

General Certificate of Education
January 2009
Advanced Level Examination



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

HC13

Tuesday 27 January 2009 1.30 pm to 3.30 pm

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 Nikke is a 55-year-old female who has a high VO_2 max, good stamina and mobility. She exercises regularly with other people in a local gym to maintain fitness.
- (a) Explain what is meant by:
- (i) VO_2 max *(4 marks)*
 - (ii) stamina *(2 marks)*
 - (iii) mobility. *(4 marks)*
- (b) With reference to physiological processes, explain how exercising regularly will help Nikke combat the physical effects of ageing. *(8 marks)*
- (c) Other than physical fitness, give **two** benefits that Nikke may gain from regular exercise in the local gym. *(2 marks)*
- 2 A warm-down after an exercise session is very important.
- (a) With reference to physiological processes, explain why a warm-down is needed. *(8 marks)*
- (b) Suggest **two** different principles of good practice and safety, other than a warm-up, which are needed before starting exercise. Give **one** different reason why each is important. *(4 marks)*
- (c) Explain the role of the different food groups associated with powering exercise. *(8 marks)*

3 The following data were obtained from four healthy adult females.

	Adult A	Adult B	Adult C	Adult D
Body Mass Index (BMI)	31	17	29	21
Resting pulse rate (bpm)	85	65	58	72
Recovery time to resting pulse after identical exercise (mins)	8	6	6	4
Perceived exertion during gentle exercise (scale 1–20)	6	4	5	3
Perceived exertion during moderate exercise (scale 1–20)	14	9	10	6

- (a) (i) What do the Body Mass Index calculations indicate about the four adult females? *(4 marks)*
- (ii) Outline the limitations of using Body Mass Index to compare the relative fitness levels of individuals. *(2 marks)*
- (b) Compare the four adult females in terms of their:
- (i) resting pulse rates *(4 marks)*
- (ii) recovery time to resting pulse rates *(4 marks)*
- (iii) perceived exertion records. *(6 marks)*

4 The cost of gym membership can be one barrier to an individual taking regular exercise.

- (a) Give **two** other common barriers to individuals taking part in regular exercise. For each barrier, suggest **one** different way it may be overcome. *(4 marks)*
- (b) Outline a suitable exercise programme for an individual who has very weak muscles following serious illness. *(4 marks)*
- (c) Discuss the role of exercise in helping to prevent diseases and disorders. In your answer refer to **four** named diseases and/or disorders. *(12 marks)*

END OF QUESTIONS

There are no questions printed on this page