

**Published Mark Schemes for  
GCE AS Home Economics**

**Summer 2010**

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**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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New  
Specification



*Rewarding Learning*

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

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**Home Economics**  
**Assessment Unit AS 1**

*assessing*

**Nutrition for Optimal Health**

**[AN111]**

**MONDAY 14 JUNE, MORNING**

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**MARK  
SCHEME**

## Section A

### AVAILABLE MARKS

- 1** Identify **three** significant plant sources of vitamin B<sub>1</sub> (thiamine). (AO1)
- wholewheat flour
  - potatoes
  - fortified breakfast cereals
- All other valid examples will be given credit. [3] 3
- 2** Outline the main functions of the mineral iodine. (AO1, AO2)
- production of the thyroid hormones, which are involved in regulating the rate of oxidation of nutrients in the body
  - thyroid hormones play a key role in early growth and development of organs especially the brain
- All other valid points will be given credit. [4] 4
- 3** Explain how excess alcohol consumption in pregnancy can affect the health of the baby. (AO1, AO2)
- alcohol taken in large amounts can cause foetal malformations particularly in the early stages of pregnancy
  - excessive alcohol consumption taken later in the pregnancy may result in growth retardation
  - foetal alcohol syndrome which includes a series of defects affecting the face, heart, brain and nervous system and is also associated with reduced mental capacity
- All other valid points will be given credit. [4] 4
- 4** What do you understand by the term nitrogen balance? (AO1, AO2)
- is the overall indicator of protein metabolism in the body, which is the difference between intake and total output
  - a positive nitrogen balance indicates protein is being retained in the body, indicating tissue synthesis
  - a negative nitrogen balance occurs when there is a net loss of protein from the body which can indicate that body protein is being depleted and is caused by injury or illness
- All other valid points will be given credit. [5] 5



5 Consider the effect of non-milk extrinsic sugars (NMES) on the oral health of school children (4–11 years). (AO1, AO2)

- dietary sugars provide a substrate for the multiplication of oral bacteria and the production of acid
- the acid erodes the enamel, leading to demineralisation
- if sugar is consumed at frequent intervals, the development of dental caries is increased
- tooth decay occurs more quickly in children, their teeth are small and decay reaches the nerve of a tooth very fast

All other valid points will be given credit.

[5]

AVAILABLE  
MARKS

5

6 Justify the current advice to consume approximately 2 litres of water daily. (AO1, AO2, AO3)

**Mark Band ([0]–[2])**

Overall impression: basic

- inadequate knowledge and understanding of the current advice to consume 1.5 to 2 litres of water daily
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to justify this advice
- quality of written communication is basic

**Mark Band ([3]–[5])**

Overall impression: reasonable to good

- reasonable to good knowledge and understanding of the current advice to consume 1.5 to 2 litres of water daily
- demonstrates a reasonable to good ability to apply appropriate knowledge and understanding to the question
- demonstrates a reasonable to good ability to justify this advice
- quality of written communication is reasonable to good

**Mark Band ([6]–[8])**

Overall impression: very good to highly competent

- clear knowledge and understanding of the current advice to consume 1.5 to 2 litres of water daily
- demonstrates a very good to highly competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a very good to highly competent ability to justify this advice
- quality of written communication is very good to highly competent

**Some examples of suitable points to be justified by the candidate:**

- medium; nutrients, enzymes and other chemical substances can be dispersed in water and chemical reactions necessary for maintaining life can also take place in water
- transport; nutrients are carried to cells and waste products are transported from cells by blood plasma which is 90% water
- excretion; waste products are removed from the blood by the kidneys and excreted in the urine
- temperature; water helps to regulate body temperature

All other valid points will be given credit.

[8]

8

- 7 Discuss the functions of carbohydrate as a nutrient in the body.  
(AO1, AO2, AO3)

AVAILABLE  
MARKS

**Mark Band ([0]–[2])**

Overall impression: basic

- inadequate knowledge and understanding of the functions of carbohydrate
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to discuss the functions of carbohydrate as a nutrient in the body
- quality of written communication is basic

**Mark Band ([3]–[5])**

Overall impression: reasonable to good

- reasonable to good knowledge and understanding of the functions of carbohydrate
- demonstrates a reasonable to good ability to apply appropriate knowledge and understanding to the question
- demonstrates a reasonable to good ability to discuss the functions of carbohydrate as a nutrient in the body
- quality of written communication is reasonable to good

