



**‘2018 Examination Package’ -
Trial Examination 6 of 7**

STUDENT
NUMBER

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Letter

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PHYSICAL EDUCATION

Units 3 & 4 – Written examination

(TSSM’s 2016 trial exam updated for the current study design)

Reading time: 15 minutes

Writing time: 2 hours

QUESTION & ANSWER BOOK

Structure of book

<i>Section</i>	<i>Number of questions</i>	<i>Number of questions to be answered</i>	<i>Number of marks</i>
A	15	15	15
B	10	105	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 23 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 unauthorised electronic communication 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

The most appropriate sports drink to consume to maintain performance at the midway point of a marathon being held in humid conditions is:

- A. Water
- B. Isotonic Sport Drink
- C. Hypotonic Sport Drink
- D. Hypertonic Sport Drink

Question 2

Which of the following would have the largest inertia?

- A. Table Tennis Ball
- B. Volleyball
- C. Medicine Ball
- D. Tennis Ball

Question 3

The 300m shuttle run test involves an athlete running between two lines, 20 metres apart, for a total of 15 repetitions in the fastest possible time.

Which fitness component does the 300m shuttle run test assess?

- A. Speed
- B. Anaerobic Capacity
- C. Aerobic Capacity
- D. Muscular Power

SECTION A - continued

Question 4

Ventilation is the product of:

- A. Tidal Volume and Heart Rate
- B. Tidal Volume and Respiratory Rate
- C. Diffusion and Tidal Volume
- D. Stroke Volume and Respiratory Rate

Question 5

The type of feedback a performer receives directly from their sensory systems is:

- A. Knowledge of Results
- B. Intrinsic
- C. Extrinsic
- D. Augmented

Question 6

The primary focus of implementing a passive recovery is to:

- A. Increase oxygen uptake to eliminate by-products and hydrogen ions from the body.
- B. Restore energy substrates to pre-exercise levels.
- C. Break down lactic acid into pyruvate and hydrogen ions.
- D. Restore ATP and CP to pre-exercise levels.

Question 7

Fine and gross skills are classified according to:

- A. The environment in which they are performed
- B. The muscle groups used to perform the skills
- C. Whether there is a distinct beginning and end to the skills
- D. The complexity of the skills

Question 8

The ability of an athlete to tolerate lactate is an adaptation to training which energy system?

- A. ATP-PC System
- B. Aerobic Lipolysis system
- C. Aerobic Glycolysis system
- D. Anaerobic Glycolysis system

SECTION A – continued
TURN OVER

Question 9

Action	Frequency
Forehand winner	21
Backhand winner	11
Ace	3

The above data was collected from observing a set of tennis whilst undertaking an activity analysis. This data would most likely be used to determine:

- A. Energy system contribution and work to rest ratios
- B. Fitness components and energy system contribution
- C. Muscle groups and major fitness components
- D. Major muscle groups and energy system contribution

Question 10

By-products of the aerobic energy system include:

- A. Hydrogen ions, CO₂, H₂O
- B. ADP, Inorganic Phosphate, Hydrogen Ions
- C. Hydrogen Ions, Lactate, Pyruvic Acid
- D. CO₂, H₂O and heat.

Question 11

The product of Mass and Velocity is:

- A. Momentum
- B. Impulse
- C. Inertia
- D. Kinematics

Question 12

Acute respiratory responses to exercise include:

- A. Increased diffusion, increased ventilation and increased myoglobin.
- B. Increased ventilation, increased stroke volume and increased diffusion.
- C. Increased respiratory rate, increased respiratory frequency and increased pulmonary diffusion.
- D. Increased ventilation, increased diffusion and increased arteriole-venous oxygen difference.

SECTION A – continued

Question 13

In the days leading up to a major competition, a triathlete reduces his intensity and training load in preparation. This principle is referred to as:

- A. Tapering
- B. Carbohydrate Loading
- C. Reversibility
- D. Detraining

Question 14

An AFL footballer undertaking carbohydrate loading consults a nutritionist about advice regarding necessary measurements of carbohydrate intake. The nutritionist advises him to:

- A. Consume foods high in carbohydrates every day.
- B. Consume 5-7 g/ kg of bodyweight per day.
- C. Consume 7-10 g/ kg of bodyweight per day.
- D. Consume 12+ g/ kg of bodyweight per day.

