



*Rewarding Learning*

**ADVANCED**  
**General Certificate of Education**  
**2025**

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**Health and Social Care**

Assessment Unit A2 7

*assessing*

Human Nutrition and Health

[AHC71]

**THURSDAY 12 JUNE, AFTERNOON**

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**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) (i) Name **two** sources of fluorine. (AO1)

Any two of the following:

- toothpaste
- tea
- fluoridated water
- coffee
- raisins
- canned shellfish, e.g. shrimp
- oatmeal
- mouthwash
- spinach
- grape or orange juice

All other valid responses will be given credit

(2 × [1])

[2]

(ii) Explain **two** functions of fluorine. (AO1, AO2)

**Examples of suitable functions to be explained:**

- essential for the normal mineralization of bones
- helps to form dental enamel, strengthening teeth making them more resistant to decay.

All other valid responses will be given credit

[1] basic explanation, [2] competent explanation

(2 × [2])

[4]

(b) List **three** sources of sugary carbohydrates. (AO1)

Any three of the following:

- cakes
- biscuits
- pastries
- cookies
- sugary drinks – fizzy drinks, fruit juice, sports drinks, and energy drinks.
- chocolate

All other valid responses will be given credit

(3 × [1])

[3]

(c) Describe **different** dietary functions of the following nutrients. (AO1, AO2)

Calcium

**Examples of suitable functions to be included in description:**

- helps to build and maintain strong bones and teeth
- regulates muscle contractions, including heartbeat
- ensures that blood clots normally
- sending and receiving nerve signals
- helps achieve peak bone mass.

All other valid responses will be given credit

[1] basic description, [2] adequate description, [3] competent description

(1 × [3])

[3]

## Vitamin B12

**Examples of suitable functions to be included in description:**

- helps the body make red blood cells, preventing anaemia
- makes DNA
- keeps the nervous system healthy
- releases energy from food
- helps the body to use folate
- supports the immune system.

All other valid responses will be given credit

[1] basic description, [2] adequate description, [3] competent description

(1 × [3])

[3]

- (d) Discuss the importance of protein, fat and carbohydrates for older people.  
(AO1, AO2, AO3)

**Examples of suitable points to be included in discussion:**

## Protein

- muscle maintenance and repair: protein is crucial for maintaining muscle mass, which naturally declines with age. Muscle loss can lead to frailty and decreased mobility for older people
- transportation: protein is needed for transporting molecules within the body. Haemoglobin is a protein in red blood cells that carries oxygen throughout the body
- immune function: protein helps form antibodies. Adequate protein intake supports the immune system, helping older people fight off infections and illnesses
- energy: protein is a source of energy when fats and carbohydrates are unavailable
- hormones: protein is involved in the creation of some hormones. These substances help control body functions that involve the interaction of several organs
- enzymes: protein is a key component of enzymes. Enzymes are proteins that increase the rate of chemical reactions in the body
- regulates pH levels: acts as a buffer system in the body.

## Fat

- energy source: fats provide a concentrated source of energy, which is important for older adults who may have reduced appetites
- nutrient absorption: fat soluble vitamins A, D, E and K, need fat to be absorbed properly by the body
- adipose tissues: stored in fat cells help to insulate the body and help to sustain a normal core body temperature as older adults may be less sensitive to changes in body temperature
- brain health: healthy fats, particularly omega 3 fatty acids, support cognitive function and may improve symptoms at the early stages of dementia.

## Carbohydrates

- energy and brain function: carbohydrates are the body's main source of energy, especially for the brain. They help maintain energy levels and support cognitive function

- digestive health: carbohydrates that contain fibre aid digestion and help prevent constipation commonly associated with older people. Fibre intake needs to increase to prevent constipation caused by the slowing of the digestive system and reduced mobility
- fibre can help older people maintain a healthy weight
- soluble NSP may help reduce the risk of heart disease by lowering cholesterol and can reduce the risk of type 2 diabetes by controlling blood glucose levels.

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 protein, fat and carbohydrates for older people
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to discuss the importance of protein, fat and carbohydrates for older people.

### Level 2 ([4]–[6])

Overall impression: adequate

- adequate knowledge and understanding of the importance of protein, fat and carbohydrates for older people
- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- demonstrates an adequate ability to discuss the importance of protein, fat and carbohydrates for older people.

