — Nutrition and Health. Candidates were required to:

- List functions of calcium in the diet.
- Identify non-heme sources of iron in the diet.
 - Suggest a reason why sources of iron are especially important in the diet of strict vegetarians or vegans.
- Describe in detail, how a person may become obese from an excessive intake of protein foods.
- Explain guidelines for conserving vitamin C during the pre-preparation of food.

In Part (a), very few candidates scored maximum marks. The majority of candidates stated correctly that calcium builds strong teeth and bones. However, some functions of calcium not included were:

- Needed for building nerves and tissues
- Necessary for blood clotting
- Aids in muscle contraction

In Part (b) (i), most candidates were unable to distinguish heme from non-heme sources of iron. They therefore listed both iron types rather than sources of non-heme. Correct responses included:

- Dark green leafy vegetables
- Spinach
- Dasheen bush/eddo leaves
- Sunflower seeds
- Dark chocolate
- Dried peas and beans
- Whole grain and enriched cereals
- Curry

In Part (b) (ii), some candidates misunderstood the question and gave responses that were consistent with lacto- and ovo-lacto vegetarians. Few candidates interpreted the question correctly and those gave responses such as:

- Strict vegetarians do not consume animal products which are the main sources of iron.
- Strict vegetarians must ensure that they consume adequate amounts of iron from plant sources so that their diets are not deficient in iron.

Part (c) was done very well. Correct responses included:

- Excess protein eaten will be stored as fat as the body may have already used the amount needed for growth repair and maintenance of cells.
- Carbohydrates eaten will be used for energy thus the excess protein is stored as fat under the skin and other parts of the body for later use. In the event that the stored fat is not utilized obesity may result.

Part (d) was not well done, as most candidates stated the functions of Vitamin C and were unable to explain guidelines for consuming Vitamin C. Correct responses included:

- Refrain from soaking fruits and vegetables in water as Vitamin C, being water soluble, will leach.
- Cut vegetables with a sharp knife as a dull knife will cause tissue damage and accelerate oxidation and hence the loss of Vitamin C.
- Peel vegetables and fruits thinly or utilize the skin which has a high concentration of Vitamin C.
- Cut fruits and vegetables shortly before use to minimize the loss of Vitamin C. Rapid oxidation will occur when plant cells are exposed or ruptured.

Question 3

This question tested Section 3 of the syllabus — Meal Planning Preparation and Dining. Candidates were required to:

- a) State factors which should be taken into account when planning meals for the family.
- b) Name the main nutrient present in (i) food from animals and (ii) staples.
- c) (i) Define the term *multi-mix principle*.
 (ii) Use the multi-mix principle to plan a breakfast menu for a five-year-old boy.
 (iii) Plan a lunch menu using the triple-mix or three-mix principle.

Part (a) was widely known as the majority of candidates scored full marks on this part. Parts (b) (i) and (b) (ii) were also widely known. Candidates correctly named the nutrients present in each food group.

Part (c) (i) was well done, as most candidates associated food groups with the multi-mix principle. Part (c) (ii) was also well done. Most candidates were able to plan the lunch menu. A few candidates did not use the triple-mix principle for that menu.

The breakfast menu that was planned for a five-year-old boy in Part (c) (ii), reflected a diverse Caribbean breakfast culture. Most candidates earned full marks for this part.

Question 4

This question tested Section 4 of the syllabus — Food Science and Technology. Candidates were required to:

- a) Name an agent responsible for the discolouration seen in cut fruits and vegetables.
- b) Name methods for preserving food.
- c) (i) Name microorganisms that contaminate food.
 (ii) Suggest factors, other than microorganisms, that may have contributed to the spoilage of the fish dish.
 (iii) Suggest signs/symptoms of food spoilage.
- d) Suggest the effects of extra baking powder in cake making.

Part (a) was well done as most candidates identified oxidation or oxygen as an agent responsible for the discolouration in cut fruits and vegetables.

Part (b) was also well done. Many candidates were able to identify methods of preserving food. Correct responses included:

- Dehydration
- Sterilization
- Salting/curing/smoking
- Freezing
- Pickling
- Canning
- Bottling
- Use of chemicals
- Pasteurization
- Irradiation

Part (c) (i) was well done by most candidates. Correct responses included:

- Bacteria
- Yeast
- Moulds

For Part (c) (ii), candidates were familiar with factors other than the presence of microorganisms that may have affected the fish dish. Correct responses included:

- Poor hygiene practices
- Poor food-handling practices
- Improper food storage
- Unsanitary cooking utensils and equipment
- Storage facility not working efficiently
- Incorrect storage temperature
- Food left exposed to flies and dust

Part (c) (iii) was very well done. Most candidates scored full marks for this part. Correct responses included:

- Upset stomach
- Nausea
- Vomiting
- Abdominal cramps
- Diarrhea
- Fever
- Dehydration

Part (d) was also well done. Correct responses included:

- The cake mixture will rise rapidly and fall due to the strong effervescence of carbon dioxide.
- The centre of the cake will fall/sink as the gluten will overstretch and collapse.
- The crumbs will be coarse.
- The cake tends to be flat rather than fluffy.
- The cake will develop an unpleasant taste.
- The mixture may overflow the pan.
- The cake will take a longer time in the oven without baking properly.
- The cake will crumble due to the over production of carbon dioxide.
- The crust will be sugary.
- The texture will be dry.

