

## Exam Preparation

### Section A - Multiple Choice Questions (5 marks)

#### Question 1

Which of the following statements is true during adulthood?

- a. Men's energy needs increase as they age.
- b. Men's energy needs decrease as they age.
- c. Men's energy needs stay the same throughout adulthood.
- d. Men's energy needs are equal to that of women.

The answer is not A. A man's basal metabolic rate (BMI) does not increase.

The answer is B. Men's BMI slows as they age, so they require less energy from their diet.

The answer is not C. Men's energy needs change/decrease in adulthood. As they get older, they require less energy.

The answer is not D. Women require less energy than men.

Note: It is important to note that energy needs are calculated on average.

#### Question 2

Reasons for differences in dietary requirements between young and older adults include:

- a. Activity levels, age, and sex
- b. Lifestyle changes and diet.
- c. Sedentary and heavy activity expenditure.
- d. Pregnancy and lactation.

All of the options are adequate reasons for the difference in dietary requirements. Selecting the option that uses the Food Studies Study Design terminology is advised in this instance.

A and D use the terminology from the Study Design.

The answer is not D because the question asks about the difference between young and older adults. It does not explicitly mention women and older adults are unlikely to become pregnant.

The answer is A. All the terms in the answer are found in the Study Design and are reasons for a difference in dietary requirements.

#### Question 3

An increased amount of this food group is required during pregnancy.

- a. Eat sometimes and only in small amounts.
- b. Grain (cereal) foods.
- c. Lean meats and poultry, fish, eggs, tofu, nuts and seeds, legumes/beans.
- d. Milk, yoghurt, cheese and/or alternatives.

The answer is not A. The 'eat sometimes and only in small amounts' group contains foods high in salt, saturated fat, and sugar. While these foods do provide some energy, they rarely contain other nutrients. They, therefore, should only be eaten sometimes or in small amounts.

The answer is not B. A pregnant female does not require additional amounts of energy from the grain group during pregnancy. The extra energy from the grain group is necessary during lactation.

The answer is C. Pregnant women require an additional serving of protein. Pregnant women require more protein as it is needed for the proper growth of an unborn baby's tissues and organs, including the brain.

The answer is not D. Additional calcium from dairy foods is not required during pregnancy as women can absorb more calcium at this time.

#### Question 4

Select the breakfast that best meets the nutritional needs of an older woman who has experienced menopause.

- a. Poached eggs on toast.
- b. Fruit and wholegrain toast with avocado.
- c. Rolled oats with low-fat milk and berries.
- d. Sweet pastry with black coffee.

The answer is not A, B, or D. These breakfasts do not contain foods with high amounts of calcium. Women who have experienced menopause require more calcium in their diet because their body produces less oestrogen, which results in less calcium absorption.

The answer is C. This breakfast contains milk which is a good source of calcium.

#### Question 5

Identify the snack food a sedentary teenage male will most likely benefit from.

- a. Broccoli, carrot, and celery sticks with a low-fat yoghurt dip.
- b. Zucchini, bacon, and cheese slice.
- c. Cherry tomatoes, carrots, and red capsicum sticks.
- d. Corn and bacon pastries.

The answer is A. A range of coloured and types of vegetables provide a sedentary teen male with various nutrients. The low-fat yoghurt provides protein for growth, maintenance, and repair of cells and satiety. A sedentary teen does not require high intakes of energy and, therefore, can consume low-fat dairy foods. In addition, low-fat dairy is advised for children over the age of two.

The answer is not B. This option contains regular cheese, not low-fat. Bacon is also found in the 'eat sometimes and in small amounts' section of the AGTHE.

The answer is not C. These vegetables are similar colours, meaning they provide similar types of nutrients.

The answer is not D. Pastries contain significant amounts of fat and would be unsuitable for a person who leads a sedentary lifestyle.

**Section B – Short Answer Responses** (15 marks)**Question 1** (6 marks)

The Australian Dietary Guidelines provide recommendations for the number of serves of each food group that is consumed daily. The following table shows the minimum number of serves per day for pregnant and lactating women.

