



Rewarding Learning

**General Certificate of Secondary Education
2016**

Home Economics

**Unit 1: Diet and Health
and Consumer Awareness**

[GHE11]

THURSDAY 19 MAY, AFTERNOON

**MARK
SCHEME**

General Marking Instructions

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 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 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.

SECTION A – Diet and Health

AVAILABLE
MARKS

1 An ingredients list from a food product is shown below.

Fig. 1

INGREDIENTS: Water, tomatoes , onions, red lentils (4.5%), **wheat flour**, salt, cream, tomato paste, garlic, white pepper, parsley.

(a) State **two** reasons why an ingredients list is useful to consumers. (AO1)

Answers may include any two of the following points:

- gives information on ingredients used in the product so consumers know what they are eating
- consumers can see main ingredients so they can make an informed choice
- ingredients listed in descending order – highest amount first so consumer knows what they are paying for
- allows for comparison with other products so they can choose best value
- consumer may need to know ingredients for health reasons or if food intolerant or allergic.

(2 × [1])

[2]

(b) Explain why wheat flour in this ingredients list is in bold print. (AO1, AO2)

Answers may include the following points:

- there is wheat flour in this product and this contains gluten
 - individuals with coeliac disease are gluten intolerant so cannot eat any food products containing gluten
 - it could cause an unpleasant reaction – nausea, flatulence, tiredness, skin problems.
 - allergens must be highlighted by law
 - bold makes it easier for consumers to see when choosing products
- [1] basic explanation, [2] competent explanation, [3] highly competent explanation.

(1 × [3])

[3]

(c) Flour is a source of carbohydrate. State the amount of energy provided by 1 gram of carbohydrate. (AO1)

Answer 3.75/4 kcal

(1 × [1])

[1]

(d) Write down **three** functions of water. (AO1)

Answers should include any three of the following points:

- required for all bodily fluids, e.g. sweat, saliva, blood, urine
- required as part of many reactions, e.g. digestion
- transports nutrients
- regulates body temperature
- prevents dehydration
- helps remove waste – prevents constipation
- keeps skin healthy
- keeps linings of mucous membranes moist
- lubricates joints
- can prevent headaches
- may improve concentration.

(3 × [1])

[3]

9

2 (a) Tick **three** of the following foods that are good sources of vitamin D. (AO1)

- Oily fish
- Margarine
- Eggs

(3 × [1])

[3]

(b) Write down **one** way of obtaining vitamin D that does not come from food. (AO1)

- Sunlight/the sun
- Supplements

(1 × [1])

[1]

(c) Vitamin D helps the body absorb calcium. Discuss **one** other factor that affects the absorption of calcium. (AO1, AO2)

Answers may include one of the following points:

- food source – calcium from dairy sources more readily absorbed than that from plant sources – green leafy vegetables
- lactose – milk sugar promotes absorption
- foods containing protein – amino acids bind with calcium promoting absorption
- phytates – absorption reduced by presence of phytic acid – found in wholegrains, cereals, pulses
- oxylates – absorption reduced by oxalic acid – found in spinach, rhubarb
- tannins – absorption reduced by tannins found in tea & coffee
- age – absorption becomes less effective with age. Infants and children absorb an estimated 50 – 70 % of dietary calcium, adults only 30 – 50%.
- high alcohol intake reduces absorption
- caffeine reduces absorption

N.B. must state how it affects absorption of calcium – either increases or decreases

[1] basic discussion, [2] competent discussion

(1 × [2])

[2]

AVAILABLE
MARKS

- (d) Older people are at risk of developing osteoporosis. Explain the link between osteoporosis and calcium. (AO1, AO2, AO3)

Answers should include some of the following points:

- osteoporosis is a disease characterised by low bone mass and deterioration of the bone tissue
- osteoporosis may develop from porous bones causing high risk of fractures
- onset of osteoporosis can be reduced by diet rich in calcium
- calcium helps to strengthen bones making them dense – good bone health
- calcium deposited up to the age of 30–35 years results in high peak bone mass – bone is strongest
- lack of calcium results in bones that may be weak, brittle or fragile.