Question 5

This question tested Section 5 of the syllabus — Kitchen Design and Equipment Management. Candidates were required to:

- a) (i) Define *work triangle*.
- (ii) Name the kitchen layout that does not conform to a triangle.
- (iii) Explain the factors that should be considered in planning the layout and design of a kitchen.
- b) Identify features that should be considered when purchasing a food processor.
- c) Explain the techniques that can be used to conserve fuel while cooking curried chicken.

In Part (a), most of the candidates gave a partial definition of a work triangle and were awarded one of the two marks. The correct response is: *The layout of the three main activity areas in the kitchen, namely the cooker/range, the refrigerator and the sink which forms a triangle when connected by a line.*

For Part (a) (ii), most candidates correctly named the one wall or single lined design as a layout that does not form a work triangle.

Part (a) (iii) was also well done. Most candidates were able to explain three factors to be considered when planning the layout and design of a kitchen. Correct responses included:

Space available

- This would determine the most appropriate layout. For example, a one-wall layout is best suited for a small space and a small family.
- The U-shape design requires a large area and maximum storage space. Several persons could use it at the same time.
- The L-shape design can be used in a small or large area.
- A work triangle should be close but not crowded to allow for greater efficiency.

Storage units

- Type of storage units is based on storage requirements.

Ventilation and lighting

- Windows are important to permit natural light and allow the entry of fresh air.
- Lighting should consume low energy and provide adequate light.
- Lighting should not contribute to excessive heat in the kitchen.

Walls

- Should be easy to clean
- Should not absorb grease
- Pastel or light colours are ideal to create an atmosphere of coolness.

Flooring

- Easy to clean
- Should be non- slip
- There should be no defects in the floor.

Budget

- Adequate resources should be available for work to be undertaken.

For Part (b), most candidates misunderstood the meaning of the word *feature* and did not answer this part correctly. Correct responses included:

- The brand
- Wattage/voltage
- Durability
- Easy to clean
- Safety features (if parts are not correctly assembled the appliance will not operate)

Part (c) was fairly well done. Most candidates were able to explain techniques that could be used to conserve fuel. Correct responses included:

- Thaw chicken before cooking.
- Reduce the heat and allow the chicken to cook slowly as it takes longer for frozen food to cook.
- Use optimal liquid to shorten the cooking time.
- Utilize the pressure cooker as it reduces the cooking time by half.
- Make use of residual heat as this would be adequate to complete the cooking.
- Cover pot to retain heat which results in faster cooking.

Question 6

This question tested specific objectives from Sections 6 and 7 of the syllabus. Candidates were required to:

- a) State a guideline to be followed when (i) purchasing fresh beef and (ii) storing frozen beef.
- b) (i) State an advantage and a disadvantage of boiling.
(ii) Name dry methods of cooking.
- c) (i) Suggest reasons for shopping at a large chain supermarket rather than a community owned supermarket.
(ii) Suggest courses of action a person could take to seek redress after realizing the items they have purchased have expired.
- d) State ways by which plain boiled rice could be made more appealing.

Part (a) (i) was well done, as most candidates associated beef with a characteristic red colour. Correct responses included:

- Fat should be cream or pale yellow.
- Flesh should be slightly springy to the touch.
- Lean beef should have a marbled appearance.
- Fat and bone should not be in excess.
- Beef should have a pleasant odour.
- Cuts should be firm and smooth with no ragged edges or uneven sections.
- Flesh should be moist.

Part (a) (ii) was not done very well, as most candidates did not know the guidelines to be followed when storing beef. Correct responses included:

- Store in cooking portions.
- Store in freezer bags to prevent freezer burn.
- Loosely wrap in aluminum foil or other suitable wrapper to permit the circulation of air.

Part (b) (i) was well done by most candidates. Correct responses included:

Advantages of boiling

- A simple method of cooking that needs little attention.
- Suitable for cheaper cuts of meat such as brisket.
- An economical method of cooking as more than one food can be cooked at the same time.
- A healthy method of cooking.

Disadvantages of boiling

- Some foods may disintegrate if over boiled; therefore the food should be carefully timed.
- Generally, some flavor is lost from the food.
- Water-soluble vitamins are lost.
- The food looks unpalatable.

Part (b) (ii) was well done. Most candidates were able to correctly name dry methods of cooking.

Part (c) (i) was very well done, as most candidates were able to suggest appropriate reasons for choosing a large chain supermarket over a community owned supermarket. Correct responses included:

- Provides spacious parking facilities.
- Usually clean and attractive.

- Offers home deliveries.
- Goods are always fresh due to rapid turn-over.
- Purchases may be made with credit/debit cards.
- Patrons can choose and package their own fruits and vegetables.
- More attractive packaging is provided.
- Prices are readily displayed.
- A wide selection of items is available.
- Operates extensive hours and is open on Sundays.
- Items are at competitive prices.
- Everyone is anonymous.

Part (c) (ii) was done very well, though a few candidates suggested the first course of action was to seek the assistance of the law. Most candidates used the following required approach to answer this part:

- Return the goods and receipt to the place of sale.
- Request to speak to the supervisor or the person in charge.
- Make a formal complaint.
- If no redress is received, take the complaint to the Bureau of Standards.
- Engage the law if all approaches fail.

Part (d) allowed candidates to demonstrate their creative skills. Correct responses included:

- Mould the rice in attractive shapes.
- Garnish with herbs, sliced or wedged egg, sliced tomatoes and cucumber.
- Add vegetables of different shapes to the rice.
- Incorporate an assortment of fruits.
- Add colour to the rice.

