



General Certificate of Secondary Education

Home Economics: Food and Nutrition 3562

Foundation Tier

Mark Scheme

2007 examination - June series

Mark schemes are prepared by the Principal Examiner and considered, together with the relevant questions, by a panel of subject teachers. This mark scheme includes any amendments made at the standardisation meeting attended by all examiners and is the scheme which was used by them in this examination. The standardisation meeting ensures that the mark scheme covers the candidates' responses to questions and that every examiner understands and applies it in the same correct way. As preparation for the standardisation meeting each examiner analyses a number of candidates' scripts: alternative answers not already covered by the mark scheme are discussed at the meeting and legislated for. If, after this meeting, examiners encounter unusual answers which have not been discussed at the meeting they are required to refer these to the Principal Examiner.

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Foundation Tier

Question 1

- (a) Growth
 Repair
 Energy
 Warmth/protection of organs
 Maintain health
 Function normally
 Healthy blood
 Strong bones and teeth

Any 3 valid points **3 marks**

- (b) (i) 2755 kcal
 2110 kcal **2 marks**

- (ii) Men generally have a larger body size / therefore have a higher metabolic rate **1 mark**

- (iii) Older people generally less active / teenagers are more active / energy needed for growth in young people but older people have stopped growing **1 mark**

- (c) Proteins
 Carbohydrates
 Fats
Any two Must name nutrients
not give examples of foods **2 marks**

- (d) We put on weight /obesity/ Excess energy is stored as body fat **1 mark**
Total 10 marks

Question 2

- (a) Buying less potatoes
 Less green vegetables
 Slightly less processed vegetables
 More fresh fruit
 More processed fruit
 Much more fruit juices
 Any 4 valid points **4 marks**

- (b)

Food	Main nutrient	Benefits to health
Oranges	Vitamin C (38mg)	Iron Absorption Anti-oxidant – prevents free radical damage Makes connective tissue.

		Heals wounds Prevents infection/increases immunity
Low fat yoghurt	Calcium (150mg)	Bone and teeth health.
Olive oil	Total fat (99.9g) Mono-unsaturated fats (73.4 %)	Lowers harmful LDL cholesterol Protects heart
Chickpeas	LBV protein (8.4g) NSP/fibre (5.1g) Carbohydrate/starch (18.2g)	Growth/repair/maintenance Prevents constipation Energy
Oats	Carbohydrate/starch NSP/fibre	Long lasting energy Prevents constipation/speeds up digestion Lower blood cholesterol reduces risk of CHD
Spinach	Iron (1.6mg) Calcium (160mg) Vitamin C (8mg)	Haemoglobin/red blood cells/healthy blood/prevents anaemia Bone health As above

6 marks

No mark for the food but must give a correct response in each of the other boxes.

(c)

Fruit	Advantages	Disadvantages
Fresh	Refreshing Tasty Nutritious Cheap when in season Lots of varieties Provides vitamins A C E	May be expensive Short life Preparation may be needed Waste May be loss of vitamins if not eaten quickly/prepared properly Have to buy frequently
Frozen	Easy to store/storage Will keep for a long time No preparation No waste Ready to eat Cheap Full of vitamins	Limited choice Effects of freezing e.g. vitamin loss/loss of flavour etc loss of texture Needs to be defrosted

Canned	Keeps well/long shelf life Easy to store Handy standby Cheap	Processing may affect colour Texture may be different Vitamin loss May be canned in sugar syrup
Dried	Easy to store Useful for baking Can be eaten as a snack Nutritious High in fibre	Vitamin loss Higher sugar content Texture is different Taste is different

Credit any relevant response. Accept one advantage and one disadvantage for each form of fruit.

8 marks

Total 18 marks

Question 3

(a) Menu 1

Lower in fat – some in cheese
Sugar – no added sugar. Intrinsic in fruit
NSP/Fibre – fruits, jacket potatoes
Salt some in cheese pizza
5 a day / vitamins and minerals in salad and fruit
More starchy foods/slow releasing energy

Criteria bands

1-3 Simple response. Answer mentions dietary guidelines but does not link them to foods

4-6 More detailed response. Guidelines linked to the foods in the menu.

6 marks

(b) Fruit
Vegetables
Cheese
Milk products/yoghurt/fromage frais etc
Dried fruits
Unsalted nuts
Seeds

Credit any suitable snack foods providing it is healthy

2 marks

(c) colour
taste
texture
nutritional needs
likes and dislikes
time of year

money available
 foods available
 what have they already eaten that day
 skills of the cook
 equipment available

Time available to prepare meal.
 Number of people catering for
 Special needs, allergies etc.

