## Physical Education

## General instruction

- Work in this book will not be marked.


## Section 1

## Instruction

- Respond to these questions in the question and response book.


## QUESTION 1

Identify the feature of a training program where exercise is reduced prior to competition to ensure no negative impacts from fatigue.
(A) tapering
(B) recovery
(C) work volume
(D) specific training objectives

## QUESTION 2

Which training method for physical activity has direct links to mobilising joints to maintain and improve range of motion?
(A) circuit training
(B) fartlek training
(C) interval training
(D) flexibility training

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## QUESTION 3

The table shows the combination of energy system contributions for different lengths of running races.

| Event | ATP-PC (\%) | Lactic acid (\%) | Aerobic (\%) |
| :---: | :---: | :---: | :---: |
| 100 m | 53 | 44 | 3 |
| 200 m |  |  |  |
| 400 m | 12 | 50 | 38 |
| 800 m | 6 | 33 | 61 |

Identify the contributions for the 200 m event.

|  | ATP-PC (\%) | Lactic acid (\%) | Aerobic (\%) |
| :---: | :---: | :---: | :---: |
| (A) | 15 | 45 | 40 |
| (B) | 30 | 60 | 10 |
| (C) | 45 | 32 | 23 |
| (D) | 50 | 44 | 6 |

## QUESTION 4

When ATP is resynthesised using muscle glycogen as the fuel in the absence of oxygen, the end product is
(A) adenosine diphosphate.
(B) creatine phosphate.
(C) glucose.
(D) lactate.

## QUESTION 5

The table shows an athlete's fartlek training session.

| Step | Time (in minutes) | Activity |
| :---: | :---: | :--- |
| 1 | 5 | Hard run $-4: 45$ min per km pace |
| 2 | 5 | Easy slow jog |
| 3 | 5 | Hard run $-4: 35$ min per km pace |
| 4 | 5 | Walk |
| 5 | 5 | Hard run $-4: 45$ min per km pace |
| 6 | 5 | Easy slow jog |

Identify what is occurring in steps 2,4 and 6 .
(A) warm-up
(B) cool down
(C) active recovery
(D) passive recovery

## QUESTION 6

An athlete is targeting the lactic acid system.

| Activity | Description |
| :---: | :--- |
| 1 | 1500 m run / 65\% MHR |
| 2 | Rest for 2 minutes |
| 3 | 30 m sprint x 12 <br> Work:rest ratio $1: 10$ |

Identify what modification would allow the athlete to better train to their target.
(A) Increase the intensity of activity 1 and decrease the rest in the ratio for activity 3 .
(B) Decrease the duration of activity 1 and decrease the rest in the ratio for activity 3 .
(C) Increase the intensity of activity 1 and decrease the intensity of activity 3 .
(D) Remove activity 2 and increase the sprint distance for activity 3 .

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## QUESTION 7

The graph shows an athlete's oxygen consumption and blood lactate accumulation during exercise.


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Oxygen consumption
---- Blood lactate accumulation

Determine where the athlete first reaches their $\mathrm{VO}_{2}$ max.
(A) I
(B) II
(C) III
(D) IV

## QUESTION 8

Which training principle is used when an endurance runner introduces full-body resistance training to help improve motivation and muscle imbalances?
(A) progressive overload
(B) individuality
(C) specificity
(D) variety

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## QUESTION 9

The table shows resistance-based training methods.

|  | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ |
| :--- | :---: | :---: | :---: |
| Sets | $3-6$ | $2-3$ | $2-6$ |
| Repetitions | $4-6$ | $12-15$ | $2-4$ |
| Load | $60-80 \%$ | $50-65 \%$ | $85-95 \%$ |
| Rest | 3 minutes between sets | 30 seconds between sets | 3 minutes between sets |

Which training methods correspond with each number?

|  | $\mathbf{1}$ | $\mathbf{2}$ | $\mathbf{3}$ |
| :---: | :---: | :---: | :---: |
| (A) | Muscular power | Muscular endurance | Muscular strength |
| (B) | Muscular power | Muscular strength | Muscular endurance |
| (C) | Muscular strength | Muscular endurance | Muscular power |
| (D) | Muscular strength | Muscular power | Muscular endurance |

## QUESTION 10

Identify the main limiting factor for continued exercise when operating above the lactate threshold.
(A) glycogen depletion
(B) aerobic system exhaustion
(C) creatine phosphate accumulation
(D) lactic acid accumulation in the working muscles

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