[1] basic explanation, [2] competent explanation, [3] highly competent explanation

(1 × [3])

[3]

- (e) (i) Discuss **two** ways this dish could be changed to increase the calcium content. (AO1, AO2)

Pan fried Chicken with Boiled Potatoes and Carrots

Answers may include the following amendments:

- chicken breasts – could be coated in breadcrumbs – flour is a good source of calcium
- white sauce could be added – addition of flour and milk
- potatoes – could be mashed – addition of milk & butter
- potatoes changed to sweet potatoes
- potatoes – could be served with cheese sauce or grated cheese added
- carrots – could be changed to dark green leafy vegetables, e.g. spinach, kale, broccoli, water cress
- nuts
- natural yoghurt
- cereal topping
- dried fruit

Do not accept: a glass of milk

[1] basic discussion, [2] competent discussion

(2 × [2])

[4]

- (ii) Identify **two** effects on health of having a deficiency of vitamin A. (AO1)

Answers may include any two of the following points:

- leads to poor vision in dim light/night blindness
- delays growth and development
- infection of mucous membranes
- increased risk of developing infections
- skin changes/infections/dry or flaky skin
- poor immune system

(2 × [1])

[2]

- (iii) Explain why it is important to include unsaturated fat in the diet. (AO1, AO2)

Answers may include some of the following points:

- provides essential fatty acids which the body cannot make so must obtain from food
- can reduce blood cholesterol levels so reducing risk of CHD or strokes/prevents blood clots
- can increase HDL (good cholesterol)/decrease LDL (bad cholesterol) – has a positive effect on heart health
- source of omega 3 and omega 6 fatty acids – can be beneficial for heart, blood, brain and joint health.
- if it is used in place of saturated fat it will cause a reduction in this type of fat – beneficial to health
- provides fat soluble vitamins A & D
- provides a concentrated source of energy.

[1] basic explanation, [2] competent explanation [3] highly competent explanation

(1 × [3])

[3]

18

3 Obesity affects many adolescents (12 – 18 years).

- (a) Discuss **two** reasons why obesity is increasing in adolescents. (AO1, AO2)

Answers should include any two of the following points:

- may not have a balanced diet – high calorie intake from excess consumption of high fat content foods
- often a high intake of sugary drinks, snacks, chocolate or sweets – leads to high refined carbohydrate intake
- excess sugar stored as fat if not burnt off during exercise
- may eat fast food often – many fast foods have high amounts of fat leading to excess calorie intake – stored as adipose tissue
- lack of activities that provide exercise, e.g. sports. Must link to burning off calories
- sedentary lifestyle
- family history of obesity
- lack of good mealtime routines – lack of breakfast eaten in morning
- genetic factors affecting appetite, metabolic rate and how the body stores fat
- lack of culinary skills leading to over reliance on takeaway foods.
- advertising of high calorie foods encourages poor food choices
- lack of knowledge about obesity

[1] basic discussion [2] competent discussion

(2 × [2])

[4]

- (b) Diabetes is a health problem that can develop from obesity.

Describe the condition diabetes. (AO1, AO2, AO3)

Answers should include some of the following points:

- the amount of glucose in the blood is too high/blood sugar levels are too high
- insulin is required to help glucose enter the cells
- the body does not produce sufficient insulin
- insulin produced does not work effectively
- there are two types
 - type 1 – cannot make sufficient insulin – insulin dependant
 - type 2 – insulin does not work properly – non-insulin dependant

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

(1 × [3])

[3]

(c) Write down **two** other health problems that could develop from obesity. (AO1)

Answers may include any two of the following points:

- coronary heart disease
- high blood pressure/hypertension
- stroke
- joint problems – strain on hips, knees and back
- psychological problems – depression, mental health conditions
- gallstones
- some types of cancer
- respiratory problems
- mobility problems
- skin conditions, e.g. acne
- high cholesterol

(2 × [1])

[2]

9

4 (a) Explain why food is fortified. (AO1, AO2)

Answers may include any of the following points:

- to enrich staple foods with a nutrient that it does not naturally contain
- to replace nutrients lost during processing
- to improve the nutritional status of a specific group of people who may be deficient in a particular nutrient
- to enrich products for individuals with special diets
- to prevent deficiency disorders.

[1] basic explanation, [2] competent explanation

(1 × [2])

[2]

(b) Discuss the possible health benefits of including probiotic bacteria in the functional food shown below.

