TSSM
Creating VCE Success

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2011 Trial Examination

STUDENT NUMBER

Figures										Letter
Words										

PHYSICAL EDUCATION

Units 3 & 4 –Written examination

Reading time: 15 minutes
Writing time: 2 hours

QUESTION AND ANSWER BOOK

Structure of book

Section	*Number of questions*	*Number of questions to be answered*	*Number of marks*
A	15	15	15
B	14	14	105
			Total 120

- Students are permitted to bring into the examination room: pens, pencils, highlighters, erasers, sharpeners and rulers
- Students are NOT permitted to bring into the examination room: blank sheets of paper and/or white out liquid/tape.
- No calculator is permitted in this examination.

Materials supplied

- Question and answer book of 25 pages.

Instructions

- Print your name in the space provided on the top of this page.
- All written responses must be in English.

Students are NOT permitted to bring mobile phones and/or any other electronic devices into the examination room.

SECTION A – Multiple-choice questions

Instructions for Section A
Answer **all** questions. Choose the response that is **correct** or that **best answers** the question. A correct answer scores 1, an incorrect answer scores 0. Marks are **not** deducted for incorrect answers. If more than 1 answer is completed for any question, no mark will be given.

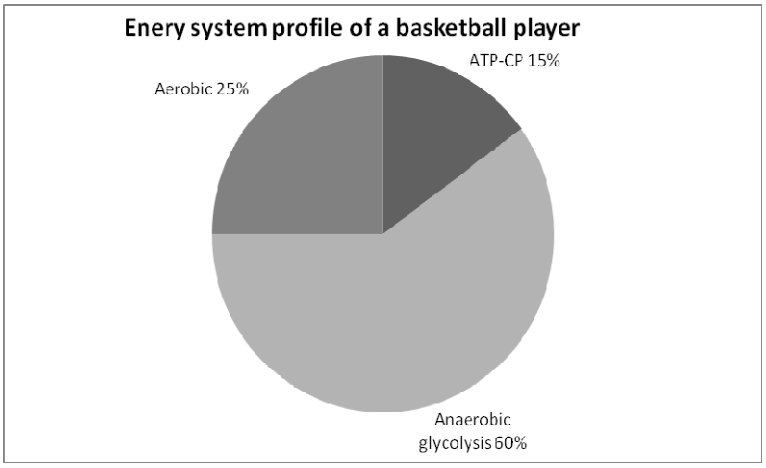
Question 1
Which of the following options shows the correct order of importance of the energy systems during a 400m sprint?
A. Anaerobic glycolysis, ATP-CP, Aerobic lipolysis
B. Anaerobic glycolysis, ATP-CP, Aerobic glycolysis
C. ATP-CP, Anaerobic glycolysis, Aerobic glycolysis
D. ATP-CP, Aerobic glycolysis, Anaerobic glycolysis

Question 2
A perceived benefit of stimulants is that they:
A. reduce fatigue
B. decrease alertness
C. cause insomnia
D. reduce heart rate

Question 3
The work periods and rest periods for a games analysis were calculated to have a work: ratio of 1:7. The dominant system used during the work periods would be:
A. ATP
B. ATP-CP
C. Anaerobic glycolysis
D. Aerobic glycolysis

SECTION A - continued

Question 4



Using the data provided which of the following training methods would be the most appropriate for basketball?

A. Long interval
B. Continuous
C. Fartlek
D. Plyometrics

Question 5

Identify which set of adaptations are most likely to be those of an aerobically trained athlete.

A. increased oxidation of fat, decreased size and number of mitochondria
B. decreased oxidation of fat, increased size and number of mitochondria
C. increased alveoli-capillary surface area and oxidation of fat
D. increased glycogen and CP stores and alveoli-capillary surface area

Question 6

If you were completing a resistance training program with the following protocol, 2 sets of 15 repetitions with a weight 50-60% of your one repetition maximum. Which fitness component would you develop most effectively?

