

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

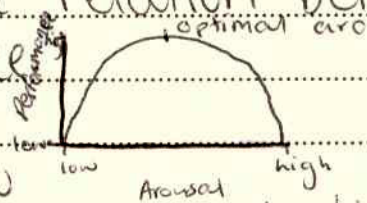
Marks

Question 22 — Factors Affecting Performance (20 marks)

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

4

The level of arousal of an athlete is the level of readiness to compete or perform. Under and/or over arousal can result in the athlete being lacking motivation and feeling lathargic. It is preferred that an athlete is at a level of optimum arousal to ensure they perform to their full potential. The inverted "U" curve illustrates the relation between arousal and performance. For fine motor activities it is preferred to be slightly to left of the point of optimal arousal and slightly to the right for gross motor activities.



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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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The judging or assessment of performance can be subjective or objective. Subjective assessment is based on personal judgement and is greatly affected by bias. Objective assessment on the other hand has set guidelines or criteria to make judgement on, and cannot be argued. Prescribed criteria assist in transforming what ~~may~~ may have been a subjective assessment into a more objective assessment. This prescribed criteria allows for fair assessment of performance and reduces the level of bias involved in ~~judging~~ ~~assessment~~ judging a performance. It allows for even competition and limits discrimination. It allows judges to "tick off" certain goals or achievements of the performer to determine their level of performance.

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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.

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There are both short term and long term physiological adaptations to an individual who undertakes an aerobic training program.

The short term effects include:

~~response~~

- An increase in heart rate
- an increase in ventilation rate
- an increase in lactate build up
- an increase in blood pressure
- an increase in oxygen uptake
- an increase in stroke volume
- an increase in cardiac output
- an increase in body temperature

All of the above physiological changes adaptations occur as the bodies immediate response to aerobic training. These adaptations result in fatigue, sweating, red faced, puffing and a racing pulse.

The long term effects of aerobic

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Question 22 (continued)

training include:

- decreased resting heart rate.
- increased stroke volume
- increased cardiac output
- increased vital ventilation
- increased blood pressure
- increased hemoglobin levels.

All of these physiological adaptations that occur in the long term due to aerobic training result in the individual/athlete being able to recover faster and better from aerobic activity, and a more efficient aerobic energy system with a greater ability in the body to remove lactic acid built up in the muscles and prevent fatigue. The body also becomes more efficient at ~~uses~~ using oxygen for energy.

End of Question 22