

# **GCSE**

# **Home Economics (Food and Nutrition)**

General Certificate of Secondary Education

Unit **B003**: Principles of Food and Nutrition

# Mark Scheme for June 2012

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This mark scheme is published as an aid to teachers and students, to indicate the requirements of the examination. It shows the basis on which marks were awarded by examiners. It does not indicate the details of the discussions which took place at an examiners' meeting before marking commenced.

All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

OCR will not enter into any discussion or correspondence in connection with this mark scheme.

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#### **Annotations**

Annotation	Meaning
?	Unclear
[10]	Benefit of doubt
<b>\</b>	Caret sign to show omission
[MAN]	Not answered question
	Repeat
	Noted but no credit given
	Tick
Vo	Vague

#### **Subject-specific Marking Instructions**

#### Marking crossed out and duplicated answers

OCR currently provides examiners with 'rules' for marking crossed out answers (which may be partially or wholly correct) and duplicated answers. Duplicated answers refer to two (or more) alternative responses to the same question, or responses to more optional questions than required within the paper rubric.

The rules are as follows:

#### Crossed out answers

- where a candidate crosses out an answer and provides an alternative response the crossed out response is not marked and gains no marks
- where a candidate crosses out an answer to a whole question, but makes no second attempt and the inclusion of the answer would not cause a rubric infringement, the assessor should attempt to mark the crossed out response and award marks appropriately.

#### **Duplicated answers**

- normally all responses are marked and the highest mark given
- where alternate answers are provided to a multiple choice question, no mark should be awarded (for example: following a request to tick one box, the candidate ticks two or more boxes)
- where the candidate provides contradictory responses, no mark should be awarded (for example: the candidate writes a statement such as 'water freezes at 0°C this means it is a liquid at -10°C'). The candidate, here, does not seem to understand the context of the 'question'
- where the candidate has adopted a 'scattergun' approach by providing multiple answers to a single response question, no mark should be awarded.

Question	Answer	Marks	Guidance
1 (a)	<ul> <li>Eggs – in the door</li> <li>Mango – Salad drawer</li> <li>Raw fish – bottom shelf or below the chocolate éclairs</li> <li>Chocolate éclairs – 1<sup>st</sup> or 2<sup>nd</sup> shelf (above the raw fish)</li> </ul>	4x1 4	The raw fish must be below the chocolate éclairs.  Do not accept fish in the salad draw.
(b) (i)	<ul> <li>Anchovies</li> <li>Bloater</li> <li>Cacha</li> <li>Carp</li> <li>Eel</li> <li>Herring</li> <li>Husa</li> <li>Jackfish</li> <li>Katia</li> <li>Kipper</li> <li>Mackerel</li> <li>Orange Rough</li> <li>Pangas</li> <li>Pilchards</li> <li>Salmon</li> <li>Sardines</li> <li>Sprats</li> <li>Swordfish</li> <li>Trout</li> <li>Tuna</li> <li>White bait.</li> </ul>	3x1 3	

Question	Answer	Marks	Guidance
(ii)	Vitamin A Vitamin D B-group vitamins Calcium Iodine Fluoride Protein Fat Sodium Chlorine Potassium Phosphorous Omega 6 Zinc	3x1 3	Any named Vitamin B Do not accept Vitamin on its own Do not accept water
(iii)	Fish is a filling food For a balanced diet For variety in the diet Good source of brain food/concentration Decreased risk of heart disease/CHD Decreased risk of strokes Decreased risk of blood clot development. Good for joints/joint health Healthy skin	2x1 2	Do not accept "healthy" unless it is quantified Do not accept 'heart attacks' Do not accept 'lowers cholesterol'
(c) (i)	Pickling/using vinegar/sousing Freezing Salting Smoking	1x1 1	Do not accept 'drying'

