



Rewarding Learning

ADVANCED
General Certificate of Education
2024

Health and Social Care

Assessment Unit A2 7

assessing

Human Nutrition and Health

[AHC71]

THURSDAY 13 JUNE, AFTERNOON

MARK
SCHEME

General Marking Instructions

Introduction

The main purpose of a mark scheme is to ensure that examinations are marked accurately, consistently and fairly. The mark scheme provides examiners with an indication of the nature and range of candidates' responses likely to be worthy of credit. It also sets out the criteria which they should apply in allocating marks to candidates' responses.

Assessment objectives

Below are the assessment objectives for **GCE Health and Social Care**.

Candidates should be able to:

- AO1** Demonstrate knowledge and understanding of the specified content.
- AO2** Apply knowledge, understanding and skills to a variety of health, social care and early years contexts.
- AO3** Investigate, analyse, and evaluate acquired knowledge and understanding, present arguments, make reasoned judgements and draw conclusions.

Quality of candidates' responses

In marking the examination papers, examiners should be looking for a quality of response reflecting the level of maturity which may reasonably be expected of a 17 or 18-year-old which is the age at which the majority of candidates sit their GCE examinations.

Flexibility in marking

Mark schemes are not intended to be totally prescriptive. No mark scheme can cover all the responses which candidates may produce. In the event of unanticipated answers, examiners are expected to use their professional judgement to assess the validity of answers. If an answer is particularly problematic, then examiners should seek the guidance of the Supervising Examiner.

Positive marking

Examiners are encouraged to be positive in their marking, giving appropriate credit for what candidates know, understand and can do rather than penalising candidates for errors or omissions. Examiners should make use of the whole of the available mark range for any particular question and be prepared to award full marks for a response which is as good as might reasonably be expected of a 17 or 18-year-old GCE candidate.

Awarding zero marks

Marks should only be awarded for valid responses and no marks should be awarded for an answer which is completely incorrect or inappropriate.

Types of mark schemes

Mark schemes for tasks or questions which require candidates to respond in extended written form are marked on the basis of levels of response which take account of the quality of written communication.

Other questions which require only short answers are marked on a point for point basis with marks awarded for each valid piece of information provided.

Levels of response

In deciding which level of response to award, examiners should look for the ‘best fit’ bearing in mind that weakness in one area may be compensated for by strength in another. In deciding which mark within a particular level to award to any response, examiners are expected to use their professional judgement.

The following guidance is provided to assist examiners.

- **Threshold performance:** Response which just merits inclusion in the level and should be awarded a mark at or near the bottom of the range.
- **Intermediate performance:** Response which clearly merits inclusion in the level and should be awarded a mark at or near the middle of the range.
- **High performance:** Response which fully satisfies the level description and should be awarded a mark at or near the top of the range.

Quality of written communication

Quality of written communication is taken into account in assessing candidates’ responses to all tasks and questions that require them to respond in extended written form. These tasks and questions are marked on the basis of levels of response. The description for each level of response includes reference to the quality of written communication.

For conciseness, quality of written communication is distinguished within levels of response as follows:

Level 1: Quality of written communication is basic.

Level 2: Quality of written communication is adequate.

Level 3: Quality of written communication is competent.

Level 4: Quality of written communication is highly competent.

In interpreting these level descriptions, examiners should refer to the more detailed guidance provided below:

Level 1 (Basic): The candidate makes only a limited attempt to select and use an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

Level 2 (Adequate): The candidate makes a reasonable attempt to select and use an appropriate form and style of writing. Relevant material is organised with some clarity and coherence. There is some use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning evident.

Level 3 (Competent): The candidate successfully selects and uses the most appropriate form and style of writing. Relevant material is organised with a high degree of clarity and coherence. There is extensive and accurate use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are of a high standard and ensure that meaning is clear.