**Mark Band ([6]–[8])**

Overall impression: very good to highly competent

- clear knowledge and understanding of the functions of carbohydrate
- demonstrates a very good to highly competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a very good to highly competent ability to discuss the functions of carbohydrate as a nutrient in the body
- quality of written communication is very good to highly competent

**Some examples of suitable points to be discussed by the candidate:**

- energy; glucose is oxidised in the cells and broken down in a series of reactions and energy is released providing 17kJ of energy per g
- storage; glycogen is formed and stored in the liver and muscles as a readily available source of energy; glucose in excess of energy requirements can be converted into fat and stored all over the body in the fatty cells of the adipose tissue
- protein sparing; a moderate carbohydrate intake ensures that most of the dietary protein can be used for growth purposes
- unavailable carbohydrates (non-starch polysaccharides (NSP)); give bulk to the faeces and prevent disorders of the colon

All other valid points will be given credit.

[8]

8

8 Consider the advice which could be given to older people to help reduce the risk of vitamin D deficiency. (AO1, AO2, AO3)

AVAILABLE  
MARKS

**Mark Band ([0]–[2])**

Overall impression: basic

- inadequate knowledge and understanding of vitamin D deficiency in older people
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to present a range of measures which could be advised to reduce the risk of vitamin D deficiency in older people
- demonstrates a limited ability to consider these measures
- quality of written communication is basic

**Mark Band ([3]–[5])**

Overall impression: reasonable to good

- reasonable to good knowledge and understanding of vitamin D deficiency in older people
- demonstrates a reasonable to good ability to apply appropriate knowledge and understanding to the question
- demonstrates a reasonable to good ability to present a range of measures which could be advised to reduce the risk of vitamin D deficiency in older people
- demonstrates a reasonable to good ability to consider these measures
- quality of written communication is reasonable to good

**Mark Band ([6]–[8])**

Overall impression: very good to highly competent

- clear knowledge and understanding of vitamin D deficiency in older people
- demonstrates a very good to highly competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a very good to highly competent ability to present a range of measures which could be advised to reduce the risk of vitamin D deficiency in older people
- demonstrates a very good to highly competent ability to consider these measures
- quality of written communication is very good to highly competent

**Some examples of suitable points to be considered by the candidate:**

- supplementation; especially if housebound or institutionalised via tablets or fortified drinks, 10µg supplement is adequate
- sunshine; encouraging elderly to be outdoors whenever possible, ensuring an adequate exposure to sunshine to enable vitamin D to be synthesised in the body
- diet; increase intake via foods such as butter, eggs, milk and oily fish which can be used to create a range of quick and easily digested meals
- fortified foods; choosing breakfast cereals and spreading fats which are fortified

All other valid points will be given credit.

[8]

8

**Section A**

**45**

## Section B

AVAILABLE  
MARKS

- 9 (a) Discuss the specific requirements for energy, protein and essential fatty acids in pregnancy. (AO1, AO2, AO3)

### Mark Band ([0]–[3])

Overall impression: basic

- inadequate knowledge and understanding of specific requirements for energy, protein and essential fatty acids in pregnancy
- demonstrates a limited ability to apply knowledge and understanding to the question
- demonstrates a limited ability to discuss specific requirements for energy, protein and essential fatty acids in pregnancy
- quality of written communication is basic

### Mark Band ([4]–[7])

Overall impression: reasonable to good

- reasonable to good knowledge and understanding of specific requirements for energy, protein and essential fatty acids in pregnancy
- demonstrates a reasonable to good ability to apply knowledge and understanding to the question
- demonstrates a reasonable to good ability to discuss specific requirements for energy, protein and essential fatty acids in pregnancy
- quality of written communication is reasonable to good

### Mark Band ([8]–[10])

Overall impression: very good to highly competent

- clear knowledge and understanding of specific requirements for energy, protein and essential fatty acids in pregnancy
- demonstrates a very good to highly competent ability to apply knowledge and understanding to the question
- demonstrates a very good to highly competent ability to discuss specific requirements for energy, protein and essential fatty acids in pregnancy
- quality of written communication is very good to highly competent

### Some examples of suitable points to be discussed by the candidate:

- energy; extra energy is required specifically in the last trimester, for the formation of new tissue (foetus, placenta amniotic fluid) and maternal tissues, e.g. breast and uterus; tissue synthesis; increased oxygen consumption by maternal organs; needs of the products of conception in the later stages of pregnancy and extra maternal fat deposition
- protein; protein is required for the growth of maternal tissues, development of the foetus and milk production in the third trimester. Certain metabolic adaptations occur during pregnancy such as reduced amino acid oxidation in the liver. This protein can then be made available from the mother's tissue in the later stages of pregnancy when the foetus enters a rapid growth phase
- essential fatty acids; essential fatty acids are essential in the growth and development of baby's brain and retina

All other valid points will be given credit.

