

GCE AS

**Health and
Social Care**

Summer 2010

Mark Schemes

Issued: October 2010

**NORTHERN IRELAND GENERAL CERTIFICATE OF SECONDARY EDUCATION (GCSE) AND
NORTHERN IRELAND GENERAL CERTIFICATE OF EDUCATION (GCE)**

MARK SCHEMES (2010)

Foreword

Introduction

Mark Schemes are published to assist teachers and students in their preparation for examinations. Through the mark schemes teachers and students will be able to see what examiners are looking for in response to questions and exactly where the marks have been awarded. The publishing of the mark schemes may help to show that examiners are not concerned about finding out what a student does not know but rather with rewarding students for what they do know.

The Purpose of Mark Schemes

Examination papers are set and revised by teams of examiners and revisers appointed by the Council. The teams of examiners and revisers include experienced teachers who are familiar with the level and standards expected of 16- and 18-year-old students in schools and colleges. The job of the examiners is to set the questions and the mark schemes; and the job of the revisers is to review the questions and mark schemes commenting on a large range of issues about which they must be satisfied before the question papers and mark schemes are finalised.

The questions and the mark schemes are developed in association with each other so that the issues of differentiation and positive achievement can be addressed right from the start. Mark schemes therefore are regarded as a part of an integral process which begins with the setting of questions and ends with the marking of the examination.

The main purpose of the mark scheme is to provide a uniform basis for the marking process so that all the markers are following exactly the same instructions and making the same judgements in so far as this is possible. Before marking begins a standardising meeting is held where all the markers are briefed using the mark scheme and samples of the students' work in the form of scripts. Consideration is also given at this stage to any comments on the operational papers received from teachers and their organisations. During this meeting, and up to and including the end of the marking, there is provision for amendments to be made to the mark scheme. What is published represents this final form of the mark scheme.

It is important to recognise that in some cases there may well be other correct responses which are equally acceptable to those published: the mark scheme can only cover those responses which emerged in the examination. There may also be instances where certain judgements may have to be left to the experience of the examiner, for example, where there is no absolute correct response – all teachers will be familiar with making such judgements.

The Council hopes that the mark schemes will be viewed and used in a constructive way as a further support to the teaching and learning processes.

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Rewarding Learning

ADVANCED SUBSIDIARY (AS)

General Certificate of Education

2010

Health and Social Care

Assessment Unit AS 3

assessing

Unit 3: Health and Well-being

[A3H31]

MONDAY 17 MAY, MORNING

**MARK
SCHEME**

1 (a) Define the following terms. (AO1)**Stress**

[1] for use of key phrase/s, [2] for full explanation

Answers may include:

- The response that occurs when people feel tension or think they cannot cope with the pressures in their environment, e.g. work or family life
- Stress can be a short-term physical response – alarm triggers ‘fight or flight’
- Stress can be a long/er term response, which may result in physical symptoms such as nausea, high blood pressure, ulcers, lowered immunity etc.
- Stress can be positive and exhilarating – eustress

Ill-health

[1] for use of key phrase/s, [2] for full explanation

Answers may include:

- A state in which an individual is unable to function normally and without pain or other symptoms and can be regarded as the opposite of health
- Can be physical or mental
- Ill-health may be about the presence of something negative like a disease or the absence of something positive like adequate nutrition

Stigma

[1] for use of key phrase/s, [2] for full explanation

Answers may include:

- Difference between how a person sees themselves (personal identity) and how others see them (social identity)
- Social identity, how someone is viewed in society, often based on stereotypes or prejudices
- Feeling or being labelled – labelling includes expectations of how a person will behave

(3 × [2])

[6]

(b) The National Health Service (NHS) is providing Jean with hospital care. Explain two other ways the NHS contributes to health and well-being. (AO1)

[1] for use of key phrase/s [2] for full explanation of any two other ways

- Provides GP services, where patients can receive care from a range of professionals, e.g. GPs, practice nurses, health visitors and midwives
- Provides specialist professionals – dieticians, dentists etc.
- Diagnoses illness by carrying out a variety of tests, e.g. blood testing
- Promotes healthy living, e.g. runs smoking cessation clinics
- Prevents ill-health – screening, immunisation etc.
- Provides ambulance service
- Provides treatments
- Provides medication/prescriptions
- Provides information and advice, e.g. on how to manage a condition
- Conducts research, e.g. on treatments for a range of conditions
- Provides counselling and support services

(2 × [2])

[4]

- (c) Jean experienced discrimination as a result of remarks made about her by another patient. Explain three other ways a patient could experience discrimination in a health and social care setting. (AO1, AO2)

[1] for use of key phrase/s, [2] for full explanation or supporting example for any three of the following

- Not being consulted about dietary requirements based on beliefs
- Spiritual needs, religious practices or cultural requirements ignored
- Not being offered services of a translator if he/she does not understand what is being said
- Not being offered the services of an advocate if he or she has problems in terms of self advocacy
- Staff failing to challenge discriminatory behaviour by others
- Being deliberately ignored, isolated or neglected, e.g. not being given same time and attention as other patients
- Being abused, e.g. handled roughly
- Being denied registration with a practice

(3 × [2])

[6]

- (d) Challenging unsuitable remarks is an example of anti-discriminatory practice. Analyse the impact of anti-discriminatory practice on patients like Jean in a hospital setting.

Mark Band 1 ([0]–[3])

Overall impression: basic understanding

- Displays limited knowledge of the impact of anti-discriminatory practice in a hospital setting
- There is little or no evidence of analytical writing – candidates may list ways rather than analyse
- Quality of written communication is basic

Mark Band 2 ([4]–[6])

Overall impression: adequate knowledge and understanding

- Displays adequate knowledge of the impact of anti-discriminatory practice in a hospital setting
- There is some evidence of analytical writing
- Quality of written communication is good

Mark Band 3 ([7]–[9])

Overall impression: competent knowledge and understanding

- Displays very good to excellent knowledge of the impact of anti-discriminatory practice in a hospital setting
- There is clear evidence of analytical writing to achieve in this band
- Effective written communication

Answers may include the following points:

- Patients like Jean may feel empowered – that they have control over their situations
- Patients like Jean may experience high self-esteem – may feel good about themselves
- They may feel secure – happy and safe in the hospital setting
- They may feel valued – supported and cared for
- Their self-confidence may increase – may for example feel more able to talk to other patients, thus contributing to social well-being

- Her rate of recovery may have improved – she will be more likely to eat properly and sleep well and may get better quicker as a result
- She may have felt more able to express her opinions and may have received better care as a result as her needs could be met more easily

This list is not exhaustive and candidates may use examples other than those identified above – these may be accepted if they are relevant and valid [9]

- (e) Discuss the impact of any three occupational hazards on the physical health and well-being of an individual.