Level 4 (Highly competent): The candidate successfully selects and uses the most appropriate form and style of writing. Relevant material is extremely well organised with the highest degree of clarity and coherence. There is extensive and accurate use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are of the highest standard and ensure that meaning is absolutely clear.

- 1 (a) List **three** main sources of protein in the diet. (AO1)

Examples of suitable sources to be listed:

- meat
- poultry
- fish
- eggs
- dairy foods
- pulses (lentils, peas, beans)
- nuts
- seeds
- tofu
- liver
- soya

All other valid responses will be given credit

(3 × [1])

[3]

- (b) Summarise **three** functions of protein. (AO1, AO2)

Examples of suitable functions to be summarised:

- protein is vital in the maintenance of body tissue, including development, growth and repair
- protein acts as a buffer helping the body maintain proper pH values
- protein transmits/signals information between cells tissues and organs
- protein is essential for building muscle
- protein is a source of energy – when the body is not getting enough calories from other nutrients or from the fat stored in the body, protein is broken down into ketone bodies to be used as energy
- protein is involved in the creation of some hormones. These substances help control body functions that involve the interaction of several organs
- protein speeds up metabolism or the rate of chemical reactions in the body – these proteins are called enzymes
- protein is a major element in the transportation of certain molecules, for example, haemoglobin is a protein that transports oxygen throughout the body
- protein forms antibodies that help prevent infection, illness and disease by identifying and assisting in destroying antigens such as bacteria and viruses.

All other valid responses will be given credit

[1] basic summary [2] adequate summary [3] competent summary

(3 × [3])

[9]

- (c) Identify the sources of vitamin C and discuss its dietary functions. (AO1, AO2, AO3)

Examples of suitable sources to be identified:

- citrus fruit, such as oranges and orange juice
- peppers
- strawberries
- blackcurrants
- mango
- broccoli
- brussels sprouts
- potatoes
- supplements

Examples of suitable functions to be discussed:

- helps to protect cells and keep them healthy
- maintains healthy skin, blood vessels, bones, cartilage and connective tissue
- helps with wound healing
- helps prevent scurvy
- helps support a healthy immune system
- aids the absorption of iron
- reducing risk of anaemia
- has antioxidant properties to help protect cells against the effects of free radicals which might play a role in heart disease, cancer and other diseases.

All other valid responses will be given credit

[0] is awarded for a response not worthy of credit.

Level 1 ([1]–[3])

Overall impression: basic

- basic knowledge and understanding of the sources and dietary functions of vitamin C
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to identify the sources and discuss the dietary functions of vitamin C.

Level 2 ([4]–[6])

Overall impression: adequate

- adequate knowledge and understanding of the sources and dietary functions of vitamin C
- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- demonstrates an adequate ability to identify the sources and discuss the dietary functions of vitamin C.

Level 3 ([7]–[9])

Overall impression: competent

- competent knowledge and understanding of the sources and dietary functions of vitamin C
- demonstrates a competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a competent ability to identify the sources and discuss the dietary functions of vitamin C. [9]

- (d) Tracey's diet is a contributory factor to her recent diagnosis of iron deficiency anaemia. Discuss the functions of iron in the body and the dietary advice Tracey may be given. (AO1, AO2, AO3)

Functions of iron:

- the body uses iron to make haemoglobin, a protein in red cells that carries oxygen from the lungs to all parts of the body and myoglobin, a protein that provides oxygen to muscles
- helps the brain to function normally
- helps the immune system to work as it should
- plays a role in metabolism as a component of some proteins and enzymes.

Examples of advice to be included in discussion:

- **eat more iron rich foods such as:**
 - dark green leafy vegetables like watercress and curly kale
 - cereals and bread with extra iron in them (fortified)
 - meat (especially beef, veal and liver)
 - pulses (beans, peas and lentils)
 - seafood and shellfish (especially oysters, tuna and sardines).
- **eat more food containing vitamin C to help absorb iron**
- **eat less often or avoid foods which can interfere with iron absorption such as:**
 - tea
 - coffee
 - milk and dairy
 - foods with high levels of phytic acid, such as wholegrain cereals, which can stop the body absorbing iron from other foods and medication.