Question	Answer	Marks	Guidance
(ii)	Poached Steamed Barbequed (BBQ) Grilled/broiled Fried Stir-fried Cooked in a microwave oven Stewed/casserole Baked Roasting Boil in the bag Smoking	3x1 3	Do not accept 'boiled' on its own
(d)	Nuts or named nut e.g. peanuts/almond/brazil/hazel Gluten/wheat/bread Eggs Soya Cows milk/milk/lactose/dairy food/dairy products/cheese Tartrazine/colouring or named additive e.g. monosodium glutamate/spices Strawberries/kiwi fruits Tomatoes	2x1 2	MAXIMUM of one mark for nuts or named nuts.  Do not accept 'fruit' on its own, fruit needs to be named.
(e)	Do not like the taste Do not like the texture Do not like the smell (when cooking) Religion/beliefs Cultural reasons Family/peer group don't eat fish Do not know how to cook fish Too expensive They are vegetarian/vegan/do not believe in killing animals Environmental objections	2x1 2	'Do not like fish' cannot be awarded unless qualified (i.e.) taste/smell/texture.
	Total	20	

Question	Answer	Marks	Guidance			
			Content	Levels of response		
2	Religion Buddhism	15	More than one religion must be described in order to access the Level 4	This question is marked according to the quality of response.		
	<ul> <li>They are vegetarian – avoidance of meat and meat products</li> <li>Many also avoid dairy products</li> <li>Fasting is regularly practised by Buddhist monks in the afternoon</li> <li>Monks and nuns cannot grow, store or cook food and must rely upon food given to them.</li> <li>Christianity</li> <li>Fasting is sometimes observed. Acts to remind of suffering</li> <li>Before Easter they observe lent (giving up certain foods for lent – 40 days and 40 nights)</li> <li>On good Friday some may avoid eating meat</li> <li>Christmas is celebrated with a feast and traditional foods such as turkey and fruit cake</li> <li>Some will traditionally eat fish on a Friday.</li> <li>Hinduism</li> <li>Do not eat meat from cows or pigs</li> <li>Avoid food that causes harm to animals when made</li> </ul>		response	Marks are allocated according to the quality of the response. Candidates should be able to show their depth of knowledge and understanding, using correct terminology.  In order to achieve a Level 4 response, both areas of religion and culture must be addressed in detail.  If candidates respond by giving answers in a list, they remain in the Level 2 response.  Bullet point answers can only achieve up to the medium level response only.  Level 4 (13-15)  The candidate can describe in detail how culture and lifestyle affects our eating patterns and also explain in detail how religion can affect people's food choices. The answers provided will be detailed and accurate. The candidates Must provide coverage for both parts of the question. The		

Question	Answer	Marks	Guidand	e
			Content	Levels of response
	<ul> <li>Certain foods are eaten as they are believed to contain energies that are absorbed when eaten</li> <li>Vegetarianism is encouraged but not compulsory</li> <li>Some countries prohibit foods such as duck</li> <li>Foods such as alcohol, garlic and onions are avoided or eaten occasionally only</li> <li>Dairy products are consumed to enhance spiritual purity</li> <li>In some communities fasting is practiced.</li> <li>Islam/Muslim</li> <li>The Qur'an sets out the Halal rules, such as:</li> <li>All meat and poultry consumed must be Halal. For the meat or poultry to be Halal the animal has to be slaughtered in a certain way (animals must be alive and healthy and the time of slaughter, killed by a Muslim with one clean cut to the throat while a special dedication (Tasmiya/Shahada) is recited, all blood must be drained from the animal)</li> </ul>			information will be presented in a clear and organised way. A whole range of specialist terms are used with precision. There will be few errors in spelling, punctuation and grammar.  Level 3 (9-12)  The candidate can demonstrate some understanding by describing some aspects of how culture and lifestyle affects eating patterns.  The candidate will provide some explanation as to how religion can affect people's food choices. The candidates must provide coverage for both parts of the question. Information will be offered to support the answer but in general terms with little detail. The information will be offered in a structured format. The candidate can use a range of specialist terms with facility. There may be occasional errors in spelling, punctuation and grammar.  Level 2 (5-8)  The candidate makes some limited descriptions relating to how culture