[1] each for key phrase/s, [2] for explanation [3] for fuller discussion
Answers may include any three of the following

- People who work with **chemicals** are exposed to many illnesses, including the potential for damage to the respiratory system. Some chemicals cause asthma or dermatitis. Other substances like uranium, chromium and nickel cause lung cancer
- **Asbestos** can cause asbestosis, which is scarring of the lung tissue which leads to poor circulation and breathing. This is an occupational hazard for people in the construction and demolition trades
- People who work in construction, or even nurses, have to lift **heavy loads**, which can cause back pain
- There is a wide range of **accidents** that can occur at work. **Falling** off ladders is an example. **Slipping** on wet surfaces or **tripping** over objects left lying around can cause injuries – back pain, broken bones etc
- Some jobs leave people open to physical abuse. It has been shown that many paramedics have been physically attacked while on emergency call outs
- There is always a risk of fires at work; the risk is higher for those who work in labs or in explosive departments
- People who work with transport have a risk of being involved in **traffic accidents**
- People who work with machinery may be at risk of serious injury

All other valid responses will be given credit.

(3 × [3])

[9]

34

- 2 (a) WHO contributes to health and well-being on a worldwide basis. Write down the names of two statutory organisations responsible for health and well-being in this country. (AO1)

[1] each for any two of the following

- National Health Service (NHS)
- Health Promotion Agency (HPA) – also accept Public Health Agency
- The Department of Health and Social Services and Public Safety for Northern Ireland (DHSSPSNI) – also accept The Department of Health and/or Department of Social Services (DOH and/or DSS)

(2 × [1]) [2]

- (b) Social class is one example of a socio-economic factor. List four other socio-economic factors that affect health and well-being. (AO1)

[1] each for any four of the following

- Gender
- Income
- Housing
- Education
- Culture and ethnicity

(4 × [1]) [4]

- (c) Explain two ways the **physical** health and well-being of an individual can be affected by genetic inheritance. (AO1, AO2)

[1] for use of key phrase/s, [2] for full explanation of any two ways or supporting examples

- Some genetically inherited conditions or disorders can have quite dramatic effects on the physical well-being of individuals. Examples are:
Sickle cell disease – a genetic blood disorder that results in abnormally shaped red blood cells. This chronic under supply of red blood cells makes the sickle cell patient anaemic. Sickle cell anaemia sometimes causes attacks of pain to the chest, stomach, back, jaw, legs and arms
Cystic Fibrosis is a genetically inherited condition that means the lungs regularly fill with mucus – sufferers have to have daily physiotherapy and are often small due to failure to thrive
- Some conditions may be associated with decreased life expectancy
- Some genetically determined conditions affect physical appearance, e.g. **Turner's syndrome** (TS) affects girls. Girls are usually short in height, have different shaped ears that are lower on the side of the head, a webbed neck, lots of moles on the skin, low hairline at the back of the neck and drooping of the eyelids, so there is a major impact on physical appearance
- There is evidence of a genetic element to a whole range of illnesses that can have adverse effects on physical health, e.g. heart disease, asthma, hypertension, diabetes and some cancers. Each of these has its own range of symptoms which have a negative impact on specific aspects of physical health and well-being
- People who have healthy parents may inherit the propensity for good physical health, e.g. the children of parents who experience longevity are likely to live longer than average themselves

(2 × [2]) [4]

Any other valid point will be given credit.

- (d) Discuss how people can take responsibility for their own health and well-being through lifestyle choices, accessing services and self advocacy. (AO1, AO2, AO3)

Lifestyle choices

[1] for use of key phrase/s, [2] for adequate discussion, [3] for detailed discussion

Answers may include:

- Eating a healthy diet, e.g. including 5 portions of fruit or vegetables a day
- Exercising, e.g. walking or swimming
- Limiting alcohol intake, e.g. to government's recommended units per week or to avoid binge drinking
- Avoiding illegal drugs, e.g. smoking marijuana
- Avoiding smoking tobacco and also passive smoking

Accessing services

[1] for use of key phrase/s, [2] for adequate discussion, [3] for detailed discussion

Answers may include:

- Attending for regular check-ups, e.g. dental check-ups every six months or taking an infant to weekly 'baby clinics' run by health visitors
- Responding to invitations for screening, e.g. for breast cancer in women over fifty
- Making GP appointments before a health condition deteriorates too much, e.g. seeing GP about a chest infection
- Taking up opportunities for health checks offered at work or through voluntary organisations, e.g. blood pressure checks conducted by occupational nurse or breast screening offered by a cancer charity

Self advocacy

[1] for use of key phrase/s, [2] for adequate discussion, [3] for detailed discussion

Answers may include:

- Asking a GP for a referral to a specialist, e.g. a gynaecologist or neurologist
 - Asking a hospital doctor for a second opinion, e.g. referral to another specialist
 - Requesting the most up-to-date treatment, e.g. based on researching one's own condition and possible treatments in libraries or on the Internet
 - Asking for additional information, care or treatment, e.g. for further tests
- (3 × [3]) [9]

- (e) Analyse the effects of social class on the physical, social and psychological well-being of individuals. (AO1, AO2, AO3, AO4)

Mark Band 1 ([0]–[4])

Overall impression: basic understanding

- Displays limited knowledge of the potential impact of social class on the health and well-being of individuals
- Answers may focus on only one aspect of health and well-being (physical, psychological or social)
- There is little or no evidence of analytical writing
- Quality of written communication is basic

Mark Band 2 ([5]–[8])

Overall impression: adequate knowledge and understanding

- Displays adequate knowledge of the potential impact of social class on the health and well-being of individuals
- There must be reference to at least two aspects of health and well-being (physical, psychological, social) to score at the top of this band
- There is some evidence of analytical writing
- Quality of written communication is good

Mark Band 3 ([9]–[12])

Overall impression: competent knowledge and understanding

- Displays very good to excellent knowledge of the potential impact of social class on the health and well-being of individuals
- There must be reference to all three aspects of health and well-being (physical, psychological, social) to score in this band
- There is clear evidence of analytical writing
- Effective written communication

Answers may include the following points:

Effects on **physical** health and well-being:

- Middle classes/social classes I and II have a longer life expectancy. This may be because they can afford a better diet and live in better conditions so are less likely to get illnesses
- Middle classes/social classes I and II may be able to access specialist health services more quickly by paying privately or because they have been able to afford private health insurance
- Working classes/social classes IV and V have greater stress and are more prone to illnesses
- Older people from working classes/social classes IV and V have a 3 to 4 times greater risk of having a physical dysfunction than older people who are middle class (social classes I and II)
- Breast cancer is shown to be more frequent in middle class women. This is probably because of delayed childbearing due to their careers, as this is a major risk factor. However middle class women are more likely to survive the disease, probably due to being able to afford better care and to better living standards
- Working classes/social classes IV and V have poorer quality housing which can be associated with poor physical health, e.g. more likely to have chronic chest infections if living in damp conditions
- Children from lower class families are over three times more likely to be in poor health than children from middle class families
- Infant mortality rates are higher in social class V. This may be because they live in poor housing or don't continue to go to health checks after the birth. This may be because they can't afford good transport to get to the health checks
- Working class people tend to smoke more; smoking causes more health problems like cancer and respiratory problems
- A man from social class I lives on average seven years longer than a man from social class V