All other valid responses will be given credit

[0] is awarded for a response not worthy of credit.

Level 1 ([1]–[3])

Overall impression: basic

- limited knowledge of the function of iron and the dietary advice Tracey may be given
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to discuss the function of iron and the dietary advice Tracey may be given.

Level 2 ([4]–[6])

Overall impression: adequate

- adequate knowledge of the function of iron and the dietary advice Tracey may be given
- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- demonstrates an adequate ability to discuss the function of iron and the dietary advice Tracey may be given.
- candidates who only discuss the function of iron or the dietary advice can not achieve beyond this level.

Level 3 ([7]–[9])

Overall impression: competent

- competent knowledge of the function of iron and the dietary advice Tracey may be given
- demonstrates a competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a competent ability to discuss the function of iron and the dietary advice Tracey may be given. [9]

- (e) Assess the importance of dietary fibre for older people. (AO1, AO2, AO3)

Examples of suitable points to be included in assessment:

Reduces constipation

- constipation is common later in life due to age-related changes in the gastrointestinal tract. Dietary fibre helps the digestive system to function and may prevent various bowel disorders including constipation, diverticular disease, bowel cancer, appendicitis and haemorrhoids
- certain prescription drugs, such as opioids, blood pressure medicines, and antidepressants can cause constipation
- a high-fibre diet combined with physical exercise and plenty of water (at least 8–10 eight-ounce glasses of water daily) normalises bowel movements
- both types of fibre are essential for keeping the intestinal system running smoothly. Soluble fibre gives stool bulk, while insoluble fibre helps speed up the transit of food in the digestive tract.

Lowers cholesterol levels

- soluble fibre may help lower total blood cholesterol levels by binding to cholesterol and bile acid in the intestine, secreting cholesterol from the body. Because the risk of high cholesterol increases with age, older adults could benefit from including fibre-rich foods as part of a healthy diet
- may have heart health benefits such as reducing blood pressure and inflammation.

Regulates blood sugar levels

- soluble fibre slows down the digestive process making glucose release more slowly into the bloodstream; therefore, eating fibre as part of a diet can help control blood sugar levels and reduce the risk of developing type 2 diabetes which increases with age.

Aids with a healthy weight

- older people who need to lose weight can benefit by consuming low-calorie, fibre-rich foods which are more filling than low-fibre foods. This can help older people to control their body weight because high fibre foods are filling, helping to maintain energy balance and reduce obesity.

All other valid responses will be given credit

[0] is awarded for a response not worthy of credit.

Level 1 ([1]–[3])

Overall impression: basic

- basic knowledge and understanding of the importance of dietary fibre for older people
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to assess the importance of dietary fibre for older people.

Level 2 ([4]–[6])

Overall impression: adequate

- adequate knowledge and understanding of the importance of dietary fibre for older people
- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- demonstrates an adequate ability to assess the importance of dietary fibre for older people.

Level 3 ([7]–[9])

Overall impression: competent

- competent knowledge and understanding of the importance of dietary fibre for older people
- demonstrates a competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a competent ability to assess the importance of dietary fibre for older people. [9]

(f) Suggest why the following are nutritional requirements for infants. (AO1, AO2)

Carbohydrates

- provide the body with glucose, which is converted to energy used to support bodily functions, e.g. brain function, healthy digestive system and physical activity
- essential for the rapid growth and development – main fuel source
- maintain a healthy body weight and protein sparer.

Calcium

- needed for growing and building strong bones and teeth during infancy
- helps with several other bodily functions, including: blood clotting, sending and receiving nervous system signals, muscle contraction and relaxation, hormone release and maintaining a normal heartbeat
- reduces the risk of rickets – when there is not enough of this mineral in the diet, the body draws calcium from the bones when it needs more. This means that low calcium intake over time will cause bones to weaken, putting a child at risk of rickets.