Question	Answer	Marks		Guidance
			Content	Levels of response
	<ul> <li>Unlaw foods (Haram) include pork and pork products, alcohol, foods that contain emulsifiers made from animal fats, frozen vegetables with sauce, some margarines, drinks containing caffeine and breads containing dried yeast</li> <li>One meal (suhoor) should be eaten before sunrise and the other (Iftar) after sunset. Families often come together to eat during this time</li> <li>Ramadan is 1 month of fasting during daylight hours. This teaches self discipline</li> <li>At the end of the month a big celebration takes place (eid-ul-fitr) for breaking the fast. Gifts are given and parties are held. A set amount of money must also be given to charity.</li> <li>Judaism</li> <li>There are food rules (Kashrut) that are 2,000 years old</li> <li>Food is an important part of the Jewish religion</li> </ul>			and lifestyle affects eating patterns and provide some limited explanations of how religion can affect people food choices. Some information will be relevant, although may lack specific detail. The candidate uses some specialist terms, although these may not always be used appropriately. There may be errors in spelling, punctuation and grammar.  Level 1 (1-4)  The candidate makes vague comments about how religion and culture can affect food choice. Facts may not always relate to the contents. Answers may be ambiguous or disorganised. There will be little or no use of specialist terms. Errors of grammar, punctuation and spellings may be intrusive.  0= no response worthy of credit  If a candidate does not describe or explain, but makes a list/series of points they can achieve a maximum of 8 marks.

Qı	uestion		Answer	Marks	Guidan	ce
					Content	Levels of response
		•	Kosher ('Clean' meat is the only meat that can be eaten (ie) fish with scales and fins and animals that chew the cud and have cloven (split) hooves such as cows and pigs			
		•	Anything 'unclean' (Trefah) such as pork and shellfish is forbidden			
		•	Dairy foods and meat must not be prepared or eaten together. Meaning that there must be separate preparation areas and cooking equipment			
		•	Saturdays work is forbidden so the main meal is a slow cooked meal such as a stew known as cholent. It is prepared the day before and left to cook on a slow heat			
		•	Fasting is part of Judaism.  Fasting from dawn until dawn is practiced on Yom Kippur, the Day of Atonement			
		•	Feasts are also observed such as Rosh Hashanah and Passover Bitter herbs are eaten to remind of suffering.			

Question	Answer	Marks	Gui	idance
			Content	Levels of response
	Rastafarian			
	They eat strictly 'I-tal' meaning			
	food must be natural and clean			
	They do not eat pork			
	Only eat fish under 30cm in length			
	<ul> <li>They eat lots of fruits and vegetables</li> </ul>			
	Coconut oil is used in/for cooking			
	They do not drink alcohol, milk or coffee but do drink herbal teas.			
	Sikhism			
	Many Sikhs are vegetarian			
	On special days meals are eaten at the temple			
	By eating together Sikhs show that they are equal			
	Some Sikhs do not drink alcohol, tea or coffee.			
	Explain how lifestyle could affect			
	eating patterns A Families work or leisure activities can			
	dictate eating patterns			
	How you eat			
	Using hands/chop			
	sticks/plates/leaves/cutlery			

Question	Answer	Marks	Guidance		
			Content	Levels of response	
	Sitting at a table/on the floor/on the go				
	Alone/with others/with family				
	Why people choose to eat				
	For an everyday meal				
	Special occasions				
	Snack				
	<ul> <li>For a sporting event/exercise</li> </ul>				
	Medical reason				
	Comfort food				
	Treats				
	• Cost				
	When people eat				
	Regular meal times/irregular				
	Between meals				
	When hungry				
	Whenever they want to				
	<ul> <li>When they access to food (ie) breaks at work</li> </ul>				
	<ul> <li>Working long hours/occupation</li> </ul>				
	Fasting e.g. Lent/Ramadan				
	Where people choose to eat				
	At home				
	<ul> <li>In a restaurant or take away</li> </ul>				
	In front of the television				
	At work				
	Outdoors				