A. Muscular power
B. Local muscular endurance
C. Muscular strength
D. Muscle hypertrophy

Question 7

Which of the following statements regarding the ATP-CP system is correct?

A. Produces 0.7 ATP per PC molecule
B. Has a slow rate of ATP production
C. Has a high yield of ATP
D. Involves complex chemical reactions

Question 8
Ice is often used following games of contact sport or intense training sessions. Why?
A. Decreases blood flow
B. Minimises bruising
C. Reduces swelling
D. All of above

Question 9
Which of the following is the most appropriate progressive overload for a weight training program consisting of 4 sets of 3 repetitions?
A. 5 sets of 3 reps
B. 5 sets of 4 reps
C. 4 sets of 4 reps
D. 4 sets of 2 reps

Question 10
The most appropriate fitness test to assess agility for a basketball player is the:
A. Illinois agility test
B. VicFit agility test
C. Semo agility test
D. 5-0-5 agility test

Question 11
Below is a sample of an interval training program.

Sets	Repetitions	Distance	Rest interval
2	3	400m	90 seconds

Which of type of interval training is being employed?
A. Short
B. Intermediate
C. Fartlek
D. Long

Question 12
An increase in cardiac output at the commencement of exercise is due mainly to:
A. An increased tidal volume
B. A decreased heart rate
C. An increased stroke volume
D. All of above

Question 13
Which of the following factors are most likely to influence the individual component of the socio-ecological model?
A. Knowledge, attitudes and beliefs
B. Parental and sibling influence
C. Availability and access to facilities
D. Mandated time for physical education classes

Question 14
During isokinetic resistance training:
A. The amount of weight being lifted remains constant throughout the range of motion
B. The muscle length remains constant while force is being produced
C. The muscle length shortens while force is being produced
D. The amount of weight being lifted varies throughout the range of motion

Question 15
Which of the following physical activity measures is an objective method of analysis?
A. Recall surveys
B. Observation tools
C. Diaries
D. None of the above

END OF SECTION A
TURN OVER

SECTION B- Short answer questions

Instructions for Section B
Answer **all** questions in the spaces provided. Answer this section using a **pen**.

Question 1

The social-ecological model is used to explain physical activity participation.

a. Identify the four components of the social-ecological model.

i. _____

ii. _____

iii. _____

iv. _____

4 marks

b. With reference to the social-ecological model what is meant by a multi-level intervention approach.

_____

_____

_____

2 marks

SECTION B – Question 1 - continued

c. Using an example for each, explain how two of the components identified above could influence physical activity levels.