Vitamin A

- needed for a healthy immune system, helping the body's natural defence against illness and infection to work properly
- can help their vision in dim light as includes beta carotene
- keeps skin healthy
- important as some infants may not be getting enough.

[1] basic suggestions [2] adequate suggestions [3] competent suggestions
(3 × [3]) [9]

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- 2 (a) One factor which affects energy requirements is basal metabolic rate (BMR). Name the **four** other factors which affect energy requirements. (AO1)

Examples of suitable factors to be named:

- age
- gender
- state of health
- physical activity levels (PALs)

(4 × [1])

[4]

- (b) Discuss the appropriate dietary advice to help manage type 2 diabetes. (AO1, AO2, AO3)

Examples of suitable dietary advice to be included in discussion:

- eat a balanced diet: eat fruit, unsalted nuts and low fat yoghurts as snacks instead of cakes, biscuits or crisps
- eat foods from the five food groups in the recommended amounts as advised in the Eatwell Guide
- follow a diet low in fat and saturated fat; avoid high fat foods, such as mayonnaise, chips, crisps, pasties, poppadums, samosas and fatty or processed meat, such as sausages and burgers. Fried and roasted foods should also be avoided. Choose foods that are low in fat – replace butter, ghee and coconut oil with low fat spreads and vegetable oil. Choose skimmed and semi-skimmed milk, and low fat yoghurts. Eat fish and lean meat. Grill, bake, poach or steam food
- follow a diet high in fibre and complex carbohydrates; eat foods rich in soluble NSP, e.g. oats which help maintain blood sugar levels; increase consumption of high fibre foods, such as wholegrain bread and cereals, beans and lentils, and fruit and vegetables. Try to include those that are more slowly absorbed (have a lower glycaemic index). Good choices include pasta, basmati or easy cook rice, grainy breads such as granary, pumpernickel and rye, new potatoes, sweet potatoes and yams, porridge oats, and natural muesli. The whole-grain, high-fibre varieties of starchy foods are usually better options and will also help to maintain the health of the digestive system
- check sugar content on labels/avoid high sugar content foods
- limit salt intake, does not affect blood sugar, but may prevent or control high blood pressure and heart disease and these are a concern for people with type 2 diabetes
- safe alcohol intake; drink alcohol in moderation. Drinking too much alcohol is associated with an increased risk of type 2 diabetes, as alcohol interferes with blood sugar levels and can lead to weight gain. Current guidelines recommend not drinking more than 14 units per week and that these units should be spread evenly over 3–4 days
- eat breakfast, lunch and dinner every day; do not skip meals.

All other valid responses will be given credit

[0] is awarded for a response not worthy of credit.

Level 1 ([1]–[4])

Overall impression: basic

- basic knowledge and understanding of the appropriate dietary advice to help manage type 2 diabetes
- demonstrates a limited ability to apply appropriate knowledge and

- understanding to the question
- demonstrates a limited ability to discuss the appropriate dietary advice to help manage type 2 diabetes
- quality of written communication is basic. The candidate makes only a limited attempt to select and use an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

Level 2 ([5]–[8])

Overall impression: adequate

- adequate knowledge and understanding of the appropriate dietary advice to help manage type 2 diabetes
- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- demonstrates an adequate ability to discuss the appropriate dietary advice to help manage type 2 diabetes
- quality of written communication is adequate. The candidate makes a reasonable attempt to select and use an appropriate form and style of writing. Relevant material is organised with some clarity and coherence. There is some use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning evident.