### Level 3 ([7]–[9])

Overall impression: competent

- competent knowledge and understanding of the importance of protein, fat and carbohydrates for older people
- demonstrates a competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a competent ability to discuss the importance of protein, fat and carbohydrates for older people
- there must be clear application to older people to achieve at this level.

[9]

- (e) Analyse the appropriate dietary advice to help manage hypertension. (AO1, AO2, AO3)

#### Examples of suitable points to be included in analysis:

- eating healthily is key – fruit and vegetables are rich in potassium, magnesium and fibre. Aim to eat the recommended portions per day. Fresh, frozen, dried, juiced and canned all count. If using canned varieties, look for those lower in salt and sugar. These healthy foods help to regulate blood pressure
- cut down on saturated fat and sugar – limit saturated fat and sugar intake, including processed foods as these can contribute to raised cholesterol levels

- eat dairy foods that are good sources of calcium to help blood vessels relax. Some dairy products can be high in saturated fat, so opt for lower fat versions such as semi-skimmed milk, low-fat yoghurts and low-fat cheese. Include two to three servings per day
- eat wholegrain foods such as wholegrain breakfast cereals, breads, brown pasta and rice and oats which are high in fibre, potassium and magnesium. These foods may help lower total blood cholesterol levels – aim for two to three servings per day
- oily fish are rich in omega 3 fatty acids, which have been shown to have some effect on reducing blood pressure. Examples include salmon, pilchards, sardines, mackerel, herring and trout. Aim for at least one portion of these dark fleshed fish per week
- aim to eat less than 6 g of salt a day. Salt makes the body hold onto water; excess water in the blood means there is extra pressure on the blood vessel walls, raising blood pressure which can increase the risk of CHD and stroke
- drinking 6–8 glasses of water daily is beneficial in preventing changes in blood pressure which can occur due to dehydration
- reducing the amount of caffeine may help, as drinking a lot of caffeine, like coffee, tea, energy drinks and cola drinks, may increase blood pressure
- drinking more than the recommended amount of alcohol can cause high blood pressure and damage to heart muscle. It is important to keep within the UK guidelines: alcohol should be limited to no more than 14 units per week for men and women.

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 the appropriate dietary advice to help manage hypertension
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to analyse the appropriate dietary advice to help manage hypertension
- 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 the appropriate dietary advice to help manage hypertension
- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- demonstrates an adequate ability to analyse the appropriate dietary advice to help manage hypertension

- 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 the appropriate dietary advice to help manage hypertension
- demonstrates a competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a competent ability to analyse the appropriate dietary advice to help manage hypertension
- must be clear application to managing hypertension to achieve at this level
- 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]

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- 2 (a) Outline the guidelines catering staff should follow when preparing food for patients like Luca. (AO1, AO2)

#### Examples of guidelines to be included in outline:

- remove the offending food (i.e. peanuts) from dishes
- read labels of all food products prior to preparation
- avoid preparing food where peanuts may have been used in another dish
- plan menus carefully.

All other valid responses will be given credit

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

(1 × [3])

[3]

- (b) (i) Identify **three** high risk foods likely to cause food poisoning. (AO1)

#### Any three of the following:

- meats
- poultry, e.g. chicken
- eggs
- fish
- gravy
- sauces
- shellfish
- dairy products, e.g. soft cheeses
- pasta
- cooked rice

All other valid responses will be given credit

(3 × [1])

[3]

(ii) List **three** symptoms of food poisoning caused by salmonella. (AO1)

**Any three of the following:**

- abdominal cramps
- diarrhoea
- vomiting which tends to appear 12–72 hours after infection
- fever
- nausea
- headache

All other valid responses will be given credit

(3 × [1])

[3]

(c) Analyse how moisture, warmth, time and suitable pH affect the growth of bacteria. (AO1, AO2, AO3)

**Examples of suitable points to be included in analysis:**

Moisture

- bacteria need moisture in order to grow. Bacteria grow on foods with high moisture content such as chicken and unpasteurised dairy
- moist tissues in the body, such as the mouth and nose, provide an excellent source of moisture for bacteria and are particularly prone to bacterial growth.

Warmth

- bacteria need warmth to grow
- the temperature a food is stored, prepared and cooked at is crucial. If this is not done correctly then the food will not be safe to eat
- the optimum temperature range for bacterial growth is between 5–63°. This is known as the danger zone as it is dangerous for some foods to be in this temperature range for prolonged periods of time.