Recommendations

- Students should be encouraged to write legibly.
- It is essential that students be given practice in answering questions, paying attention to key words used in the questions.
- Use various approaches of teaching to promote learning.
- Students should be given exercises in critiquing misconceptions and inaccuracies.
- Use real life simulations to motivate learning; for example, students should discuss, argue, explain, make judgements and analyze scenarios.
- Use formative and summative evaluation during classroom delivery to enhance the learning process.

CARIBBEAN EXAMINATIONS COUNCIL

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

MAY/JUNE 2018

**FOOD, NUTRITION AND HEALTH
GENERAL PROFICIENCY**

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GENERAL COMMENTS

Food, Nutrition and Health is examined by the Caribbean Examinations Council in the May /June sitting yearly. The year 2018 marked the second year that the subject was electronically marked. Over 10 000 candidates wrote the examination of which 89 per cent obtained Grades I–III. The mean score obtained across all three papers was 121 out of 200 marks. Paper 01 accounted for 60 marks, Paper 02, 96 marks and Paper 03, 60 marks.

DETAILED COMMENTS

Paper 01 – Multiple Choice

This paper comprised 60 items 30 of which tested candidates' ability to recall information, while the remaining 30 tested candidates' ability to apply information to situations through a wide coverage of the syllabus. Approximately 92.59 per cent of candidates earned Grades I – III.

Paper 02 – Structured Essay

This paper comprised six compulsory questions. Sixteen marks were available for each question, with six assigned to the knowledge profile and ten to the use of knowledge profile. The total available marks for this paper was 96 and 49.74 per cent of candidates earned Grades I–III.

Question 1

This question tested the objectives in Section 1 of the syllabus. Candidates were required to:

- identify organizations that are involved in community nutrition in the Caribbean
- explain the roles of these organizations in the Caribbean
- discuss factors that contribute to changes in the dietary requirements of individuals
- identify high intensity activities suitable for adolescents
- suggest the minimum time the activities should be carried out for effectiveness.

Part (a) was widely known by the majority of candidates. Though many candidates named international organizations such as the WHO and UNICEF, homebred organizations such as the local Ministry of Health and nongovernmental organizations which provide similar services were also listed. Those candidates who may have misread the question named CSME, CVQ and OECS.

In Part (b), many candidates experienced difficulty explaining the roles of these organizations in enhancing the lives of the needy. However, those candidates had sound knowledge of nutrition-associated concepts such as food availability and nutrition awareness all of which are aligned to the roles of such organizations. In a few instances candidates restricted their responses to deprived communities.

Part (c) was well handled by a significant number of candidates. Factors that informed change in dietary requirements such as health and age were highlighted. Many candidates struggled to justify how these factors necessitated dietary modification.

Those candidates who understood the demands of the question illustrated the impact as follows:

Health: Illnesses such as diabetes and hypertension may necessitate the elimination or the reduction of certain foods in the diet of both adults and children.

Age: As infants and adolescents develop they will require changes in their diet in recognition of their incremental development.

Persons who have transitioned from a sedentary type job to a manual type job or vice versa will need to satisfy that transition.

In Part (c), many candidates identified a wide range of high intensity activities and gave appropriate examples such as jogging and squatting. However, the minimum time suggested for the activities to be effective varied from minutes to hours and days, the latter being unrealistic.

Question 2

This question focused on Section 2 of the syllabus. Candidates were required to

- define the term *deficiency disease*
- name the deficiency disease that occurs as a result of insufficient vitamin C in the diet
- state signs and symptoms of the deficiency disease
- explain the importance of water in the diet
- describe the digestive process of meat from the mouth to the stomach.

In Parts (a) (i) and (ii) responses seemed to suggest that most candidates understood the concept of *deficiency disease* and in the main named the disease that occurred due to an insufficient intake of vitamin C. While many candidates gave symptoms that were associated with scurvy, a few gave symptoms that were related to many other conditions such as PEM and night blindness.

Part (b) did not pose any major challenge as most candidates demonstrated sound knowledge of the importance of water in the diet. A few candidates who seemingly were inadequately prepared gave dehydration as the sole correct response.

Part (c) posed the greatest challenge. Evidence seemed to suggest that candidates had previous knowledge about digestion but could not distinguish protein from carbohydrate digestion. Many candidates stated that the digestion of meat occurred in the mouth due to the presence of amylase, a starch-reducing enzyme secreted by the saliva. Well-prepared candidates explained in a logical manner that the teeth masticated the meat that was moistened by the saliva which facilitated an easy passage via the oesophagus into the stomach. Many candidates could not state the conclusion of the process accurately due to a distortion of the facts learnt.

Question 3

The objectives of this question, taken from Section 3 of the syllabus, tested candidates' ability to:

- define the term *breakfast*
- name indigenous Caribbean foods that may be used in planning a breakfast menu
- state the difference between a vegan and a lacto-vegetarian
- use indigenous foods to plan a one-course menu for a manual worker
- suggest reasons why corn beef pie made of pastry and whole-wheat bread may be suitable or unsuitable for an aunt who is suffering from diabetes and hypertension
- suggest a suitable packaging material for fried chicken and a suitable but different packaging material for cupcakes to be taken on a tour.

In Part (a) (i), many candidates gave a complete definition of the term *breakfast*. A few candidates gave some definitions that implied a period of fasting. On the contrary, some candidates gave a partial definition such as the first meal of the day.