Level 3 ([9]–[12])

Overall impression: competent

- competent knowledge and understanding of the appropriate dietary advice to help prevent type 2 diabetes
- demonstrates a competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a competent ability to discuss the appropriate dietary advice to help manage type 2 diabetes
- quality of written communication is competent. The candidate successfully selects and uses the most appropriate form and style of writing. Relevant material is organised with a high degree of clarity and coherence. There is extensive and accurate use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are of a high standard and ensure that meaning is clear. [12]

- (c) Following a recent fall Caroline aged 65 has been diagnosed with osteoporosis. Her consultant explained that the condition has developed slowly over several years.

Explore the advice to help prevent osteoporosis. (AO1, AO2, AO3)

Answers may explore the following advice:

- ensure a nutritious diet and adequate calcium intake. Calcium is important for preventing osteoporosis and bone disease, as it's a major building-block of our bone tissue – the skeleton houses 99 % of the body's calcium stores. Calcium rich foods include green leafy vegetables, dried fruit, tofu, milk, cheese and yoghurt. Adults need 700 mg calcium a day which they should be able to get from the daily diet. Calcium needs change at different stages. Calcium requirements are

high in teenage years with the rapid growth of the skeleton. With age, the body's ability to absorb calcium declines, which is one of the reasons why seniors also require higher amounts

- maintain an adequate supply of vitamin D. Vitamin D helps regulate the amount of calcium and phosphate in the body. These nutrients are needed to keep bones, teeth and muscles healthy. Vitamin D has been long known to improve bone health, by helping the body process calcium effectively – it is essential for bone and muscle health as it promotes calcium absorption from food. Bones need the added mineral to make them strong and supportive; and vitamin D may play an important role in muscle function. Sunlight is the best natural source of vitamin D. All adults should consume 10 micrograms of vitamin D a day. Sources of vitamin D include oily fish, liver, egg yolks, fortified foods, such as fat spreads and breakfast cereals, and dietary supplements
- maintain an adequate supply of vitamin K which can lower the chances of bone fractures and low bone density. Sources of vitamin K include green leafy vegetables such as broccoli and spinach
- participate in regular weight-bearing activity. These exercises include activities that make a person move against gravity while staying upright. High-impact weight-bearing exercises help build bones and keep them strong. To reduce the rate of natural bone loss that occurs from the age of 35 onwards, aim to do muscle-strengthening activities at least 2 days a week. Examples of suitable activities for adults include brisk walking, moderate-resistance weightlifting, stair climbing, carrying or moving heavy loads like groceries, exercising with resistance bands, heavy gardening, such as digging and shovelling and cross-training machines
- avoid smoking and second-hand smoking as smoking reduces the blood supply to the bones and to many other body tissues. The nicotine in cigarettes slows production of bone-producing cells, called osteoblasts. Smoking decreases the body's absorption of calcium, which is necessary for vital cellular functions and bone health
- avoid heavy drinking; alcohol should be taken in moderation as it detracts from bone health and is associated with falls and fractures. Chronic heavy drinking, particularly during adolescence and the young adult years, can dramatically compromise bone quality and may increase osteoporosis risk. Furthermore, research indicates that the effects of heavy alcohol use on bone cannot be reversed, even if alcohol consumption is terminated
- caffeine and salt should not be taken in excessive amounts as both can increase calcium loss from the body.

All other valid responses will be given credit

[0] is awarded for a response not worthy of credit.

Level 1 ([1]–[4])

Overall impression: basic

- basic knowledge and understanding of the advice to help prevent osteoporosis
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to explore the advice to help prevent osteoporosis
- quality of written communication is basic. The candidate makes only

a limited attempt to select and use an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

Level 2 ([5]–[8])

Overall impression: adequate

- adequate knowledge and understanding of the advice to help prevent osteoporosis
- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- demonstrates an adequate ability to explore the advice to help prevent osteoporosis
- quality of written communication is adequate. The candidate makes a reasonable attempt to select and use an appropriate form and style of writing. Relevant material is organised with some clarity and coherence. There is some use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning evident.