Time

- if provided with the optimum conditions for growth, bacteria can multiply to millions over a small period of time via binary fission – when a bacterium divides in two every 20 minutes.

Suitable pH

- the pH of an environment – a measure of its acidity or alkalinity – is important for bacterial growth
- most strains of disease-causing bacteria prefer to grow in conditions with a near neutral pH, similar to the pH of the human body
- some strains of bacteria, however, can live in more acidic or more alkaline conditions
- most bacteria reproduce best at a neutral pH level of 7. Acidic foods with a pH below 7, or alkaline foods with a pH above 7, may stop or slow down the rate of bacterial growth.

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 how moisture, warmth, time and suitable pH affect the growth of bacteria

- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to analyse how moisture, warmth, time and suitable pH affect the growth of bacteria
- 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 how moisture, warmth, time and suitable pH affect the growth of bacteria
- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- demonstrates an adequate ability to analyse how moisture, warmth, time and suitable pH affect the growth of bacteria. Candidates who only analyse two factors cannot achieve beyond this level.
- 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 how moisture, warmth, time and suitable pH affect the growth of bacteria if candidate has only analysed three factors they can not achieve more than [10]
- demonstrates a competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a competent ability to analyse how moisture, warmth, time and suitable pH affect the growth of bacteria. If candidate has only analysed three factors they cannot achieve more than [10]
- 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.

### **Level 4 ([13]–[15])**

Overall impression: highly competent

- highly competent knowledge and understanding of how moisture, warmth, time and suitable pH affect the growth of bacteria
- demonstrates a highly competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a highly competent ability to analyse how all four factors – moisture, warmth, time and suitable pH affect the growth of bacteria
- quality of written communication is excellent. 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 the meaning is absolutely clear. [15]

- (d) Janice has just been discharged from hospital. She has a poor appetite and tends to lose weight without trying. The dietician has given her a copy of the 'Food First Advice Leaflet for Community Settings' which provides guidance on getting the most from your food.

Discuss how Janice can follow the advice in this leaflet. (AO1, AO2, AO3)

**Examples of suitable points to be included in discussion:**

- she can eat little and often, following a regular meal and snack routine
- she can enrich her food, e.g. by choosing full fat products and adding butter, cream or cheese to dishes like mashed potatoes
- she can consume nourishing drinks, e.g. by having a pint of milk a day and using fortified milk to make hot drinks and custards
- she can follow other helpful tips such as using or getting deliveries of ready meals and stocking up her store cupboard and freezer so that food is always available at home
- she could use the guide to meal and snack ideas to plan and prepare breakfasts, main meals, puddings and snacks, aiming for three meals and three snacks each day
- she should speak to her GP if she follows the advice but loses weight.

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 how Janice can follow the advice in this leaflet
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to discuss how Janice can follow the advice in this leaflet.

**Level 2 ([4]–[6])**

Overall impression: adequate

- adequate knowledge and understanding of how Janice can follow the advice in this leaflet
- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- demonstrates an adequate ability to discuss how Janice can follow the advice in this leaflet.

**Level 3 ([7]–[9])**

Overall impression: competent

- competent knowledge and understanding of how Janice can follow the advice in this leaflet
- demonstrates a competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a competent ability to discuss how Janice can follow the advice in this leaflet. [9]

- 3 (a) Consider how the physiological factor of obesity should influence food choice. (AO1, AO2, AO3)

**Examples of suitable points to be considered:**

Individuals should swap unhealthy and high-energy food choices – such as fast food, processed food and sugary drinks (including alcohol) – for healthier choices, so an individual may –

- choose plenty of fruit and vegetables
- choose higher fibre starchy carbohydrates such as wholegrain varieties of cereals, brown rice and pasta
- choose more fish including oily fish
- choose healthier drinks such as low fat milk and low sugar drinks
- avoid foods containing high levels of salt because they can raise blood pressure, which can be dangerous for people who are already obese
- check calorie information for each type of food and drink consumed to make sure they don't go over the recommended daily limit
- reduce saturated fat intake, e.g. choose low fat milk and dairy foods
- choose some meat, fish, eggs, beans and other non-dairy sources of protein
- make informed food choices when shopping for food and eating out, for example some restaurants, cafés and fast food outlets provide calorie information per portion.