- Working class people may work long hours to get more money, this leaves less time to visit the doctors if they are ill. They are more likely to be in jobs where there is little flexibility for getting away for appointments and may be in higher risk jobs
- Working class people often live in industrial areas that have levels of pollution that cause illness. In contrast the higher social classes can afford to live outside of built up areas where there is less pollution
- Children from lower class families are at greater risk of death or injury from being hit by a motor vehicle than the children of middle class parents, who are more likely to be able to let their children play safely within sight or earshot in private gardens
- The children of working class adults are more likely to be left to their own devices during school holidays and out of school hours, which also leaves them more vulnerable to accidents

Effects on **social** health and well-being:

- Middle class people can afford more social activities, e.g. going out for dinner with friends
- Working classes/social classes IV and V may find it difficult to afford to socialise by going out or entertaining friends at home
- Middle class more likely to join sports/hobby clubs or to access courses where they interact with others

Effects on **psychological** health and well-being:

- Middle classes/social classes I and II can afford to join clubs and take part in more leisure activities, which reduces stress and contributes to a sense of well-being. Working classes/social classes IV and V can't do this and may feel bored and stressed
- Working classes/social classes IV and V are more prone to depression than higher social classes
- People from lower social classes may have low self-esteem because they may feel they have not been as successful as people in middle class occupations – may feel excluded

[12]

31

- 3 (a) Using examples, explain two **different** ways commercial and voluntary organisations can contribute to health and well-being, other than by running health promotion campaigns. (AO1, AO2)

Commercial organisations

[1] for use of key phrase/s, [2] for full explanation of any two ways using examples

Answers may include:

- Conduct research on health issues, e.g. a pharmaceutical company developing new drugs
- Provide treatments and services, e.g. chiropractics, optician, podiatry
- Advise individuals on health issues, e.g. pharmacists available to speak to clients free of charge
- Measure health indicators e.g. BP, blood sugar testing by Boots
- Provide medication and health related products, e.g. vitamins in a health food store
- Develop treatments, e.g. reflexology, massage in private practice
- Provides information and literature on health issues, e.g. leaflets from Boots
- Encourage healthy living through initiatives, e.g. food labelling, special offers, vouchers in supermarkets

(2 × [2])

[4]

Voluntary organisations

[1] for use of key phrase/s, [2] for full explanation of any two ways

Answers may include:

- Provide nursing care in client's own home, e.g. Marie Curie care for cancer patients
- Lobby government to improve services/promote rights, e.g. Scope campaigns for physical disability
- Provide advice and support, e.g. MIND on ways to cope with stress
- Carry out research, e.g. Chest Heart and Stroke Association on causes of heart disease
- Advise on ways to prevent ill health, e.g. Chest Heart and Stroke Association on healthy eating
- Advocate for clients to ensure they are receiving appropriate state benefits, e.g. Citizens Advice Bureau
- Provide counselling services for clients and their families, e.g. NIAMH
- Befriend clients, e.g. Praxis taking clients with mental health problems out on trips
- Provide advice to families of clients, e.g. on how the client can be supported by family members, e.g. Hurt
- Provide day care services, e.g. day centres and lunch clubs provided by Help the Aged
- Raise awareness of health and well-being issues through activities such as television/posters, or fundraising activities, e.g. MIND's mental health campaigns
- Provide a range of health and care services, e.g. screening by Action Cancer

(2 × [2])

[4]

- (b) (i)** Consider a health promotion campaign you have studied. Identify the health issue and write down three targets it was attempting to address. (AO1, AO2)

Health issue

Examples include:

- Folic acid/food fortification
- Water fluoridation
- Smoking cessation
- Antibiotic use
- Dietary advice
- Coronary Heart Disease
- Exercise
- Accident prevention
- Road safety
- Hand washing
- Oral hygiene
- Preventing food poisoning
- Vaccinations
- Alcohol misuse

Targets of the campaign

[1] for each target identified up to a maximum of [3]

Statistically precise targets are not necessary: award mark for descriptive targets, e.g. increase in, decrease in

(3 × [1])

[3]

- (ii)** Explain three ways the campaign attempted to get its message across.

[1] for use of key phrase/s, [2] for full explanation or supporting example of any two of the following

- Health promotion activities, e.g. talks on drug abuse in schools
- Shocking TV advertisements, e.g. pictures of damaged organs
- Leaflets providing information, e.g. about negative health effects of a substance or type of food
- Posters
- Television advertisements showing benefits of healthy behaviour
- Publish statistics or research findings, e.g. on health benefits of particular food supplements
- Provide stories/narratives that members of target group can relate to, e.g. young people abusing alcohol on a night out
- Website, e.g. for a particular campaign like physical activity
- Magazines
- Newspaper advertisements

(3 × [2])

[6]

- (c)** Describe each of the following approaches to health promotion. (AO1, AO2, AO3)

The behaviour change approach

[1] for use of key phrase/s, [2] for adequate description, [3] for detailed description

This approach aims to encourage individuals to adopt healthier behaviours which are seen as the key to improved health. This approach views health as a property of individuals and assumes they can make real improvements by

changes to lifestyle, e.g. 5-a-day to encourage greater consumption of fruit and vegetables

The medical approach

[1] for use of key phrase/s, [2] for adequate description, [3] for detailed description

This approach is used to prevent ill health. It focuses on preventive measures such as immunisation, screening. Medical professionals try to control health problems in the population, often in response to government policies, e.g. MMR vaccination programme

The social approach

[1] for use of key phrase/s, [2] for adequate description, [3] for detailed description

Sometimes referred to as the social change approach, this approach acknowledges the influence of socio-economic conditions, e.g. housing, income. It is a top down approach with policy makers and health planners taking the lead – an example is the government’s smoking ban

(3 × [3])

[9]

- (d) Evaluate the educational approach to health promotion.
(AO1, AO2, AO3, AO4)

Mark Band 1 ([0]–[3])

Overall impression: basic understanding

- Displays very limited knowledge of the educational approach to health promotion
- Answers may focus on only one or two strengths and/or weaknesses which may be listed rather than discussed
- There is little or no evidence of analytical writing
- Quality of written communication is basic

Mark Band 2 ([4]–[6])

Overall impression: adequate knowledge and understanding

- Displays adequate knowledge of the educational approach to health promotion
- At the top of this mark band students should discuss both strengths and weaknesses of the approach – answers which focus on only strengths or only weaknesses cannot score beyond [5] even if points are well analysed
- There is some evidence of analytical writing to achieve in this band
- Quality of written communication is good

Mark Band 3 ([7]–[9])

Overall impression: competent knowledge and understanding

- Displays good to excellent knowledge of the educational approach to health promotion
- At the top of this mark band students should discuss at least two strengths and two weaknesses of the educational approach in some detail
- There is clear evidence of analytical writing
- Written communication is effective

Answers may include the following:

Strengths

- Allows individuals to make up their own mind after giving them the information they need
- Can be delivered to a large group, e.g. in a classroom situation
- Can be time constrained, e.g. a one hour session
- Can give something to target group to take away with them and read again, e.g. statistics
- Works well with people who are used to this way of getting new information, e.g. people in educational settings
- Can stimulate further research, e.g. Internet
- Provides valid and detailed information on the question which is usually well researched and up-to-date

