



PASIR RIS CREST SECONDARY SCHOOL
Holiday Assignment
G3

CANDIDATE
NAME

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CLASS

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INDEX
NUMBER

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Nutrition and Food Science

6097/01

Paper 1

2 hours

Candidates answer on the Question Paper.

READ THESE INSTRUCTIONS FIRST

Write your class, index number and name in the spaces at the top of this page.

Write in dark blue or black pen.

You may use a 2B pencil for any diagrams or graphs.

Do not use staples, paper clips, glue or correction fluid.

DO **NOT** WRITE ON ANY BARCODES.

Section A

Answer **all** questions.

For each question there are four possible answers **A**, **B**, **C** and **D**. Tick the **one** you consider correct.

Each correct answer will score one mark.

Section B and Section C

Answer **all** questions.

Write your answers in the spaces provided on the Question Paper.

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

The use of a calculator is permitted.

For Examiner's Use

100

Section A

Answer **all** questions. For each question, tick the answer (A, B, C or D) which you consider correct.

1 A lack of vitamin B1 can cause

- ☐ **A** anaemia
- ☐ **B** beriberi
- ☐ **C** constipation
- ☐ **D** osteoporosis

2 Calcium is essential

- ☐ **A** for normal muscle contraction
- ☐ **B** for the formation of haemoglobin
- ☐ **C** to activate enzymes that speed up chemical reactions in the body
- ☐ **D** to transport nutrients around the body

3 Which statements about proteins are correct?

- 1 A protein molecule is made up of one amino acid molecule and three glycerol molecules.
- 2 High biological value proteins contain one double bond.
- 3 One function of protein is for growth and repair of body cells.
- 4 Complementary proteins are made up of two low biological value proteins.

- ☐ **A** 1 and 2 only
- ☐ **B** 1 and 3 only
- ☐ **C** 2 and 3 only
- ☐ **D** 3 and 4 only

4 Which nutrient is needed to surround vital organs to protect them?

- ☐ **A** carbohydrates
- ☐ **B** dietary fibre
- ☐ **C** fats
- ☐ **D** proteins

5 Which of the following fat has a high melting point?

- ☐ **A** butter
- ☐ **B** canola oil
- ☐ **C** olive oil
- ☐ **D** sunflower oil

6 When we cut an apple, it browns because it is undergoing

- ☐ **A** denaturation
- ☐ **B** enzymatic browning
- ☐ **C** gelatinisation
- ☐ **D** Maillard browning

7 In cake making, flour is sifted to

- ☐ **A** incorporate air
- ☐ **B** incorporate dry ingredients into wet ingredients
- ☐ **C** make the mixture smooth
- ☐ **D** prevent shrinkage

8 Which of the following are the chemical elements of a fat molecule?

- ☐ **A** carbon, hydrogen and nitrogen
- ☐ **B** carbon, hydrogen and oxygen
- ☐ **C** carbon, hydrogen and phosphorus
- ☐ **D** carbon, hydrogen and sulfur

9 Two incomplete statements about gluten development are shown.

Statement 1: Gluten is formed when gliadin and join together.

Statement 2: Kneading or further mixing rearranges the gluten to form a
of dough.

Which row correctly completes statement 1 and statement 2?

	statement 1	statement 2
A	albumin	system
B	globulin	blob
C	glutenin	network
D	purinin	batch

- ☐ **A**
- ☐ **B**
- ☐ **C**
- ☐ **D**

10 Which of the following are sources of good fat?

- ☐ **A** avocado and olive oil
- ☐ **B** french fries and chicken nuggets
- ☐ **C** kailan and orange
- ☐ **D** soya bean oil and black beans

- 11 To slow down spoilage, we should store leafy vegetables in the (1) compartment of the refrigerator which should be at (2)

	(1)	(2)
A	chiller	0°C to 4°C
B	crisper	0°C to 4°C
C	freezer	- 18°C and below
D	drawer	18°C and below

☐ **A**

☐ **B**

☐ **C**

☐ **D**

The nutritional value of two dishes sold at the western stall are shown below. Use the information to answer questions 12 to 14.

nutrition information	Chicken Aglio Olio	Chicken Spaghetti Bolognese	Creamy Tom Yum Pasta	Mushroom Carbonara Pasta
energy (kcal)	683	375	350	295
protein (g)	42	19.3	26	11.3
fat (g)	25	6.3	18	5.2
saturated fat (g)	4	1.8	10	1.4
carbohydrate	70	55.9	54.8	48
dietary fibre (g)	2.9	4	5	1.4
iron (mg)	6.2	2.9	2	8.8
calcium (mg)	20	164	173	248
vitamin D (mcg)	0	0	0.3	23.5