Component 1: _____

_____

_____

_____

Component 2: _____

_____

_____

_____

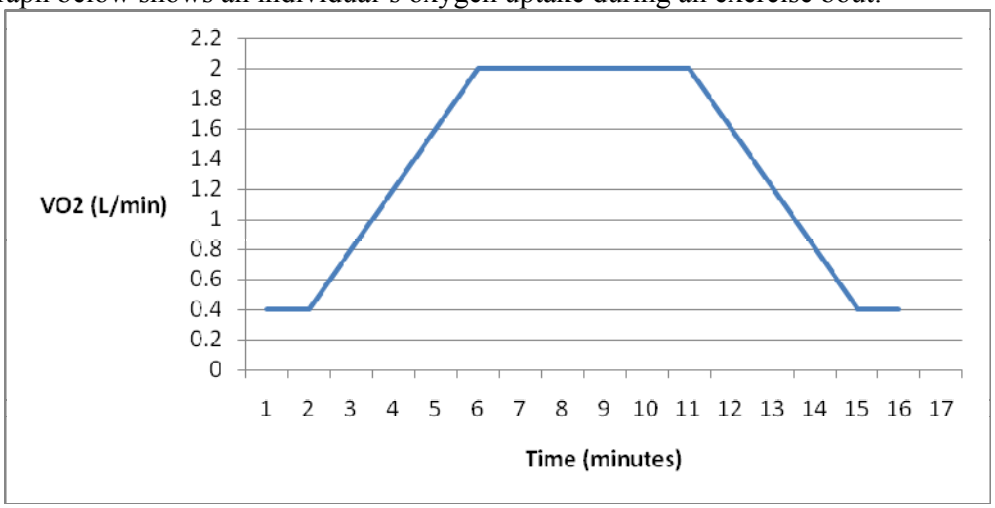
2+2= 4 marks

Total 10 marks

SECTION B – continued
TURN OVER

Question 2

The graph below shows an individual's oxygen uptake during an exercise bout.



a. Referring to the graph above, identify what happens at the 2 minute mark and state why?

_____

_____

_____

2 marks

b. Identify two acute responses, one respiratory and one cardiovascular to exercise that would enable the change identified in Part a. to occur.

Respiratory response: _____

Cardiovascular response: _____

1 + 1= 2 marks

SECTION B – Question 2 - continued

c. Explain what is happening between the 6 and 11 minute marks of the exercise bout.

_____

_____

_____

2 marks

d.

i. Identify the time range that the individual is experiencing excess post exercise oxygen consumption.

_____

ii. How do you know when EPOC has ceased? Make specific references to the graph provided.

_____

1 + 1 = 2 marks
Total 8 marks

SECTION B – continued
TURN OVER

Question 3

Athletes can be intrinsically or extrinsically motivated.

a. Clearly explain the difference between intrinsic and extrinsic motivation providing an example of each.

_____

_____

_____

_____

_____

_____

4 marks

b. Most coaches believe to be intrinsically motivated is of more benefit to athletes. Explain why they would believe this.

_____

_____

_____

_____

2 marks

Total 6 marks

SECTION B – continued

Question 4

a. Circle the correct responses

The National Physical Activity Guidelines aim to promote **fitness / health** benefits of physical activity. For Australian children and youth the NPAGs recommend at least **30 minutes / 60 minutes** of **moderate / moderate to vigorous** physical activity every day.

3 marks

b. Part a. referred to Recommendation 1 for Australian children and youth.

State recommendation 2 for Australian children and youth.

_____

_____

2 marks

Total 5 marks

SECTION B – continued

TURN OVER

Question 5
Ergogenic aids are substances, methods or devices that enhance performance.

a. In the table below match the following legal and illegal substances with the athletes that would be most likely to use that ergogenic aid.

- Beta blockers
- Erythropoietin (EPO)
- Bicarbonate
- Growth hormone

Athlete	Legal/ illegal substance
400m swimmer	
Sprint cyclist	
Archery	
Marathon runner	

4 marks

b. Select one of the athletes from the table above and justify your choice of the ergogenic aid most appropriate for them.

_____

_____

_____

_____

3 marks

c. Outline a potential negative side effect associated with the use of the ergogenic aid discussed in Part b.

_____

_____

1 mark
Total 8 marks

SECTION B – continued

Question 6

At the end of the 2010 AFL season James Hird took over as the Essendon Football Club coach. Under Hird the Essendon players have started their pre-season training for the 2011 season. Many of the players are saying that it is the hardest pre-season training that they have completed.

a. Suggest and outline a physiological recovery method the players can use to ensure that they are 100% recovered for their next training session.

_____

_____

_____

_____

2 marks

b. Suggest and outline a nutritional strategy the Essendon players could use to enhance performance and recovery?

_____

_____

_____

_____

2 marks

c. The mind can be trained as the body can be. Outline a psychological technique the Essendon players could utilise to enhance their performance.

_____

_____

_____

_____

2 marks

SECTION B – continued

d. Outline the process Hird and his staff should go through to develop and evaluate a new effective training program.

_____

_____

_____

_____

_____

_____

4 marks

e. List two types of data Hird and his staff could collect.

