

GCSE

Home Economics (Food and Nutrition)

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

General Certificate of Secondary Education

Mark Scheme for June 2014

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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.

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Annotations

Annotation	Meaning
ВР	Blank Page – this annotation must be used on all blank pages within an answer booklet (structured or unstructured) and on each page of an additional object where there is no candidate response.
?	Unclear
BOD	Benefit of doubt
λ	Caret sign to show omission
×	Cross
LI	Level 1
L2	Level 2
L3	Level 3
L4	Level 4
NAQ	Not answered question
REP	Repeat
SEEN	Noted but no credit given
✓	Tick
VG	Vague
?	Unclear

	Que	stion	Answer	Mark	Guidance
1	а	i	• 1810kJ /430Kcal	1	Must have units
1	а	ii	• 12.2g	1	Must have units
1	а	iii	HamCheeseBreadButter	1	
1	а	iv	For growth/repair/energy/maintenance of cells	1	
1	b		 It contains gluten They cannot eat wheat They are gluten intolerant 	1	Do not accept "cannot eat bread" as it is gluten they cannot eat.
1	С		 Storage In the fridge/between 0°C and 5°C/below 5°C/chill cabinet Reason Ensure it is safe to eat Slows growth of micro-organisms/to reduce the risk of food poisoning It contains ham/cheese/high risk food Should not be left in/keep out of the danger zone 	2x1	One mark for storage. One mark for reason. Do not accept "storage instructions on the pack" as not given on illustration Do not accept "keep cool" or "cooler" Do not accept "not go off" "perishable" "not go bad"
1	d		 Wholemeal bread Seeded bread Granary bread Wholegrain bread Half white and half wholemeal bread (E.g.) 50:50 Add salad or named salad items/vegetables/fruit Add nuts/seeds or named nuts/nut butters/houmus 	2x1 2	Do not accept "brown bread" Wholemeal would be accepted rather than 'bread' Do not accept examples such as "sundried tomato bread" as the change in fibre content would be negligible.
1	е		Filling – less likely to snack between meals/important for weight maintenance/loss/stay	3x3	Do not accept "digestion" Do not accept "heart attacks"

	Question	Answer	Mark	Guidance
	action 1	 fuller for longer/stops over eating To stop constipation – fibre makes faeces bulky so it is passed through the intestines more easily. Helping the intestines stay healthy and work properly. Constipation can give symptoms of feeling bloated, uncomfortable, irritable, tired and unwell. Lack of fibre can cause diverticular disease – associated with constipation, the faeces cause the lining of the intestine to become irritated and damaged (causing the development of small pouches which become painful). Symptoms are pain and discomfort. Decreased risk of cancer – a high fibre intake decreases the risk of developing cancer in the intestines and bowel. Prevent piles – keeps the faeces soft and therefore prevent straining/constipation. Lowers blood cholesterol – help prevent heart disease/CHD/CVD/chronic heart disease 	Mark	Do not accept "heart problems"
2	а	 Freezing Pickling/using vinegar/sousing Bottling Smoking/curing Drying Canning/tinning Controlled atmosphere packing Radiation Vacuum packaging 	2x1 2	Accept named commercial freezing methods. Accept description such as "put into vinegar" Do not accept "Brine" or "refrigeration"
2	b	 Poached Steamed Barbequed/BBQ Grilled Fried 	2x1 2	Do not accept "cook in oven" needs to be 'baked' or 'roasted' Do not accept "boil" on its own, as fish would break apart if boiled straight in water.