In Part (a) (ii), it was apparent that a few candidates were unfamiliar with the term *indigenous* and resorted to name foods that were imported or not cultivated in their respective territories. In Part (b), most candidates ably distinguished a vegan from a lacto-vegetarian. They emphasized that a strict vegetarian or vegan used no animal products, only plant-based food, whereas the lacto-vegetarian had a wider scope in food choices and used, in addition to vegetable- based products, dairy products.

In Part (c), it was evident that many candidates did not fully grasp how to construct a menu, more particularly a one-course menu. Nevertheless they were aware of the dietary demands of a manual worker. In the construction of a lunch menu the protein dish takes precedence over the other dishes and since a main course or one-course meal was required. On the contrary, the breakfast menu comprised fruit, cereal, protein stuff, breadstuff and beverage.

In Part (d), some of the reasons given why the two foods were suitable or unsuitable for the health issues lacked depth due to the fact that justifications were not strong. The following are examples of sound justifications.

- Salt or sodium in the corn beef will elevate the blood pressure.
- Flour is likely to raise the glycemic or sugar level.
- Saturated fat is likely to elevate the cholesterol level and clog the veins and arteries.
- Dietary fibre in the bread delays hunger and helps to manage the diabetic condition.

Part (e) was based on candidates' experience; they named appropriate packaging materials with the minimum difficulty.

Question 4

This question was designed to test the objectives in Section 4 of the syllabus. Candidates were required to

- name food additives
- state the functions of food additives
- state the difference between perishable and non-perishable foods

- explain how methods of heat transfer other than conduction are involved in the cooking of boiled rice, steamed fish and grilled chicken
- suggest changes that may occur in the rice and fish as they are being cooked
- suggest the effects of prolonged heating on oil.

The majority of candidates earned full marks in Part (a) (i) and replicated this performance in Part (a) (ii). Few candidates named some unfamiliar herbal substances used as additives to colour food.

In Part (b), most candidates scored points easily. In differentiating perishable from non-perishable foods candidates pointed out that foods with a high moisture content were more susceptible to spoilage, hence having a short shelf life in contrast with those foods with a long shelf life which were sustained by chemicals or a greatly diminished moisture content.

In Part (c) (i), most candidates recalled the methods of heat transfer but had difficulty illustrating precisely how the transfer of heat takes place. Few candidates outlined the procedure in preparing the dishes. This showed that their knowledge of science was limited.

In Part (c) (ii), many candidates associated the changes observed when rice is being boiled with enlarged sticky grain, fish being steamed with colour and textural change, and chicken being grilled with shrinkage and colour change. Few attributed those changes to scientific constructs such as gelatinization, coagulation and viscosity.

In Part (c) (iii), few candidates aligned the effects of prolonged heating of oil to flash point, smoke point and splitting. The latter meant decomposition where the glycerol would be separated from the fatty acids.

Question 5

This question tested the objectives in Section 5 of the syllabus. Candidates were required to

- state the procedure that may be used to remove a blockage from a kitchen sink
- define the term *first aid*
- explain the first-aid procedure that should be given to a person who has been electrocuted
- explain the factors that should be considered in the most efficient use of the kitchen in the preparation of brunch

In Part (a), many candidates used their experience to outline the procedure involved in the removal of blockage from the kitchen sink. Suggestions given varied and were all of a practical nature. Some candidates did not fully address the problem and suggested to call in the plumber and to use a stick in the clearing process. The latter most likely would have exacerbated the problem.

In Part (b) (i), many candidates referred to *first aid* as a kit that is used in an emergency. However, many candidates gave appropriate definitions such as *treatment administered to an injury in the absence of professional help* and the *first help given to a person before the doctor arrives*.

It was obvious that the word *electrocuted* in context was not clearly understood by many candidates. However, candidates who understood the word based on its origin associated it with power supply and

listed precautions such as *turn off the power supply* and use *nonconductors of electricity to ensure the safety of the first aider and by extension the injured person*.

In Part (c), many candidates misunderstood the context of the question and gave responses that did not speak to efficiency during the preparation of the brunch. Others gave salient points which they developed. These included kitchen space and workstations.

Question 6

This question tested a combination of objectives from Sections 6 and 7 of the syllabus. Candidates were required to

- state the difference between a need and a want.
- state reasons for cooking food.
- name a tender and a tough cut of beef.
- design a label for a food product to include nutritional facts and general information.
- suggest ways by which customers benefit from the barcode or universal product code /UPC.

In Part (a), need and want were well articulated by the majority of candidates.

In Part (b), most candidates gave realistic reasons for cooking food while a few who did not make a careful analysis of the question gave reasons such as ‘we cook to live and to obtain nutrients’.

From the responses given in Part (c), it was evident that a few candidates were unfamiliar with cuts of beef and named ‘foot’ and ‘belly’ rather than *steak, flank* and *sirloin*.

Part (d) (i) was well answered by the majority of candidates but in few cases candidates described the function of the product. In Part (d) (ii), the experience many candidates would have had shopping in supermarkets gave them the advantage in suggesting the benefits of a barcode.

In spite of the fact that the majority of candidates responded well to Part (e), a few did not expand the points stated while others were confused and gave points in favour of personal hygiene and kitchen hygiene.