12 Which pasta dish is suitable for an anaemic teenager girl?

- ☐ **A** Chicken Aglio Olio
- ☐ **B** Chicken Spaghetti Bolognese
- ☐ **C** Creamy Tom Yum Pasta
- ☐ **D** Mushroom Carbonara Pasta

13 Select the pasta dish for a senior who is concerned about bone health.

- ☐ **A** Chicken Aglio Olio
- ☐ **B** Chicken Spaghetti Bolognese
- ☐ **C** Creamy Tom Yum Pasta
- ☐ **D** Mushroom Carbonara Pasta

14 Johnnie goes to the gym and would like to build more muscles. Which of the pasta dishes should he choose?

- ☐ **A** Chicken Aglio Olio
- ☐ **B** Chicken Spaghetti Bolognese
- ☐ **C** Creamy Tom Yum Pasta
- ☐ **D** Mushroom Carbonara Pasta

15 Mrs Kee is concerned about eating healthy food. She is going to cook chicken breast for dinner. Which cooking method would you recommend?

- ☐ **A** boiling
- ☐ **B** deep-frying
- ☐ **C** grilling
- ☐ **D** steaming

[Total: 15]

Section B

Answer **all** questions.

16 (a) State the chemical elements which make a carbohydrate molecule.

1

2

3 [3]

(b) Define the following terms and give an example for each.

(i) monosaccharide

.....

.....

example [2]

(ii) polysaccharide

.....

.....

example [2]

(iii) non-starch polysaccharide

.....

.....

example [2]

17 Thick batters have a thicker consistency compared to thin batters.

(a) Give **three** reasons why thick batter is used in dishes.

- 1
- 2
- 3 [3]

(b) Give **two** examples of thick batter dishes.

- 1
- 2 [2]

(c) The following is a recipe for thick batter for coating fish for frying.

100 g plain flour
1 egg
125 ml water
150 g fish fillet

(i) List and explain the steps to make the above batter.

Steps	Explanation
1	
2	
3	

[6]

(ii) Explain why the fish should be dry before coating it with the batter.

.....
.....

[1]

- (iii) State and explain **one** safety precaution which should be observed when frying the battered fish.
-
- [1]
- (iv) Give **one** advantage and **one** disadvantage of deep frying as a cooking method.
- advantage
-
- disadvantage
- [2]
- (v) Describe the changes to the fish and the batter which take place during the frying of battered fish.
- changes to the fish
-
-
-
- changes to the batter
-
-
- [6]
- (vi) Name the main nutrient provided by fish.
- [1]
- (vii) Give **two** other sources of the nutrient named in (vi).
- 1
- 2 [2]

18 One argument for a plant-based diet is that it is more sustainable.

- (a) Give with explanations, **two** reasons why a plant-based diet might be more sustainable.

1

.....

2

..... [2]

- (b) Besides choosing a diet that is more plant-based, there are other ways to be more sustainable.

List **two** other sustainable guidelines when selecting food.

1

2 [2]

- (c) Vegetarians may choose a plant-based diet for reasons other than sustainability. State with explanations, **two** other reasons why people become vegetarians.

1

.....

2

..... [2]

- (d) Suggest **two** nutrients that may be lacking in a vegan diet. For each of these nutrients, suggest a source from which the vegan may obtain the nutrient.

nutrient 1

source 1

nutrient 2

source 2 [4]

19 In the modern home, it is common to find canned and frozen food in the kitchen.

(a) Give **two** examples of frozen food.

- 1 [2]
2

(b) State **two** points to note when storing canned food to prevent spoilage.

- 1 [2]
2

(c) Give **one** advantage and **one** disadvantage of using convenience food.

- advantage [2]
disadvantage

(d) Convenience food is often high in salt.
Give **two** reasons why salt is used in convenience food.

- 1 [2]
2

(e) Explain why people with high blood pressure are advised to consume less salt.

- [2]
.....
.....
.....

(f) Suggest **two** ways to reduce the use of salt during the preparation and cooking of food.

- 1 [2]
2

[Total: 55]

Answer **all** questions.

Answer **all** questions.

- [illegible]

21 Discuss the importance of water and dietary fibre in the diet.

[15]

[illegible]

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