All other valid points 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 how the physiological factor of obesity should influence food choice
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to consider how the physiological factor of obesity should 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 ([5]–[8])**

Overall impression: adequate

- adequate knowledge and understanding of how the physiological factor of obesity should influence food choice
- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- demonstrates an adequate ability to consider how the physiological factor of obesity should influence food choice
- 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 how the physiological factor of obesity should influence food choice
- demonstrates a competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a competent ability to consider how the physiological factor of obesity should 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 meaning is clear. [12]

- (b) Complete the table below to describe **different** dietary advice which may help prevent and/or manage the conditions listed. (AO1, AO2)

Crohn's disease

#### Examples of suitable points to be included in description:

- yogurt: live culture yogurt contain probiotics which can help with recovery of the intestine. However if individuals have trouble digesting dairy proteins, yogurt should be avoided as this can make Crohn's associated diarrhoea and gas symptoms worse
- oily fish: omega 3 fatty acids have anti-inflammatory properties which may help reduce the aggravation that causes Crohn's symptoms to worsen
- fruits and vegetables: a diet containing plenty of fruits and vegetables can help reduce symptoms. However if raw fruit makes flare-ups worse, apple sauce and bananas are beneficial and can fulfil a craving for sweets
- cooked carrots: carrots can be a valuable source of nutrients without aggravating symptoms. During a Crohn's flare-up individuals should cook carrots until soft and tender. Carrots are easy to digest and contain antioxidants that may help with Crohn's symptoms
- cereals: individuals should avoid cereals that are high in fibre and instead choose cereals with low amounts of fibre, e.g. Cornflakes and Rice Krispies.

All other valid responses will be given credit

[1] basic description, [2] adequate description, [3] competent description

(1 × [3])

[3]

Cardiovascular disease

#### Examples of suitable points to be included in description:

- eat a healthy, balanced, low fat, high fibre diet which includes plenty of fresh fruit and vegetables (five/seven portions a day) and wholegrains
- limit the amount of salt eaten to no more than 6 g/day
- eat less saturated fat, e.g. no more than 70 g of red meat per day
- increase the intake of monosaturated fatty acids which may reduce cholesterol therefore protecting against coronary heart disease

- follow a Mediterranean diet to reduce the risk of developing coronary heart disease due to a large intake of fruit and vegetables
- eat more foods containing potassium such as bananas which may be beneficial for heart health
- follow a diet rich in calcium but not solely from dairy sources, as these can be high in fat. Calcium can be associated with a low risk of developing cardiovascular disease as it binds dietary fats and hinders their absorption
- consume alcohol within safe limits. Red wine contains antioxidants which are linked to positive heart health
- increase NSP intake as this can lower cholesterol
- consume foods rich in vitamin E. Vitamin E is an antioxidant which can reduce the risk of developing cardiovascular disease
- use fresh fruit and vegetables and starchy foods as snacks, as another method of reducing fat intake.

All other valid responses will be given credit

[1] basic description, [2] adequate description, [3] competent description

(1 × [3])

[3]

Night blindness

**Examples of suitable points to be included in description:**

- eat vitamin A rich foods
- eat foods rich in Vitamin A retinol, e.g. liver, beef, chicken, eggs, whole milk and oily fish
- eat foods rich in Vitamin A beta carotene, e.g. red and orange coloured fruit and vegetables such as carrots, mangoes and sweet potatoes. Other sources include green leafy vegetables, e.g. kale and spinach
- fortified foods, e.g. breakfast cereals, bread, crackers and fortified milk
- supplements: for people with increased risk, especially young children, supplements can reduce the risk of symptoms and avoid permanent loss of vision
- oily fish also contains omega 3 fatty acids which are beneficial for eye health.

All other valid responses will be given credit

[1] basic description, [2] adequate description, [3] competent description

(1 × [3])

[3]

(c) Assess how a vegan diet can meet Jane's nutritional needs. (AO1, AO2, AO3)

In terms of assessment: candidates are required to make informed judgements based on the nutrients in food (protein, carbohydrates, fats, vitamins and minerals) and about how a vegan diet can meet the nutritional requirements of individuals.