Weaknesses

- Assumes target group can read and write
- Individuals who have had negative experiences at school may not respond well to this approach
- Difficult to know if learning has taken place unless follow up exercise undertaken, e.g. people may read the information but not change their lifestyle
- Won't work if target group do not want information or are bored by it, e.g. people can be turned off or confused by detail and statistics [9]

Total

**AVAILABLE
MARKS**

35

100



Rewarding Learning

**ADVANCED SUBSIDIARY (AS)
General Certificate of Education
2010**

Health and Social Care

Assessment Unit AS 5

assessing

Unit 5: Adult Client Groups

[A3H51]

FRIDAY 21 MAY, MORNING

**MARK
SCHEME**

1 (a) Explain the following terms: (AO1, AO2)

Concept of “need”

[1] for use of key phrase/s [2] for full explanation

Answers may include:

- Essential requirement which is met in order to ensure that the individual reaches a state of health and social well-being
- May include physical, social, emotional, intellectual, cultural and spiritual needs
- Importance of identifying needs
- Workers can use a framework to assess individuals needs
- Assessing needs framework may also include areas such as safe environment, communication, mobilising, sleeping

Accept answers specific to Maria if they demonstrate understanding of “need”

(1 × [2])

[2]

Vulnerable Adult

[1] for use of key phrase/s [2] for full explanation

Answers may include:

- Adults considered vulnerable through “illness, frailty or disability”
- Adult “in need” according to legislative definitions: this can include needs such as illness, mental health problems, physical disability, sensory impairment and learning disability
- Adult “at risk” due to any form of actual or suspected abuse (“abuse” can include financial, institutional, physical, sexual, emotional and psychological abuse and neglect)
- Person with complex health and social needs
- Adults with particular need for protection as a result of disadvantage related to language, cultural or communication barriers
- A person with a physical or mental need which affects ability to carry out daily living activities

(1 × [2])

[2]

- (b) Explain **two different** ways each of the following professionals may contribute to Maria's care. (AO1, AO2)

[1] for use of key phrase/s [2] for full explanation of any two ways for each professional

Psychiatrist

Answers may include:

- Can provide medical assessment/care planning
- Can provide medical treatment/therapies/counselling support
- Can refer to other professionals
- Is involved in monitoring and reviewing client progress – may include contact with family and informing the client about illness and treatment
- Can be involved in detaining/sectioning clients under the Mental Health legislation or voluntary admission
- May be involved in enabling clients to live in the community through guardianship
- Write reports and update records on client's condition
- Contributes to research in mental illness

(2 × [2])

[4]

Mental Health Nurse

Answers may include:

- Can talk to the client – inform them about their condition and proposed treatment
- Can liaise with other health professionals to ensure client receives best care
- Can assess the client's needs
- Can implement and monitor a care plan
- Can support clients emotionally – counselling skills
- Can advocate on behalf of the client
- Can empower clients
- Can administer medication
- Keeps updated records and writes reports
- Can inform the client of a range of services available to support them
- May carry out planned activities, e.g. discussion groups
- Helps clients to return to community care from hospital care
- Supports families of clients with mental health problems

(2 × [2])

[4]

(No repetition between professionals)

- (c) Discuss how the staff in the unit may meet Maria's communication needs. (AO1, AO2, AO3)

[1] for use of key phrase/s [2] for explanation [3] for fuller discussion

Answers may include the following:

- Staff could spend more time with her to try to understand what she is saying/listen to her
- Advocacy services could be provided
- Staff could consult with her family about her communication needs
- Staff could use straightforward language to explain her condition
- Encourage her to interact with others in the unit
- Take her out, e.g. to shops to encourage her to communicate in the wider community
- May use communication aids, e.g. picture cards

This list is not exhaustive and candidates may use examples other than those identified above – these may be accepted if they are relevant and valid

(1 × [3])

[3]

- (d) Staff at the unit also have a responsibility to meet Maria's social needs. Explain **two** ways they may do this. (AO1, AO2, AO3)

[1] for key phrase/s [2] for fuller explanation of any two of the following:

- Can encourage her to develop friendships and to participate in groups
- Help Maria to develop confidence so she can be accepted by others and feel able to fit in without feeling awkward and shy
- Help Maria to work with others, e.g. supported employment
- Encourage Maria to interact with others at home and in the community

This list is not exhaustive and candidates may use examples other than those identified above – these may be accepted if they are relevant and valid

(2 × [2])

[4]

- (e) Rather than attend the local statutory hospital Maria has been admitted to a specialist residential unit where she is to undergo assessment. Discuss **two** advantages of clients like Maria being cared for within the private sector. (AO1, AO2, AO3)

[1] for key phrase/s [2] for explanation [3] for fuller discussion of any two of the following:

- May receive a place more quickly as she does not have to be put on a waiting list for a place in statutory care
- Professionals may be more specialised
- Better quality of care as there may be competition
- Client may feel they have more choice within the private sector
- Client and their family may feel empowered as they feel they are part of the decision making process
- Clients may have greater privacy, e.g. own room

(2 × [3])

[6]

- (f) Analyse the process of assessment within the care planning cycle for clients like Maria. (AO1, AO2, AO3, AO4)

Mark Band 1 ([0]–[3])

Overall impression; limited understanding

- Displays limited knowledge and understanding of the process of assessment
- Limited, if any, attempt to analyse the process of assessment
- Quality of written communication is basic

Mark Band 2 ([4]–[6])

Overall impression: adequate knowledge and understanding

- Displays adequate knowledge and understanding of the process of assessment
- Some evidence of analytical writing
- Quality of written communication is good

Mark Band 3 ([7]–[8])

Overall impression: competent knowledge and understanding

- Displays a very good knowledge and understanding of the process of assessment
- Clear evidence of analytical writing
- Effective written communication

Answers may include some of the following:

- It aims to encourage clients to understand and participate fully in the exploration of their problems, needs and opportunities as part of the process of care
- Encourages workers to maximise the sharing of this process with clients, as it is their assessment
- It is a process that is completed with the client, not for them, i.e. client centred
- Also take account of the needs and opportunities of those in the immediate environment, such as family and carers
- Sometimes it has to balance a range of needs of several people and may involve compromise
- Aims to be “needs-led” rather than “service-led”
- Is based on the care value base, respecting the dignity of each individual; therefore about choice and empowerment, confidentiality and being non-judgemental
- Good communication is essential
- Assessment is an on-going process
- Is the basis for planning
- Accuracy of factual information/written records is essential
- Should be up-to-date as possible

[8]

33

2 (a) Explain the following terms: (AO1, AO2)

Minority group

[1] for use of key phrase/s [2] for full explanation or where an example is used appropriately to help explain

Answers may include:

- A group of people with a common identity within a larger community who may experience difficulties in having their needs addressed, e.g. clients with learning disabilities, clients with mental health problems, elderly clients, clients with certain types of illness
- People with common culture which contrasts with that of the majority of the population, e.g. Zimbabwean people living in Northern Ireland