The Five Food Groups	Pregnant Women	Lactating Women
Vegetables and legumes/ beans	5	5.5
Fruits	2	2
Grain (cereal) foods, mostly wholegrain varieties and/or high fibre cereal varieties	8	9
Lean meats and poultry, fish, eggs, tofu, nuts and seeds, legumes/ beans	3.5	2.5
Milk, yoghurt, cheese and/or alternatives, mostly reduced fat	2.5	2.5

Identify two differences in serving sizes and provide a reason for these differences in dietary requirements.

Reason One

Possible responses are provided below: Note: Try to use terms like 'compared to' or 'whereas' when a question asks about the difference between two things.	
1 mark was awarded for identifying the difference. The student must refer to and use the data in their response; otherwise, no mark was awarded.	2 marks were awarded for providing a reason for the difference in dietary requirements.
Pregnant women require 8 servings of grain (cereal) foods, and lactating women require 1 additional serve (9 in total).	A mother has increased energy needs when lactating as she is producing milk for the baby, and carbohydrates provide this nutrient.
	A mother has increased energy needs when lactating as she is producing milk for the baby; this energy should come from the body's preferred energy source, carbohydrates.
Pregnant women require 3.5 servings of the lean meat group and 2.5 servings when lactating (1 serve less).	The 1 serve extra protein required during pregnancy is required for new tissue and organ growth in the unborn baby.
	Protein foods like meat and poultry contain iron. The baby takes the iron it needs to survive the first 6 months of life in the last trimester (or 3 months) of pregnancy. The lean meat group provides pregnant women with the iron they need, which is why pregnant women have one additional serving of this group compared to lactating women.
Pregnant women required half a serving more of vegetables and legumes/beans.	A pregnant woman needs vegetables to ensure she gets the antioxidants, nutrients, and fibre. These all contribute to the healthy development of the baby.
	The fibre found in vegetables can prevent constipation which can occur during pregnancy.

## Reason Two

As above.

**Question 2** (3 marks)

14-year-old Peter plays soccer every Saturday, trains twice a week, and plays every lunchtime at school. His 9-year-old neighbour, Ali, often practices with Peter after-school but does not participate in other recreational activities. Peter and Ali have different energy requirements.

Explain one reason for the difference in energy requirements between Peter and Ali.

To be awarded full marks, the student must have used the terminology of the key knowledge and key skills (for example, activity levels or age).

To be awarded full marks, the student must have referred to the stimulus, and their answer must relate to energy requirements.

1 mark was awarded for identifying one reason for the differences in energy requirements between Peter and Ali.

Either of the following responses was accepted.

Peter is 5 years older than Ali; they have different energy needs due to their age.

or

Peter seems more active than Ali. He plays soccer every Saturday, trains twice weekly, and plays every lunchtime. Besides kicking goals with Peter after-school, Ali does not participate in recreational activities. They are likely to have different energy needs due to their activity levels.

2 marks were awarded for explaining why age or activity levels impact energy requirements.

The amount and intensity of a person's activities increases their energy needs. Peter is more active and therefore requires more energy.

or

Peter has higher energy needs than Ali because he is a teen undergoing a rapid growth period. Energy is required for this growth to occur.

**Question 3** (2 marks)

The actual amount of energy people require differs for a range of reasons.

Explain why a person's sex can impact their energy needs.

2 marks were awarded for explaining why sex impacts energy requirements.

On average, males have a higher basal metabolic rate than women and use energy more quickly. Males, therefore, have higher energy needs than women.

or

On average, males have a larger body mass and more muscles than women, resulting in a higher basal metabolic rate and a greater need for energy.

**Question 4** (4 marks)

Women approximately 60 years of age have specific dietary requirements.

Evaluate the suitability of the meal below in meeting the dietary requirements of a 60-year-old female.

- Baked chicken
- Steamed broccoli, corn, and carrots
- Oven-baked sweet potato and parsnip chips

A question like this may be assessed using a rubric. Refer to the rubric below.

Women who have experienced menopause require more calcium in their diet because their body produces less oestrogen, which results in less calcium absorption. This results in them needing more calcium from their diet.

The meal does not include any dairy foods that are a good source of calcium which means the female may not get the calcium she needs. Adding a feta or ricotta cheese topping to the poached chicken may increase the amount of calcium in the meal.

