



Rewarding Learning

ADVANCED SUBSIDIARY (AS)

General Certificate of Education

2023

Health and Social Care

Assessment Unit AS 7

assessing

Understanding the Physiology of Health and Illness

[SHC71]

TUESDAY 6 JUNE, MORNING

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) Write down the name and **one** function of the organelles labelled A, B and C. (AO1, AO2)

A cytoplasm

Function

- breaks down waste, aiding metabolic activity
- gives the cell its shape and keeps other organelles in place

B cell membrane

Function

- serves as a barrier that can open to allow certain needed substances into the cell while keeping other substances outside of the cell
- gives support and balance to a cell, helping it maintain its shape

C nucleus

Function

- contains the genetic material and other instructions required for cellular processes
- controls the cell

(6 × [1])

[6]

- (ii) Explain why muscle cells contain an abundance of mitochondria. (AO1, AO2)

Examples of suitable points to be included in explanation:

Muscle cells need energy to do mechanical work and respond quickly to changes in activity levels so a higher number of mitochondria is present so that the cells' requirement for energy to perform their specific function is fulfilled. Muscles need energy to relax and contract.

[1] basic explanation, [2] competent explanation

(1 × [2])

[2]

- (b) Complete the table by naming the tissue, its function and the area of the body where the tissue can be found. (AO1, AO2)

Name of tissue	Function	Area of body where the tissue may be found
epithelial	protection, secretion, absorption, excretion, filtration, diffusion, and sensory reception	covers body surfaces, e.g. the outer layer of the skin or lines body systems, e.g. digestive and respiratory systems
connective	to join bodily structures like bones and muscles to one another or hold tissues like muscles, tendons and organs in place. It also gives reinforcement to joints and transports nutrients and metabolic by-products in the bloodstream	between groups of nerve and muscle cells
muscular	to cause movement	biceps
cardiac	to contract cardiac fibres and so expel blood from the heart	the heart

(4 × [1])

[4]

- (c) Body systems work together to control the many processes that occur in the human body. Match the following systems to the statements below. (AO1, AO2)

Sends signals through the means of electrical action potentials to target organs – **nervous system**

Sends signals to the target cells and tissues through the means of chemicals known as hormones – **endocrine system**

(2 × [1])

[2]

- (d) (i) The diagram below shows the component parts of the digestive system. Label the parts A, B, C and D. (AO1)

- A oesophagus
- B liver
- C stomach
- D pancreas

(4 × [1])

[4]

- (ii) Describe the role of each of the following in the digestive process. (AO1, AO2)

Gall bladder

Examples of suitable points to be included in description:

- stores bile produced by the liver and releases the bile into the small intestine during digestion to assist with the synthesis of fats
- provides bile in order to neutralize acids and break down fats

- assists with the emulsification of fats – fat in digested food enters the small intestine causing the release of cholecystokinin and triggering the gall bladder to release bile via the common bile duct

[1] basic description, [2] adequate description, [3] competent description
(1 × [3]) [3]

Ileum

Examples of suitable points to be included in description:

- absorbs the nutrients from the chyme, or digested food. This is done with the help of villi, which are finger-like projections found in the inner wall. Lymph vessels called lacteals in the villi absorb fat in the lymphatic system. This digested fat is then drained into the bloodstream, which is transported along with other nutrients, to the liver through the hepatic portal vein
- absorbs vitamin B12
- proteins and peptides are broken down into amino acids in the ileum
- breaks down carbohydrates into simple sugars
- breaks down lipids into glycerol and fatty acids to be easily absorbed by the body. This is made possible due to the enzymes produced by the cells in the ileum lining
- absorbs bile salts that are produced by the liver and which are used in the emulsification of fats which takes place in the small intestine

[1] basic description, [2] adequate description, [3] competent description
(1 × [3]) [3]

Stomach

Examples of suitable points to be included in description:

- involved in the second phase of digestion. It performs a chemical breakdown by means of enzymes and hydrochloric acid
- breaks down and digests food in order to extract necessary nutrients: for this to happen, it is necessary that the stomach produces various enzymes, including pepsin, and hydrochloric acid
- when food enters the stomach, sphincters at the opening of the stomach and the exit into the small intestine close. The lining of the stomach then secretes hydrochloric acid and enzymes that break down the food so that it can continue on its journey through the digestive system. As it secretes acid and enzymes, the stomach muscles contract in a process called peristalsis to mix the food and facilitate digestion
- works to kill harmful microbes that may have made their way into the body along with food and drink. The acid could damage the stomach, so it secretes a sticky, neutralizing mucus that coats its walls and protects it from damage
- assists the body to absorb vitamin B12 which is necessary for healthy nerve tissue and brain function
- as it is the widest part of the digestive system, it not only digests food, but also stores it. The design of the stomach allows a person to eat a large meal that can be digested slowly over time. It can take four to six hours or longer to digest a meal

