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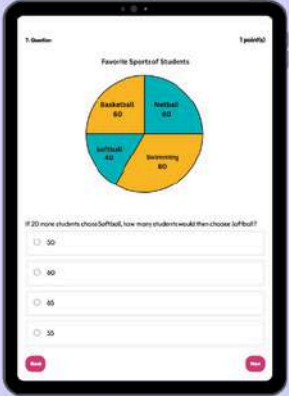


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4320/2

BGCSE

School Number	Candidate Number
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FAMILY & CONSUMER SCIENCE

PAPER 2: FOOD AND NUTRITION 4320/2

Wednesday **14 MAY 2025** 1:00 P.M.–3:00 P.M.
(2 hours)

Additional materials:
None

MINISTRY OF EDUCATION NATIONAL EXAMINATIONS

BAHAMAS GENERAL CERTIFICATE OF SECONDARY EDUCATION

INSTRUCTIONS TO CANDIDATES

Do not open this booklet until you are told to do so.

Write your school number and candidate number, surname and initials in the spaces provided at the top of the page.

SECTION A

Answer **ALL** questions in Section A. Write your answers in the spaces provided. You should spend no more than 45 minutes on this section.

SECTION B

Answer **THREE** questions only.

Question B1 **OR** Question B2
Question B3 **OR** Question B4
Question B5 **OR** Question B6

Write your answers in the spaces provided.

INFORMATION FOR CANDIDATES

The number of marks available is shown in brackets [] at the end of each question or part question.

NB There are **TWO** sections to Paper 2 (Section A and Section B).



This question paper consists of 22 printed pages and 6 blank pages.

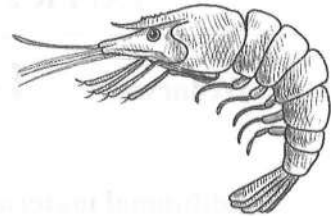
SECTION A

Answer **ALL** the questions in the spaces provided.

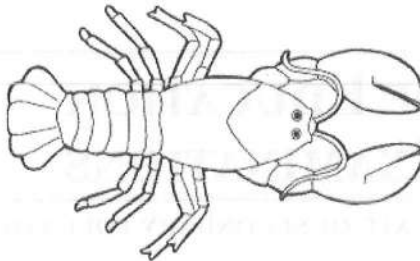
1. Identify each of the following shellfish shown below.



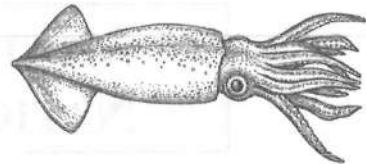
(a)



(b)



(c)



(d)

- (a) _____ [1]
(b) _____ [1]
(c) _____ [1]
(d) _____ [1]

TOTAL MARKS [4]

2. (a) Name **TWO** nutrients that are added to alternative meat products. Give a reason for your answer.

_____ [3]

- (b) State the name of the following soya products.

- (i) soya bean paste _____ [1]
(ii) soya bean curd _____ [1]

TOTAL MARKS [5]



3. Classify each of the following groups.

- (i) butyric acid, palmitic acid, stearic acid _____ [1]
- (ii) free range, battery farmed, deep litter _____ [1]
- (iii) baking powder, baking soda, yeast _____ [1]

TOTAL MARKS [3]

4. Name **TWO** herbs suitable to add to a sauce to accompany steamed fish.

TOTAL MARKS [2]

5. (a) Define the following terms.

(i) blanch

(ii) emulsifier

(iii) steep

(b) Circle the odd **ONE** in each of the following lists.

(i) Baking Steaming Grilling

(ii) Poaching Simmering Roasting

(iii) Boiling Stir Frying Sauteing

[3]

TOTAL MARKS [6]

[Turn over]



6. (a) Name the disease associated with a deficiency of iodine. _____ [1]
- (b) Name the organ in which iodine is produced. _____ [1]
- (c) State **TWO** other functions of iodine.

_____ [2]
- (d) Name **TWO** food sources of iodine.

_____ [2]

TOTAL MARKS [6]

7. State **ONE** important nutritional point that should be considered when preparing meals for:
- (i) a person recovering from surgery.

_____ [1]
- (ii) an athlete who has suffered from a broken bone.

_____ [1]

TOTAL MARKS [2]



8. (a) State **TWO** ways to prevent each of the following accidents occurring in the kitchen.

(i) a cut

 [2]

(ii) a burn

 [2]

(iii) shock

 [2]

(b) Name **TWO** pieces of safety equipment that should always be kept in the kitchen.

 [2]

TOTAL MARKS [8]

9. (a) Identify the food group that should be eaten the most each day.

 [1]

(b) Explain **THREE** different nutritional functions of the food group named in 9(a).

 [3]

TOTAL MARKS [4]

[Turn over



10. (a) State **THREE** reasons why obesity is a health problem for an individual.