[10]

- (b) Evaluate the role of micronutrient supplementation in pregnancy.  
(AO1, AO2, AO3)

AVAILABLE  
MARKS

**Mark Band ([0]–[5])**

Overall impression: basic

- inadequate knowledge and understanding of the role of micronutrient supplementation in pregnancy
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to evaluate the role of micronutrient supplementation in pregnancy
- quality of written communication is basic

**Mark Band ([6]–[10])**

Overall impression: reasonable to good

- reasonable to good knowledge and understanding of the role of micronutrient supplementation in pregnancy
- demonstrates a reasonable to good ability to apply appropriate knowledge and understanding to the question
- demonstrates a reasonable to good ability to evaluate the role of micronutrient supplementation in pregnancy
- quality of written communication is reasonable to good

**Mark Band ([11]–[15])**

Overall impression: very good to highly competent

- clear knowledge and understanding of the role of micronutrient supplementation in pregnancy
- demonstrates a very good to highly competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a very good to highly competent ability to evaluate the role of micronutrient supplementation in pregnancy
- quality of written communication is very good to highly competent

**Some examples of suitable points to be evaluated by the candidate:**

- timing for supplementation; the best effects of supplementation occur when given in the first three months of pregnancy, e.g. iron and folic acid
- poor appetites; useful for those with poor appetites, those who are ill, and those whose intake of vitamins may be inadequate, e.g. teenage girls
- interaction between minerals; some minerals when consumed in excess can inhibit the absorption of other minerals, e.g. iron supplements can interfere with zinc absorption
- excessive vitamin A; excess vitamin A supplementation has been linked to birth defects
- folic acid; folic acid supplements are recommended in the early weeks of pregnancy in order to reduce risk of NTDs
- mineral supplements; iron supplementation in pregnancy can be useful for those who have inadequate iron stores
- vitamin D; supplementation is recommended particularly for women who are vegan or those who receive little exposure to sunlight, but in excess this can cause hypervitaminosis which can cause kidney damage
- eating habits; use of supplements does not encourage good eating habits

All other valid points will be given credit.

[15]

25

Or

AVAILABLE  
MARKS

10 (a) Consider why the following foods should be included in the diets of adults:

- fruit and vegetables
- oily fish. (AO1, AO2, AO3)

**Mark Band ([0]–[3])**

Overall impression: basic

- inadequate knowledge and understanding of the importance of fruit and vegetables and oily fish in the diet of adults
- demonstrates a limited ability to apply knowledge and understanding to the question
- demonstrates a limited ability to consider the specific needs for fruit and vegetables and oily fish for this group
- quality of written communication is basic

**Mark Band ([4]–[7])**

Overall impression: reasonable to good

- reasonable to good knowledge and understanding of the importance of fruit and vegetables and oily fish in the diet of adults
- demonstrates a reasonable to good ability to apply knowledge and understanding to the question
- demonstrates a reasonable to good ability to consider the specific needs for fruit and vegetables and oily fish for this group
- quality of written communication is reasonable to good

**Mark Band ([8]–[10])**

Overall impression: very good to highly competent

- clear knowledge and understanding of the importance of fruit and vegetables and oily fish in the diet of adults
- demonstrates a very good to highly competent ability to apply knowledge and understanding to the question
- demonstrates a very good to highly competent ability to consider the specific needs for fruit and vegetables and oily fish for this group
- quality of written communication is very good to highly competent

**Some examples of suitable points to be considered by the candidate:**

**Fruit and vegetables**

- source of antioxidants; beta carotene, C and E have an antioxidant role in preventing certain dietary cancers and heart disease; higher risk at this life stage  
lycopene; a carotenoid abundant in red fruits such as water melon and tomatoes; adult men with lower intakes of lycopene appear to have lower risks of prostate cancer
- source of potassium; some fruits and vegetables such as bananas, tomatoes and avocados are a source of potassium which can have a beneficial effect on blood pressure at this life stage
- sources of soluble NSP; which provides protection against CVD and Type II diabetes

**Oily fish**

- source of Omega 3; fatty acids DHA and EPA may reduce the risk of a fatal heart attack by decreasing the tendency of the blood to clot; Omega 3 fatty acids are believed to assist with the treatment of inflammatory conditions such as rheumatoid arthritis
- source of protein; which will assist in the maintenance and repair of body cells
- source of vitamins A and D; which assist with general good health for this age group

All other valid points will be given credit.