Question	Answer	Marks	Guidano	ee
			Content	Levels of response
	In the car/public transport			
	Breakfast in bed			
	What people choose to eat			
	Convenience foods/ready meals			
	Take-away			
	Organic food			
	Traditions/Habits			
	Natural Foods			
	Perceived healthy foods/eating			
	Vegetarian/vegan			
	Media press/role models			
	Facilities available (i.e.) Students			
	Total	15		

C	uest	ion		Answer	Marks	Guidance
3	(a)	(i)	•	The date by which the food should be used/eaten by/start to go off/ become unsafe to eat	1x1 1	
		(ii)	•	Change of appearance/change in colour/bruising/sprouting/discolouration Growth of mould Change in texture/lumpy/grainy/slimy/hardening Development of an 'off' flavour/tastes bad/different taste Development of an 'off' smell Water loss/shrinkage/wrinkly outer layer It has curdled	2x1 2	'Smell' or 'flavour' must be qualified Do not accept 'stale'
		(iii)	•	Warmth/suitable temperature/danger zone/ 5-62°C Moisture/water/damp A food supply Time Oxygen/air	2x1 2	Do not accept 'heat'
		(iv)	•	Cream Eggs Milk Meat or named meat Poultry or named poultry Fish and seafood or names fish/seafood Soup Sauce Gravy Cooked rice Yogurt Custard	2x1 2	Candidates can achieve a maximum of ONE mark for naming two foods on the same line (ie) Chicken and turkey would achieve only 1 mark.  Must be "cooked" rice Do not accept 'dairy products' on its own

Question	Answer Using high temperature		Guidance  Do not accept reference to 'growth/multiply' for high
(b)			
	Kills most micro-organisms/bacteria	4	temperature only
	Stops the action of enzymes		
	Takes the food above the 'danger zone'.		
	Drying food		
	<ul> <li>Dehydrates/removes water/moisture level not correct</li> </ul>		
	<ul> <li>Prevents chemical reactions occurring/bacteria cannot multiply/grow</li> </ul>		

Question	Answer	Marks	Guidance
(c)	<ul> <li>Wash hands after going to the toilet and between handling different types of food (ie) meat and dairy – avoid contamination</li> <li>Store foods out of the danger zone – bacteria grow faster in the danger zone increasing the risk of food poisoning</li> <li>Best before date should be adhered to – after this date the food is likely to contain more bacteria and therefore increases the risk of food poisoning</li> <li>Store raw and cooked meat separately – reduces the chance of cross contamination</li> <li>Use separate utensils – for raw and cooked food</li> <li>Store foods according to instructions – Keep out of the danger zone, decrease the risk of food going off before the best before date</li> <li>Make sure food is cooked right the way through – meat should not contain blood/lf food is not cooked long enough or over a hot enough heat the bacteria will not be destroyed</li> <li>Food should be cooked over a high heat – so that bacteria are destroyed and the core temperature reaches at least 72°C. Check with a thermometer</li> <li>Coals need regulating – So the outside is not burnt out before the centre</li> <li>Keep food covered – reduces the chance of cross contamination/contaminated air particles coming into contact with food</li> <li>Clean utensils/bbq – to minimise cross-contamination/clean surfaces</li> <li>Pre-cook food indoors – before putting on the BBQ</li> </ul>	2x2 4	Mix and match explanations proving they are correct.  Do not award two marks for the same explanation.
	Total	15	