 [3]

- (b) Suggest **TWO** ways television advertising may contribute to obesity in children.

 [2]

- (c) Explain why sugary foods can lead to obesity.

 [2]

- (d) Suggest **TWO** effective and healthy ways a person can manage their weight.

 [2]

TOTAL MARKS [9]

11. A person suffering from marasmus has a deficiency of protein.

- (a) Name **TWO** other nutrients that are lacking from the diet of a person suffering from marasmus.

 [2]

- (b) State **TWO** symptoms of marasmus.

 [2]

- (c) Name **TWO** nutrients that are lacking in the diet of a person suffering rickets.

[2]

- (d) State **ONE** symptom of rickets.

[1]

TOTAL MARKS [7]

12. State **TWO** advantages and **TWO** disadvantages of buying in bulk.

- (i) Advantages:

[2]

- (ii) Disadvantages:

[2]

TOTAL MARKS [4]

TOTAL MARKS SECTION A [60]



SECTION B

INSTRUCTIONS TO CANDIDATES

Write your answers in the spaces provided on the question paper.

Answer **THREE** questions only.

Question B1 **OR** Question B2

Question B3 **OR** Question B4

Question B5 **OR** Question B6



Answer **EITHER** Question B1 **OR** Question B2.

EITHER

B1 (a) Vitamin C is an essential nutrient to include in our everyday life.

(i) State the scientific name for vitamin C.

_____ [1]

(ii) State **THREE** functions of vitamin C.

_____ [3]

(b) (i) Name the deficiency disease associated with a lack of vitamin C.

_____ [1]

(ii) Give **TWO** symptoms of the deficiency disease named in (b)(i).

_____ [2]

(c) (i) List **THREE** different fruits that are good sources of vitamin C.

_____ [3]

(ii) Name **TWO** foods that lack vitamin C.

_____ [2]

[Turn over



- (d) Name **ONE** vitamin that works with vitamin C to help prevent coronary heart disease.

_____ [1]

- (e) Name **TWO** factors that can affect the amount of vitamin C present in freshly harvested fruits and vegetables.

_____ [2]

- (f) State **THREE** guidelines for cooking broccoli in order to retain vitamin C.

_____ [3]

- (g) State **TWO** reasons why vitamin C is added to bread dough.

_____ [2]

TOTAL MARKS [20]



OR

- B2. (a) (i) Name **ONE** antioxidant vitamin found in vegetables.
_____ [1]
- (ii) Name **ONE** mineral found in good supply in vegetables.
_____ [1]
- (iii) State **ONE** function of the mineral named in (a)(ii).
_____ [1]
- (iv) Name **ONE** vegetable that contains protein.
_____ [1]
- (b) Vegetables are classified into different categories.
- (i) Give the classification for asparagus.
_____ [1]
- (ii) Name **ONE** other vegetable in this classification.
_____ [1]
- (iii) Give the classification for kale.
_____ [1]
- (iv) Name **ONE** other vegetable in this classification.
_____ [1]
- (v) Give the classification for tomatoes.
_____ [1]
- (vi) Name **ONE** other vegetable in this classification.
_____ [1]

- (c) Name **TWO** vegetables used in mirepoix.

 [2]

- (d) State **THREE** guidelines to follow when preparing vegetables to retain their nutrient content.

 [3]

- (e) (i) Ethan went to the farmers market to purchase vegetables for the next few days. Suggest **THREE** factors that he should consider when purchasing fresh produce.

 [3]

- (ii) Ethan cooked potatoes and they became tender and digestible. Explain what happened with the potatoes during the cooking process.

 [2]

TOTAL MARKS [20]



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Answer **EITHER** Question B3 **OR** Question B4.

EITHER

B3. Milk – the most complete food



What is milk?

Milk is a liquid which contains protein, fat, carbohydrates, all known vitamins, various minerals and all the food ingredients considered essential for sustaining life and maintaining health. The protein of milk is of the highest biological value and it contains all the amino acids essential for body building and repair of body cells. No wonder then that milk is considered to be a complete food in itself. Milk also contains 87% water. Most of the fresh whole milk is Grade A, vitamin D fortified, pasteurised and homogenised.

The milk of cow, buffalo and goat is generally used. In some countries milk of sheep, and camel is also used.

Milk Processing

Most of the milk is pasteurised either by the holder method or the flash method.

After pasteurisation, milk is centrifuged to separate any fine sediment from the milk and then it is bottled and sealed in hygienically clean bottles.

Fresh milk should be stored in a container which is covered and kept in a refrigerator away from strong smelling foods.

Cooking of Milk

Milk is the basis of many soups and sauces like béchamel sauce, cheese sauce, etc. It can be served as a refreshing drink either chilled or hot. When added to soup milk enriches it and gives it a smooth creamy texture.



- (a) (i) List **TWO** animals that produce milk for human consumption other than the cow.

[2]

- (ii) Give **TWO** methods used to preserved milk.