Paper 03 – School-Based Assessment

This paper placed emphasis on the practical components of the syllabus. Three assignments equally weighted at 20 marks (60 marks overall) were structured by class teachers, a position sanctioned by the Caribbean Examinations Council. The intention was to give teachers the opportunity to play an active role in the assessment of their students. These assignments straddled two years, commencing in the last term of fourth form. Assignments one and three were assessed exclusively by the teacher in accordance with a mark scheme prepared by CXC, while assignment two was moderated jointly by the class teacher and a Ministry appointed moderator. This assignment was subject to a process of standardization prior to moderation. Of the candidates who sat the examination, 95.58 per cent of the candidates obtained Grades I–III.

Teachers are encouraged to implement the following recommendations.

- Explain to students the benefits of schooling and learning in the immediate and long term.
- Meaningfully engage students at all times in the learning environment. This engagement would encourage and help sustain motivation.
- Covered the entire syllabus as there is danger in selecting objectives. Craft a comprehensive plan to make this possible. This could involve guided research and presentations, songs with appropriate lyrics, skits, mnemonics, role play, non-fictional story telling, debates, press conferences, academic games, case study, simulations and so on.
- Design assignments that are appropriately challenging given the experience and aptitude of the class.
- Use as a teaching instrument responses that are inaccurate. Allow students to research the answers and discuss same in groups. It is essential that students be given quality experiences in order that they may develop mastery of the content and be able to interpret and respond to application or high level questions.
- Students should be encouraged to compose a glossary of concepts. They should be guided to peruse the syllabus for these concepts and to give each a concise but accurate meaning. This information could be shared and discussed at a class forum where points could be given.
- Peers may be allowed to critique both written and practical work with the teacher being the facilitator.
- A wealth of information is available in the media and elsewhere. It is therefore prudent that teachers create an interactive platform whereby teachers and students can share information garnered. Remember the more one seeks information the more learning will take place.
- Students should not be allowed to transcribe copious notes from textbooks or other sources. Teachers are better able to determine students' strengths and weaknesses if students are assigned reading materials and questioned on them.
- Incorporate student experiences, interests and real life situations in instruction.
- Instruction should be tailored to satisfy each learner's needs.
- The questions designed for formative and summative evaluation should reflect knowledge and use of knowledge at all times. This will prepare students for the demands of the examination.
- The approaches used to deliver classroom instruction should inspire learning. Focus on the objectives using various strategies inclusive of brainstorming. Remember students are easily bored and become disinterested if their expectations are not met.
- Be an effective communicator. Instructions should be free from ambiguity.
- Home assignments should be given to reinforce work taught.
- Create learning environments where students are active participants as individuals and as members of collaborative groups.
- Set high standards for both theory and practical work. This would encourage friendly rivalry/competition.

CARIBBEAN EXAMINATIONS COUNCIL

**REPORT ON CANDIDATES' WORK IN THE
CARIBBEAN SECONDARY EDUCATION CERTIFICATE[®]
EXAMINATION**

MAY/JUNE 2019

**FOOD, NUTRITION AND HEALTH
TECHNICAL PROFICIENCY**

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GENERAL COMMENTS

More than 10 000 candidates sat the 38th Food and Nutrition examination (now called Food, Nutrition and Health) administered by the Caribbean Examinations Council in May 2019. This examination took the form of two externally marked papers: Paper 01 (Multiple Choice), which consisted of 60 items for a total of 60 marks, and Paper 02 (Structured Essay), which consisted of six compulsory questions worth 16 marks each. Paper 02 reflected two profiles: Knowledge (candidates' ability to recall information), and Use of Knowledge (the ability to use such information in a variety of contexts).

Paper 03 consisted of three practical assignments, 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 for a total of 15 marks each, while Assignment 2 was jointly assessed by the class teacher and an external moderator for a total of 30 marks. While Assignments 1 and 3 assessed Practical Skills, Assignment 2 assessed Practical Skills and a student portfolio, which is a compilation of students' work.

DETAILED COMMENTS

Paper 01 — Multiple Choice

The mean score on Paper 01 was 38.12 with a standard deviation of 9.31. Candidates performed very well on Paper 01.

Paper 02 — Structured Essay

All questions were compulsory.

Question 1

This question was designed to test Section 1 of the syllabus: Diet and Health. The following topics were covered:

- Diet
- Diet — Health-related problems and their impact
- Vulnerable groups in the community and their nutritional problems

Candidates were required to do the following:

- Define the term *nutritional status*.
- State four types of assessment methods that are generally used to evaluate nutritional status.
- Suggest three reasons why the management of diabetes mellitus is costly.

- Outline two reasons why pregnant women are required to have an increased intake of iron in their diet.

Generally, candidates gave partial definitions of the term *nutritional status*. While they displayed a general understanding of the term *nutrition*, they were unable to relate it to the state of the body/health.

Examples of correct responses included the following:

- State of the body resulting from the intake and use of nutrients
- Condition influenced by quantity and quality of food intake and the person's physical health
- One's health condition influenced by the use the body makes of the nutrients/intake and utilization of nutrients
- The nutritional health of a person determined by assessment measures/procedures

Candidates had general knowledge of the types of assessments in Part (a) (ii). In most cases, candidates were only able to correctly name two methods of assessment. Some candidates gave examples of the methods and not the names of the methods, for example, they stated body mass index (BMI) and not anthropometric measurements. In some cases, candidates stated the correct method in one point then in another point gave an example of the method, for example, anthropometric measurements then weight and height.

Correct responses included the following:

- Anthropometric
- Biochemical
- Clinical
- Diet history/historical assessment

The content examined in Part (b) was widely known by candidates. Popular responses cited the following:

- Expense of medication
- Cost incurred from regular medical check-ups
- Changes in the diet which may cause increase in expenses

Some candidates misinterpreted the question and listed causes of diabetes mellitus.