(1 × [2])

[2]

Discrimination

[1] for use of key phrase/s [2] for full explanation or where an example is used appropriately to help explain

Answers may include:

- Treating people unequally/unfairly on the basis of their religion, gender, race, etc.
- Activities or actions that deny to the members of a group resources or rewards which are obtained by others

(1 × [2])

[2]

(b) Discuss how the medical model of disability can be applied to Jessie. (AO1, AO2, AO3)

[1] for use of key phrase/s [2] for explanation [3] for fuller discussion of application to Jessie

Answers may include:

Medical model:

- Disability has biological cause, i.e. HIV infection
- Drug based treatments preferred – for example Jessie is receiving medication
- Reliance on medical intervention to “fix” what is “wrong”
- Institutional rather than community care, e.g. reliance on hospital care
- Focuses on her illness/disability rather than on Jessie as an individual

(1 × [3])

[3]

- (c) Jessie feels that staff at the hospital are discriminating against her. Explain **three** ways the ward manager could challenge the discriminatory attitudes of the staff. (AO1, AO2, AO3)

[1] for use of key phrase/s [2] for full explanation of any three of the following

Answers may address some of the following points:

- Introduce/adhere to whistle blowing procedures
- Promote care value base
- Provide policies and procedures
- Ensure all clients know how to operate the complaints policy
- Encourage staff at all levels to challenge discriminatory behaviour
- Provide forums for discussion
- Ensure there are clear lines of responsibility and all staff know who to report to
- Ensure staff are trained
- Ensure staff have the opportunity to update training
- Ensure staff are aware of changes in legislation
- Ensure staff are aware of equal opportunities policies and procedures
- Ensure that inexperienced staff are supervised
- Ask for feedback from clients and act on it
- Encourage the establishment of client or service users feedback groups
- Encourage interaction between different groups of people – gender, age, race, etc.
- Make it clear to all staff and clients that discrimination is not acceptable
- Help clients/staff to understand the effects of discrimination on others
- Use disciplinary procedures with staff who discriminate
- Directly challenge discriminatory comments
- Invite representatives of various cultures/ethnic minority groups to the hospital to talk to staff to encourage understanding
- Encourage advocates for clients so they can feel supported to speak out about discrimination

This list is not exhaustive and candidates may use examples other than those identified above – these may be accepted if they are relevant and valid

(3 × [2])

[6]

- (d) The Patients' Charter sets out the rights of patients in the NHS. Explain **four** rights patients have in accordance within the Charter. (AO1, AO2, AO3)

[1] for key phrase/s [2] for fuller explanation of any four of the following

Everyone has the right to:

- Receive health care on the basis of clinical need
- Be registered with a GP and change your GP easily and quickly if you want to
- Get emergency medical treatment at any time
- Be offered a health check if you are aged 16–74 years and have not seen your GP for the past three years
- Be offered a health check once a year in your GP surgery, or at your own home if you prefer, if you are 75 years or over
- Receive information about the services your GP provides
- Decide which pharmacy to use for your prescriptions and have the appropriate drugs and medicines prescribed
- Get your medicines free if you are a pensioner, or child under 16, or under 19 in full-time education, pregnant or a nursing mother, suffering from one of a number of specified conditions, on income support or family credit, or over 60
- Be referred to a consultant, acceptable to you when your GP thinks it is necessary, and to be referred for a second opinion if you and your GP agree this is desirable
- Have any proposed treatment, including any risks and any alternatives, clearly explained to you before you decide whether you agree to it
- Receive dental advice in an emergency (if you are registered with a dentist) and treatment if your dentist thinks it is necessary
- Receive a signed written prescription immediately after your eye test
- See your own health records, subject to any limitations in law, and know that everyone working in the NHS is under a legal duty to keep your records confidential
- Choose whether or not you wish to take part in medical research or medical student training
- Information about the standards of services you can expect, waiting times and local GP services
- Have a complaint about NHS services investigated thoroughly and receive a full and prompt reply from the Chief Executive or general manager
- Be told before you go into hospital, except in an emergency, whether it is planned to care for you in a ward for men and women
- Respect for privacy, dignity and religious and cultural beliefs: practical arrangements should include appropriate meals and private rooms for confidential discussions with relatives
- Arrangements to ensure everyone, including people with special needs, can use the service: an example is the provision of access for people with wheelchairs
- Information to relatives and friends: there must be arrangements to inform relatives and friends of progress, subject to the patient's wishes
- Waiting time for an ambulance service: for an emergency ambulance this

must be no longer than 14 minutes in an urban area and 19 minutes in a rural area

- Waiting time for initial assessment in an accident and emergency department: the standard requires immediate assessment of the need for treatment
- Waiting time in outpatient clinics: each patient should be given a specific appointment time and be seen within 30 minutes of that time
- Cancellation of operations: this should not happen on the day of arrival in hospital. If an operation is cancelled twice, it should be carried out within 1 month of the second cancellation.
- A named qualified nurse, midwife or health visitor responsible for each patient
- Discharge of patients from hospital: before being discharged a care plan should be made to meet any continuing health or social care needs (4 × [2])

[8]

- (e) On her return to her flat Jessie and her partner are going to require services from the statutory, private and voluntary sectors. Evaluate the “mixed economy of care” approach to providing services for clients such as Jessie. (AO1, AO2, AO3, AO4)

Mark Band 1 ([0]–[4])

Overall impression: very basic understanding

- Displays limited knowledge of the “mixed economy” approach to providing services for clients such as Jessie
- Little or no evidence of analytical writing – only strengths or only weaknesses may be discussed
- Quality of written communication is basic

Mark Band 2 ([5]–[8])

Overall impression: adequate knowledge and understanding

- Displays adequate knowledge of the “mixed economy” approach to providing services for clients such as Jessie
- Both strengths and weaknesses of the “mixed economy” approach to providing services for adult clients must be discussed to achieve in this mark band
- Quality of written communication is good

Mark Band 3 ([9]–[12])

- Displays a very good knowledge of the “mixed economy” approach to providing services for clients such as Jessie
- Good evidence of analysis of both strengths and weaknesses of the “mixed economy” approach to providing services for adult clients should be discussed to achieve in this mark band
- Clear evidence of analytical writing
- Effective written communication

Answers may address some of the following points:

Strengths of mixed economy of care

- Higher standards of care due to competition
- Greater choice for clients

- Greater flexibility
- Competition means better value for money
- Sense of community strengthened
- Allows social services to have a more focused role
- Less expensive for government

Weaknesses of mixed economy of care

- Service provision can be patchy
- Quality may be lowered as services outside the statutory sector are not as well regulated and may not have fully trained staff
- Increased costs – private sector needs to make a profit; can be expensive for clients
- Dismantles the welfare state
- Clients using voluntary sector services may feel stigmatised
- Critics argue that clients who have paid tax and national insurance have the right to be cared for by state
- Poor communication between sectors so clients' needs may not be met

This list is not exhaustive and candidates may use examples other than those identified above – these may be accepted if they are relevant and valid.