[1] basic description, [2] adequate description, [3] competent description
(1 × [3]) [3]

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

- play an important role in digestion because they make saliva. Saliva helps moisten food so it will be swallowed more easily – an enzyme called amylase in the saliva makes it easier for the stomach to break down starches in food
- provide lubricating properties that are also protective. Saliva protects the inside of the mouth, teeth and throat as an individual begins to swallow the bolus. It also cleanses the mouth after a meal and dissolves food into chemicals
- secrete amylase which begins the chemical process of digestion. This enzyme begins its work in the mouth when food is chewed, breaking up starch molecules. By breaking up and separating the various bonds within starch, amylase can extract the sugar so that it can be stored in the body

[1] basic description, [2] adequate description, [3] competent description
(1 × [3]) [3]

- (e) (i) Describe the physiological changes that lead to the diagnosis of a stomach ulcer. (AO1, AO2)

Examples of suitable points to be included in description:

- the stomach acid attacks the stomach lining causing an ulcer or hole in the stomach wall
- excess acid production may lead to reduced mucus secretions which normally have a protective role so the wall of the stomach becomes vulnerable to acid
- an infection in the stomach can erode the wall of the stomach
- excess acid production damaging the lining of the stomach and causing ulceration, e.g. as a result of excessive use of non-steroidal anti-inflammatory drugs

[1] basic description, [2] adequate description, [3] competent description
(1 × [3]) [3]

- (ii) Explain how Roy might need to adapt his diet as a result of his recent diagnosis. (AO1, AO2)

Examples of suitable points to be included in explanation:

- adopting and maintaining a balanced, nutritious diet
- eating at regular intervals and not skipping meals
- avoiding fried food
- cutting back on processed foods and alcohol consumption
- eating a high fibre diet
- avoiding spicy foods

[1] basic explanation, [2] competent explanation
(1 × [2]) [2]

- 2 (a) Describe the functions of the following component parts of the nervous system. (AO1, AO2)

Cerebellum

Examples of suitable points to be included in description:

- receives information from other regions of the brain and nervous system including the brain stem, spinal cord, and cerebrum. This incoming information is then used by the cerebellum to coordinate and control voluntary movements
- plays an important role in coordination, movement, posture, and balance, as well as in speech and vision

[1] basic description, [2] adequate description, [3] competent description
(1 × [3]) [3]

Medulla oblongata

Examples of suitable points to be included in description:

- controls a number of autonomic (involuntary) functions such as helping to regulate breathing, heart and blood vessel function, digestion, sneezing, and swallowing

[1] basic description, [2] adequate description, [3] competent description
(1 × [3]) [3]

- (b) (i) Name the specialised nerve cell shown in the diagram below and label the parts A, B, C and D. (AO1)

Name of cell **motor neurone**.
(1 × [1]) [1]

- A dendrite
- B nucleus
- C myelin sheath
- D node of Ranvier

(1 × [4]) [4]

- (ii) Explain how this cell is specialised in order to perform its function. (AO1, AO2)

Examples of suitable points to be included in explanation:

- designed to allow impulses to travel quickly/to allow the impulse to jump between nodes facilitating faster transmission
- elongation of the cell membrane/myelinated axon promotes fast delivery of messages
- dendrites allow impulses to be collected from several neurones

[1] basic explanation, [2] competent explanation
(1 × [2]) [2]

- (iii) Information from one neurone flows to another neurone across a synapse. Discuss how a nerve impulse travels across a synapse. (AO1, AO2, AO3)

Examples of suitable points to be included in discussion:

Arrival at the presynaptic knob – the electrical impulse reaches the presynaptic knob/end of the first neurone. Vesicles in the presynaptic knob move towards the presynaptic membrane and fuse with the membrane

The synapse – the neurotransmitter/acetylcholine/chemical is released from the vesicle and diffuses across the synaptic cleft

Postsynaptic membrane – the neuro transmitter/acetylcholine/chemical attaches to the receptors on the postsynaptic membrane (association/relay neurone) causing them to open. There will be an influx of ions into the neurone which has the effect of causing an impulse to begin in the neurone