Correct responses included the following:

- Persons may have to purchase instruments, apparatus and materials for the testing of their sugar levels.
- The insulin required is expensive.

- Regular doctor visits are required for monitoring and this may be costly.
- Persons may need to enrol in an exercise programme which may be costly.
- Persons may require a caregiver.
- Change in the diet to include more vegetables may be costly.

A few candidates were awarded full marks for Part (d). Several candidates provided partial responses for the functions of calcium, for example, 'strengthening of bones and teeth'.

Correct responses included the following:

- The developing foetus draws iron from the mother to last the first couple of months after birth.
- Iron deficiency may develop leading to anaemia, resulting in less oxygen reaching the tissues.
- If pregnant women are iron deficient, they have a high risk of giving birth prematurely.
- Iron-deficient mothers may have a baby with low birth weight (LBW).
- Iron is needed to support the increased maternal haemoglobin synthesis that occurs when blood volume expands.
- The baby will draw from the mother's iron supply.
- Important for the production of blood.

Question 2

This question tested Section 2 of the syllabus: Nutrition and Health. The question specifically tested the following:

- Principles of nutrition
- Health conditions associated with improper intake of carbohydrates, proteins and fats
- Importance of calcium and iron to special groups
- Water

Candidates were required to do the following:

- State two functions of food.
- Discuss two effects of inadequate consumption of carbohydrates in the diet for weight loss.
- Explain two reasons calcium is important in babies and adolescent females.
- State two functions and two sources of water in the diet

Part (a) was well done; most candidates were awarded full marks for this section.

Correct responses included the following:

- Provides the body with nutrients necessary for energy.

- Protects against diseases.
- Growth and development/build cells and body tissues.
- Alleviates the feeling of hunger or satisfies the appetite.
- Satisfies emotional needs.
- To express feelings of special attention, friendship, recognition or punishment.

For Part (b), most candidates displayed a general understanding of the effects of inadequate consumption of carbohydrates in the diet. Popular responses included the following:

- Tiredness or lethargy
- Proteins being used as a source of energy
- Slowing of metabolism

The terms *ketosis*, *acidosis* and *hypoglycaemia* were rarely used and several candidates focused on the risk factors of being overweight and not the effects of inadequate consumption of carbohydrates in the diet.

Correct responses included the following:

- Insufficient energy/hypoglycaemia: main function of carbohydrate is provision of energy, therefore she would have an inadequate supply of energy and hence reduced metabolism.
- Body stores more energy: in the absence of sufficient energy, the body stores and conserves energy, more energy than it normally would. This would result in lower metabolism, which could result in her gaining weight or not losing weight.
- Breakdown of proteins to be used for energy: carbohydrate has a protein sparing action. Insufficient carbohydrates would result in the proteins being used for energy and not being available for bodybuilding and repair.
- Ketosis and acidosis: the body will utilize fat for energy in the absence of carbohydrates, releasing acidic substances into the body.
- Depletion of glycogen stored: the body will convert the stored glycogen to glucose.
- Constipation: Our dietary fibre comes from complex carbohydrates and is essential for eliminating waste. A low carb diet may cause constipation.
- Can result in hunger as fibre which gives a feeling of fullness would be reduced.

A popular response for Part (c) was *the strengthening of bones and teeth*. Most candidates were unable to state other correct reasons for the importance of calcium in babies and adolescent females. Several candidates cited functions of iron and gave responses pertaining to the increase of blood volume. Some candidates provided similar responses for the importance of calcium in the two groups: adolescent females and babies.

Correct responses included the following:

Importance of calcium in adolescent females

- They would be experiencing growth spurts at this time; therefore, calcium would be required for the building and strengthening of bones.
- Growth in height and expansion of hips require calcium for expansion of bone structure.
- Critical for delaying or preventing the onset of osteoporosis.

Importance of calcium in babies

- Babies are growing at a rapid pace; therefore, calcium is required for the formation of bones.
- Bones in babies are weak and as babies increase in size, the bones must be strengthened for support.
- Promotes nerve and muscle function.
- Activates the enzymes that convert food into energy.

Candidates responded well to Part (d). Most candidates were able to provide two functions and sources of water in the diet. A few candidates did not understand the concept of sources of water *in the diet*, and provided general sources of water such as river water, rainwater, streams etc.

Correct responses included the following:

- Transports nutrients and waste substances/products throughout the body
- Forms saliva, which aids in digestion
- Maintains body moisture in the formation of tears, mucus
- Regulates body temperature
- Formation of blood
- Dissolves nutrients in the blood
- Transports substances in the blood such as hormones, enzymes etc.
- An important component of many chemical reactions
- A structural part of body tissues such as protein and glycogen
- Serves as a lubricant that bathes the tissues and cells
- Acts as a cushion and lubricant for joints

Sources of water in the diet

Lettuce, dark green leafy vegetables, tomatoes, fruit or fruit juice, milk, soups

Question 3

This question was designed to test Section 3 of the syllabus: Meal Planning, Preparation and Dining. The question specifically tested

- meal planning

- meal planning for different groups.

Candidates were required to do the following:

- Define the term *brunch*.
- State two differences between *table d'hôte* and *à la carte*.
- Plan a brunch menu for a graduating class.
- Identify three factors to be considered when planning menus for athletes.

