

General Certificate of Education
June 2006
Advanced Level Examination



HOME ECONOMICS
Unit 6 Food Science and Technology

HEC6

Wednesday 14 June 2006 1.30 pm to 3.00 pm

For this paper you must have:

- an 8-page answer book

You may use a calculator.

Time allowed: 1 hour 30 minutes

Instructions

- Use blue or black ink or ball-point pen.
- Write the information required on the front of your answer book. The *Examining Body* for this paper is AQA. The *Paper Reference* is HEC6.
- Answer **two** questions.
- Do all rough work in the answer book. Cross through any work you do not want marked.

Information

- The maximum mark for this unit is 50.
- The marks for questions are shown in brackets.
- You are reminded of the need for good English and clear presentation in your answers. Quality of Written Communication will be assessed in all answers written in continuous prose.

Answer **two** questions.

Each question carries 25 marks.

- 1 (a) Both starches and proteins have thickening properties. Explain the scientific processes involved when making:
- (i) a white sauce from flour, fat and milk; *(6 marks)*
 - (ii) an egg custard sauce from eggs, milk and sugar. *(7 marks)*
- (b) Using practical examples, explain what is meant by:
- (i) retrogradation; *(4 marks)*
 - (ii) syneresis; *(4 marks)*
 - (iii) dextrinisation. *(4 marks)*
- 2 Assessment of the nutritional value of foods is based upon analysis of the nutrients which they contain. However, nutritional and health benefits derived from food can be improved by using knowledge of nutrient inter-relationships.
- Using specific examples, explain how the following pairs of nutrients work together to improve nutritional benefits:
- (a) thiamine and carbohydrate; *(9 marks)*
 - (b) ascorbic acid and iron; *(8 marks)*
 - (c) calcium and vitamin D. *(8 marks)*
- 3 (a) Describe the nutritional contribution of meat to the UK diet. *(7 marks)*
- (b) Explain the factors which contribute to the sensory qualities of meat during its preparation and cooking. *(12 marks)*
- (c) Discuss why some consumers may choose to eat meat analogues such as myco-protein and textured vegetable protein. *(6 marks)*

4 Using practical examples, describe:

- (a) (i) the role of micro-organisms in food spoilage; *(9 marks)*
- (ii) the beneficial effects of micro-organisms in food production. *(6 marks)*
- (b) Explain the procedures necessary for the hygienic preparation, cooking and storage of food for infants (0-12 months). *(10 marks)*

END OF QUESTIONS

There are no questions printed on this page