**Examples of points to be included in assessment:**

- protein: Jane can meet this requirement by eating a wide variety of pulses, cereals, seeds, nuts, tofu and soya products which will help ensure she gets essential amino acids
- carbohydrates: Jane should eat a variety of carbohydrate foods such as grains, fruits, vegetables, beans, nuts and seeds as they are the basis of a healthy vegan diet. Jane should ensure she includes enough of these foods in her diet. Carbohydrate acts as a protein sparer so that protein will be used for its primary function which is growth

- NSP (fibre): Jane should consume foods high in NSP which supplies the body with a rich source of soluble and insoluble fibre, e.g. wholegrain bread and cereals, fruit and vegetables, beans and lentils
- fat: sources of omega 3 fatty acids include walnuts, flax seed oil, rapeseed oil, soya oil and soya based foods such as tofu which will meet Jane's nutritional requirements
- vitamins A, C and E: vegans tend to eat lots of fruit and vegetables which contain these vitamins. Vitamin C aids the absorption of non-haem iron and will help prevent Jane becoming anaemic
- vitamin B12: this is only found naturally in foods from animal sources. Sources for vegans are therefore limited and Jane may need a vitamin B12 supplement. Folate plays an integral role in DNA, RNA and protein synthesis. To get the full benefit of a vegan diet, Jane should do one of the following: eat fortified foods two or three times a day or take B12 supplements
- vitamin D: this is not naturally present in vegetable foods, so Jane will need to eat fortified foods such as cereals or margarine
- calcium: Jane can get all the calcium she needs from her diet, e.g. fortified soya milk and juice, calcium-set tofu, calcium milk and yoghurt alternatives and fortified bread, soya beans and nuts, bok choy, broccoli, Chinese cabbage, kale, mustard greens, tahini and pulses
- iron: the Recommended Dietary Allowance (RDA) for Jane is 14.8mg. Vegans are susceptible to low iron levels as the non-haem iron found in plant sources is poorly absorbed by the body, so vegans need to eat plenty of iron rich vegetables in conjunction with vitamin C to aid its absorption. This is particularly important for menstruating females like Jane. Jane could achieve this by eating pulses, wholemeal flour, bread and breakfast cereals fortified with iron, dark green leafy vegetables, nuts and dried fruits
- zinc: it is possible for Jane to get all the zinc she requires from eating a varied and balanced vegan diet on a daily basis, e.g. legumes, nuts, seeds, vegetables, grains and oatmeal.

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 a vegan diet can meet Jane's nutritional needs
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to assess how a vegan diet can meet Jane's nutritional needs
- 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 a vegan diet can meet Jane's nutritional needs

- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- demonstrates an adequate ability to assess how a vegan diet can meet Jane's nutritional needs
- 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 a vegan diet can meet Jane's nutritional needs
- demonstrates a competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a competent ability to assess how a vegan diet can meet Jane's nutritional needs
- 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.

### Level 4 ([15]–[18])

Overall impression: highly competent

- highly competent knowledge and understanding of how a vegan diet can meet Jane's nutritional needs
- demonstrates a highly competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a highly competent ability to assess how a vegan diet can meet Jane's nutritional needs
- 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]

(d) Discuss the importance of water and fluid intake for adults. (AO1, AO2, AO3)

#### Examples of suitable points to be included in discussion:

- transports nutrients: water carries nutrients and oxygen to cells throughout the body helping them to function properly
- hydration: adults may lose water through sweating, urination, and even breathing. It's important to drink water regularly, especially during manual labour, physical activity or in hot weather
- lubrication: water helps cushion and lubricate joints allowing for smooth movement, reducing the risk of joint pain and stiffness for adults

- constipation: water aids digestion which reduces the risk of constipation
- protection: water helps protect body organs and tissues, moistening tissues for example mouth, eyes and nose
- sleep: thirst can cause restlessness, disrupted sleep and bad dreams, adequate water and fluid intake reduces these risks in adults
- temperature: helps regulate body temperature which is important in adults who have a reduced immunity and are more prone to infection
- UTI: water and fluid intake reduces the risk of urinary tract infections as it helps excrete toxins from the body
- skin health: adequate hydration helps skin maintain its elasticity and softness
- breastfeeding: water and fluid intake may need to be increased for women who are breastfeeding.

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 water and fluid intake for adults
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to discuss the importance of water and fluid intake for adults.

### Level 2 ([4]–[6])

Overall impression: adequate

- adequate knowledge and understanding of the importance of water and fluid intake for adults
- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- demonstrates an adequate ability to discuss the importance of water and fluid intake for adults.

### Level 3 ([7]–[9])

Overall impression: competent

- competent knowledge and understanding of the importance of water and fluid intake for adults
- demonstrates a competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a competent ability to discuss the importance of water and fluid intake for adults. [9]

**Total**

AVAILABLE  
MARKS

48

**120**