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 a nerve impulse travels across a synapse
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- displays a limited ability to discuss how a nerve impulse travels across a synapse
- 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 ([4]–[6])

Overall impression: adequate

- adequate knowledge and understanding of how a nerve impulse travels across a synapse
- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- displays an adequate ability to discuss how a nerve impulse travels across a synapse
- 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 ([7]–[9])

Overall impression: competent

- competent knowledge and understanding of how a nerve impulse travels across a synapse
- demonstrates a competent ability to apply appropriate knowledge and understanding to the question
- displays a competent ability to discuss how a nerve impulse travels across a synapse
- 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.

[9]

- (c) (i) Explain the physiological changes that cause MS. (AO1, AO2)

Examples of suitable points to be included in explanation:

- MS is an autoimmune condition. This is when something goes wrong with the immune system and it mistakenly attacks a healthy part of the body – in this case, the brain or spinal cord of the nervous system
- the immune system attacks the layer that surrounds and protects the nerves called the myelin sheath
- this damages and scars the sheath, and potentially the underlying nerves, meaning that messages travelling along the nerves become slowed or disrupted and reflexes will be slower

[1] basic explanation, [2] competent explanation

(1 × [2])

[2]

- (ii) Describe how a diagnosis of MS may potentially impact on Tom's relationships. (AO1, AO2)

Examples of suitable points to be included in description:

- if Tom has to give up work this will have an impact on his ability to maintain friendships and as a result he may become lonely
- other friendships, for example, with the members of his football team, may diminish as he won't be able to participate in some activities
- Tom's relationship with Lucy may also be impacted by his diagnosis of MS. Lucy and Tom may grow closer as a result of his diagnosis and they may decide to get married sooner or start a family sooner. Alternatively their relationship may break down due to the stress of his diagnosis and worries about their future and how they would be able to cope in the longer term
- intimate sexual relationships in the future may be impacted as MS progresses as reduced libido and sexual dysfunction can be symptoms of progressive MS

All other valid responses will be given credit

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

(1 × [3])

[3]

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- 3 (a) When blood sugar levels rise, the body releases **insulin** and when blood sugar levels drop, the body releases **glucagon** to raise them. (AO1)

(2 × [1]) [2]

- (b) (i) Suggest why Sarah's GP suspects that she has diabetes. (AO1, AO2)

Examples of suitable points to be suggested:

- Sarah's blood glucose levels are too high – they are outside the normal range for blood sugar and even more so for a fasting blood sugar
- as Sarah hasn't eaten for a number of hours, her blood sugar should have been at the lower limits of the normal range – this is not the case
- Sarah's body should be able to regulate her blood sugars and maintain them within normal parameters despite fasting but this has not happened
- the symptoms Sarah is reporting in conjunction with her blood results gives a confident picture of diabetes – excessive thirst, lethargy and fatigue and frequency urinating

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

(1 × [3]) [3]

- (ii) Following more detailed tests, a diagnosis of type 1 diabetes has been confirmed. Describe the physiological cause of type 1 diabetes. (AO1, AO2)

Examples of suitable points to be included in the description:

- type 1 diabetes is an autoimmune disease where the body's immune system attacks the cells of the pancreas damaging or destroying them completely thus preventing the cells from making any/enough insulin
- damage to the beta cells in the pancreas results in the inability to properly regulate sugar levels in the body and as a result excess sugar may be present in the blood or there may not be enough sugar to supply working cells

[1] basic description, [2] adequate description, [3] competent description
(1 × [3]) [3]

- (iii) Complete the following sentence. (AO1)

A normal blood glucose reading is between **4** mmol/L and **8** mmol/L

(2 × [1]) [2]

- (iv) Discuss the potential impact of a diagnosis of type 1 diabetes on Sarah's education, her involvement in leisure activities and on her diet. (AO1, AO2, AO3)

Examples of suitable points to be included in discussion:

Education

- poorly controlled diabetes has the potential to impair intelligence, memory, attention and understanding in children and adolescents
- there is evidence to suggest Sarah may experience some disadvantage as a result of her diagnosis: her attainment in exams, for example may be impacted
- Sarah's response to her diagnosis of type 1 diabetes is also likely to affect how she adapts at school and how much school she may miss. She may become preoccupied with her condition and she may feel overwhelmed by injecting and other tasks that she needs to perform daily to manage her diabetes and this may be required even when she is at school. This may affect her ability to concentrate on her education
- frustration over her fluctuating blood glucose levels may cause her stress and anxiety affecting her concentration and her ability to focus on her school work
- fear of experiencing hypoglycaemia (low blood glucose – potential symptoms include dizziness and fainting) at school may also impact on her desire to go to school
- she may also be embarrassed about her diabetes and her friends' possible negative reactions, impacting negatively on her enjoyment of school
- alternatively, Sarah may respond very well to her diagnosis and may manage her blood sugar levels well in which case the impact of her diagnosis of type 1 diabetes on her education may be minimal

Involvement in leisure activities

- exercise and sport will affect Sarah's blood glucose levels. Depending on the type of exercise or sport she engages in, it can cause her blood glucose levels to rise or drop. There is no reason why Sarah cannot continue to exercise and do the sport she enjoys with her new diagnosis of type 1 diabetes
- she will need to take some extra steps to make sure she undertakes leisure activities safely. She will be advised to engage in moderate exercise that lasts a while, like walking or cycling, as these can cause a slow and gradual drop in blood glucose levels which may be easier for her to manage. Some exercise, like running or football, might cause her blood glucose levels to drop rapidly
- she can avoid hypos (developing a low blood sugar) by eating the right amount of carbohydrates before, during and after exercise. She will also learn to adjust her insulin depending on her exercise regime and she will need to check her blood glucose regularly
- Sarah will need to learn to check her blood glucose level before and during exercise – this will help her to work out what she should eat and when to adjust her insulin. She should record her blood glucose levels and what she eats when she exercises – she can share this with her diabetes team to help find what works for her. She should also check her blood glucose levels regularly after exercise (they can drop up to 12 hours after exercise) – as she may need to take extra

- carbohydrate or a lower dose of insulin before bed
- over time, Sarah should learn how to best regulate her blood sugars while making exercise a key lifestyle choice. Exercise affects everyone differently and it might take a little while for Sarah to establish what works for her but it is important that she does engage in regular exercise to maintain overall health
- leisure activities may have to be curtailed if Sarah's blood sugars are not well controlled, e.g. isolated activities like cycling alone would not be advised
- other leisure activities such as parties, trips to the cinema, day trips or eating out in a restaurant will require careful planning and management

Diet

- Sarah can eat exactly the same types of foods as those people who do not have type 1 diabetes: it is a myth that type 1 diabetics can only eat food with no sugar for instance. However, diet is an extremely important consideration for any diabetic, particularly young diabetics like Sarah
- a dietician will be able to advise her further, but it is certainly essential that she has a balanced and healthy diet, high in complex carbohydrates and fibre
- the quantities of food that Sarah can enjoy depend entirely on her size and age, and will be established for her with help from her dietician and parents. Her dietary requirements will vary as she goes through her life but she will learn how to adjust her intake of food and drink so that she can enjoy a healthy and full life. Depending on how active she is, some sugary foods may need to be avoided in order to regulate blood sugar
- over time she will learn how her body copes with different foods, avoiding the ones that affect her blood sugars negatively. It is definitely necessary for Sarah to be careful with foods containing sugar, but it need not be completely off the menu. Sarah's level of physical activity is also a key determinant for her dietary intake
- the main issues for Sarah to consider are how different foods impact on her blood glucose levels and how to balance the quantity of carbohydrate with the right amount of insulin. Carbohydrate counting plays a key role in helping to balance insulin intake with the food consumed. She will get better at doing this as she becomes used to her diagnosis and learns how to live well with it
- eating healthily comes highly recommended and can play a part in helping to prevent the development of complications for Sarah. Eating a balanced diet, containing a variety of different vegetables, will help to provide many nutrients that her body needs

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 potential impact of a diagnosis of type 1 diabetes on Sarah's education, her involvement in leisure activities and on her diet

- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- displays a limited ability to discuss the potential impact of a diagnosis of type 1 diabetes on Sarah's education, her involvement in leisure activities and on her diet
- candidates who focus on the potential impact of a diagnosis of diabetes on only one factor cannot achieve beyond this level
- 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 potential impact of a diagnosis of type 1 diabetes on Sarah's education, her involvement in leisure activities and on her diet
- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- displays an adequate ability to discuss the potential impact of a diagnosis of type 1 diabetes on Sarah's education, her involvement in leisure activities and on her diet
- candidates who focus on the potential impact of a diagnosis of type 1 diabetes on only 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 the potential impact of a diagnosis of type 1 diabetes on Sarah's education, her involvement in leisure activities and on her diet
- demonstrates competent ability to apply appropriate knowledge and understanding to the question
- displays a competent ability to discuss the potential impact of a diagnosis of type 1 diabetes on all three factors
- 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.