1. _____

2. _____

2 marks

f. Explain how each type of data could be used to develop an effective training program.

_____

_____

_____

_____

_____

_____

4 marks
Total 16 marks

SECTION B – continued

Question 7

Carbohydrates are a food fuel for two of the three energy systems that supply our bodies with ATP.

a. Provide a sporting example for each of the two energy systems that use carbohydrates as a food fuel.

_____

_____

2 marks

b. Compare and contrast the two energy systems that use carbohydrates as a food fuel.

_____

_____

_____

_____

_____

_____

4 marks
Total 6 marks

SECTION B – continued
TURN OVER

Question 8

The Hawaii Ironman is a long distance triathlon requiring competitors to complete a 3.86 km swim, 180.25 km bike and a marathon 42.195 km run without a break often in hot conditions.

a. Other than dehydration and heat exhaustion, identify the most likely cause of fatigue for The Hawaii Ironman?

_____

1 mark

b. Explain the consequences of the cause of fatigue identified above to ATP production.

_____

_____

_____

_____

_____

3 marks

Sports drinks are used by triathletes to avoid dehydration.

c. Outline the difference between hypertonic, hypotonic and isotonic drinks sports drinks.

Hypertonic: _____

_____

Hypotonic: _____

_____

Isotonic: _____

_____

1 + 1 + 1 marks

Total 7 marks

SECTION B – continued

Question 9

Place the following methods of assessing physical activity in order from most accurate to most practical.

Recall surveys/diaries Pedometry Accelerometry Observational tools

Most accurate

1. _____
2. _____
3. _____
4. _____

Most practical

Total 4 marks

SECTION B – continued
TURN OVER

Question 10

Meaghan is a state level High Jumper looking to improve her performance to hopefully make the national team. She has been told by her coach she needs to improve her power.

a. Define muscular power.

_____

_____

1 mark

b. Suggest appropriate weight training parameters for Meaghan to improve her muscular power.

Sets	Reps	Load	Rest

4 marks

c. Justify the load you have selected in the table above.

_____

_____

_____

_____

1 mark

SECTION B – Question 10 - continued

d. Discuss the considerations with regards to the following training principles training principles Meaghan will need to keep in mind when training for muscular power.

Progressive overload: _____

_____

Frequency: _____

_____

Intensity: _____

_____

Specificity: _____

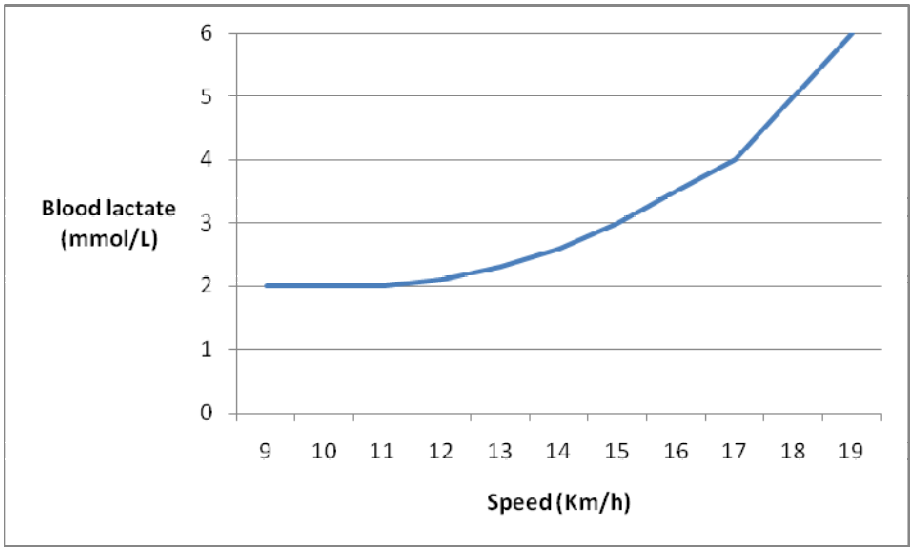
_____

1 + 1 + 1 + 1 = 4 marks
Total 11 marks

SECTION B – continued
TURN OVER

Question 11

The table below represents blood lactate concentration of an individual during an exercise session.



a. Describe the relationship of the graph.

