Physical Education marking guide and response

External assessment 2025

Combination response (55 marks)

Assessment objectives

This assessment instrument is used to determine student achievement in the following objectives:

1. recognise and explain energy, fitness and training concepts and principles about movement
4. analyse and synthesise data to devise strategies about energy, fitness and training
5. evaluate training strategies about movement
6. justify training strategies about movement
7. make decisions about and use mode-appropriate features, language and conventions to communicate meaning to inform a technical audience.

Note: Objectives 2 and 3 are not assessed in this instrument.

Purpose

This document consists of a marking guide and a sample response.

The marking guide:

- provides a tool for calibrating external assessment markers to ensure reliability of results
- indicates the correlation, for each question, between mark allocation and qualities at each level of the mark range
- informs schools and students about how marks are matched to qualities in student responses.

The sample response:

- demonstrates the qualities of a high-level response
- has been annotated using the marking guide.

Mark allocation

Where a response does not meet any of the descriptors for a question or a criterion, a mark of ‘0’ will be recorded.

Marking guide

Multiple choice

Question	Response
1	C
2	C
3	A
4	D
5	A
6	A
7	D
8	D
9	B
10	B

Short response

Q	Sample response	The response:
11a)	I: lactate threshold II: VO_2 max	• correctly identifies lactate threshold **[1 mark]** • correctly identifies VO_2 max **[1 mark]**
11b)	I: Lactate threshold is defined as the intensity level at which lactate builds up in the body at a faster rate than it can be removed. A high LT allows an athlete to maintain higher intensity efforts for a longer duration. II: VO_2 max is defined as the maximum rate at which the body can draw in and effectively utilise oxygen during exercise. A high VO_2 max allows an athlete to be more efficient at delivering and utilising oxygen to and in the working muscles, sustaining activity without limiting fatigue.	• correctly explains lactate threshold **[1 mark]** • states how lactate threshold enhances performance **[1 mark]** • correctly explains VO_2 max **[1 mark]** • states how VO_2 max enhances performance **[1 mark]**

Q	Sample response	The response:
12a)	1. the aerobic energy system. At various kilometre splits, the athlete works within the aerobic threshold. This can be seen in the kilometre splits at 1, 2, 4, 5, 6 and 10, where the athlete's heart rate is within the aerobic threshold. During these kilometres, the athlete works within the heart rate zone of 60–80% MHR. This falls into an appropriate range for the aerobic energy system. 2. the lactic acid energy system. The athlete also works above the aerobic threshold during the run and requires the anaerobic energy pathway during these sections, as seen in kilometres 3, 7, 8, 9, when the athlete is working at an intensity level that exceeds the aerobic pathway. During these kilometres, the athlete works within the heart rate zone of 80–90% MHR. This falls into an appropriate range for the anaerobic energy system, specifically the lactic acid system.	• correctly identifies a relevant energy system used **[1 mark]** • provides evidence from the table to justify the claim **[1 mark]** • correctly identifies a second relevant energy system used **[1 mark]** • provides evidence from the table to justify the claim **[1 mark]**
12b)	Evidence of the interplay between the two energy systems is seen when the intensity increases and decreases at various moments during the run. For example, the athlete may be going up an incline during kilometre 3, and as a result we can see a dramatic increase in intensity. At this time, the energy pathway, the lactic acid system, would resynthesise ATP using muscle glycogen and glucose stored in the blood, without the presence of oxygen. However, during kilometres 4 and 5 we can see that the percentage of MHR lowers and falls back under the anaerobic threshold and is again supported by the aerobic energy system (carbohydrates), where ATP is resynthesised using oxygen. Evidence shows the interplay across the run between the aerobic and the lactic acid systems, with the aerobic energy system being the most significant contributor. The percentages of MHR do not reflect any significant contribution from the ATP energy system.	• explains the contribution of the aerobic energy system **[1 mark]** • provides evidence from the table to support the explanation **[1 mark]** • references a fuel source for the aerobic energy system **[1 mark]** • explains the contribution of the anaerobic energy system **[1 mark]** • provides evidence from the table to support the explanation **[1 mark]** • references a fuel source for the lactic acid energy system **[1 mark]**

Q	Sample response	The response:
13a)	1: Continuous training 2: Aerobic interval training 3: Fartlek training	• correctly identifies continuous training **[1 mark]** • correctly identifies aerobic interval training **[1 mark]** • correctly identifies fartlek training **[1 mark]**
13b)	Long-distance pool swimming: Continuous training is defined as sustained exercise that is performed at a consistent intensity without rest. Swimming for extended periods of time, holding an intensity level, within the aerobic threshold, would be a useful training method for pool swimming. It is a consistent environment that allows for sustained intensity, enhancing aerobic capacity/efficiency/specificity and enhancing performance. Road cycling: Aerobic interval training is defined as training between moderate- to high-intensity exercise intervals with recovery intervals. This would be a useful training method for a road cyclist. The athlete could train at an intensity of 75-80% MHR and then a minute at recovery work of 50% MHR repeated over a sustained period. This would enable them to increase VO_2 max, increase endurance and improve aerobic efficiency and enhance performance. Cross-country running: Fartlek training is defined as periods of intense running interspersed with periods of lower intensity running, with variations in intensity and duration across the duration of the exercise. Examples include running hard on an incline and then jogging the downhill section, and running a flat road section and then an incline soft sand section (interval or section). The change in environment and intensity would result in the energy pathways moving between aerobic and anaerobic, reflective of the dynamic environment in cross-country running.	• correctly identifies continuous training **[1 mark]** • explains why continuous training is the most suitable **[1 mark]** • provides an example of how it could be applied **[1 mark]** • correctly identifies aerobic interval training **[1 mark]** • explains why aerobic interval training is the most suitable **[1 mark]** • provides an example of how it could be applied **[1 mark]** • correctly identifies fartlek training **[1 mark]** • explains why fartlek training is the most suitable **[1 mark]** • provides an example of how it could be applied **[1 mark]**

Extended response: Question 14

The response:	M	The response:	M	The response:	M	The response, for one limitation:	M	The response, for a second fitness limitation:	M
• justifies two fitness components using evidence from figure 1	3	• justifies one strength for each fitness component of the training session • justifies two limitations for each fitness component of the training session	4	• evaluates the application of training methods and principles in figure 2	4	• devises and effectively justifies one modification • effectively justifies how the modification addresses the limitation	3	• devises and effectively justifies a second modification • effectively justifies how the modification addresses the limitation	3
• identifies two relevant fitness components **OR** • justifies one fitness component using evidence from figure 1	2	• identifies one strength for each fitness component of the training session • identifies two limitations for each fitness component of the training session	3	• describes features of the application of training methods and principles in figure 2	3	• devises a modification • justifies how the modification addresses the limitation	2	• devises a modification • justifies how the modification addresses the limitation	2
• identifies one or two fitness components **OR** • identifies a feature from figure 1	1	• identifies one strength for a fitness component of the training session **OR** • identifies two limitations for a fitness component of the training session	2	• identifies features relating to the application of training methods or principles in figure 2	2	• suggests a change to training session	1	• suggests a change to training session	1
• does not satisfy any of the descriptors above.	0	• identifies one feature relating to relevant fitness components	1	• identifies one feature relating to the application of training methods or principles in figure 2	1	• does not satisfy any of the descriptors above.	0	• does not satisfy any of the descriptors above.	0

The response:	M	The response:	M	The response:	M	The response, for one limitation:	M	The response, for a second fitness limitation:	M
		• does not satisfy any of the descriptors above.	0	• does not satisfy any of the descriptors above.	0				