[12]

33

- 3 (a) Discuss the purpose of maintaining confidential information which is a core principle of the Care Value Base. (AO1, AO2, AO3)

Mark Band 1 ([0]–[2])

Overall impression: very basic understanding

- Displays limited knowledge of the purposes of maintaining confidential information as a core principle of the CVB
- Little or no evidence of analytical writing
- Quality of written communication is basic

Mark Band 2 ([3]–[4])

Overall impression: adequate knowledge and understanding

- Displays adequate knowledge of the purposes of maintaining confidential information as a core principle of the CVB
- Some evidence of analytical writing
- Quality of written communication is good

Mark Band 3 ([5]–[6])

Overall impression: competent knowledge and understanding

- Displays a very good knowledge of the purposes of maintaining confidential information as a core principle of the CVB
- Clear evidence of analytical writing
- Effective written communication

Answers may include:

- Helps ensure that information about a client's health and personal life is respected and kept private
- Promotes safety, security and protection for clients
- Promotes trust; building and reinforcing relationships between clients and their carers
- Helps clients feel valued, as private details are not shared unless there is deemed to be a risk to self or others
- Helps to ensure legislation is adhered to
- Encourages disclosure by clients

Answers must be linked to adherence to value base for [2] to be awarded

This list is not exhaustive and candidates may use examples other than those identified above – these may be accepted if they are relevant and valid. For [2] explanation must relate to value base (1 × [6])

[6]

- (b) All health and social care professionals must adhere to codes of conduct. Explain **two** ways professional codes of conduct contribute to the provision of quality care for clients. (AO1, AO2)

[1] for use of key phrase or example [2] for full explanation of how it contributes to quality of care

- Standards set at a national level to protect the rights and promote the interests of clients/patients and carers, e.g. obtain consent before any treatment or care so respecting the patient or client as an individual, co-operate with others in the team to promote good quality care
- Ensure workers know what standards of conduct employers, colleagues, clients, carers and public expect of them striving to establish and maintain the trust and confidence of clients/patients and carers, e.g. protect confidential information, client/patient individuality
- Sets down responsibilities of employers in the regulation of social care workers to make sure people are suitable to enter the workforce and understand their roles and responsibilities, so promoting high standards of practice
- Codes require that employers adhere to the standards set out in the code, support health and social care workers in meeting their codes and take appropriate action when workers do not meet expected standards of conduct
- Workers and employers in social care must be registered with Northern Ireland Social Care Council (NISCC) and nurses with the National Midwifery Council (NMC) to uphold public trust and confidence in health and social care services
- Codes hold health care workers responsible to promote the independence of clients/patients while protecting them as far as possible from danger or harm, e.g. managing risk and so regulating practice
- Codes hold workers responsible to respect the rights of clients/patients while seeking to ensure that their behaviour does not harm themselves or others, so promoting fair treatment
- Codes make health and social care workers accountable for the quality of their work and take responsibility for maintaining and improving their knowledge and skills, so clients/patients attain a professional service
- Codes make employers responsible to provide training and development opportunities to enable social care workers to strengthen and develop their skills and knowledge, so ensuring a properly trained workforce
- Codes make employers responsible to put in place and implement written processes and procedures to deal with dangerous, discriminatory or exploitative behaviour and practice, so protecting the public from poor practice
- Codes set out proceedings for both nurses and social workers should patients/clients feel their care has been unprofessional, so making staff accountable

(2 × [2])

[4]

- (c) In the UK there are approximately 6 million carers, who look after a disabled friend or relative. By 2037 the number of carers could increase to 9 million.
Analyse the difficulties faced by informal carers. (AO1, AO2, AO3, AO4)

Mark Band 1 ([0]–[4])

Overall impression: limited understanding

- Displays limited knowledge and understanding of the difficulties faced by informal carers in the provision of care
- Limited, if any, attempt to analyse the difficulties faced by informal carers in the provision of care
- Quality of written communication is basic

Mark Band 2 ([5]–[8])

Overall impression; adequate knowledge and understanding

- Displays adequate knowledge and understanding of the difficulties faced by informal carers in the provision of care
- Some evidence of analytical writing
- Quality of written communication is good

Mark Band 3 ([9]–[12])

Overall impression: competent knowledge and understanding

- Displays a very good knowledge and understanding of the difficulties faced by informal carers in the provision of care
- Clear evidence of analytical writing
- Effective written communication

Answers may address some of the following points:

- May have to give up their job or education
- May lose out financially, do not get paid/benefits are very limited – causing resentment – affecting quality of care
- May feel isolated and unappreciated
- May feel trapped
- Can be very exhausting – often it is a 24 hour job; may not get enough sleep – this can affect the quality of care
- May feel out of their depth because of a lack of training, e.g. in moving and handling or in terms of awareness of services
- Can suffer in their own relationships and family life due to the responsibilities involved in caring – resentment can affect the caring relationship and quality of care
- Can suffer physically – they can become ill themselves – making clients feel guilty and affecting care delivery
- May feel guilty they cannot do more
- May suffer from stress
- May become depressed, e.g. if person they are caring for others
- Where the informal carer is a child, he or she may miss out on education and social life and may mature more quickly
- May feel uncomfortable delivering personal care [12]

- (d) Analyse how the NHS & Community Care Act 1990 supports clients with learning disabilities to live at home rather than move into residential care. (AO1, AO2, AO3, AO4)

Mark Band 1 ([0]–[4])

Overall impression: very basic understanding

- Displays limited knowledge of how the objectives of the NHS & Community Care Act 1990 support people with learning disabilities to live at home rather than move into residential care
- Little or no evidence of analytical writing
- Quality of written communication is basic

Mark Band 2 ([5]–[8])

Overall impression: adequate knowledge and understanding

- Displays adequate knowledge of how the objectives of the NHS & Community Care Act 1990 support people with learning disabilities to live at home rather than move into residential care
- Some evidence of analytical writing
- Quality of written communication is good

Mark Band 3 ([9]–[12])

Overall impression; competent knowledge and understanding

- Displays a very good knowledge of how the objectives of the NHS & Community Care Act 1990 support people with learning disabilities to live at home rather than move into residential care
- Clear evidence of analytical writing
- Effective written communication

Answers may address some of the following points:

- It sets out to promote the development of home care, day care and short stays in residential units, to enable people with learning disabilities to stay in their own homes for as long as possible to retain their independence
- It allows the needs of carers to be taken into consideration by service providers so they can continue to care, e.g. parents of a client with learning disabilities can ask for an assessment of their needs
- It requires a full assessment of the needs of clients with learning disabilities and promotes good case management to try to achieve a high quality of care for clients with learning disabilities who live at home
- It encourages the development of the mixed economy of care to provide a choice of services to clients with learning disabilities who wish to live at home
- It clarifies the responsibilities of both social services and health authorities to hold them accountable for their performance in meeting the needs of clients with learning disabilities who wish to live at home
- Introduced a funding structure for health and social care to enable professionals to have more autonomy in providing services for clients which helped them to live at home

Answers must be related to how they support people with learning disabilities to live at home rather than move into residential care

[12]

34

Total

100

AVAILABLE
MARKS



Rewarding Learning

ADVANCED SUBSIDIARY (AS)

General Certificate of Education

2010

Health and Social Care

Assessment Unit AS 14

assessing

Unit 14: Understanding Human Physiology

[A3H81]

THURSDAY 27 MAY, AFTERNOON

MARK SCHEME

1 (a) This is a diagram of a typical human body cell.

