

General Certificate of Education
June 2008
Advanced Level Examination



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

HC13

Friday 6 June 2008 1.30 pm to 3.30 pm

For this paper you must have:

- a 12-page answer book.

Time allowed: 2 hours

Instructions

- Use black ink or black 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 Karin is improving her aerobic fitness by taking regular aerobic exercise.

- (a) (i) What is the measurement of aerobic fitness and in what units is it measured? (3 marks)
- (ii) Explain how regular aerobic exercise will improve Karin's long-term aerobic fitness. Refer to physiological processes in your answer. (7 marks)
- (b) Suggest **three** different aspects of muscular fitness which may be improved by regular exercise. (3 marks)
- (c) Describe how regular exercise may help Karin control stress. (7 marks)

2 Regular exercise may be effective in combating ageing.

- (a) Explain, with reference to physiological processes, how regular exercise can do this. (9 marks)
- (b) Suggest **three** different safety precautions that are necessary before starting exercise. Give **one** different reason why each safety precaution is important. (6 marks)
- (c) Describe the effects of regular exercise on appetite. (5 marks)

3 The following data were obtained during identical exercise performed for five minutes by three adult males.

	Perceived Exertion Scale (0–10)		
	0 – no effort	10 – maximum effort	
	Person A	Person B	Person C
Exercise starts			
1 minute	3	3	2
2 minutes	4	3	3
3 minutes	6	4	5
4 minutes	7	4	6
5 minutes	8	5	7
Exercise stops			

- (a) (i) What conclusions can be drawn from the data in the table? (6 marks)
- (ii) Give **one** strength and **one** limitation of using perceived exertion scales. (2 marks)

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- (b) Tidal volume and Body Mass Index (BMI) were also calculated for the three males over the five minute exercise period.
- (i) Explain how tidal volume is calculated. *(3 marks)*
 - (ii) Explain how Body Mass Index (BMI) is calculated. *(3 marks)*
- (c) Person A's BMI was calculated to be 27, while Person B's was 17.
- (i) What does Person A's BMI result indicate? *(1 mark)*
 - (ii) What does Person B's BMI result indicate? *(1 mark)*
 - (iii) Outline how exercise pulse rates can be used to compare the fitness levels of two individuals. *(4 marks)*
- 4 (a) Suggest **three** common barriers that may prevent people from taking part in regular exercise. For each barrier suggest **one** different way it may be overcome. *(6 marks)*
- (b) (i) Name **two** different diseases that may be prevented by regular exercise. *(2 marks)*
- (ii) Name **two** different diseases that may be regulated by regular exercise. *(2 marks)*
- (iii) Explain how regular exercise can help prevent **or** regulate disease. *(10 marks)*

END OF QUESTIONS

There are no questions printed on this page