	Ques	stion	Answer	Mark	Guidance
			 Stir-fried Baked Cooked in a microwave oven Boil in the bag In pies/sauces/stews/curries/slow cooked Smoked Roasted 		
2	С		 For a balanced diet/follow guidelines/eatwell plate Contains protein/unsaturated fat/fatty acids/omega-3/omega-6/B group vitamins/Vitamin A/Vitamin D/calcium /fluoride/iodine. Brain development/concentration/function. Reduced risk of coronary heart disease/cardiovascular disease/for heart health. Decreased risk of stroke. Decreased risk of blood clot development. Good for joints/joint health. Healthy skin. 	2x1 2	Do not accept "healthy" unless qualified Do not accept "heart attacks" Do not accept "lowers cholesterol" Do not accept "increased brain power/output" Do not accept "healthy hair" Do not accept "fat" has to be "unsaturated" Do not accept "Prevents" but accept "helps to prevent" Accept "Vitamin B" Maximum one mark for named nutrients.
2	d	i	• 6g	1x1 1	Do not accept just "6" the amount has to be quantified ("g" or "grams")

	Questic	n Answer	Mark	Guidance
2	d ii	 Use alternative flavours – Use spices, herbs and pepper instead of salt in dishes/for flavour(s). Cut down on salty foods – such as cheese, processed meats, salted fish, yeast extract, savoury foods, and processed/convenience/take-away foods Buy reduced salt products – such as baked beans canned fish, crisps. Use "low salt" – a low sodium salt alternative. Read labels/check foods – check the salt and sodium content to make informed choices (i.e.) compare products. Be aware of other names for salt – such as sodium & monosodium glutamate (MSG). Be aware of foods/ingredients that contain hidden salt – such as bicarbonate of soda and baking powder. Eat foods naturally low salt - such as fruit and vegetables. Taste food before adding salt – it may not actually need it, it is habit to add the salt. Stay hydrated when cooking – dehydration affects taste buds and perception of saltiness of food. Do not add when cooking/cook own food – taste buds quickly get used to it not being in foods. You know how much has been added. Do not add salt at table – less likely to add salt (by habit) when eating. 	n	Do not accept "eat less salt" unless qualified. Mix and match descriptions and explanations as long as it makes sense.
2	е	BaconStock cubesYeast extract	2x1 2	

Question	Answer	Marks		Guidance
			Content	Levels of response
3	 In store announcements – such as radio or jingles. Tasting/free samples – set up tables (somewhere popular) for people to try the food. Offers – such as buy one get one free or introductory price offers. Displays -end of aisles/product placement/wobblers. Endorsement – From celebrities (on packaging or advertising). Packaging – make the packaging colourful or eye catching. Flyers – could contain money off coupons and information about the product. Posters/banners – in store or in the local area. Recommendations from staff – staff could be handing out information or dressed up. Television adverts – At times suitable to the audience the product is aimed at. Internet – websites/pop ups/reviews/facebook/twitter/ social media. Magazines/newspapers – given away or brought Billboards – Placed in popular areas, usually along roads to attract attention. Competitions – free competitions to win things or toys on or with packs or collect tokens to get gifts. Give products away – maybe as sponsorship at an appropriate event. 	15	Level 4 Checklist Thorough description of advertising. Detailed explanation of influences. Correct terminology Accurate and high level of QWC Well organised response Level 3 Checklist Description makes valid points Explanation lacks detail Use of correct terminology QWC accurate – occasional errors Sub max 8 for list like responses Level 2 Checklist Some relevant information Attempts to explain At least two factors given Generic response Some errors of QWC Level 1 Checklist Vague comments given All descriptive Errors in QWC intrusive Do not accept factors relating to advertising.	Marks are allocated according to the quality of 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 advertising and influences must be addressed in detail. If candidates respond by giving answers in a list, they remain in the Level 2 response. If a candidate does not describe or explain but makes a list/series of points they can achieve a maximum of 8 marks. Level 4 (13-15) The candidate can demonstrate a good understanding of issues that influence people when buying food and offers a comprehensive description of the how a supermarket can advertise a new product. The information will be presented in a clear and organised way. A whole range of specialist terms are used with precision. The candidate can demonstrate the accurate use of