C	Question		Answer		Marks	Guidance
4	(a)	(i)	•	1 <sup>st</sup> mark – It contains milk/butter 2 <sup>nd</sup> mark – they cannot digest lactose/milk sugars/cows milk/dairy products	2x1 2	To get the 2 <sup>nd</sup> mark DIGEST must be given.
		(ii)	•	Use soya milk/goats milk/rice milk/oat milk/coconut milk/branded name Use soya margarine Use water instead of milk	1x1 1	Do not accept 'dairy free' or 'lactose free'
	(b)		•	Use wholemeal/brown flour Add raisins/dried fruit or (named)fresh fruit Add nuts (named) – maximum of one Add seeds (named) – maximum of one Add bran Add oatmeal/oats.	2x1 2	Maximum of 1 mark for naming two products from the same line e.g. peanuts and hazelnuts.  Do not accept "fruit"/"nuts" or "seeds" unless qualified or named. The only exception is "dried fruit" which can be awarded a mark.
	(c)		•	Carbon dioxide/Co <sub>2</sub> Water/steam/milk Air Bicarbonate of soda & cream of tartar/sour milk/other acid Baking powder/Self-raising flour	2x1 2	
	(d)		•	The dough rises/mixture rises and expands — water turns to steam/ self raising flour gives of carbon dioxide gas which expands with the heat/air expands (with heat)  Light, spongy/soft texture — the starch and gluten form a fine network  Colour changes to (golden) brown colour — if sugar is used it caramelises to give the colour/glazing with egg or milk/dextrinisation  Texture change — if cheese is added it melts/ fruit softens	2x2 2	Bold is the change.  'colour change' without reference to golden brown or brown does not gain a mark.

Question	Answer	Marks	Guidance
	<ul> <li>Shiny finish – caused by an egg or milk glate</li> <li>Firms – the gluten hardens</li> </ul>	ze	
(e)	<ul> <li>In store announcements</li> <li>Taste sessions/free samples</li> <li>Offers such as buy one get one free</li> <li>End of aisle displays/product placement/wob</li> <li>Celebrity endorsement</li> <li>Money off coupons</li> <li>Posters/banners</li> <li>Recommendations from staff/staff handing of information/fliers/recipe cards/leaflets/store magazine</li> <li>Staff dressed up</li> <li>Have the scone in the 'cafe'</li> <li>TV 's around the store</li> </ul>		
		Total 15	

Q	Question		Answer		Marks	Guidance
5	(a)		•	Age Gender Occupation Lifestyle Hobbies/Level of Physical Activity Body composition/size/weight/obesity Health/illness/convalescence Pregnancy	3x1 3	
	(b)		•	The amount of energy for weight a food product provides	1x1 1	
	(c)	(i)	•	1858kJ 443kcal	1x1 1	Must include the unit
		(ii)	•	3.4g	1x1 1	Must include the unit
		(iii)	•	1.9g	1x1 1	Must include the unit
		(iv)	•	27.4g	1x1 1	Must include the unit
	(d)		•	The minimum amount of energy need to stay alive The energy needed to live and do nothing Energy required when the body is at rest	1x1 1	

Question	Answer	Marks	Guidance
Question (e)	Specific coverage:  When energy intake = energy output = energy balance  When energy intake is less than energy output = weight loss  When energy intake is more that energy output = weight gain  When energy intake is more than energy output:  Weight gain/could become obese  Tiredness/lethargy/concentration  Inability to exercise – joint problems  Increased risk of coronary heart disease/heart attacks/increased cholesterol  Increased risk of diabetes  Increased risk of cancer  Low self esteem/value  Increase blood pressure	Marks 6 3x2	Accept THREE responses referring to either high energy intake OR low energy intake
	<ul> <li>When energy intake is less than energy output:</li> <li>Weight loss</li> <li>Anorexia – reduced or stopped menstrual cycle/infertility</li> <li>Tiredness/lethargy</li> <li>Deficiencies e.g. Vitamins A,D,E,K</li> <li>Lack of growth (children)/stunting/wasting</li> <li>Low self esteem/worth</li> <li>Energy used from fat stores</li> </ul> Total	15	

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