(AO1, AO2)

‘Yoghurt containing probiotic bacteria’:

- probiotic bacteria is ‘good’ bacteria which improves the digestive system – this lowers the risk of digestive/bowel problems.
- may reduce eczema especially in children
- improves immune system

[1] basic discussion, [2] competent discussion

(1 × [2])

[2]

(c) State **two** food safety points for storing this yoghurt to reduce the risk of food poisoning. (AO1)

Answers may include the following points:

- store food in the correct place i.e. the fridge or food should be stored at the correct temperature i.e. no more than 5°C
- food should be stored for the correct length of time as shown by the
- ‘use by’ date
- food should be covered if opened.
- store on shelf away from raw meat
- once opened consume within 3 days

(2 × [1])

[2]

6

AVAILABLE
MARKS

5 Pregnant women are advised to avoid certain foods during pregnancy. Analyse this advice, giving specific food examples. (AO1, AO2, AO3)

AVAILABLE
MARKS

Answers may address some of the following points:

- Stilton and soft cheeses made from unpasteurised milk including Brie, Feta, Camembert – risk of listeria – food poisoning bacteria – may lead to miscarriage or early delivery of baby
- cold meats, uncooked meats, ready meals, pate, prepared salads or sandwiches should be avoided as they may contain listeria. Pregnant women are more susceptible to food poisoning bacteria – can have serious effects on unborn baby
- raw and lightly cooked eggs and products made from them – may contain salmonella – cause food poisoning
- liver and pate – contain high levels of vitamin A – can be toxic in excess causing birth defects
- some types of fish, e.g. swordfish and tuna should be avoided as they may contain high levels of mercury which can affect the nervous system of the foetus
- unwashed fruit and vegetables, unpasturised milk or raw and partly cooked meat – may cause toxoplasmosis – causes flu-like symptoms in the mother and can damage the eyes and nervous system of the baby
- alcohol consumption during pregnancy should be avoided as may cause lower birth weight or miscarriage
- shellfish/nuts if nut allergy history in family
- excess consumption of tea/coffee or soft drinks containing caffeine may affect the absorption of many nutrients.

Do not accept general pregnancy advice.

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

Level 1 ([1]–[3])

Overall impression: basic

- Identifies and comments on a few obvious points relevant to the question
- A limited analysis applied in simple terms to the question
- Quality of written communication is basic.

Level 2 ([4]–[6])

Overall impression: competent

- Identifies and comments on some key points relevant to the question
- A competent analysis applied accurately to the question
- Quality of written communication is competent.

Level 3 ([7]–[9])

Overall impression: highly competent

- Identifies and comments on the key points relevant to the question
- A highly competent analysis applied accurately within the context of the question
- Quality of written communication is highly competent.

(1 × [9])

[9]

9

6 Justify the nutritional and dietary advice for a vegetarian. (AO1, AO2, AO3)

AVAILABLE
MARKS

Answers may address some of the following points:

- eat a variety of foods from the five food groups
- vegetarian diets can be low in energy and so consumption of cereals, pulses and nuts should be increased. These are also good sources of protein
- vitamin B₁₂ – vitamin B₁₂ is only found in foods of animal origin, consumption of fortified foods, e.g. breakfast cereals is advised. Eggs, milk and dairy products will also provide a good source of vitamin B₁₂
- calcium – include dairy products and eggs to meet calcium and protein needs
- protein – vegetarian diets are high in protein of low biological value (LBV) and so complementation should be considered to maximise intake of indispensable amino acids, e.g. beans on toast
- fat – if extra dairy foods or cheese is included, ensure that excess saturated fat is not consumed by selecting low fat varieties
- omega 3 – found in dark green leafy veg
- iron – iron can be obtained from non-haem sources, e.g. egg yolk, dried fruit, cereals, green leafy vegetables, nuts, pulses. Vegetarian diets are high in non haem iron which is harder for the body to absorb. Foods rich in vitamin C should be eaten to improve absorption
- be aware of foods that restrict absorption of iron or calcium, e.g. tannins (tea), phytates (cereals and pulses), oxylates (spinach, rhubarb)
- quorn, soya and tofu products can be used to provide extra protein & add variety to the diet, e.g. soya milk, soya beans and TVP.