Level 3 ([9]–[12])

Overall impression: competent

- competent knowledge and understanding of the advice to help prevent osteoporosis
- demonstrates a competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a competent ability to explore the advice to help prevent osteoporosis
- quality of written communication is competent. The candidate successfully selects and uses the most appropriate form and style of writing. Relevant material is organised with a high degree of clarity and coherence. There is extensive and accurate use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are of a high standard and ensure that meaning is clear.

Level 4 ([13]–[15])

Overall impression: highly competent

- highly competent knowledge and understanding of the advice to help prevent osteoporosis
- demonstrates a highly competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a highly competent ability to explore the advice to help prevent osteoporosis
- quality of written communication is highly competent. The candidate successfully selects and uses the most appropriate form and style of writing. Relevant material is extremely well organised with the highest degree of clarity and coherence. There is extensive and accurate use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are of the highest standard and ensure that meaning is absolutely clear.

[15]

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- 3 (a) A wide range of factors influence what we choose to eat. Consider how advertising and religion may influence food choice. (AO1, AO2, AO3)

Examples of suitable points to be considered:

Advertising

- may choose foods advertised on television in magazines, on posters, celebrities and social media influencers
- may choose brands which pay a lot of attention to the aspirational lifestyle that is attached to their product, e.g. “healthy” and “low-fat” foods
- may choose packaging which is made colourful and attractive to draw the attention of the customers
- may choose food which claims to promote clearer complexions, e.g. rich in vitamin E
- may be influenced to make choices based on product placement, e.g. where references to specific brands or products are incorporated into a film or television programme
- may choose foods where advertising provides nutritional information, e.g. omega 3 for brain development, low fat, low sugar
- may choose foods where advertising is causing fear as a motivator (e.g. foods to reduce cholesterol)
- may choose foods which are advertised as organic, free range etc.
- food advertising can raise children’s awareness of food brands and brands can serve as triggers to food requests made to parents. Such effects can gradually emerge over time and short-term preferences can also be influenced by exposure to specific food advertisements
- may choose foods advertised on offer, e.g. buy one get one free or 3 for £10.

Religion

How the **Jewish** faith influences food choice:

- meats served must be prepared under strict Jewish laws. They must be Kosher, which means animals must be slaughtered ritually
- food must not come from pigs, birds of prey, eels, fish without scales and shellfish
- meat must not be cooked with or eaten in the same meal as dairy products
- cheese must be made with vegetable rennet
- meat must not be cooked in butter
- religious festivals will have to be taken into consideration including fast days, for example, Day of Atonement when individuals eat before sunset and then a 24 hour fast begins.

How the **Muslim** faith influences food choice:

- food must be Halal (lawful) which means animals are slaughtered according to Muslim law
- pork is forbidden
- alcohol is forbidden
- Ramadan is the ninth month of the Muslim calendar and lasts for a month; during this time Muslims do not eat or drink from dawn to sunset.

How the **Hindu** faith influences food choice:

- Hinduism encourages being vegetarian and avoiding the eating of any animal meat or flesh
- meat served must not be from a cow as it is a sacred animal; other meats are permitted for non-vegetarian Hindus, although many are vegetarian
- the majority of Hindus are lacto-vegetarian (avoiding meat and eggs), although some may eat lamb, chicken or fish. Beef is always avoided, but dairy products are eaten. Animal-derived fats such as lard and dripping are not permitted.

How **Roman Catholicism** influences food choice:

- Roman Catholicism doesn't prohibit any foods but does differentiate between times of feasting (Christmas and Easter) and fasting (Lent and Advent)
- on Ash Wednesday and Good Friday Roman Catholics (R.C.) "fast" meaning they eat less than usual; one full meal and two smaller meals that don't add up together to a full meal
- on Ash Wednesday and Good Friday and all Fridays during Lent R.C. over the age of fourteen abstain from eating meat.

All other valid responses will be given credit

[0] is awarded for a response not worthy of credit.