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

[1] For name

[1] For one correct function

A: Cell/plasma membrane

Limits cell size

Regulates movement of substances in/out of cell

Allow protect cell

B: nucleolus

Cell division

Initial ribosome production

C: rough endoplasmic reticulum (ER)

Transports proteins

Divides up cytoplasm into regions for biochemical activity

Protein synthesis

(6 × [1])

[6]

(b) This is a diagram of the human ear.

(i) Write down the name and **one** function of parts A and B. (AO1, AO2)

[1] For name

[1] For one correct function

A: Semi-circular canals

detect movement

control balance

B: ear ossicles/maleus incus stapies (small bones)

(hammer; anvil; stirrup)

carry sound waves (vibrations) to the inner ear

(4 × [1])

[4]

(ii) Use the diagram to discuss how sound is transmitted from C to D. (AO1, AO2)

[1] for key phrase [2] for explanation [3] for detailed discussion

Answers may include:

- sound is carried to C as vibrations
- in C the vibrations are converted to electrical impulses
- the electrical impulses are carried along D to the brain

[3]

(c) Stephan, aged 14, has a conductive hearing loss. He also has myopia.

AVAILABLE
MARKS

(i) Write down two causes of conductive hearing loss. (AO1)

[1] for each correct answer

Answers may include any of the following:

- glue ear in children
- ear infection
- blockage of ear canal (wax)
- ruptured ear drum (not loud noise without qualification)
- “frozen” ear ossicles
- accept inherited/genetic if accurate details given

(2 × [1])

[2]

(ii) Explain how myopia may affect Stephan’s vision. (AO1, AO2)

[1] for key phrase [2] for full explanation

Answers may include:

- image formed in front of retina
- he will be short sighted
- his eyes will not be able to focus on distant objects
- he would need glasses to see things far away
- he could still see things close to him clearly

(1 × [2])

[2]

(iii) Discuss **two** ways that Stephan’s life may be affected by his hearing and vision disabilities.

[1] for key phrase, [2] for discussion, [3] for full discussion, two answers needed

Answers may include any two of the following:

- Stephan may not be able to see the board in class so his work may not be accurate
- Stephan may not be able to follow his teacher’s instruction fully so he may misunderstand what he is being taught
- Stephan may struggle to keep up with his work as it becomes more complex because it is difficult for him to follow what he is being taught
- Stephan may find it difficult to socialise with friends as he may be unable to go out independently
- He may lack confidence and become isolated because he finds interaction difficult
- He may be excluded from team games because of his disability
- Other leisure activities may be difficult e.g. going to the cinema
- He may be discriminated against and not have friends
- He may find transport difficult if he cannot safely ride a bike/drive a car
- Future career prospects may be affected e.g. army
- Ongoing medical care may result in time off work/school and affect education and employment prospects

(2 × [3])

[6]

23

2 (a) This is a diagram of a neurone.

Write down the name and the function of the parts A, B, C and D.
(AO1, AO2)

[1] For name

[1] For one correct function

A: Nerve endings

passes on the stimulus to other neurones

B: Axon

Carries nerve impulses away from the cell body

Accept myelin sheath/speeds up transmission of electrical impulses

C: Dendrite

Carries nerve impulses to the cell body

D: Cell body

site of nucleus and cytoplasm

nerve fibres run from the cell body

(8 × [1])

[8]

James was out walking when attacked by a dog. He panicked and jumped over a wall, breaking his leg.

(b) Discuss the role of each of the following in James's reactions.
(AO2, AO3, AO4)

(i) The adrenal gland

Mark Band 1 ([0]–[2])

Overall impression: limited understanding.

- displays basic understanding of the function of the adrenal gland
- quality of written communication is basic

Mark Band 2 ([3]–[4])

Overall impression: adequate knowledge and understanding.

- displays limited understanding of the function of the adrenal gland
- discusses part of the response caused by the release of adrenaline
- quality of written communication is good

Mark Band 3 ([5]–[6])

Overall impression: competent knowledge and understanding.

- displays competent understanding of the function of the adrenal gland
- discusses clearly the response caused by the release of adrenaline
- quality of written communication is excellent

Answers may include:

- the adrenal gland releases the hormone adrenaline into the blood
- the release of the hormone would prepare James for fight or flight
- it would increase his heart rate and his breathing rate
- more oxygen would get to his muscles
- he would be able to move faster
- the blood supply to non-essential organs is reduced
- he would look pale and feel shaken because of the reduced blood supply

[6]

(ii) A reflex action

Mark Band 1 ([0]–[2])

Overall impression: limited understanding

- displays basic understanding of a reflex action
- quality of written communication is basic

Mark Band 2 ([3]–[4])

Overall impression: adequate knowledge and understanding

- displays limited understanding of a reflex action
- discusses part of the mechanism for impulse transference
- quality of written communication is good

Mark Band 3 ([5]–[6])

Overall impression: competent knowledge and understanding

- displays competent understanding of a reflex action
- discusses the mechanism for impulse transference
- quality of written communication is excellent

Answers may include:

- the sensory neurones in James's (ears and eyes) would detect the danger
- a message would pass to the relay neurones in his spinal cord
- they pass the message on to the motor neurones in his legs
James runs away from the dog as a response
- this is a fast response
- the brain is not involved
- the brain is informed afterwards of the action

[6]

20

3 This is a diagram of the digestive system.

- (a) (i) Identify A, B and C in the diagram and write down the name of **one** enzyme present in each. (AO1, AO2)
 [1] for name
 [1] for one correct enzyme
 A: mouth/buccal cavity
 Enzyme amylase (do not accept saliva)
 B: stomach
 Enzyme pepsin/protease (do not accept gastric juices)
 C: Duodenum/accept small intestine
 Enzyme lipase/trypsin/protease/amylase/maltase not pancreatic juices
 (6 × [1]) [6]

- (ii) Explain **two** ways the liver helps to process waste food. (AO1, AO2)
 [1] for key phrase [2] for full explanation two answers needed

Answer may include any two of the following:

- processes excess amino acids via deamination or turns excess amino acids into urea
- stores carbohydrate as glycogen
- breaks down toxins such as alcohol (detoxification)
- works with the pancreas to control blood sugar levels

(2 × [2]) [4]

- (iii) Discuss how the pancreas (E) functions as an endocrine organ. (AO1, AO2, AO3, AO4)

Mark Band 1 ([0]–[3])

Overall impression: limited understanding

- displays basic understanding of the function of the pancreas
- quality of written communication is basic

Mark Band 2 ([4]–[6])

Overall impression: adequate knowledge and understanding

- displays limited understanding of the function of the pancreas
- discusses the role of one hormone
- quality of written communication is good

Mark Band 3 ([7]–[9])

Overall impression: competent knowledge and understanding

- displays competent understanding of the function of the pancreas
- discusses the role of both hormones insulin and glucagon
- quality of written communication is excellent

Answer may include:

- the pancreas works to keep blood glucose levels within normal range
- if too high insulin is secreted

- this turns glucose into glycogen
- glycogen is stored in the liver
- if too low glucagon is secreted
- glucagon acts upon glycogen in the liver to turn it back into glucose
- this is a negative feedback mechanism
- it only happens if blood glucose levels are outside normal range

[9]

- (b) Sigmund has been feeling unwell for some time. The hospital monitored his blood glucose and insulin levels for one day to find out if he has Type I diabetes. The results of the monitoring are recorded in the graphs below.

