Physical Education marking guide and response

External assessment 2024

Combination response (59 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.

Where no response to a question has been made, a mark of 'N' will be recorded.

Marking guide

Multiple choice

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

Short response

Q	Sample response	The response:	M	The response:	M
11	Maximum heart rate (MHR) is the approximation of the maximum rate at which a heart can function in beats per minute (BPM). MHR is traditionally estimated by subtracting one's age from 220. A target heart rate (THR) is typically a percentage of MHR that targets a specific heart rate range (considering thresholds). By applying percentages to MHR, specific heart-rate zones and identified areas of improvement can be targeted. The lowest THR believed to produce aerobic benefits is approximately 70% of MHR. This means that for the most effective benefits from an aerobic session, the intensity of the session would fall between 70% and 85% of MHR, with greater benefits occurring at the upper range. Alternatively, the anaerobic zone for THR would be a work intensity over 85% of MHR. Identifying MHR and THR allows training programs and sessions to reflect the specific energy system requirements of the targeted areas of improvement.	• explains THR and MHR	3	• describes the identification and application to the aerobic and anaerobic training zones	3
		• outlines a feature of THR and a feature of MHR	2	• describes the identification and application to the aerobic or anaerobic training zones	2
		• identifies a feature of THR or MHR	1	• makes a statement connecting THR or MHR to a specific energy system	1
		• does not satisfy any of the descriptors above.	0	• does not satisfy any of the descriptors above.	0

Q	Sample response	The response, for strength:	The response, for power:	The response, for endurance:
12	With the application focusing on strength, load should reflect a heavy percentage of the one repetition maximum (1RM), with 2–6 repetitions across 3–5 sets, with a slow and controlled rate of repetition completion. Rest between sets should be approximately 4–6 minutes. The heavy load, and lower set and rep numbers combined with longer rest periods for strength-based recovery, allow for a strength focus. With the application focusing on power, load should reflect a moderate-to-heavy percentage of 1RM, with 2–8 repetitions across 4–5 sets, with a fast and explosive rate of repetition completion. Rest between sets should be approximately 6–8 minutes. The moderate-to-heavy load, set and rep numbers allow for explosive repetitions. Rest allows sufficient recovery to repeat explosive repetitions in future sets, allowing for the power focus. With the application focusing on endurance, load should reflect a low-to-moderate percentage of 1RM, with 20–40 repetitions across 1–3 sets, with a fast and consistent rate of repetition completion. Rest between sets should be 30–90 seconds. The load and duration of rep numbers and sets, allow for sustained/consistent resistance against the muscle, coupled with reduced rest periods for an endurance focus.	• identifies a relevant feature that reflects a strength-focused application **[1 mark]** • describes using two or more relevant features reflecting a strength focused application **[1 mark]** • explains the application of resistance training to a strength-focused application **[1 mark]**	• identifies a relevant feature that reflects a power-focused application **[1 mark]** • describes using two or more relevant features reflecting a power focused application **[1 mark]** • explains the application of resistance training to a power-focused application **[1 mark]**	• identifies a relevant feature that reflects an endurance-focused application **[1 mark]** • describes using two or more relevant features reflecting an endurance focused application **[1 mark]** • explains the application of resistance training to an endurance-focused application **[1 mark]**

Q	The response, for training principle 1:	M	The response, for training principle 2:	M	The response, for training principle 3:	M	The response, for training principle 4:	M
13	• selects and justifies a relevant training principle in the proposed modification to the training plan to optimise the athlete's performance	4	• selects and justifies a relevant training principle in the proposed modification to the training plan to optimise the athlete's performance	4	• selects and justifies a relevant training principle in the proposed modification to the training plan to optimise the athlete's performance	4	• selects and justifies a relevant training principle in the proposed modification to the training plan to optimise the athlete's performance	4
	• selects a relevant training principle that would optimise the athlete's performance • proposes a relevant modification	3	• selects a relevant training principle that would optimise the athlete's performance • proposes a relevant modification	3	• selects a relevant training principle that would optimise the athlete's performance • proposes a relevant modification	3	• selects a relevant training principle that would optimise the athlete's performance • proposes a relevant modification	3
	• selects a training principle that would optimise performance	2	• selects a training principle that would optimise performance	2	• selects a training principle that would optimise performance	2	• selects a training principle that would optimise performance	2
	• identifies a training principle **OR** • identifies a modification to optimise performance	1	• identifies a training principle **OR** • identifies a modification to optimise performance	1	• identifies a training principle **OR** • identifies a modification to optimise performance	1	• identifies a training principle **OR** • identifies a modification to optimise performance	1
	• does not satisfy any of the descriptors above.	0	• does not satisfy any of the descriptors above.	0	• does not satisfy any of the descriptors above.	0	• does not satisfy any of the descriptors above.	0