Candidates generally performed well in Part (a) (i). Popular responses included *a meal between breakfast and lunch* and *combination of both meals given*, with several candidates stating the time of day the meal is served. Correct responses included *a combination of breakfast and lunch eaten during late morning to early afternoon*.

Part (a) (ii) presented a challenge to most candidates as few were awarded total marks. While it was evident that some candidates were familiar with the terms *table d'hôte* and *à la carte*, they frequently placed the definitions under the wrong headings, for example, they referred to *à la carte* as being a menu priced separately, rather than *dishes with individual prices*. The difference in cost in relation to one being more expensive than the other was rarely noted. Some candidates were not familiar with the menus and thus wrote answers relating to table setting and food service.

Correct responses included the following:

- Table d'hôte is a menu that offers a selection of complete meals at set prices and à la carte is cooking to order; each item is listed separately with its own price.
- Table d'hôte customers are limited to set options usually ranging from two to four dishes and have to pay the whole amount of the set price for the offered course, while à la carte offers a wide variety of choices; therefore the customer can select any dish of his/her preference and pay accordingly.

Based on the responses given in Part (b) (i), it was generally understood that the brunch menu had to comprise both breakfast and lunch items. The majority of candidates was unfamiliar with how the menu should have been written. In many instances, formatting of the menu was not given much consideration; for example, some were written in paragraph form. A few candidates provided prices for the menu.

Correct responses considered the following criteria:

- Suitability: included both breakfast and lunch items
- Nutritionally balanced (two-mix or more)
- Colour and texture of the menu combination

Candidates generally performed well in Part (b) (ii). Common responses from candidates included *low salt* and *low fat* with the appropriate explanations as well as the inclusion of *protein, vitamins* and *minerals* in the diet.

Correct responses included the following:

Factor	Explanation
Foods should have a low saturated fat content.	Foods high in saturated fats add extra calories to the meal and this may lead to unwanted weight gain.
Reduce the amount of over-processed foods.	These foods are high in sugar. High sugar foods are associated with obesity, heart disease and diabetes.
Foods should have low trans-fat content.	Foods high in transfat can lead to heart disease and may increase the risk of diabetes.
Foods should have a high fibre content.	High fibre diets help athletes to maintain muscle and overall good health.
Foods should have a high protein content.	High protein diets are required for the building and repair of muscle tissues.
Foods should be low in sodium content.	Diets high in sodium content may increase the risk of cardiovascular disease.
Foods included should be nutrient dense.	Nutrient-dense foods are rich in vitamins and minerals and low in calories.
Foods should include carbohydrates.	Important for providing energy needed by the athletes.

Question 4

This question was designed to test Section 4 of the syllabus: Food Science and Technology. It specifically tested

- Food-borne illnesses
- Perishable and non-perishable foods
- Production of common food commodities.

Candidates were required to do the following:

- State the names of two perishable and two non-perishable foods.
- Define the term *food infection*
- Suggest one reason for the following steps in cheese making:
 - Pasteurization of milk
 - Addition of bacterial culture
 - Addition of rennet

- Addition of salt
- Suggest two factors in the following categories that should be followed in food preparation and service to avoid food contamination: Temperature, personal hygiene, kitchen or food hygiene.

Part (a) was attempted by the majority of candidates. However, many candidates were unable to distinguish between perishable and non-perishable foods, and so they listed incorrect examples.

Correct responses included the following:

- *Perishable foods*
Milk, fish, meat, poultry, fresh fruit and juices, bread, vegetables, cooked food
- *Non-perishable foods*
Dried peas and beans, rice, flour, canned food stuff, powdered milk, sugar, salt

Part (b) focused on the term *food infection*, which candidates were asked to define. Most candidates were able to give only partial definitions for the term.

Popular responses given were 'eating food which is spoiled'; 'an illness caused by consumption of contaminated food products; and 'foods containing bacteria that is not good for one's health'.

Several candidates did not attempt this part of the question.

Correct responses included *food infection is the contamination of food by food-borne pathogens such as bacteria, viruses or parasites;* and *food Infection – illness caused by eating food that contains living disease-causing microorganisms.*

Part (c) placed emphasis on the processes involved in cheese making. It was not well done by the majority of the candidates.

Candidates were able to respond well to the following two processes in cheese making:

- Pasteurization of milk — to destroy/kill bacteria or microorganisms
- Addition of salt to the curd — to add taste (most popular), to preserve/last longer

However, for the other two steps, it was evident that a majority of candidates could not relate to the reasons for the steps taken.

Correct responses included the following:

- Pasteurization of milk to kill harmful bacteria that can result in the spoilage of the cheese.

- Addition of bacterial culture to the milk to convert lactose to lactic acid.
- Milk is heated and rennet is added to make the milk set and for curd and whey to form.
- The curd is cut and salt added to preserve the cheese.

Part (d) was very well done by the majority of candidates.

Most candidates were awarded full marks for Parts (d) (ii) and (iii), which required them to state two guidelines that should be followed with reference to personal hygiene and kitchen/food hygiene, to prevent food contamination. Few candidates were able to give two guidelines for temperature. The most popular response as it relates to temperature was 'cooking foods at the right temperature'. Very few candidates were able to demonstrate an understanding of the temperatures necessary for hot and cold foods as well as an understanding of the food danger zone.

Question 5

This question was designed to test Section 5 of the syllabus: Kitchen Design and Equipment Management. It tested candidates' knowledge of

- kitchen sinks
- accidents in the kitchen
- working efficiently in the kitchen.

