## X118/301

NATIONAL
QUALIFICATIONS 2007
wednesday, 30 may HOME ECONOMICS 9.00 AM - 11.00 AM HEALTH AND FOOD TECHNOLOGY HIGHER

80 marks are allocated to this paper.
This paper consists of two sections.
Candidates should attempt the following:
Section A-All questions
Section B—Question 1 and any other two questions.
The breakdown of Knowledge and Understanding (KU) and Evaluation (EV) marks are indicated beside each question.

## SECTION A

Attempt ALL questions.
You should spend approximately 30 minutes on this part of the paper.
Marks

1. Name two sources of high biological value protein (HBV). ..... 1
2. Identify two symptoms of food poisoning. ..... 1
3. State two effects of heat on protein. ..... 1
4. Name two food products produced by extrusion. ..... 1
5. Name the manufacturing process that changes oil into solid fat. ..... 1
6. What does the abbreviation TVP stand for? ..... 1
7. Name the organisation responsible for enforcing the Weights and Measures Act 1963. ..... 1
8. State one responsibility of the Food Standards Agency. ..... 1
9. State two advantages of breastfeeding. ..... 2
10. State two areas covered by the Food Safety Act 1990. ..... 2
11. Identify two effects on health which may result from obesity. ..... 2
12. Give one advantage and one disadvantage of functional foods. ..... 2
13. Explain each of the following terms.
(i) Aerobic bacteria
(ii) Anaerobic bacteria2
14. State two benefits of the Hungry for Success initiative. ..... 2

## SECTION B

## Attempt THREE questions from this section: Question 1 and any other TWO questions.

You should spend approximately 30 minutes on each question.

1. (a) The table opposite shows a day's nutrient content of meals eaten by a 16 year old boy who is a vegetarian.

Using your knowledge of nutrition and the information provided, evaluate the suitability of this day's nutritional intake.
(b) List a set of four practical guidelines to help reduce the risk of dental caries in a teenager.
(c) Evaluate the dietary suitability of the following meal for a teenager.

- Sardine pâté and wholemeal toast
- Spaghetti bolognese with broccoli
(d) Explain the inter-relationship between each of the following.
(i) NSP and water
(ii) Carbohydrates and vitamin B complex
(e) Evaluate sodium in the diet.

1. (continued)

| Nutrient content of a day's meals eaten by a 16 year old boy |  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: | :---: |
| Energy <br> $(\mathrm{kJ})$ <br> $(\mathrm{kcal})$ | Protein <br> $(\mathrm{g})$ | Iron <br> $(\mathrm{mg})$ | Vitamin C <br> $(\mathrm{mg})$ | Calcium <br> $(\mathrm{mg})$ | Saturated Fat <br> $(\mathrm{g})$ | Vitamin <br> $(\mu \mathrm{g})$ |
| $12540 \quad 3000$ | 43 | 7 | 78 | 1200 | 83 | 375 |
| \% of total energy <br> intake | 6 |  |  |  | 25 |  |


| Reference Nutrient Intake for Selected Nutrients in UK (per day) |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: |
| for males aged 15-18 |  |  |  |  |


| Estimated Average Requirement for Energy in UK (per day) <br> for males aged 15-18 |  |
| :---: | :---: |
| kJ | kcal |
| 11510 | 2755 |

2. (a) A food manufacturer plans to develop a low cost fish product aimed at the student market. Identify and explain four stages in the development of this product.
(b) Name and explain two sensory tests that could be used to evaluate the suitability of this fish product.
(c) Identify and explain two types of market research which could be used by a food manufacturer.
(d) Evaluate the impact of statutory food labelling for consumers when choosing food.
(e) Evaluate the use of genetically modified (GM) food.
3. (a) Explain how each of the following factors influences a consumer's choice of food.
(i) Available income
(ii) Peer pressure
(iii) Environmental issues
(iv) Geographical location
(b) Identify and explain four ways in which food manufacturers are helping consumers to meet Scottish Dietary Targets.
(c) Evaluate the use of Hazard Analysis Critical Control Point (HACCP) in food manufacture.
(d) Evaluate the use of artificial sweeteners in food products.
(e) Explain the use of each of the following in food preservation.
(i) Salt
(ii) pH
(iii) Freeze-drying
4. (a) Evaluate how each of the following ingredients used in bread making affect the finished product.
(i) Strong wholemeal flour
(ii) Sugar
(iii) Salt
(iv) Yeast
(b) Identify and explain four factors, other than those relating to diet, which could contribute to coronary heart disease (CHD).
(c) Explain the effects of storage, preparation and cooking on Vitamin C.
(d) Explain three areas of responsibility of the Department for Environment, Food and Rural Affairs (DEFRA).
(e) Evaluate the role of each of the following.
(i) Colourings
(ii) Emulsifiers

4 EV