[10]

- (b) Discuss the importance of meeting the dietary guidelines for fat and NSP for adults. (AO1, AO2, AO3)

**Mark Band ([0]–[5])**

Overall impression: basic

- inadequate knowledge and understanding of the dietary guidelines for fat and NSP
- demonstrates a limited ability to apply appropriate knowledge and understanding to the question
- demonstrates a limited ability to discuss the importance of these dietary guidelines for adults
- quality of written communication is basic

**Mark Band ([6]–[10])**

Overall impression: reasonable to good

- reasonable to good knowledge and understanding of the dietary guidelines for fat and NSP
- demonstrates a reasonable to good ability to apply appropriate knowledge and understanding to the question
- demonstrates a reasonable to good ability to discuss the importance of these dietary guidelines for adults
- quality of written communication is reasonable to good

**Mark Band ([11]–[15])**

Overall impression: very good to highly competent

- clear knowledge and understanding of dietary guidelines for fat and NSP
- demonstrates a very good to highly competent ability to apply appropriate knowledge and understanding to the question
- demonstrates a very good to highly competent ability to discuss the importance of these dietary guidelines for adults
- quality of written communication is very good to highly competent

**Some examples of suitable points to be discussed by the candidate:**

**Fat**

- total fat intake; reduces energy intake and subsequently the risk of obesity
- extra weight in the abdominal area; increases the risk of developing heart disease and Type II diabetes; being overweight can increase the risk of developing cancers and severe obesity can place great strain on joints
- to meet guidelines for saturated fat; this will help to ensure total and LDL cholesterol levels are not high, which reduces risk of CVD especially to men under forty years
- to reduce intakes of trans fatty acids; can affect blood cholesterol in the same way as saturated fats

**NSP**

- soluble NSP; can assist in the lowering of blood cholesterol levels which may reduce the risk of CVD; can help control blood sugar level and reduce the risk of Type II diabetes
- insoluble NSP; can reduce risk of disorders of the large intestine which are more likely as adulthood progresses such as constipation, diverticular disease and colon cancer; insoluble NSP also gives a feeling of satiety which can help displace fat intakes and reduce risk of obesity

All other valid points will be given credit.

[15]

25

**Section B**

**25**

**Total**

**70**

**AVAILABLE  
MARKS**



New  
Specification



*Rewarding Learning*

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

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**Home Economics  
Assessment Unit AS 2**

*assessing*

Priority Health Issues

**[AN121]**

**THURSDAY 17 JUNE, MORNING**

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**MARK  
SCHEME**

## Section A

AVAILABLE  
MARKS

Answer **one** question from this section.

- 1 (a) The overall aim of the Sexual Health Promotion Strategy (2008–2013) is to improve the sexual health of the population in Northern Ireland.

Outline some of the ways this strategy is planning to achieve its aim.  
(AO1, AO2, AO3)

### Mark Band ([0]–[3])

Overall impression: basic

- inadequate knowledge and understanding of the Sexual Health Promotion Strategy 2008–2013
- demonstrates a limited ability to apply knowledge and understanding to the question
- demonstrates a limited ability to outline some of the ways this strategy is planning to achieve its aim
- quality of written communication is basic

### Mark Band ([4]–[7])

Overall impression: reasonable to good

- reasonable to good knowledge and understanding of the Sexual Health Promotion Strategy 2008–2013
- demonstrates a reasonable to good ability to apply knowledge and understanding to the question
- demonstrates a reasonable to good ability to outline some of the ways this strategy is planning to achieve its aim
- quality of written communication is reasonable to good

### Mark Band ([8]–[10])

Overall impression: very good to highly competent

- clear knowledge and understanding of the Sexual Health Promotion Strategy 2008–2013
- demonstrates a very good to highly competent ability to apply knowledge and understanding to the question
- demonstrates a very good to highly competent ability to outline some of the ways this strategy is planning to achieve its aim
- quality of written communication is highly competent