_____

_____

1 mark

b. Explain lactate inflection point.

_____

_____

_____

_____

2 marks

SECTION B – Question 11 - continued

c. Identify the type of athlete a high lactate inflection would benefit and it would enhance their performance.

_____

_____

_____

_____

2 marks

d. Name the type of recovery that should be used following this exercise session and explain the physiological reason why.

_____

_____

_____

_____

_____

_____

4 marks

Total 9 marks

SECTION B – continued
TURN OVER

Question 12
The Anti-Doping Agency (WADA) is responsible for the World Anti-Doping Code implementation and compliance.

a. Discuss the purpose of the World Anti-Doping Code.

_____

_____

1 mark

b. List three ways an athlete could violate the World Anti-Doping Code.

1) _____

2) _____

3) _____

3 marks

Total 4 marks

SECTION B – continued

Question 13
Government and non-government organisations play a role in promoting adherence to the National Physical Activity Guidelines in schools, workplace and communities settings.

Name and outline two physical activity programs promoted by government and non-government organisations in schools, workplace and communities. You can only choose one program from each setting.

Setting: _____

_____

_____

_____

_____

Setting: _____

_____

_____

_____

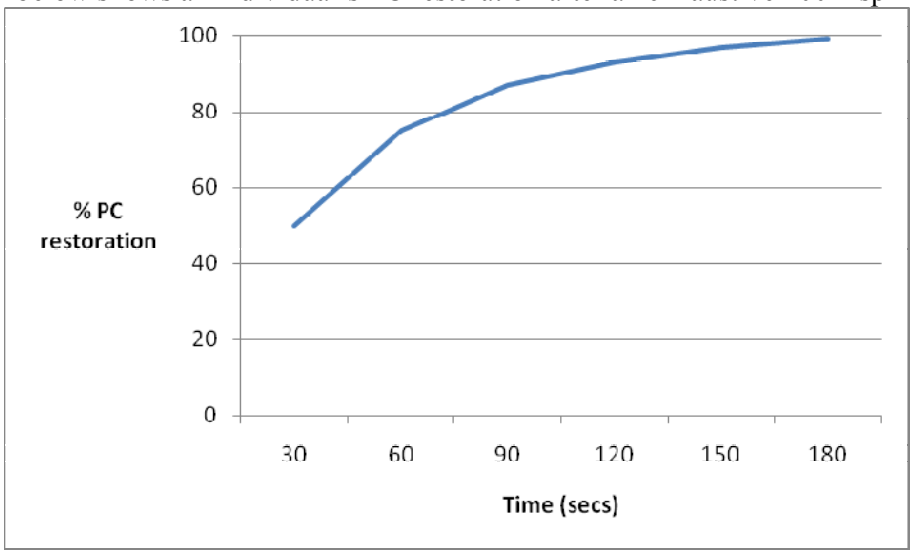
_____

2 + 2 = 4 marks

SECTION B – continued
TURN OVER

Question 14

The graph below shows an individual's PC restoration after an exhaustive 200m sprint.



a. Referring to the graph discuss the relationship between PC restoration and time.

_____

_____

_____

_____

2 marks

b. What are the implications if the individual was to complete a 200m sprint after 120 seconds?

_____

_____

_____

_____

2 marks

SECTION B – Question 14 - continued

c. Name and describe the type of recovery that should be used between 100m sprints and explain why.

_____

_____

_____

_____

_____

_____

4 marks
Total 8 marks

END OF QUESTION AND ANSWER BOOK