Level 1 ([1]–[5])

Overall impression: basic

- basic knowledge and understanding of how advertising and religion may influence food choice
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to consider how advertising and religion may influence food choice
- quality of written communication is basic. The candidate makes only a limited attempt to select and use an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

Level 2 ([6]–[10])

Overall impression: adequate

- adequate knowledge and understanding of how advertising and religion may influence food choice
- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- demonstrates an adequate ability to consider how advertising and religion may influence food choice
- if only one aspect of the question (advertising or religion) is addressed a maximum of 7 marks can be awarded
- quality of written communication is adequate. The candidate makes a reasonable attempt to select and use an appropriate form and style of writing. Relevant material is organised with some clarity and coherence. There is some use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning evident.

Level 3 ([11]–[15])

Overall impression: competent

- competent knowledge and understanding of how advertising and religion may influence food choice
- demonstrates a competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a competent ability to consider how advertising and religion may influence food choice
- quality of written communication is competent. The candidate successfully selects and uses the most appropriate form and style of writing. Relevant material is organised with a high degree of clarity and coherence. There is extensive and accurate use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are of a high standard and ensure that the meaning is clear. [15]

- (b) Identify **three** other bacteria that can cause food poisoning bacteria, stating where each is found. (AO1, AO2)

Examples of suitable bacteria to be identified:

- **Campylobacter:** present in the gut and faeces of animals and is commonly found in or on raw poultry, undercooked meat and meat products, raw or contaminated milk and contaminated water
- **Escherichia Coli: E coli:** present in contaminated food, such as ground beef as when cattle are slaughtered and processed, E. coli bacteria in their intestines can get onto the meat, unpasteurised milk, fresh produce, contaminated water, raw and uncooked meats
- **Staphylococcus aureus:** commonly found on the skin or in the nose of even healthy individuals.

All other valid points will be given credit

[1] identification [2] development of where found

(3 × [2])

[6]

- (c) Name two groups of individuals particularly at risk of food poisoning. (AO1)

Examples of groups of individuals to be named:

- children under five years of age
- people who are ill
- pregnant women and unborn children
- the elderly
- people with weakened immune system.

(2 × [1])

[2]

- (d) Examine how good hygiene and safe practices when storing and preparing food at home reduce the risk of food poisoning. (AO1, AO2, AO3)

Examples of suitable points to be included in examination:**Storing food**

- make sure frozen foods are placed in the freezer without delay – when shopping, buy chilled and frozen foods at the end of the trip and take them home to store as quickly as possible. On hot days or for trips longer than 30 minutes, try to take an insulated cooler bag or ice pack to keep frozen; put chilled and frozen foods into the fridge or freezer immediately on returning home. Make sure foods stored in the freezer

- are frozen hard
- make sure fridges and food storage containers are clean and in good condition, and only use them for storing food. Cover them with tight-fitting lids, foil or plastic film to minimise potential contamination. Transfer the contents of opened cans into suitable containers
- food poisoning bacteria grow and multiply fastest in the temperature danger zone between 5–8 °C and 63 °C. It is important to keep high-risk food out of this temperature zone, keep the fridge temperature at 5 °C or below. The freezer temperature should be at –18 °C. Use a thermometer to check the temperature in the fridge if it is not displayed
- keep raw meat separate: it's especially important to keep raw meat away from ready-to-eat foods, such as salad, fruit and bread. This is because these foods won't be cooked before eating, so any bacteria that gets on to the foods won't be killed
- always cover raw meat and store it on the bottom shelf of the fridge, where it can't touch other foods or drip onto them. Raw foods can contain harmful bacteria that spreads very easily to anything they touch, including other foods, worktops, chopping boards and knives
- do not overload fridge to help maintain temperature of 5 °C or below
- check use-by dates and remove from storage, rotate stock to help ensure that food is safe to eat
- some foods need to be kept in the fridge to help stop bacteria growing. These include cooked foods and ready-to-eat foods, such as desserts and cooked meats where listeria may be present.