Question	Answer	Marks		Guidance
			Content	Levels of response
	 Explain the different factors: Price/offers – How much money is available to spend/offers make savings in the long term. Familiarity of a product – More likely to buy something you are familiar with. Reputation of product/supermarket/brand/recommendation from friend –a recommendation may mean you try something you wouldn't usually. Bad press. Availability of product/sell by date – You may need a longer sell by date than is available. Time of year influences availability. Lifestyle/time factors – lack of time to cook 		Content	Levels of response spelling, punctuation and grammar. Level 3 (9-12) The candidate can demonstrate some understanding of issues that influence people when buying food and offer good description of the how a supermarket can advertise a new product. 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
	 may mean you buy convenience/quick to cook foods. Special diets – meaning you buy specific things such as low fat or avoid products with nuts (nut allergy sufferers). Occasions/traditions - For example turkey or Christmas cake (Christians at Christmas). 			with facility. There may be occasional errors in spelling, punctuation and grammar. Level 2 (5-8) The candidate makes some valid comments about issues that
	 Personal taste/likes/dislikes – likely to buy things you like, avoid things you don't like. Religion – Certain religions have rules regarding foods that can or can't be eaten. Culture/ethnicity – Some foods may be more culturally acceptable or your tastes are influenced by different flavours/cooking methods/travel/more ethnic food available in supermarkets. Organic – some people like to buy organic over page arganic (i.e.) least posticides/shamingles. 			influence people when buying food and/or makes an attempt to explain how a supermarket can advertise a new product. 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.
	 non-organic (i.e.) less pesticides/chemicals. Fair trade – some people prefer to buy fair trade products (i.e.) ethical reasons. 			Level 1 (1-4) The candidate makes vague comments about issues that

Question	Answer	Marks		Guidance
			Content	Levels of response
	Personal skills – lack of cooking skills might mean you buy food requiring limited preparation or cooking.	on		influence people when buying food and may give one or two suggestions as to how a
	 Facilities - If you only have a micro-wave available to you, it limits the foods you can cook. 			supermarket can advertise a new product. Facts may not always relate to the contents. Answers may be
	 Nutritional information – someone may buy food based on fat/calorie/ protein content specific to their nutritional needs/goals. 			ambiguous or disorganised. There will be little or no use of specialist terms. Errors of grammar,
	Environmental issues/food miles/ carbon foot print/sustainability – someone may wis to limit their environmental impact so would choose food based on these.	h		punctuation and spellings may be intrusive. 0 = no response worthy of credit
	 Animal welfare/safety standards – people may feel animal welfare is important so choos foods that reflect good standards. 	e		
	 Portion size/weight/quantity – must be suitable for how many people you are feeding Eg. If you live on your own large packets of fo may go off before you can eat it all – wasting money. 			
	 Packaging – the colour of the packaging may catch your eye. Or, you choose products bas upon little packaging/environmentally friendly. 	ed		
	 Season/time of year – in more local stores products may not be available all year. Out of season products may be available but they ar more expensive. 	f		
	Food quality/appearance of food – If the product looks mouldy or crushed people are less likely to buy it.			
	 Temperature/climate – certain foods eaten in cold/hot weather 	n		
	Media – such as TV chefs or recipes in			

Question	Answer	Marks	Guidance	
			Content	Levels of response
	magazines			

Question	Answer	Mark	Guidance
	Questio	n 4	
4 a	 It breaks the overnight fast/restore nutrients or enegy used in the night/provides nutrients or energy. Provides energy for the day ahead. Helps concentration (later in the day). If you eat breakfast you are less likely to be hungry/snack (on high fat/sugar/energy foods)/will fill you up Part of a balanced diet/part of the healthy eating guidelines. 	3x1	Do not accept "gets you going" Do not accept "kicks starts metabolism"
4 b	 Wholegrain or named type of cereal – Contains more fibre (increase fibre is one of the guidelines). Slow release energy. Non-sugary cereal – Sugary cereal should be discouraged as it raise blood sugar levels/does not help concentration/ contains too much energy/sugar (reducing sugar is one of the guidelines). Have eggs/meat instead of cereal – This would add a source of protein (balanced diet). Protein is essential for growth and repair/high protein requirement for this age group. Increased satiety/less snacking (weight maintenance is one of the guidelines) Add a piece of fruit or vegetable – (one of the guidelines is to increase fruit and vegetable intake) this would count towards the 5-a-day guideline. Increased fibre intake (one of the guidelines). Increased vitamin/mineral intake. Change the milk for semi or fully skimmed milk – semi skimmed and skimmed milk contain less fat (one of the guidelines is to reduce fat intake, especially saturated fats). Have wholemeal toast – This increases the fibre intake (increase fibre intake). Have reduced sugar jam/no jam/alternative – helps 	4x2	Some candidates may first state the healthy eating guideline and then give an example of a food the teenager should eat to meet this, please credit this. Eg "One of the guidelines is to increase fibre so the teenager could have wholemeal toast instead of white bread". In order to be credited the explanation needs to related to a dietary health guideline. Although we do not recommend the use of brand names they have been given the mark. Maximum of two explanations for the same dietary guideline.