**Some examples of suitable points to be explained by the candidate:**

#### Action area: Prevention

- to develop community based programmes to promote sexual health and wellbeing including the prevention of STIs and HIV/AIDS with particular focus on those most at risk
- to provide opportunities for young people in school and youth settings to develop the skills they need for life to support them in appropriately managing their relationships, including sexual lifestyles

#### Action area: Training

- to ensure that general training is provided for staff involved in sexual health issues. To cover core skills and issues such as awareness, attitudes, information, communication skills, sexuality, relationships and sexual health

#### Action area: Services

- to ensure that information on local services is made available and accessible to all those wishing to avail of sexual health services

#### Action area: Research

- to commission relevant research to meet any identified local need

**Action area: Monitoring**

- to oversee the implementation of the action plan
- All other valid points will be given credit.

[10]

- (b) Describe the sexual health services available to individuals in Northern Ireland. (AO1, AO2, AO3)

**Mark Band ([0]–[3])**

Overall impression: basic

- inadequate knowledge and understanding of sexual health services available to individuals in Northern Ireland
- demonstrates a limited ability to apply knowledge and understanding to the question
- demonstrates a limited ability to select appropriate sexual health services
- demonstrates a limited ability to describe these services
- quality of written communication is basic

**Mark Band ([4]–[7])**

Overall impression: reasonable to good

- reasonable to good knowledge and understanding of sexual health services available to individuals in Northern Ireland
- demonstrates a reasonable to good ability to apply knowledge and understanding to the question
- demonstrates a reasonable to good ability to select appropriate sexual health services
- demonstrates a reasonable to good ability to describe these services
- quality of written communication is reasonable to good

**Mark Band ([8]–[10])**

Overall impression: very good to highly competent

- clear knowledge and understanding of sexual health services available to individuals in Northern Ireland
- demonstrates a very good to highly competent ability to apply knowledge and understanding to the question
- demonstrates a very good to highly competent ability to select appropriate sexual health services
- demonstrates a very good to highly competent ability to describe these services
- quality of written communication is very good to highly competent

**Some examples of suitable points to be discussed by the candidate:****Family Planning Association**

- information and advice; local helpline available, skilled and trained staff provide confidential information and advice on contraception, sexually transmitted infections, pregnancy choices, abortion and planning a pregnancy as well as details of all other sexual health services such as sexual health clinics and genitourinary medicine clinics
- unplanned pregnancy; FPA can offer non-judgemental and non-directive counselling, FPA also offer a counselling service for women who have had an abortion

**Genitourinary medicine (G.U.M.) clinics**

- information and advice; NHS run clinic for all aspects of sexual health, free confidential advice and treatment with a male or female doctor, do not need to attend the local clinic or be referred by the GP; health advisors are available to talk about any aspect of sexual health
- tests and treatment; a full range of tests for sexually transmitted infections are available as well as relevant treatment

All other valid points will be given credit.

[10]

20

- 2 (a) Discuss the factors that contribute to a positive energy balance.  
(AO1, AO2, AO3)

**Mark Band ([0]–[3])**

Overall impression: basic

- inadequate knowledge and understanding of energy balance
- demonstrates a limited ability to apply knowledge and understanding to the question
- demonstrates a limited ability to select relevant factors
- demonstrates a limited ability to discuss these factors
- quality of written communication is basic

**Mark Band ([4]–[7])**

Overall impression: reasonable to good

- reasonable to good knowledge and understanding of energy balance
- demonstrates a reasonable to good ability to apply knowledge and understanding to the question
- demonstrates a reasonable to good ability to select relevant factors
- demonstrates a reasonable to good ability to discuss these factors
- quality of written communication is reasonable to good

**Mark Band ([8]–[10])**

Overall impression: very good to highly competent

- clear knowledge and understanding of energy balance
- demonstrates a very good to highly competent ability to apply knowledge and understanding to the question
- demonstrates a very good to highly competent ability to select relevant factors
- demonstrates a very good to highly competent ability to discuss these factors
- quality of written communication is very good to highly competent

**Some examples of suitable points to be examined by the candidate:**

- what individuals eat; diets containing too much fat and sugar, and eating high fat energy dense foods can create an overeating effect and contribute to positive energy balance
- the way individuals eat; more snacking and greater dependence on prepared foods may increase energy intake
- energy output; sedentary lifestyles and low levels of activity contribute to positive energy balance
- psychological factors; depression and emotional distress cause some individuals to overeat leading to a positive energy balance
- socio economic status; cost of healthy food can be prohibitive and low income precludes the use of leisure centres or gym facilities to balance energy

All other valid points will be given credit.