5 marks

Credit any 5 suitable responses

Total 14 marks

Question 4

- | | |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------|
| (a) (i) Feta | 1 mark |
| (ii) Cottage cheese | 1 mark |
| (iii) Low fat cheddar | 1 mark |
| (b) (i) Cottage cheese | 1 mark |
| (b) (ii) Cottage cheese | 1 mark |
| (b) (iii) Low fat cheddar | 1 mark |
| (c) Wrap in foil or in a plastic box/greaseproof paper/resealable bags
Store in a cool place/refrigerator
Do not accept Clingfilm unless answer specifies type of Clingfilm suitable for cheese | 2 marks |
| (d) Fat in cheese melts
Protein coagulates
Overcooking makes cheese tough and stringy
Any 2 suitable responses | 2 marks |
| (e) Hardness to bones and teeth
Clotting of blood
Correct functioning of muscles and nerves
Any suitable response | 1 mark |
| (f) Vitamin D | 1 mark |
| | Total 12 marks |

Question 5

(a)

Type of cereal	Product
Oats	Muesli, porridge, flapjack, oatabix, oatmeal/rolled oates, oat cakes etc.
Wheat	Flour, bread, Weetabix, semolina, pasta, bulgar wheat etc.
Rye	Rye bread, crisp breads, flour
Rice	Basmati Rice, rice pudding, rice flour, rice krispies, Rice cakes, paella etc

Accept one example for each cereal**4 marks**

- (b) Wholemeal flour contains the whole of the wheat grain/white is more processed
 Wholemeal flour contains the bran
 More fibre in wholemeal
 100% extraction rate
 Bran layer removed from white flour
 70% extraction for white flour
 White flour is fortified
Any 2 relevant points **2 marks**
- (c) Raising agent/baking powder **1 mark**
- (d) (i) Plain flour **1 mark**
 (ii) SR flour **1 mark**
 (iii) Strong plain flour or strong wholemeal **1 mark**
- (e) Sieving flour
 Rubbing in
 Creaming
 Whisking
 Rolling and folding **2 marks**
Any 2 suitable responses
- (f) Thickens (1)
 Softens (1)
 As temperature increases (1)
 Starch grains swell/absorb liquid (1)
 Starch cells burst (1)
 Gelatinisation (2)
Simple answer 1-2 marks only **6 marks**

Total 18 marks

Question 6

- (a) Microwave oven
Food processor
Blender
Breadmaker
Hand mixer
Steamer
Toaster
Kettle
Electric Grill
Electric Juicer
Deep fat fryer
Rice Maker

Credit any 5

5 marks

- (b) Larder refrigerator/Fridge Freezer
Size and capacity
Storage arrangements inside refrigerator
Space available inside the kitchen
Star rating for frozen food compartment
Additional features e.g. automatic defrosting, digital temperature control
Ice maker
Drinks dispenser
Amount of money available
Manufacturer's name
Energy rating
Adjustable door racks
Split shelves
Bottle grip in door
Guarantee

Any 3 suitable answers

3 marks

- (c) Temperature should be between 1° and 8°C
Don't overload with food
Don't open the door more than necessary, let's warm air in
Store raw foods below cooked foods
Keep food covered
(Defrost regulary) – unless larder refrigerator/clean regulary
Don't put hot food into refrigerator
Do not keep food past its use by date

Any 4 suitable answers

4 marks

Total 12 marks

Question 7

- (a) Wide range of foods
Generally cheaper than local shops
Shop in your own time/own pace
Usually good quality and fresh
Self service
Standards of hygiene good
Multi buy/special offers
Mother and baby rooms
Coffee shops etc
Personal interaction
Any 4 suitable answers **4 marks**
- (b) Shop in the comfort of your own home
Delivered at a time of your convenience
Quick, saves time
Saves travelling/fuel etc
No heavy carrying
Less tempting to impulse buy
Any 4 suitable answers **4 marks**
- (c) Need to be able to use a computer
Need to have a credit card
May be concerned about security
Can make mistakes with regard to quantity ordered
May get alternatives
May not get as long a shelf life as you wish **2 marks**
- Total 10 marks**

Question 8

- (a) **Pregnancy**
Nutritional needs:
Higher energy needs (250 kcal)
Essential fatty acids – brain growth and cell division
Vitamin D – prevents low birth weight
Folate – prevents spina bifida
Calcium – skeleton growth of foetus
Iron – baby's store of iron and to prevent anaemia in mother
Vitamin C – iron absorption
NSP/Fibre – to prevent constipation
Additional protein
- Foods to eat –
- Healthy balanced diet
Dairy foods
Wholemeal cereals
Fruits and vegetables
Red meat (not liver)

- (b) **Old age**
- Nutritional needs:
- Calcium – to maintain bones
 - Vitamin D – for calcium absorption
 - Vitamin C – healing wounds
 - Iron – red blood cells
 - Protein – maintenance
 - Nutrient dense foods
 - NSP/High fibre foods – to prevent constipation
 - Fat – insulation
 - Less energy
- Foods to eat:
- Pulses and cereals
 - Fruit and Vegetables
 - Milk and dairy
 - Margarine/oily fish

Criteria for award of marks

- 0-4** Answer shows only a superficial knowledge of the nutritional needs at different stages of the life cycle and how these needs can be met. Little mention of nutrients by name. No links made between nutritional needs and the types of foods to be eaten. Much repetition. Basic communication skills and poor spelling.
- 5-8** Answer shows a general understanding of the nutritional needs at different stages in the life cycle. Some links made between nutritional needs and foods to eat. A range of nutrients mentioned. Satisfactory communication skills and spelling.
- 9-12** A clear understanding is shown of how nutritional needs differ as we go through life. Candidate is able to show how nutritional needs can be met at all stages of the life cycle. Good range of nutrients mentioned accurately. Satisfactory communication skills and most words spelt correctly.

Maximum of 6 if nutritional knowledge is good but no links are made to food.
Maximum of 6 if candidate only deals with one of the life stages but does so well.

12 marks

Paper total: 106 marks