[12]

(c) (i) Identify the **two** different types of stroke. (AO1)

1. Ischaemic stroke/stroke caused by a clot
2. Haemorrhagic stroke/stroke caused by a bleed

(2 x [1])

[2]

(ii) Identify **two** causes of stroke. (AO1)

Examples of suitable points to be identified:

- high blood pressure
- diabetes
- heart disease
- smoking
- high cholesterol
- obesity
- blood clots
- brain aneurysms or arteriovenous malformations

All other valid responses will be given credit

(2 × [1])

[2]

(iii) Discuss the potential long-term impact of a confirmed diagnosis of stroke on Ron's work, income and diet. (AO1, AO2, AO3)

Examples of suitable points to be included in discussion:

Work

- Ron's working hours may be reduced, e.g. part time instead of full time
- Ron may be unable to ever work as a lorry driver again as a result of his diagnosis of stroke or may make a full recovery and return to his normal job
- depending on the extent of the damage caused by the stroke Ron may be unable to work in any job again, however if the stroke has caused minimal damage, then Ron may be able to find a job that he can do
- he may be able to retrain for a job that does not require as much physical exertion as driving a lorry
- Ron may lose his licence to drive and this may limit his opportunities to work
- Ron may be redeployed within his existing organisation

Income

- Ron's income may be reduced as he may only receive sick pay for a certain length of time, or he may not receive any payment at all from his employer depending on his contract
- in the long-term his income will be impacted if he is unable to find another job that he can do safely
- Ron will likely be entitled to state support/benefits so his income will be from a different source
- his pension may also be impacted as a result of his stroke and this may reduce his income in later life
- if Ron makes a full recovery his income may not be reduced but increase over time

Diet

- in conjunction with medication, Ron will most likely be advised to make changes to his diet in order to avoid a further stroke
- depending on what caused Ron's stroke, dietary changes are very important. If Ron's stroke was caused by a bleed then it is likely that his blood pressure was too high. Too much salt can narrow arteries and lead to high blood pressure and so foods containing excess salt should be avoided in future so Ron will be advised to cut out processed food and many takeaway foods which are high in salt and fat
- a diet which allows Ron to maintain a healthy BMI will also be advised as being over-weight is also a risk factor for stroke
- if Ron's stroke was caused by a clot, he will also be advised to reduce his intake of foods which raise cholesterol and lead to weight gain
- if the stroke has left Ron with difficulties in swallowing then the amount and type of food he can eat will be impacted. He may be recommended to follow a soft or pureed diet, which can be easier to swallow and he might need to add a special powder to drinks to thicken them
- if his swallow reflex is significantly affected by his stroke then he may need to be fed 'enterally' via a tube which is inserted through his abdomen and into his stomach. If Ron requires this he will be unable to eat orally because of the risk of aspiration and choking
- Ron's stroke may have caused weakness or paralysis down one or both sides of his body and this could affect his ability to prepare food and feed himself in the event that his swallow reflex is intact. This means he would require help from others to manage his diet or may have to adapt his food choices. Adaptations to his home to help him be more independent, or special crockery, cutlery or mats can be used to help Ron to meet his own dietary needs if his weakness or paralysis is not too significant

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 potential long-term impact of a confirmed diagnosis of stroke on Ron's work, income and diet
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- displays a limited ability to discuss the potential long-term impact of a confirmed diagnosis of stroke on Ron's work, income and diet
- candidates who focus on only one factor cannot achieve beyond this level
- 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 potential long-term impact of a confirmed diagnosis of stroke on Ron’s work, income and diet
- demonstrates an adequate ability to apply appropriate knowledge and understanding to the question
- displays an adequate ability to discuss the potential long-term impact of a confirmed diagnosis of stroke on Ron’s work, income and diet
- candidates who focus on the potential long-term impact of a confirmed diagnosis of stroke or 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 the potential long-term impact of a confirmed diagnosis of stroke on Ron’s work, income and diet
- demonstrates competent ability to apply appropriate knowledge and understanding to the question
- displays competent ability to discuss the potential long-term impact of a confirmed diagnosis of stroke on Ron’s work, income and diet
- 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.

[12]

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Total

100

AVAILABLE
MARKS