C	uestion	Answer	Mark	Guidance
		control blood sugar levels, reduces calorie content (reduce sugar intake). Alternative (sensible explanation linked to guidelines) – beans, marmite, nut butter, ham, cheese. • Change the drink to water, milk, fruit juice, tea or coffee (without sugar)- (one guideline is to increase fluid intake) water would increase fluid intake. Milk would add calcium. Fruit juice would add vitamins and minerals, it would also count towards 5-a-day. Getting rid of the sugary fizzy drink would reduce the sugar and energy content (decrease sugar and maintain healthy weight are both part of the healthy eating guidelines). Hydration.		
4	С	 Gender Age Physical activity levels/leisure time activities Occupation Pregnancy Lactation/breast feeding Illness Body composition/height 	3	Do not accept a named group of people unless qualified (i.e.) "Elderly or Young people". Do not accept "disability" unless qualified. Do not accept "weight" or reference to weight

Q	uestion	An	swer	Mark	Guidance
4	d			3x2	For full marks vitamin/mineral and function must match.
		Vitamin/Mineral	Function		
		Vitamin B₁ (Thiamin)	Release energy from		Allow one mark for each correctly named vitamin/mineral.
			carbohydrates.		
			Helps growth.		Do not award a mark if the candidate states a function but
			Helps nerves work.		not given a vitamin/mineral.
			Prevents beri-beri.		(1) (1)
		Vitamin B ₂ (Riboflavin)	Release energy (from		"Vitamin B" on own is incorrect.
			carbohydrates/fat/protein).		Vitamin A secondaria accept to a secondition of
		Vitamin B ₃ (Niacin)	Release energy from food.		Vitamin A – eyesight must be qualified.
			Lowers the level of fat in		Vitamin C. Do not accort "hoolthy immuno system"
			the blood.		Vitamin C – Do not accept "healthy immune system"
		Vitania D. (Dantathania	Prevents pellagra.		
		Vitamin B ₅ (Pantothenic acid)	Release energy from food.		
		Vitamin B ₆ (Pyridoxine)	Helps the body use		
			protein, fats and		
			carbohydrates.		
		Vitamin B ₉ (Folate/Folic	Helps the body to use		
		Acid)	protein.		
			Helps make DNA/cells.	-	
		Vitamin B. (Cabalamin)	Brain development.		
		Vitamin B ₁₂ (Cobalamin)	Helps nerves work. Production of new cells.		
			(Pernicious) anemia.		
		Vitamin C (Ascorbic acid)	Helps absorb iron.		
		(Ascorbic acid)	Production of collagen.		
			An antioxidant.		
			Prevents scurvy/		
			skin/gums/tissues/wounds.		
			3		

Question	Ans	wer	Mark	Guidance
	Vitamin A (Retinol/ Beta carotene)	Growth & development. Moist lungs, lining of the throat & digestive system. Keeps skin healthy. Sight in dim light/makes visual purple/prevents night blindness. An antioxidant.		
	Vitamin D (Cholecalciferol)	Helps calcium absorption. Helps to develop strong bones and teeth. Prevent rickets/ osteomalacia.		
	Vitamin E (Tocopherol)	An antioxidant. Maintain healthy cell walls. Reduce the risk of cancer. Reduce the risk of heart disease.		
	Vitamin K	Help blood clot.		
	Calcium	Normal growth of children. Strong bones and teeth. Helps blood clot. Helps nerves and muscles work properly.		
	Iron	Make haemoglobin/ helps to carry oxygen around the body. Prevent anaemia.		
	Sodium	Control the amount of water in body. Helps use energy. Control nerves and muscles.		
	Fluoride	Strengthen bones and		