Candidates were required to do the following:

- List three steps to be taken when removing a blockage from the sink.
- List three steps to be taken in the treatment of a minor cut.
- State one precaution that should be taken to prevent accidents in each of the following:
 - Lighting a gas oven
 - Slicing or cutting root vegetables
 - Frying fish
- Suggest two ways maximum efficiency could be achieved in the kitchen when preparing meals.

Candidates generally responded well in Part (a) and were awarded total marks. Correct responses included the following:

- Pour boiling water into the sink.
- If the blockage is caused by fat, pour a hot solution of washing soda/baking soda in the sink.
- Use a plunger.
- Gently put a soft wire down the plughole to try to remove the blockage.
- Place a bucket underneath the U-bend, which is under the sink.
- Undo the inspection screw and examine carefully.

- Seek help from the plumber if the blockage remains.
- Once the sink is unblocked, flush with hot water to remove the debris.

Candidates also responded well to Part (b) and were able to list steps such as *stop bleeding; clean the cut; sanitize the area* and bandage the area. Most candidates were awarded full marks for this section.

Correct responses included the following:

- Wash hands thoroughly to prevent the injury from becoming infected.
- Wear latex gloves for protection.
- Press firmly over and around the bleeding area with a clean cloth or press with bare hand and fingers if an appropriate tool is not available to stop the bleeding.
- Clean the surrounding skin and then the wound thoroughly to aid in the healing process.
- Apply adhesive plaster.

Candidates generally performed well in Part (c). Popular responses included the following:

Lighting the oven

- Make sure that there is no gas leak.
- Do not stand in front of the oven.

Popular incorrect responses were 'turn on the gas then light the match'; 'wear oven mittens'.

Cutting root vegetables

- Cut on a cutting board.
- Cut away from you.
- Use a sharp knife.

Frying fish

- Do not throw the fish in the pot.
- Do not allow the oil to overheat.

Correct responses included the following:

Lighting the oven of a gas cooker with matches

- Strike the match and place it to the oven burner. Turn the oven knob in the ON position.
- Ensure gas is not leaking.
- Do not stand directly in front of the oven.
- If oven does not light or matches/lighter blows out, turn off the gas before attempting to light the oven again.

Slicing or cutting root vegetables

- Cut vegetables with a sharp knife on a cutting board, never in the hand.
- Cut away from yourself to avoid being injured.
- Place a damp towel below the cutting board to prevent it from slipping.
- Pay attention to reduce the possibility of being injured.

Frying fish

- Dry the fish thoroughly to prevent the oil spurting.
- Do not overfill the pan with oil. The oil will expand when hot and this increases the risk of a fire in which one is likely to receive burns.
- Do not leave the frying pan unattended as the oil may catch fire.
- If the oil begins to smoke, turn off the burner before the oil ignites.
- Lower the fish carefully into the oil, to prevent the oil from splashing and to reduce the possibility of causing a fire or injury to the individual.

Most candidates had a general understanding of what was required for Part (d) and were awarded full marks.

Correct responses included the following:

- Prepare a time plan and follow it to help in the completion of tasks on time.
- Work should be restricted to a work centre rather than working in a haphazard fashion.
- Appliances should be in good working condition to prevent time being wasted.
- Knives should be sharp to expedite work.
- A clock should be strategically placed to monitor the time.
- It may be wise to have some advanced preparation done.
- Electrical appliances and labour savers could prove beneficial.
- Gather all ingredients and equipment needed in advance.

Question 6

This question tested two sections of the syllabus, namely Section 6: Consumerism and Purchasing of Food and Section 7: Food Management, Preparation and Service.

The question specifically tested

- terms associated with consumerism
- selecting and purchasing fresh foods
- the preparation and service of one-pot meals
- methods of cooking.

Candidates were required to do the following:

- Define the term *green consumer*.
- State four characteristics of fresh fish that should be considered when purchasing fish.
- Outline the preparation and service of a one-pot dish using any three of the four ingredients given.
- Explain two scientific principles that are used in the process of steaming.

Candidates were generally unable to provide a full definition of the term *green consumer* as required in Part (a). Several candidates related the term to the consumption of green vegetables and did not relate it to the environment nor to the purchasing of items.

Part (b) was well done as candidates were able to correctly state four characteristics of fresh fish. Some candidates who did not perform well in this part focused on the environment in which the fish is sold and not on the actual characteristics of the fish.

Correct responses included *someone who is mindful of environmental issues and uses it as a main factor in making purchases even if it entails a higher cost*.

In outlining the preparation and service of a one-pot dish as required in Part (c), most candidates omitted the following:

- Name of the dish
- Method of service
- Garnishing of the dish

In some instances, candidates omitted the methods in their outline of the preparation.

Marks were awarded for the presence of the following:

- Suitability: three of the items identified used/dish is a one-pot
- Name of dish
- Pre-preparation: terms such as *dice, chop, grate, peel, slice, wash*
- Steps in preparation listed
- Service
- Garnish

Part (d) was not well done, as few candidates were able to explain the scientific principles underlying steaming. Some candidates omitted this part of the question, while others explained the transfer of heat without referring to scientific terms such as *conduction, convection, evaporation or condensation*.

Further Comments

Candidates had general knowledge of the areas tested; however, the application of knowledge was not well demonstrated. In several areas where candidates were required to provide an explanation, they listed points without giving supporting information. The use of scientific terms was scarce.