

General Certificate of Education
June 2008
Advanced Level Examination



HOME ECONOMICS
Unit 6 Food Science and Technology

HEC6

Thursday 5 June 2008 9.00 am to 10.30 am

For this paper you must have:

- an 8-page answer book
- You may use a calculator.

Time allowed: 1 hour 30 minutes

Instructions

- Use black ink or black ball-point pen. Use pencil only for drawing.
- 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 to be 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) Discuss the current recommendations for dietary fat intake and the ways in which these can be achieved. *(9 marks)*
- (b) Explain each of the following:
- (i) essential fatty acids; *(4 marks)*
 - (ii) trans fatty acids; *(4 marks)*
 - (iii) oxidative rancidity of fats; *(4 marks)*
 - (iv) hydrogenation of fats. *(4 marks)*
- 2 (a) Discuss the concept of a balanced diet taking into account current dietary advice. *(10 marks)*
- (b) Explain the relationship between:
- (i) diet and obesity; *(5 marks)*
 - (ii) diet and high blood pressure; *(5 marks)*
 - (iii) diet and diverticular disease. *(5 marks)*
- 3 There are many methods of making flour mixtures light.
- (a) Describe **three** of these methods, giving a different example for each. *(9 marks)*
- (b) Explain how the chemical structure and behaviour of the following ingredients are used in baking to produce successful end results. Give examples.
- (i) flour
 - (ii) sugar
 - (iii) fat
 - (iv) eggs *(16 marks)*

- 4 (a) Describe the chemical composition of the two main groups of sugars. Give one named example for each group. *(6 marks)*
- (b) Explain the function of sugar in each of the following food products:
- (i) Egg white foam/meringue;
 - (ii) Jam;
 - (iii) Baked egg custard. *(10 marks)*
- (c) Explain the relationship between diet and dental caries. *(9 marks)*

END OF QUESTIONS

There are no questions printed on this page