Question		Answer	Mark	Guidance	
		enamel part of the teeth.			
	lodine	Production of thyroid hormone. Controls metabolic rate. Prevent goitre.			
	Phosphorous	Works in conjunction Calcium (so same function)			
	Magnesium	For strong bones/cells – necessary for the function of some enzymes.			
	Zinc	Helps with wound healing/strengthen immune system			

C	Question	Answer		Guidance	
	Question 5				
5	a	 Stop us losing heat/temperature regulation/insulation Protection of organs/bones Forms cell walls Energy store/gives the body energy Provides fat soluble vitamins (vitamins A, D, E, and K) or any correctly named. Correct growth/development (children) Required as part of a balanced diet/guidelines/eatwell plate. 	2		
5	b	 Put on excess weight/overweight/obesity Stored in the liver (excess fat), putting pressure on the liver (Increased risk of) high blood pressure (Increased risk) of diabetes (Increased risk of) clogged/blocked arteries/CHD/heart attack/heart failure/stroke/raises cholesterol 	2	Do not accept "get fat" Do not accept "put on weight" there needs to be a reference made to excess weight/fat as putting on weight for some people is not a problem. Do not accept "heart problems"	
5	С	 For texture – roasting/frying/sautéing/cakes/battered fish. Cooking medium – roasting/frying. Emulsions – dressings/dips. Adds moisture – on bread/cakes/biscuits. To trap air/rising – creamed cakes/all-in-one cake mixture. Extends shelf life – cakes/bread/biscuits. Shortening – short crust pastry. Prevent food from sticking – greasing tins/frying eggs. Colour – cakes/pastry/biscuits. Binding – shortbread/biscuit based/cakes. 	4	Accept descriptions – (ie) crispness for chips Do not accept "taste" Do not accept "roast potatoes" for colour	

C	uestion	Answer	Mark	Guidance
5	d	It is a part of the food but cannot be seen/fat that cannot be seen/fat you can't see/fat you don't know is there/fat you wouldn't expect	1	Do not accept "not added to food" Do not accept "fat that is naturally present" (not a complete description of hidden fat)
5	е	 Avocado/biscuits/ burgers/cakes/cheese/chips/ chocolate/cream/crisps/egg/fish/fried food/ice- cream/milk/nuts/pastries/pork pies/ready-made meals/sausages 	1	Do not accept "processed foods"
5	f	 A product that saves time or effort A product which makes preparation or cooking easier/quicker A product that has a long shelf life (save shopping time) A product sold in portion controlled/specific packs Food that is processed and partly/totally prepared/ready-made Foods ready to cook/cooked read to heat Food that are instant, need just reconstituting with water A product of food that is easy to store 	1	Do not accept "quick" or "easy" unless qualified (e.g.) "quick to prepare" Do not accept "convenient".

Question	Answer		Guidance
5 g	 Groups Busy people (e.g.) working people, single parents Physically disabled Single people Students Low income people Elderly Caterers Limited skills Large families Reasons They have little time to prepare food. Someone who cannot physically prepare food. Limited energy/motivation to cook/prepare food. Cooking for just them so want single portions. They have limited kitchen facilities (storage/preparation area/ no microwave). They have limited cooking skills. Cooking for large numbers which makes it quicker. Expensive to buy ingredients/cheaper to buy readymeals 	Mark 2x2	The groups and reasons are mix & match as long as the reason makes sense to the group given. Reasons can be repeated for both groups Do not accept "cheaper" unless qualified. Accept "people with limited cooking skills, reason – limited cooking skills" for 2 marks

APPENDIX 1

Use this space for a generic mark scheme grid that applies across the question paper

APPENDIX 2

Use this space if you have extensive subject specific information that is inappropriate to include in section 10 page 3.

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