Analyse the results to discuss if Sigmund has Type I diabetes. (AO1, AO2, AO3, AO4)

Mark Band 1 ([0]–[2])

Overall impression: limited understanding

- displays basic understanding of the effect of Type I diabetes on the blood
- analyses one trend on the graph
- quality of written communication is basic

Mark Band 2 ([3]–[5])

Overall impression: adequate knowledge and understanding

- displays limited understanding of the effect of Type I diabetes on the blood
- analyses two trends on the graph
- quality of written communication is good

Mark Band 3 ([6]–[8])

Overall impression: competent knowledge and understanding

- displays competent understanding of the effect of Type I diabetes on the blood
- analyses three trends on the graph
- quality of written communication is excellent

Answers may include:

- the graphs suggest that Sigmund has Type I diabetes
- his body is producing some hormone but not as much as in the normal trace
- and not enough to bring his blood glucose to the levels in the normal trace
- at times where Sigmund may have eaten his level rises beyond normal
- his hormone level does not respond sufficiently to bring it back down to normal
- in general his blood glucose level is very high – above normal
- in the normal trace blood glucose levels are echoed by the hormone level

[8]

27

4 (a) Kimi, aged 24, is paraplegic and lives alone in sheltered accommodation. Just after Christmas her GP was called to her flat and found that she had mild hypothermia.

(i) Explain what is meant by the following terms: (AO1, AO2)
[1] for key phrase [2] for full explanation 2 answers needed

Paraplegia

Answer may include:

- paraplegia is the loss of function of the lower limbs [1]
- caused by damage to the spinal cord below the neck [1] [2]

Hypothermia

Answer may include:

- low body temperature
- below 35°C
- body cannot return temperature to normal via usual mechanism [2]

(ii) Explain two reasons why Kimi is more at risk from hypothermia than most adults. (AO1, AO2, AO3)

[1] for key phrase [2] for full explanation two answers needed

Answer may include any two of the following:

- Kimi is not very mobile
 - She may get cold and not be able to move around enough to heat herself up
 - Unable to adjust heating or make warm drinks unaided
- Or
- She may not realise that she is cold as she has reduced sensation in her lower limbs

Or

- Kimi may be dependent on benefits/low income
- To save money she may not heat her home properly

(2 × [2])

[4]

(iii) Discuss the normal mechanism for regulating body temperature. (AO1, AO2, AO3, and AO4)

Mark Band 1 ([0]–[3])

Overall impression: limited understanding

- displays basic understanding of the mechanism for regulating body temperature
- quality of written communication is basic

Mark Band 2 ([4]–[6])

Overall impression: adequate knowledge and understanding

- displays limited understanding of the mechanism for regulating body temperature
- discusses part of the mechanism for regulating body temperature clearly
- quality of written communication is good

Mark Band 3 ([7]–[9])

Overall impression: competent knowledge and understanding

- displays competent understanding of the mechanism for regulating body temperature
- discusses all of the mechanism for regulating body temperature clearly
- quality of written communication is excellent

Answers may include:

- nerve endings in the skin detect cold/heat
- impulses are sent to the temperature control centre in the brain and hypothalamus

When cold:

- vasoconstriction occurs
- sweat glands become less active
- hairs rise in the skin
- shivering starts

When hot

- vasodilation occurs
- sweat glands become more active
- hairs lie flat in the skin

[9]

- (b)** Chen, aged 46, works as a computer programmer. His job is very stressful. When he works late he skips his evening meal and either buys fish and chips which he has with a few beers or goes to the local pub with his colleagues and buys a takeaway meal on his way home. He likes to play football at the weekend. Chen has begun to have abdominal pains and his doctor thinks he may have a stomach ulcer.

Use the information in the passage to answer the following questions.

- (i)** Identify **two** factors which may have contributed to the development of Chen's ulcer. (AO1)

[1] for each correct factor

Answers to include any two of the following:

- working conditions e.g. stress/working late
- missing meals
- eating fatty food (spicy)
- drinking excessive alcohol

(1 × [2])

[2]

- (ii)** Explain how an ulcer develops in the digestive tract. (AO1, AO2)

[1] for key phrase [2] for full explanation

Answer may include:

- acid/bacteria attack the lining of the stomach
- a hole/crater/indentation develops
- the lining/epithelium is worn away
- this becomes inflamed/infected

(1 × [2])

[2]

- (iii) Analyse the potential impact of the stomach ulcer on Chen's lifestyle. (AO1, AO2, AO3, AO4)

Mark Band 1 ([0]–[3])

Overall impression: limited understanding

- displays basic understanding of the impact on Chen's lifestyle
- describes at least two ways that Chen's lifestyle may be affected
- quality of written communication is basic

Mark Band 2 ([4]–[6])

Overall impression: adequate knowledge and understanding

- displays limited understanding of the impact on Chen's lifestyle
- analyses at least three ways that Chen's lifestyle may be affected
- quality of written communication is good

Mark Band 3 ([7]–[9])

Overall impression: competent knowledge and understanding

- displays competent understanding of the impact on Chen's lifestyle
- analyses at least four ways that Chen's lifestyle may be affected
- quality of written communication is excellent

Answers may include:

Chen may have to restructure his work commitments so that he is less stressed

- he may experience a loss of income if he changes job
- he may need to take time off work for treatment
- with modern treatment (antibiotics) he may not need time off work at all
- if his ulcer gets worse he could be hospitalised and be off work

Chen would need to eat more regularly and healthily or his ulcer may get worse

- this may mean he could not socialise as much with clients/colleagues/friends
- this could affect his promotion prospects
- this may make him socially isolated and depressed
- he needs to adopt a healthier diet

The same argument would follow for alcohol – he needs to cut back on his drinking

If Chen's condition deteriorates he may not be fit enough to play football

- he may become physically unfit
- he may not mix as much with his friends
- this would also cause isolation and depression

On the other hand, many ulcers are successfully treated in quite a short time-frame with antibiotics after initial diagnosis

- Chen may only be taking tablets for a short time
- this may have little effect on his life
- however he should still be adapting his behavioural choices to ensure that he doesn't develop another ulcer [9]

Total

**AVAILABLE
MARKS**

30

100