Must include reference to foods for Level 3

NB **not** supplement

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

Level 1 ([1]–[3])

Overall impression: basic

- Identifies and comments on a few obvious points relevant to the question
- A limited justification applied in simple terms to the question
- Quality of written communication is basic.

Level 2 ([4]–[6])

Overall impression: competent

- Identifies and comments on some key points relevant to the question
- A competent justification applied accurately to the question
- Quality of written communication is competent.

Level 3 ([7]–[9])

Overall impression: highly competent

- Identifies and comments on the key points relevant to the question
- A highly competent justification applied accurately within the context of the question
- Quality of written communication is highly competent.

(1 × [9])

[9]

9

Section A

60

SECTION B – Consumer Awareness

AVAILABLE
MARKS

7 (a) Describe what is meant by the term “consumer”. (AO1, AO2)

- a consumer is someone who buys or uses goods or services – can be either in the public or private sector.

All other valid responses will be given credit.

[1] basic description – only makes reference to either ‘goods’ or ‘services’

[2] competent description – includes **both** ‘goods’ and ‘services’

(1 × [2])

[2]

(b) Explain how the following factors influence shopping. (AO1, AO2)

Answers may include some of the following points:

1. Physiological

- someone with a dietary disorder, e.g. diabetes, CHD may choose foods low in fat or sugar as these will be better for their health
- a consumer concerned about their weight may shop for weight-loss products or services, e.g. gym membership, exercise equipment
- those with an allergy/food intolerance may purchase foods safe to eat.
- foods that may be thought to cause a headache – chocolate, cheese, red wine – may be avoided by some consumers.

2. Social

- consumers may be persuaded to buy a product/service if it is recommended by a friend/family member
- consumers may choose to shop in stores where they have a friendly shopping experience – shopping online to avoid social situation
- brand or store loyalty may be seen as important in some purchasing decisions
- fashion trends amongst some social groups may influence purchases, i.e. peer pressure/influence – celebrities.

All other valid responses will be given credit.

[1] basic explanation, [2] competent explanation

(2 × [2])

[4]

(c) Discuss **two** advantages of using shopping channels as a way of buying goods. (AO1, AO2)

Answers may address any two of the following points:

- more rights – ‘cooling off’ period
- can see products being demonstrated by experts
- can use credit card to purchase – don’t need to have cash
- products can be viewed in comfort of own home and delivered
- may be entertaining depending on the presenter
- detailed information provided on products
- suitable for housebound people or those with dependants
- goods may be cheaper than in shops as they are sold in large numbers
- available 24/7 so useful for people up at night or those with limited time

[1] basic discussion, [2] competent discussion

(2 × [2])

[4]

10

8 (a) A new baby in a family brings many changes in lifestyle.

Explain **two** factors that may make it difficult to manage money when a new baby arrives. (AO1, AO2)

Answers may include any two of the following points:

- may be less money available to pay bills if parent has to give up their job or reduce their hours to part-time
- reduced income during maternity leave
- could be expensive child care costs if parent goes back to work – leaves less available money
- increased household costs due to baby's needs – clothing, equipment, food, etc.
- young age/inexperience – difficulty prioritising needs or wants
- less time available to shop around – may shop in more expensive places, e.g. corner store
- may be very tired due to stress/lack of sleep so may not manage household bills properly
- more demands on time so less opportunity to work out a budget.

[1] basic explanation, [2] competent explanation

(2 × [2])

[4]

(b) Discuss ways a family could save money when shopping for food. (AO1, AO2, AO3)

Answers may address some of the following points:

- buy only what is required or can be used before it goes out of date – check label
- special offers – BOGOF, 'buy one get one half price', 'two for one' etc
- use loyalty/reward points instead of spending money
- shopping online/use comparison sites
- compare prices and shop where there is good value – supermarket or maybe a market if one is available
- buy in bulk and freeze/store extra groceries
- buy cheaper cuts of meat to use in dishes instead of more expensive types
- plan meals and make a list so that they are not tempted to buy extras
- buy goods reduced at the end of the day and use or freeze
- downshifting from premium brand to supermarket own brand
- use coupons or vouchers.

Level 1 ([1]–[2])

Overall impression: basic

- Identifies and comments on a few obvious points relevant to the question
- A limited discussion applied in simple terms to the question.

Level 2 ([3]–[4])

Overall impression: competent

- Identifies and comments on some key points relevant to the question
- A competent discussion applied accurately to the question.

