



ASSESSMENT and
QUALIFICATIONS
ALLIANCE

Mark scheme

June 2003

GCSE

Home Economics: Food and Nutrition

3562

Higher

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Question 1

- (a) (i) 340g e – will accept 340g **1 Mark**
- (ii) 16 June **1 Mark**
- (iii) Oven (conventional) will accept oven
Microwave (oven) will accept microwave **2 Marks, 1 for each**
- (iv) Pasta
Skimmed milk **2 Marks, 1 for each**
- (v) As it does not include the flesh of any animals
(will accept no meat) **1 Mark**
- (vi) 490 (kcal) **1 Mark**
- (vii) 25.2 (g) **1 Mark**
- (b) (i) Growth
Repair
Maintenance
Energy
Body secretions – hormones, antibodies
2 marks, any 2 **2 Marks**
- (ii) Meat
Fish
Eggs
Cheese
Milk **5 Marks**

- (iii) Soya bean/TUP/Tofu
Cereals
Pulses
Mycoprotein
Nuts
Potatoes
3 marks, any 3. Will accept example rather than group name once.
3 Marks

- (ii) Combining LBV proteins/HBV proteins (1) ensure full or LBV and LBV
Compliment of essential (1) amino acids (1)
I= e.g. beans on toast – missing lysine in bread is provided by baked beans.
Lentil soup with bread.
Look for food examples of complementation in answers
Example only does not credit mark
3 Marks

- (iii) **Physical Changes**
Becomes solid/sets/hard (1)
And opaque (1)
- Chemical Changes**
Egg white protein (albumin) (1)
Denatures (1)
Coagulates (1)
At 60°C (1)
Egg yolk proteins (1)
Do this at 70°C (1)
Maximum 5 marks from chemical changes

6 Marks

Total 28 Marks

Question 2

- (a) **Advantages**
Food cooked quickly
Oven does not heat up so safer for user
Less heat destruction/of vitamins
Improves the colour and flavour (some food)/texture
Food spills do not burn
Frozen food can be defrosted/reheating
Food can be cooked and served in same dish/less washing up
Food does not need constant attention
Less fuel
Easy to clean

Disadvantages

Easy to over cook
Food will not become crisp
Irregular shaped foods may affect cooling times
Risk of food poisoning when reheating food
Cold spots
Foods do not brown

8 Marks, maximum six in either section

- (b) (i) Glass
Plastic
Cardboard
China/ceramic
Special microwave dishes

2 Marks, Any 2

- (ii) Microwaves are not reflected off
Therefore absorb some microwaves
Microwaves pass through and into food
Do not contain metal

1 Mark, Any 1

- (c) Use correct power level (1) and cooking time (1)
Heating category – the higher this is then the shorter the cooking time (1)
Allow standing time/stirring (1) to avoid cold spots (1)
Turning in the oven (turntable) (1)
Temperature – use a temperature probe (72°C) (1)

5 Marks

Total 16 Marks

Question 3**Boiling****Advantages**

Cooks quickly
Does not need constant observation
No fat included

Disadvantages

Vitamin loss may be high (vitamin C)
Food may lose texture/become soggy
Food may lose colour – cabbage/sprouts

2 Marks, 1 for each

Roasting**Advantages**

If other items are being roasted at the same time/fuel may be saved
Caramelises/enhanced flavour
Enhanced flavour
Enhanced colour/browned
Crisp texture
Does not need constant attention

Disadvantages

Lots of moisture lost
Food may shrink
Extra fat added
Long cooking time therefore uses more fuel/potentially more dangerous
Cost may only be credited once

2 Marks, 1 for each

Grilling**Advantages**

Quick method of cooking
Healthy method of cooking if only small amount of fat used
Enhanced palatability/colour
Low cost of fuel

Disadvantages

Easily burns
Requires careful timing
Needs constant attention
Needs turning over
Some fat added

2 Marks, 1 for each

Stirfry**Advantages**

Quick method of cooking therefore low fuel cost
Retains vitamins
Colour/texture enhanced

Disadvantages

Easily burned
Needs constant attention
Can over cook vegetables easily
Some fat added

2 Marks, 1 for each

Total 8 Marks

Question 4

- (a) (i) Vomiting
Diarrhoea
Exhaustion
Headache
Fever
Abdominal pain
Rash
Nausea

3 Marks, Any 3

- (ii) Salmonella
Clostridium
Listeria
Campylobacter
Bacillus aureus
E – coli
Staphylococcus (aureus)
Bacillus cereus

2 Marks, Any 2

- (b) Wash worktops with hot soapy water
Use anti bacterial sprays
Leave washing up to air dry
Clean all equipment
Disinfect/bleach kitchen towels/disposal cloths
Prevent cross contamination – explanation of re equipment
Do not have pets in the kitchen
Bin
Clear away waste food
Fly screen

