

General Certificate of Education
January 2007
Advanced Level Examination



HEALTH AND SOCIAL CARE
**Unit 13 The Role of Exercise in Maintaining Health
and Well-Being**

HC13

Thursday 25 January 2007 9.00 am to 11.00 am

For this paper you must have:

- a 12-page answer book.

Time allowed: 2 hours

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 HC13.
- Answer **all** 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 paper is 80.
- The marks for questions are shown in brackets.
- You will be marked on your ability to use good English, to organise information clearly and to use specialist vocabulary, where appropriate.

Answer **all** questions.

There are 20 marks for each question.

- 1** Ali is a young male adult who trains regularly and has developed good aerobic fitness. His dynamic strength and flexibility are excellent.
- (a) (i) What is the measurement of aerobic fitness? *(1 mark)*
- (ii) Explain what is meant by 'good aerobic fitness'. *(4 marks)*
- (iii) Describe the likely long-term effects of regular training on Ali's aerobic fitness. Refer to physiological processes in your answer. *(9 marks)*
- (b) Explain what is meant by excellent:
- (i) dynamic strength *(3 marks)*
- (ii) flexibility. *(3 marks)*
- 2** Alison is an obese 40-year-old. She wants to start an exercise programme at her local gym to help her lose weight.
- (a) (i) Suggest three different safety precautions Alison should take before starting exercise. Give one different reason why each is important. *(6 marks)*
- (ii) Describe two different benefits, other than weight loss, which Alison may gain from following an exercise programme at her local gym. *(4 marks)*
- (b) Explain how following an exercise programme will help Alison lose weight. Refer to physiological processes in your answer. *(10 marks)*

- 3 The following data were recorded using a perceived exertion scale while four 25-year-old females performed an identical exercise. On this scale 0 = no effort and 20 = maximum effort.

Exercise Starts	Perceived Exertion Scale (0–20) Measurements			
	Female A	Female B	Female C	Female D
1 minute	5	5	4	4
2 minutes	8	9	7	5
3 minutes	11	14	11	7
4 minutes	12	19	11	8
Exercise stops				

- (a) (i) Explain, giving reasons, what the data in the table indicate about the relative fitness of the four females. *(10 marks)*
- (ii) Explain the limitations of using a perceived exertion scale. *(2 marks)*
- (b) Further data from female B recorded her BMI as 28 and her peak flow as 300 dm³/min.
- What do these results indicate about female B? *(2 marks)*
- (c) Explain how:
- (i) BMI is calculated *(3 marks)*
- (ii) a peak flow reading is obtained. *(3 marks)*

- 4 Mitchell is an adult male who has Type 1 diabetes and is at risk of developing heart disease.

- (a) Explain how regular exercise can help Mitchell:
- (i) regulate his diabetes *(6 marks)*
- (ii) prevent heart disease. *(4 marks)*
- (b) Walking every day would be good exercise for Mitchell.
- What advice about walking as an exercise should Mitchell be given? *(4 marks)*
- (c) Mitchell finds his illness can be a barrier to regular exercise.
- Give three other common barriers to regular exercise and suggest one different way each may be overcome. *(6 marks)*

END OF QUESTIONS

There are no questions printed on this page