

Personal Development, Health
and Physical Education

Section I – Part B (continued)

In your answers you will be assessed on how well you:

- demonstrate an understanding of health and physical activity concepts
- apply the skills of critical thinking and analysis
- illustrate your answer with relevant examples
- present ideas in a clear and logical way

Marks

Question 22 — Factors Affecting Performance (20 marks)

- (a) Describe how an athlete's level of arousal affects performance.

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Athletes arousal levels are shown through the inverted U hypothesis showing the relationship between arousal & performance. When arousal levels are at a central, steady, focused point or when they are ^{at} high performance level, when arousal levels are low, so is the performance level as they may be lacking in interest & motivation, if arousal levels get to high then the athlete may be over anxious & this may lead to mistakes being made.

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Question 22 (continued)

- (b) Discuss how prescribed judging criteria are used to measure the quality of a performance.

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Through the use of prescribed judging criteria the quality of the performance will be measured on a pre-determined or prescribed criteria for example the number of flips and turns in a gymnastics routine. Being judged on prescribed criteria means that the judging is objective & will not be influenced by the assessor. Therefore the quality will be determined of the actual performance & not marked down if assessor does not like you. But can be a disadvantage in that any things in your performance that were done well may not come into the criteria. Prescribed means that it doesn't not necessarily cover all of the individual performers needs & may be suitable for some & not for others.

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Question 22 (continued)

- (c) Analyse the physiological adaptations that occur when an untrained individual undertakes a 20-week aerobic training program. 10

The physiological adaptations to aerobic performance include Heart Rate (resting + during exercise) stroke volume, cardiac output, lung capacity, haemoglobin levels + Blood Pressure also lactate levels. All of the physiological effects are ~~are~~ affected by aerobic training.

Heart Rate - will elevate quickly during performance then plateau out to a steady state. Resting heart rate may be slightly reduced due to the aerobic training.

Stroke volume - is the amount of blood that is pumped per stroke. This will increase but not significantly with aerobic training.

Cardiac output - is the amount of blood pumped in litres per minute again will increase slightly with aerobic performance.

Lung capacity - affects the amount of oxygen that is transferred

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Question 22 (continued)

to the working muscles, therefore the better the lung capacity the higher performance will increase slightly with aerobic performance.

Hemoglobin levels - is the red blood cells that carry oxygen to working muscles will not change with aerobic training they vary depending on perspiration levels.

Blood Pressure - Systolic & diastolic blood pressure react differently to aerobic training one rises slightly & the other stays the same.

Lactate levels - are accumulation of lactic acid in the muscles but it is overcome when aerobic training threshold is reached.

Therefore this athlete that is engaging in aerobic training will benefit in a variety of physiological ways.

End of Question 22