[2]

- (b) (i) State **ONE** reason for the pasteurisation of milk.

[1]

- (ii) Name **TWO** methods of pasteurisation.

[2]

- (c) State how fresh milk should be stored for best results.

[2]

- (d) Explain why milk is referred to as a complete food.

[2]

- (e) Give **TWO** benefits of adding milk to soup.

[2]

- (f) (i) Name **TWO** types of proteins found in milk.

[2]

- (ii) Describe what happens to the protein in milk when heat is applied.

[2]

- (g) Explain during which time of the year the milk purchased would be more nutritious.

[3]

TOTAL MARKS [20]



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OR

B4.

 Rice Comparison CHART						
	WHITE	BROWN	BLACK	RED	BASMATI	JASMINE
SHORT, MEDIUM, OR LONG GRAIN	All Lengths	All Lengths	Long	Medium	Long	Long
STICKY?	Depends on Grain Length	Depends on Grain Length	Yes	Depends on How Cooked	No	Slightly
COOK TIME*						
FLAVOR NOTES	Mild	Nutty	Nutty, Touch of Umami	Very Nutty	Spicy, Nutty, Floral	Slight Sweet, Nutty Flavor
PROTEIN GRAMS PER CUP	8g	5g	6g	5g	4g	8g
FAT GRAMS PER CUP	0g	1g	2g	2g	2g	0g
GROWING REGION(S)	Multiple Regions in Asia & USA	Multiple Regions in Asia & USA	 India	 Bhutan  Sri Lanka  India	 India  Pakistan	 Thailand  Cambodia  Laos  Vietnam

How to Cook Rice on the Stove

When you think about making rice, this is the technique that probably comes to mind because it's the most classic. It works fantastically with typical long-grain white rice.

1. Use the right ratio of water. Add 2 parts water and 1 part rice to a large pot. For slightly firmer rice, use 1 part liquid to 2/3 parts rice.
2. Bring the water to a boil. Once it's boiling, add a big pinch of salt.
3. Maintain a simmer. Reduce heat to low, cover the pot with a tight-fitting lid, and maintain a gentle simmer.
4. Cook without opening the pot or stirring. Cook until the water is absorbed, about 18 minutes. Try not to open the pot until the end of the cooking time so the steam doesn't escape. Whatever you do, don't mix the rice while it's cooking — this will lead to gummy rice.
5. Let the rice rest covered. Turn off the heat and let the rice sit, covered, for 10 minutes. During this time, the rice will steam for extra fluffy results.
6. Fluff the rice with a fork.



(a) State the following:

(i) **ONE** country where red rice is grown.

_____ [1]

(ii) **ONE** type of rice with the most protein per gram.

_____ [1]

(iii) **ONE** piece of equipment that can be used to cook rice other than the stove top.

_____ [1]

(iv) **ONE** vitamin that are lacking in polished rice.

_____ [1]

(b) Give the name of the rice that:

(i) takes the most time to cook.

_____ [1]

(ii) has the most unique flavour.

_____ [1]

(c) (i) Give the liquid to rice ratio used to obtain a firm textured rice.

_____ [1]

(ii) Name a liquid other than water that can be used to cook rice to obtain a good flavour.

_____ [1]

(d) Explain the following:

- (i) why it is important not to open the pot or stir the rice until the end of the cooking process.

_____ [2]

- (ii) why rice should be fluffed with a cooking fork rather than a cooking spoon.

_____ [2]

(e) Identify the country for which the following rice dishes are known:

- (i) Rice and Peas _____ [1]

- (ii) Paella _____ [1]

- (iii) Jambalaya _____ [1]

(f) Name the part of the grain where white rice is obtained.

_____ [1]

(g) Give **TWO** advantages of:

- (i) brown rice.

_____ [2]

- (ii) white rice.

_____ [2]

TOTAL MARKS [20]



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Answer **EITHER** Question B5 **OR** Question B6.

EITHER

B5. Many changes occur in food processing. Discuss how these changes can occur during the following:

- (a) preparation of food. [10]
- (b) cooking of food. [10]

TOTAL MARKS [20]

OR

B6. Proper nutrition is important for the health and well-being of individuals at different stages in life.

Discuss the dietary guidelines for the following individuals:

- | | | |
|-----|--------------|------|
| (a) | elderly | [10] |
| (b) | convalescent | [10] |

TOTAL MARKS [20]This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.

This image shows a single sheet of white paper with horizontal ruling lines. The lines are evenly spaced and run across the width of the page. There are no margins, text, or other markings on the paper.



4. *Journal of the American Medical Association*, 2000; 284: 1011-1016.



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FOR EXAMINER'S USE	
SECTION A	
Question 1	
2	
3	
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11	
12	
TOTAL SECTION A	
SECTION B	
Question B1 OR B2	
Question B3 OR B4	
Question B5 OR B6	
TOTAL SECTION B	
PAPER TOTAL	