Level 3 ([5]–[6])

Overall impression: highly competent

- Identifies and comments on the key points relevant to the question
- A highly competent discussion applied accurately within the context of the question.

(1 × [6])

[6]

10

9 (a) Many shops have their own store card.

Evaluate the use of store cards as a method of paying for goods. (AO1, AO2, AO3)

Answers may address some of the following points:

Positive

- more convenient and safer than carrying cash
- allows a consumer to borrow money from the card issuer to buy products
- benefits may be offered, e.g. points/discounts/store card holder evening

Negative

- can only be used to purchase goods in that shop/chain
- store cards can encourage impulse buying and excessive spending
- rates of interest are often quite high – can amount to an expensive purchase depending on how quickly it is repaid
- regular monthly payments need to be made to pay off money borrowed on the store card.

Positive and negative points must be included to be awarded maximum marks.

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

[1] basic evaluation, [2] adequate evaluation, [3] competent evaluation, [4] highly competent evaluation

(1 × [4])

[4]

(b) Write down **two** advantages and **one** disadvantage of asking a family member for advice when shopping for a mobile phone. (AO1)

Answers may address some of the following points:

Advantages

- generally available to talk to
- usually more approachable
- relaxed and informal
- they know what type of phone the person likes or dislikes
- can ask questions specifically to get information for your needs
- can offer more personal advice
- will give free advice
- they may have more experience of buying a mobile phone.
- they are reliable/trustworthy

Disadvantages

- they are not product experts
- may be biased against certain mobile phones or stores
- may not have up-to-date awareness of new mobile phones available
- may feel obliged to take their advice whether it's good or not.

(3 × [1])

[3]

(c) Describe **two** situations when a consumer is **not** protected by the Sale and Supply of Goods Act (1994). (AO1, AO2)

Answers may include any two of the following:

- if there was a fault and the consumer was told about it before they purchased the item
- if they examined the item when they bought it and should have seen the fault

- made a mistake when buying the item
- simply changed their mind about the item
- if the product is kept for longer than what is considered a “reasonable time” before bringing a complaint
- goods bought from private seller, e.g. car boot sale – though goods bought from private seller must still be “as described”
- when the consumer causes the fault
- not protected if fair ‘wear and tear’
- choose product for a purpose that is neither obvious or made known to the seller and then finds it is unsuitable

N.B. Sale and Supply of Goods Act applies to brand new and second-hand goods bought from a trader

[1] basic description, [2] competent description

(2 × [2])

[4]

11

10 Describe how the layout of a supermarket can influence a consumer. (AO1, AO2, AO3)

Answers may include any of the following points:

- front entrance of store often clear space and warm air blowing to make consumers feel welcome and stay longer
- freshly baked bread often at entrance of store to tempt consumers when they enter
- best offers are placed to right of front entrance as consumers tend to look to the right on entering a store
- fruit and vegetables placed near front of store – associated with freshness
- luxuries placed at eye-level where they will be more likely to be seen. Lower priced products on lower shelves
- expensive foods placed on the right side of a shelf as people tend to look from left to right
- sweets and magazines placed beside tills for impulse purchases/pester power
- essentials placed at back of store so consumers walk past tempting goods and may buy them
- special offers and impulse purchases placed on end of aisles or separate stand in the middle of floor where consumers slow down – more chance of purchase
- products often grouped together in aisle – encourage consumers to purchase more than they planned, e.g. party foods and associated items such as candles, cake boards.
- Alcohol at the end of the shopping trip as reward/treat

All other valid responses related to store layout will be given credit

Do not accept marketing strategies as focus is supermarket layout

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

Level 1 ([1]–[3])

Overall impression: basic

- Identifies and comments on a few obvious points relevant to the question
- A limited description applied in simple terms to the question
- Quality of written communication is basic.

Level 2 ([4]–[6])

Overall impression: competent

- Identifies and comments on some key points relevant to the question
- A competent description applied accurately to the question
- Quality of written communication is competent.

Level 3 ([7]–[9])

Overall impression: highly competent

- Identifies and comments on the key points relevant to the question
- A highly competent description applied accurately within the context of the question
- Quality of written communication is highly competent.

(1 × [9])

[9]

Section B

Total

**AVAILABLE
MARKS**

9

40

100