Around this age, women also find that their basal metabolic rate (BMR) may start to slow down. This results in them needing less energy.

The meal uses baking and poaching, which is a method of cookery where small amounts of (if any) oil is required. This is important as females around this age have lower energy needs.

The meal incorporates vegetables that are low in energy but contain fibre that helps to satisfy individuals. This is important as females around this age have lower energy needs.

1 mark	2 marks	3 marks	4 marks
<p>The response:</p> <ul style="list-style-type: none"> <li>– Demonstrates very limited understanding of the nutritional needs of women aged approximately 60 years of age.</li> <li>– Does not refer to the foods included in the meal.</li> <li>– Does not look at the positive or negative aspects of the meal.</li> </ul>	<p>The response:</p> <ul style="list-style-type: none"> <li>– Demonstrates limited understanding of the nutritional needs of women aged approximately 60 years of age.</li> <li>– Barely refers to the foods included in the meal.</li> <li>– Does not look at the positive or negative aspects of the meal.</li> <li>– Little relationship to the nutritional needs of the female is made.</li> </ul>	<p>The response:</p> <ul style="list-style-type: none"> <li>– Demonstrates a good understanding of the nutritional needs of women aged approximately 60 years of age.</li> <li>– Refers to some of the foods included in the meal.</li> <li>– Provides a detailed analysis of the positive or negative aspects of the meal and relates these to the nutritional needs of the female.</li> </ul>	<p>The response:</p> <ul style="list-style-type: none"> <li>– Demonstrates a thorough understanding of the nutritional needs of women aged approximately 60 years of age.</li> <li>– Refers to the foods included in the meal.</li> <li>– Provides a thorough analysis of the positive and negative aspects of the meal and relates these to the nutritional needs of the female.</li> </ul>

Note: the question did not ask students to refer to the AGtHE. Therefore, no discussion about the guide was required. The question related to the dietary requirements and must have related to this aspect of the study design.

**Section C – Extended Responses** (10 marks)**Question 1** (10 marks)

A 17-year-old VCE student recently posted this on a VCE forum page:

Hello 😊

What do you guys eat for breakfast? I have a feeling I need to eat healthier foods so I can achieve my best in my VCE and in sport. I run each morning and surf on the weekends. What is something that will give me what I need and fill me up? At the moment, I am having cornflakes for breakfast with milk and an orange juice. Is this okay? Thanks!

Answer the student's questions.

Your response should include a discussion with reference to:

- consideration of the student's dietary requirements
- the type of foods that contribute to satiety
- the role of gut microbiota and the relationship between gut microbiota and physical and mental health
- evaluation of the nutritional quality of student's breakfast in relationship to the Australian Guide to Healthy Eating

The 17-year-old VCE student has asked people to suggest some healthy breakfast options that will fill them up and help them achieve their best in VCE and sports. The student's activity levels are high by running each morning and surfing on the weekends. The student's dietary requirements will depend on their age, activity level, and sex.

Age is one factor that contributes to an individual's dietary requirements. A 17-year-old teenager is at the end of experiencing a rapid period of growth. Protein is required at this time to support growth and muscle development. Calcium is also needed to support bone development at this age.

A person's activity level is another factor that contributes to their energy needs. This 17-year-old runs each morning and surfs on the weekends. These activities are considered high intensity. Therefore, the student needs to consume a higher amount of energy. It is preferred that this additional energy comes from the cereal grain group of the Australian Guide to Health Eating (AGtHE).

Thirdly, a person's sex also contributes to their dietary requirements. Males and females need protein to grow, maintain and repair cells. Females also need iron from this food group as they menstruate each month and consequently lose some of the iron stores.

In terms of healthier foods, this VCE student needs to be consuming various foods from the AGtHE, so they get the energy and nutritional needs to cater to their age, sex, and activity levels.