Modifications to the athlete's program should consider the training principles of progressive overload (PO), frequency, intensity and duration, which all interrelate to encourage optimal training adaptations and progressions.

PO refers to the gradual increase in training load to encourage fitness adaptations. Modifications would include progressive increases in the workload (duration, frequency and intensity). This could initially include progressively increasing distance to eventually reflect the required/competition distance. When aerobic adaptations result, this training principle would continue to be applied with further sessions at higher intensities or longer distances up until tapering is applied at one to two weeks before competition.

Duration refers to the length of each session. This should be reflective of the goal. The athlete's current training session does not reflect the required work period anticipated in the upcoming competition. The athlete currently covers approximately half the distance required by the competition. Duration is interrelated with PO, frequency and intensity and provides specificity in training. Modifications would include increasing the session duration (progressively) to meet the expected work periods of the competition.

Frequency refers to the number of sessions the athlete is completing within a given training period. The athlete's current one session per week is not sufficient to support adaptations or improvements in performance. Modifications would see the number of sessions increase by one session a week, progressing to three to four sessions per week, with consideration given to the athlete's recovery. This would also support the application of the suggested PO modifications.

Intensity refers to the level of workload in training sessions. The athlete's current session intensity is not reflective of the required work rate for effective aerobic progressions. Modifications would see the progressive inclusion of faster cadences or higher target heart rate (THR)/training zone sections for increased speed. This would see physiological adaptations occur and faster completion time over the eight-week timeframe.

Extended response: Question 14

Q	The response:	M	The response:	M	The response:	M

14	• devises a circuit with six stations
	• applies relevant training principles
	• provides detail for all six stations
		6	• provides a comprehensive explanation of
			  – the selected training principles
			  – the features of the conditioning phase
			• provides links between training principles and the fitness and energy requirements
				6	• provides a comprehensive justification of how the devised circuit will optimise the identified fitness and energy requirements for the performance of specialised movement sequence/s for one movement strategy	6

	• devises a circuit with six stations
	• applies relevant training principles
	• provides detail for 4–5 stations
		5	• provides a comprehensive explanation of
			  – the selected training principles
			  – the features of the conditioning phase
				5	• provides a considered justification of how the devised circuit will optimise the identified fitness and energy requirements for the performance of specialised movement sequence/s for one movement strategy	5

	• provides a circuit with four or five stations
	• applies training principles
	• provides detail for 3–4 stations
		4	• provides an explanation of
			  – the selected training principles
			  – the features of the conditioning phase
				4	• provides an appropriate justification of how the devised circuit will optimise the identified fitness and energy requirements for the performance of specialised movement sequence/s for one movement strategy	4

	• provides a circuit with up to three stations
	• applies training principle/s
	• provides limited detail
		3	• describes
			  – the selected training principles
			  – the features of the conditioning phase
				3	• provides a feasible justification of how the devised circuit will optimise the identified fitness and energy requirements for the performance of specialised movement sequence/s for one movement strategy	3

	• provides a circuit with up to three stations
	• identifies elements of a training principle
		2	• describes
			  – features of the selected training principle/s
			  – and/or the features of the conditioning phase
				2	• describes how the devised circuit will optimise performance
					• identifies a feature from the circuit linking to the identified fitness or energy requirement/s
						2

Q	The response:	M	The response:	M	The response:	M
	• identifies partial elements of a circuit/training principle	1	• identifies a feature of a training principle **OR** • identifies a feature of the conditioning phase	1	• describes how the devised circuit will optimise performance **OR** • identifies a feature from the circuit linking to the identified fitness or energy requirement/s	1
	• does not satisfy any of the descriptors above.	0	• does not satisfy any of the descriptors above.	0	• does not satisfy any of the descriptors above.	0