

General Certificate of Education
June 2009
Advanced Level Examination



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

HC13

Friday 5 June 2009 1.30pm to 3.30pm

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 Monty has very good aerobic fitness. He is following a training programme and exercises regularly. He is currently trying to increase his dynamic strength.
- (a) (i) Explain what is meant by ‘Monty has very good aerobic fitness’. *(4 marks)*
 - (ii) Give **two** factors other than regular exercise which will affect Monty’s aerobic fitness. *(2 marks)*
 - (b) Outline the short-term physiological effects of training on Monty’s body. *(5 marks)*
 - (c) With reference to **two** activities, explain what is meant by ‘dynamic strength’. *(5 marks)*
 - (d) Describe how regular exercise might affect Monty’s self-esteem. *(4 marks)*
- 2 (a) Outline how regular exercise aids weight control in terms of:
- (i) effects on appetite *(4 marks)*
 - (ii) the energy equation. *(5 marks)*
 - (b) (i) Explain how carrying out a correct warm-up procedure helps prepare the body for exercise. *(7 marks)*
 - (ii) Explain how wearing the appropriate clothing helps when exercising. *(4 marks)*

- 3 The following pulse rate data were recorded from four 30-year-old males before, during and after an identical rowing exercise.

	Pulse rates (bpm)			
	Male W	Male X	Male Y	Male Z
At rest	83	57	62	74
Exercise starts				
1 min	88	59	67	77
2 mins	96	64	75	83
3 mins	106	72	85	91
4 mins	117	81	96	101
Exercise stops				
5 mins	124	85	103	106
6 mins	110	75	91	97
7 mins	101	64	83	89
8 mins	94	59	76	83
9 mins	89	57	71	77
10 mins	87	57	66	74

- (a) (i) What conclusions can be drawn from the resting pulse rates of the four 30-year-old males? *(4 marks)*
- (ii) What conclusions can be drawn about the relative fitness of the four males from their pulse rates during and after exercise? *(8 marks)*
- (b) (i) Male Y's peak flow is $310 \text{ dm}^3/\text{min}$. What does this peak flow recording indicate about Male Y? *(2 marks)*
- (ii) Outline **one** way to measure peak flow. *(4 marks)*
- (c) What is minute ventilation? *(2 marks)*

Turn over for the next question

Turn over ►

4 Trevor works long hours but has little spare cash. He rarely exercises and he is very self-conscious that he is overweight. His nearest facility is the leisure centre which is six miles from his home. Trevor does not drive and would need to change buses to get there. Leisure centre membership is quite expensive.

- (a) Identify **four** different barriers to regular exercise in Trevor's life. For each barrier, suggest **one** different way it might be overcome. *(8 marks)*
- (b) (i) Name **three** different diseases that may be improved by regular exercise. *(3 marks)*
- (ii) Explain how regular exercise may improve or regulate the three diseases you have named. *(9 marks)*

END OF QUESTIONS