Preparing Food

- hand washing: wash hands thoroughly before preparing, cooking or eating food. Staphylococcus aureus is present on human skin therefore individuals should wash their hands thoroughly with soap and hot water, and dry them before handling food, after handling raw foods – including meat, fish, eggs and vegetables – and after touching the bin, going to the toilet, blowing their nose, or touching animals, including pets. This reduces the risk of staphylococcus aureus being transferred while preparing and handling food
- food handlers; wear appropriate clothing, remove jewellery, tie long hair back, wear a hair net, no nail polish, do not cough/sneeze over food, cover cuts etc.
- surfaces: salmonella is present in some foods, therefore individuals should wash worktops before and after preparing food, particularly after they've been touched by raw meat, including poultry, raw eggs, fish and vegetables
- fabrics: wash or change dish cloths, tea towels, sponges and oven gloves regularly and let them dry before using them again. Dirty, damp cloths harbour and provide perfect growth conditions for bacteria
- keep all utensils and dishes clean before preparing food to avoid cross contamination
- use different utensils, plates for ready-to-eat foods and raw foods that require cooking, or wash them thoroughly between tasks
- washing foods; some foods may need to be washed to avoid the spread of bacteria; do not wash raw meat/chicken in the sink under running water, which could spread bacteria
- cook food to the correct temperature (usually around 70 °C) to allow bacteria to be destroyed, using a probe if necessary to check temperature

- use separate chopping boards to prevent cross contamination. Raw foods can contain harmful bacteria that spread very easily to anything they touch, including other foods, worktops, chopping boards and knives.
- All other valid points will be given credit

[0] is awarded for a response not worthy of credit.

Level 1 ([1]–[5])

Overall impression: basic

- basic knowledge and understanding of how good hygiene and safe practices when storing and preparing food at home reduce the risk of food poisoning
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to examine how good hygiene and safe practices when storing and preparing food at home reduce the risk of food poisoning
- quality of written communication is basic. The candidate makes only a limited attempt to select and use an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

Level 2 ([6]–[10])

Overall impression: adequate

- adequate knowledge and understanding of how good hygiene and safe practices when storing and preparing food at home reduce the risk of food poisoning
- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- demonstrates an adequate ability to examine how good hygiene and safe practices when storing and preparing food at home reduce the risk of food poisoning
- if only one aspect of the question (storing or preparing) is addressed a maximum of 9 marks can be awarded
- quality of written communication is adequate. The candidate makes a reasonable attempt to select and use an appropriate form and style of writing. Relevant material is organised with some clarity and coherence. There is some use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning evident.

Level 3 ([11]–[14])

Overall impression: competent

- competent knowledge and understanding of how good hygiene and safe practices when storing and preparing food at home reduce the risk of food poisoning
- demonstrates a competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a competent ability to examine how good hygiene and safe practices when storing and preparing food at home reduce the risk of food poisoning
- quality of written communication is competent. The candidate

successfully selects and uses the most appropriate form and style of writing. Relevant material is organised with a high degree of clarity and coherence. There is extensive and accurate use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are of a high standard and ensure that meaning is clear.

Level 4 ([15]–[18])

Overall impression: highly competent

- highly competent knowledge and understanding of how good hygiene and safe practices when storing and preparing food at home reduce the risk of food poisoning
- demonstrates a highly competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a highly competent ability to examine how good hygiene and safe practices when storing and preparing food at home reduce the risk of food poisoning
- quality of written communication is highly competent. The candidate successfully selects and uses the most appropriate form and style of writing. Relevant material is extremely well organised with the highest degree of clarity and coherence. There is extensive and accurate use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are of the highest standard and ensure that meaning is absolutely clear.

[18]

Total

**AVAILABLE
MARKS**

41

120