Currently, the VCE student consumes cornflakes, milk, and orange juice for breakfast. The cornflakes are not wholegrain, and the milk is not low fat, as suggested in the AGtHE. Due to its high sugar content, orange juice is an 'eat sometimes and only in small amounts' or discretionary food in the AGtHE. A healthier breakfast could be a poached egg on wholegrain toast, with avocado instead of butter, fresh baby spinach, and tomatoes. This could be served with yoghurt and a fresh, whole orange. This breakfast includes food from the vegetable, fruit, and cereal (preferably wholegrain) groups of the AGtHE. It also includes eggs from the meat and meat alternative group, and yoghurt, as suggested in the AGtHE. The AGtHE also recommends that individuals consume various types and coloured vegetables. The vegetables in this suggested breakfast contain different colours and types.

The egg would provide the teen with a high-value source of protein that contains all the amino acids they need for growth. The wholegrain bread would provide the carbohydrate the teen needs for energy, and the yoghurt would provide the protein and calcium the teen needs to grow and develop strong bones.

The benefits of this meal are that it is likely to fill up the student and contribute to satiety. Satiety refers to the feeling of fullness a person has after eating, enabling them to get long-lasting energy from their foods. Whole grains, protein, and less processed food contribute to satiety. The suggested breakfast includes wholegrain toast, protein, and yoghurt, which all contribute to satiety.

This type of breakfast contains wholegrains, oranges, and yoghurt, which all contain prebiotics that nourish the good bacteria in the VCE student's gut, specifically the large intestine. These good bacteria are referred to as probiotics. Consuming probiotics and prebiotics help with protecting against disease and inflammation, control blood sugar levels and digestion, and synthesising and absorbing vitamins. The gut microbiota makes chemicals such as serotonin and dopamine in much larger quantities than the brain can make. The chemicals or hormones are called the 'feel good' hormones as they help make people feel good and contribute to their positive mental health.

As a teen studying VCE and leading an active lifestyle, this individual should consume a breakfast that contains a wide variety of foods from each food group in the AGTHE. These foods are likely to fill them up and contribute to satiety, meet their nutritional requirements, and contribute to their mental wellbeing.

## Marking Scheme

Mark	Level	Description
10	Comprehensive/ thorough	Accurate definitions and relevant use of key terms and terminology in context. Clearly addresses <u>all components</u> of the question in detail and with accuracy.
9		<ul style="list-style-type: none"> <li>Clearly discusses the students dietary requirements in relationship to their age, activity levels and sex (note: the sex of the forum poster was not identified).</li> <li>Identifies all types of foods that contribute to satiety and explains why these foods contribute to satiety.</li> <li>Clearly explains the role of the gut microbiota and the relationship between gut microbiota and physical and mental health.</li> <li>Thoroughly evaluates the students breakfast with the nutritional rationale of the AGTHE.</li> </ul>
8		Refers to the stimulus well. All responses are relative to the scenario. The question the forum poster has asked in their post have been thoroughly addressed. The response is concise and well-structured.
7	Adequate/ average	Accurate definitions and use of key terms in context. Accurate and relevant use of correct terminology. Adequately addresses <u>all components</u> of the question and with accuracy.
6		<ul style="list-style-type: none"> <li>Adequately discusses the students dietary requirements in relationship to their age, activity levels <u>and</u> sex (note: the sex of the forum poster was not identified).</li> <li>Identifies an adequate range of foods that contribute to satiety and explains why these foods contribute to satiety.</li> <li>Explains the role of the gut microbiota and the relationship between gut microbiota and physical and mental health.</li> <li>Adequately evaluates the students breakfast with the nutritional rationale of the AGTHE.</li> </ul>
5		Refers to the stimulus. Responses are relative to the scenario. The question the forum poster has asked in their post has been addressed. The response lacks structure.
4	Below Average	Some definitions and use of key terms in context. Some use of correct terminology. <u>Some components</u> of the question are addressed:
3		<ul style="list-style-type: none"> <li>Discusses the students dietary requirements in relationship to their age <u>or</u> activity levels <u>or</u> sex (note: the sex of the forum poster was not identified).</li> <li>Identifies some foods that contribute to satiety and explains why these foods contribute to satiety.</li> <li>Explains the role of the gut microbiota and the relationship between gut microbiota and physical and mental health.</li> <li>Evaluates the students breakfast with the nutritional rationale of the AGTHE.</li> </ul>
2		The response is poorly structured.
1		Very limited response that shows a lack of understanding of the question.
0		Does not address the question.