6 Marks, Any 6

- (c) Store fresh meat below cooked meats in fridge
Use different colour chopping boards for meat/vegetables/utensils
Clean all equipment after/before use
Wash hands/surface/equipment in between using raw and cooked meats
Store eggs in boxes
Do not allow raw meat and cooked foods to touch/or foods which are not cooked
Covering cuts
Sneezing
Working when ill
Pests
Covering of foods

3 Marks, Any 3

- (d) Should operate between 1°C and 5°C
 Only open door when necessary
 Prevent cross contamination
 Keep food covered
 Defrost the refrigerator regularly
 Do not place hot food in the refrigerator
 Do not keep beyond the date code
 Do not overload to allow the air to circulate
 Clean regularly – weekly
 Store on correct shelf/place
 Salad and vegetables in box
 Store eggs in boxes

5 Marks, Any 5

- (e) So that food is eaten before it is out of date
 To avoid waste of food/money
 So food is safe to eat
 So food is palatable
 (i.e. crisp and not soggy biscuits)

2 Marks, Any 2

- (f) Dehydrated H₂O unavailable 80% removed
 No moisture
 High temperature kills
 bacteria

2 marks

- Jam H₂O unavailable H₂O part of sugar solution
 Higher concentration 60% sugar
 of sugar
 No moisture

2 marks

- Frozen H₂O unavailable low temperature**
 (ice) - 18°C to - 23°C
 No moisture bacteria dormant/retards bacterial
 growth

2 marks

6 Marks

Total 27 Marks

Question 5

- (a) Compare different types
Read information booklets
Ask opinion of other people
Consult consumer magazines
Ensure guarantee
Shop around for prices/estimates/quotes
Check after sales service
Do not be pressurised
4 Marks, Any 4
- (b) Refund
Replacement
If not merchantable /satisfactory quality/faulty
2 Marks, Any 2
- (c) Controls weighing and measuring equipment
Advises and controls quality systems
Requires quantities/weights of goods to be displayed on packages
2 Marks, Any 2
- (d) To ensure that all food produced and prepared is safe to eat
To prevent the sale of food that may be harmful
To prevent the sale of food that may be contaminated
To make sure that foods actually match the description
To lower the number of food poisoning cases
2 Marks, Any 2
- Total 10 Marks**

Question 6

- (a) Enjoy your food
Eat a variety of different foods
Eat the right amount to be a healthy weight
Eat plenty of foods rich in starch and fibre
Do not eat too much fat/particularly saturated fat/reduce cholesterol
Do not eat sugary foods too often
Look after the vitamins and minerals in your food/eat 5 portions of fruit and vegetables
If you drink, keep within sensible limits
Reduce salt/sodium
8 Marks, Any 8
- (b) To improve the health of the nation (1)
Reduce deaths from heart disease and strokes (1)
Reduce obesity (1)
Reduce diverticular disease (1)/Cancer of the colon (1)
Reduce diabetes (1)

	Reduce dental caries (1) More detailed information Reduce incidences of strokes Reduce incidences of hypertension	3 Marks
(a)	Balanced diet/inclusion of all nutrients More interesting diet/variety taste, texture and colour	2 Marks
(b)	DRV Dietary reference value (1) Amount of food energy (1) and nutrients needed (1) By different groups (1) not for individuals	3 Marks
	RNI Reference nutrient intake (1) Amount of nutrient sufficient for nearly everyone (1) 97% of population (1)	3 Marks
	EAR Estimated average requirement (1) Enough for 50% of population (1) Estimate of the average energy needed (1)	3 Marks
		Total 22 Marks

Question 7

(factors to be discussed)

Marketing methods

Nutritional knowledge

Peer group pressure

Availability of foods

Money

Time available/ready meals/take aways/snacks

Equipment available

Skills

Likes and dislikes

Special nutritional needs/diabetic/vegetarian etc.

Life style/leisure/work/job

Culture/ethnic influences/festivals/tradition/restrictions

Religion/festivals/restrictions/influences

Time of year

Age group

Size of family/household

1 – 5 marks

A basic level of knowledge and understanding has been demonstrated for three or less of the factors listed, with only minimal reference to nutritional requirements.

Little structure to the response. Many inaccuracies in written communication.

6 – 10 marks

A satisfactory level of knowledge and understanding has been demonstrated for at least three factors, with some reference to nutritional requirements and some examples given. Other factors may be addressed briefly.

Evidence of some structure to the response. Some inaccuracies in written communication.

11 – 15 marks

A sound level of knowledge and understanding has been demonstrated for at least four factors with relevant examples given. Other factors may be included in the discussion.

Response has a sound structure. Good level of accuracy for written communication.

16 – 20 marks

A high level of knowledge and understanding has been demonstrated for six or more of the factors listed. Well structured response. A high level of accuracy for written communication.

Total 20 Marks

Paper Total 131 Marks