[10]

- (b) Describe the health benefits that the Northern Ireland Physical Activity Strategy (1998–2002) suggests can be achieved through regular exercise. (AO1, AO2, AO3)

AVAILABLE  
MARKS

**Mark Band ([0]–[3])**

Overall impression: basic

- inadequate knowledge and understanding of the Northern Ireland Physical Activity Strategy 1998–2002
- demonstrates a limited ability to apply knowledge and understanding to the question
- demonstrates a limited ability to describe the health benefits achieved through regular exercise
- quality of written communication is basic

**Mark Band ([4]–[7])**

Overall impression: reasonable to good

- reasonable to good knowledge and understanding of the Northern Ireland Physical Activity Strategy 1998–2002
- demonstrates a reasonable to good ability to apply knowledge and understanding to the question
- demonstrates a reasonable to good ability to describe the health benefits achieved through regular exercise
- quality of written communication is reasonable to good

**Mark Band ([8]–[10])**

Overall impression: very good to highly competent

- clear knowledge and understanding of the Northern Ireland Physical Activity Strategy 1998–2002
- demonstrates a very good to highly competent ability to apply knowledge and understanding to the question
- demonstrates a very good to highly competent ability to describe the health benefits achieved through regular exercise
- quality of written communication is very good to highly competent

**Some examples of suitable points to be described by the candidate:**

- control of body weight; regular exercise increases energy output and helps maintain a healthy weight
- reduced risk of heart disease; exercise can help improve the balance of HDL and LDL cholesterol; physical activity helps control weight, reduce blood pressure – all risk factors for CVD
- reduced risk of bowel cancer; regular exercise leads to regular bowel movements, this means that cancer-causing substances in undigested food pass through the bowel more quickly
- improved mental health; regular physical activity reduces the risk of anxiety and stress; exercise seems to have an effect on certain chemicals in the brain so they affect mood and thinking
- joints; lubricates joints; avoids limitation in movement and maintains flexibility
- builds skeletal muscle and bone; increases body strength and reduces risk of osteoporosis

All other valid points will be given credit.

[10]

20

**Section A**

**20**

## Section B

AVAILABLE  
MARKS

Answer any **two** questions from this section

- 3 The British Heart Foundation suggests that an individual can protect their heart and reduce their risk of developing certain heart conditions by making diet and lifestyle changes.

Propose and explain dietary changes and lifestyle advice for preventing cardiovascular disease. (AO1, AO2, AO3)

### Mark Band ([0]–[5])

Overall impression: basic understanding

- inadequate knowledge and understanding of cardiovascular disease
- demonstrates a limited ability to apply knowledge and understanding to the question
- demonstrates a limited ability to propose appropriate dietary changes and lifestyle advice for preventing cardiovascular disease
- demonstrates a limited ability to explain the changes and advice
- quality of written communication is basic

### Mark Band ([6]–[10])

Overall impression: adequate to minimally competent

- adequate to minimally competent knowledge and understanding of cardiovascular disease
- demonstrates adequate to minimally competent ability to apply knowledge and understanding to the question
- demonstrates adequate to minimally competent ability to propose appropriate dietary changes and lifestyle advice for preventing cardiovascular disease
- demonstrates adequate to minimally competent ability to explain the changes and advice
- quality of written communication is adequate to minimally competent

### Mark Band ([11]–[15])

Overall impression: reasonable to good

- reasonable to good knowledge and understanding of cardiovascular disease
- demonstrates a reasonable to good ability to apply knowledge and understanding to the question
- demonstrates a reasonable to good ability to propose appropriate dietary changes and lifestyle advice for preventing cardiovascular disease
- demonstrates a reasonable to good ability to explain the changes and advice
- quality of written communication is reasonable to good

### Mark Band ([16]–[20])

Overall impression: very good to highly competent

- clear knowledge and understanding of cardiovascular disease
- demonstrates a very good to highly competent ability to apply knowledge and understanding to the question
- demonstrates a very good ability to propose appropriate dietary changes and lifestyle advice for preventing cardiovascular disease
- demonstrates a very good ability to explain the changes and advice
- quality of written communication is very good to highly competent

Some examples of suitable points to be proposed and explained by the candidate:

AVAILABLE  
MARKS

**Lifestyle factors**

- stop smoking; smoking damages the arteries; carbon monoxide reduces the amount of oxygen in the blood so less oxygen reaches the heart; the heart has to beat faster raising blood pressure
- reduce stress; stress can increase blood pressure which is a major contributor to heart disease; stress can bring on symptoms of angina
- increase physical activity; reduces blood pressure; reduces central fat deposition related to increased risk of CVD
- moderate alcohol intake; heavy drinking increases risk of CVD particularly binge drinking, which has been associated with raised triglyceride and VLDL levels, associated with sudden death. Some alcoholic beverages may have protective role against CVD due to antioxidant properties

**Dietary factors**

- reduce intake of total fats; replace saturated fats with monounsaturates and cut down on trans fatty acids to reduce blood cholesterol levels
- increase soluble NSP; soluble NSP helps to reduce total and LDL cholesterol
- increase intake of oily fish; eating the recommended two portions of oily fish per week to provide Omega 3 which may help to reduce the risk of cardiovascular disease by reducing the risk of blood clots
- increase fruit and vegetable intake; there is good evidence that eating a diet rich in a variety of fruit and vegetables can help lower the risk of cardiovascular disease because it provides antioxidants which combat damaging free radicals; and soluble fibre, which reduces serum cholesterol levels increases the satiety of the diet
- reduce salt intake; reducing the amount of salt will help to keep blood pressure down and subsequently reduce the risk of cardiovascular disease

All other valid points will be given credit.

[20]

20

- 4 Consider why older people may have an increased risk of developing mental or emotional health problems. (AO1, AO2, AO3)

AVAILABLE  
MARKS

**Mark Band ([0]–[5])**

Overall impression: basic understanding

- inadequate knowledge and understanding of mental and emotional health problems
- demonstrates a limited ability to apply knowledge and understanding to the question
- demonstrates a limited ability to consider why older people may have an increased risk of developing mental or emotional health problems
- demonstrates a limited ability to select suitable reasons why older people are at increased risk of developing these problems
- quality of written communication is basic

**Mark Band ([6]–[10])**

Overall impression: adequate to minimally competent

- adequate to minimally competent knowledge and understanding of mental and emotional health problems
- demonstrates adequate to minimally competent ability to apply knowledge and understanding to the question
- demonstrates adequate to minimally competent ability to consider why older people may have an increased risk of developing mental or emotional health problems
- demonstrates adequate to minimally competent ability to select suitable reasons why older people are at increased risk of developing these problems
- quality of written communication is adequate to minimally competent

**Mark Band ([11]–[15])**

Overall impression: reasonable to good

- reasonable to good knowledge and understanding of mental and emotional health problems
- demonstrates a reasonable to good ability to apply knowledge and understanding to the question
- demonstrates a reasonable to good ability to consider why older people may have an increased risk of developing mental or emotional health problems
- demonstrates a reasonable to good ability to select suitable reasons why older people are at increased risk of developing these problems
- quality of written communication is reasonable to good

**Mark Band ([16]–[20])**

Overall impression: very good to highly competent

- clear knowledge and understanding of mental and emotional health problems
- demonstrates a very good to highly competent ability to apply knowledge and understanding to the question
- demonstrates a very good to highly competent ability to consider why older people may have an increased risk of developing mental or emotional health problems
- demonstrates a very good to highly competent ability to select suitable reasons why older people are at increased risk of developing these problems
- quality of written communication is very good to highly competent.



**Some examples of suitable points to be considered by the candidate:**

- retirement; work may have been a central part of life providing sense of purpose, social network and structure to the day whereas retirement may bring feelings of sadness, rejection, anxiety and fear of what the future may hold
- bereavement; older people tend to see the loss of people close to them over a number of years such as a partner, friends or family members, grief may cause emotional problems of disbelief, denial, guilt and anger
- poor nutrition; many older people have been preparing tasty, flourishing meals for themselves and others over many years, decreased appetite, living alone, missing meals may make older people feel tired, depressed and cold
- sleep; older people have difficulties sleeping, ongoing insomnia or sleep disturbance can lead to tiredness, irritability and difficulty concentrating, long term lack of sleep may cause a mental health problem
- social life; some people find spending more time alone after retirement leads to isolation and a reduction in social commitments, this affects emotional, intellectual and social well being, social component is essential to health and well being
- mental health problems; e.g. dementia, Alzheimer's disease; dementia is one of the diseases that affect the normal working functions of the brain, this can lead to a decline of mental ability, affecting memory, thinking, concentration
- physical health problems; illness and disability, chronic or severe pain can lead to depression
- income; financial worries may lead to anxiety, stress and depression
- loss of independence; through reduced mobility, illness or moving to a nursing home

All other valid points will be given credit.

