1.10 Recovery from Exercise: EPOC and Oxygen Debt: 10-minute Pack

AQA 8582 · Calculators not allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer the questions. Write full sentences for any 3-mark or higher question. Allow approximately 10 minutes for this pack.

1 Define Excess Post-Exercise Oxygen Consumption (EPOC) as it applies after a sprint session in athletics.

(Total for Question 1 is 1 mark)

2 State what is meant by 'oxygen debt' following a short, intense 400 m race.

(Total for Question 2 is 1 mark)

3 Name one practical recovery method that involves continuing to move at low intensity immediately after an anaerobic training set, as used by a track cyclist.

(Total for Question 3 is 1 mark)

4 Name one food type an athlete should eat within two hours after an anaerobic weight training session to help replace glycogen, and state why it is appropriate.

(Total for Question 4 is 2 marks)

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5 Suggest one reason why consuming a small amount of protein after anaerobic exercise is useful for recovery.

(Total for Question 5 is 1 mark)

6 State one practical recovery method that specifically helps prevent blood pooling in the legs immediately after repeated sprint work and say how it does so.

(Total for Question 6 is 1 mark)

7 Identify two physiological reasons oxygen debt occurs during very intense activity such as a maximal sprint.

(Total for Question 7 is 2 marks)

8 State two components an athlete should replace in the 30 minutes after an anaerobic rugby training session for effective recovery.

(Total for Question 8 is 2 marks)

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Mark scheme · 1.10 Recovery from Exercise: EPOC and Oxygen Debt: 10-minute Pack

Question 1

a sustained elevation of oxygen uptake after exercise compared with resting levels, oe **B1**

Answer: A sustained elevation of oxygen uptake after exercise compared with resting levels.

Question 2

the amount of extra oxygen required after exercise to restore the body to its resting state following anaerobic energy use, oe **B1**

Answer: The amount of extra oxygen required after exercise to restore the body to its resting state following anaerobic energy use.

Question 3

active recovery **B1**

Answer: Active recovery

Question 4

high glycaemic index carbohydrate (e.g. white rice, pasta, or a sports recovery drink) **B1**

it is appropriate because it is rapidly digested and helps restore muscle glycogen quickly, oe **B1**

Answer: High glycaemic index carbohydrate such as white rice or a sports recovery drink; it is appropriate because it is rapidly digested and helps restore muscle glycogen quickly.

Question 5

protein provides amino acids to support muscle repair and recovery, oe **B1**

Answer: Protein provides amino acids to support muscle repair and recovery.

Question 6

active cool-down such as light jogging or walking, it maintains muscle pump action to keep venous return and prevent pooling **B1**

Answer: An active cool-down such as light jogging or walking, it maintains muscle pump action to keep venous return and prevent pooling.

Question 7

oxygen supply to muscles is insufficient to meet immediate energy demand **B1**

energy production relies on anaerobic metabolism leading to lactic acid build-up **B1**

Answer: Oxygen supply is insufficient to meet the immediate energy demand, and anaerobic metabolism produces energy leading to lactic acid build-up.

Question 8

carbohydrate **B1**

fluid (rehydration) or water/electrolytes **B1**

Answer: Carbohydrate and fluid (rehydration, water or fluids with electrolytes).

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