[20]

20

AVAILABLE  
MARKS

5 Cancer is the second most common cause of death in Northern Ireland.

Examine the main factors which have resulted in cancer becoming a priority health issue for Northern Ireland. (AO1, AO2, AO3)

**Mark Band ([0]–[5])**

Overall impression: basic understanding

- inadequate knowledge and understanding of cancer development
- demonstrates a limited ability to apply knowledge and understanding to the question
- demonstrates a limited ability to examine the main factors which promote cancer development
- demonstrates a limited ability to select relevant factors for this priority health issue
- quality of written communication is basic

**Mark Band ([6]–[10])**

Overall impression: adequate to minimally competent

- adequate to minimally competent knowledge and understanding of cancer development
- demonstrates adequate to minimally competent ability to apply knowledge and understanding to the question
- demonstrates adequate to minimally competent ability to examine the main factors which promote cancer development
- demonstrates adequate to minimally competent ability to select relevant factors for this priority health issue
- quality of written communication is adequate to minimally competent

**Mark Band ([11]–[15])**

Overall impression: reasonable to good

- reasonable to good knowledge and understanding of cancer development
- demonstrates a reasonable to good ability to apply knowledge and understanding to the question
- demonstrates a reasonable to good ability to examine the main factors which promote cancer development
- demonstrates a reasonable to good ability to select relevant factors for this priority health issue
- quality of written communication is reasonable to good

**Mark Band ([16]–[20])**

Overall impression: very good to highly competent

- clear knowledge and understanding of cancer development
- demonstrates a very good to highly competent ability to apply knowledge and understanding to the question
- demonstrates a very good to highly competent ability to examine the main factors which promote cancer development
- demonstrates a very good to highly competent ability to select relevant factors for this priority health issue
- quality of written communication is very good to highly competent

AVAILABLE  
MARKS

**Some examples of suitable points to be examined by the candidate:**

- high levels of overweight and obesity in NI; high energy intakes influences cancer risk by leading to greater adiposity and therefore higher levels of overweight and obesity which is associated with increased cancer risk; women overweight at puberty or post menopause have an increased risk; abdominal fat causes higher than normal levels of hormones and growth factors that promote the growth of cancer cell leading to increased risk of colon and endometrial cancer and possibly pancreas and kidney
- high fat intakes; the traditional NI diet consists of high fat foods; the type of fat as well as the amount of fat is important, polyunsaturated fatty acids n-6 act as promoters and increase tumour incidence; dietary fat causes a greater secretion of bile acids which may be fermented by anaerobic bacteria in the colon to form mutagenic compounds; leading to increased risk of breast, colon and prostate cancer
- high intakes of meat; nitrogenous residues from meat digestion may be metabolised in the large bowel to produce ammonia, ammonia has a promoting link with bowel cancer; processed meats, high in nitrites and nitrates increase N-nitroso compounds which are carcinogenic; individuals consuming more than 60g per day are at greater risk; barbecuing and frying are popular cooking methods which cause polycyclic aromatic hydrocarbons (PAHs) to form which are also thought to be carcinogenic
- high intakes of salt and salt preserved foods is a contributor to stomach cancer
- low intakes of fruit and vegetables; the NI diet is characteristically low in fruit and vegetables and therefore low in protective antioxidants to combat free radicals; the beneficial effects of insoluble fibre present in fruit and vegetables is also lost
- alcohol intakes in NI are high; the consumption of alcohol, especially spirits is a promoting factor for tumours of the upper respiratory tract, mouth, throat as well as the liver; those who drink 7–8 units a day are at greatest risk
- smoking; smoke introduces free radicals into the body which are destructive to cells; heavy smokers increase their risk around fifty times more than non smokers
- low levels of physical activity; exercise reduces the risk of overweight and obesity which in themselves increase the risk of cancer; evidence suggests that physical activity is protective against colon cancer and probably endometrial and breast cancer in post menopausal women
- sun exposure; skin cancer, e.g. malignant melanomas, is the most common type of cancer in NI; people in NI are at higher risk due to their race and skin type; in women the most common site is legs and in men, the head, neck and trunk

All other valid points will be given credit.

[20]

**Section B**

**Total**

**AVAILABLE MARKS**

20

40

60