Question 15

Ensuring that a netballer performs the Illinois agility test at the same time of day is an example of which protocol?

- A. Validity
- B. Reliability
- C. Accurate
- D. Specific

**END OF SECTION A
TURN OVER**

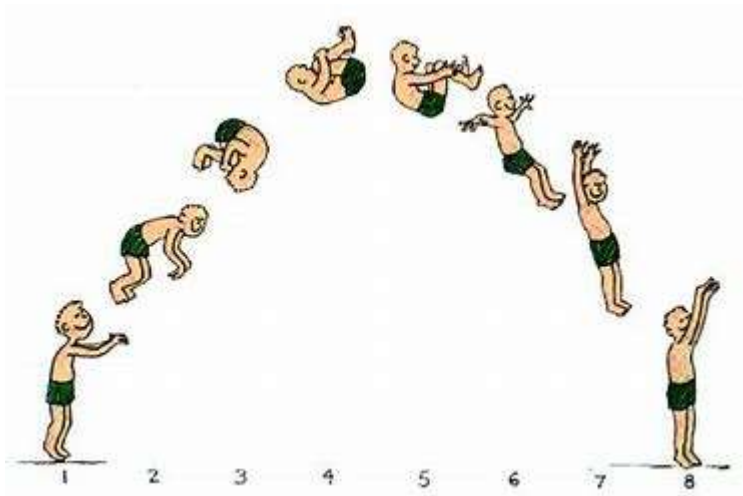
SECTION B - Short-answer questions

Instructions for Section B

Answer **all** questions in the spaces provided.

Answer this section using a **pen**.

Question 1 (9 marks)



Source: <http://www.ux1.eiu.edu/~cfadd/3050/Ch08Rot/Images/AngMom3.gif>

a. What is the formula for angular momentum?

1 mark

b. In which position/s is angular velocity fastest?

1 mark

c. Explain your answer to part **b.**

2 marks

SECTION B - Question 1 – continued

- d. Explain what the performer is doing in positions 6-7 and how this will enhance the d. performance.

2 marks

- e. Outline how these principles would be applied to a swimmer completing a tumble turn.

3 marks

Question 2 (8 marks)

The men's team cycling event was won by New Zealand at the 2014 Commonwealth Games with a time of 43.18 seconds.

- a. What is the main cause of fatigue that the team of cyclists would have encountered?

1 mark

SECTION B – Question 2- Continued
TURN OVER

- b.** Suggest the main form of recovery the team would have undertaken. Explain why this would be beneficial.

2 marks

- c.** A massage may have been used to aid recovery of these athletes. Explain how massage can assist athletes, both physiologically and psychologically.

2 marks

- d.** Outline and provide an example of how the cyclist would apply the principle of impulse during the race.

3 marks

Total 8 marks

SECTION B – Continued

Question 3 (15 marks)

In April 2015, Australian Jarryd Hayne was selected by the San Francisco 49ers’ NFL team. In the lead up he completed many different fitness tests where prospective recruiters were able to watch and compare Jarryd’s results with prospective draft picks.

- a. In the table below provide a definition, an example of a recognised fitness test and a specific training method for each component of fitness that Jarryd would have been tested for.

Component of fitness	Definition	Example of a recognised fitness test	Specific training method
Muscular Power			
Anaerobic Capacity			
Agility			

9 marks

The health-related fitness component of strength is also important for an NFL footballer.

- b. List two factors and explain how each factor affects the strength of a muscle.

Factor 1 _____

SECTION B - Question 3 - continued

TURN OVER

Explanation _____

Factor 2 _____

Explanation _____

4 marks

Jarryd is tested for his muscular strength using a 1 RM Bench Press and 1 RM Leg Press.

- c. Explain why it is important that both tests are administered in order to test Jarryd's muscular strength.

2 marks

Total 15 marks

SECTION B – Continued

Within the same netball team as Caitlyn Bassett is Centre player Kimberley Ravallion, who is required to cover more of the court for a greater period of time, without rest periods.

- b.** Explain the different training methods that both Caitlyn and Kimberley would undertake. Justify your response.

4 marks

- c.** Name a method of data collection that would help assist coaches to determine the different training methods of Caitlyn and Kimberley.

1 mark

Following the match, Kimberley undertook an active recovery.

- d.** Outline two purposes of an active recovery.

1. _____

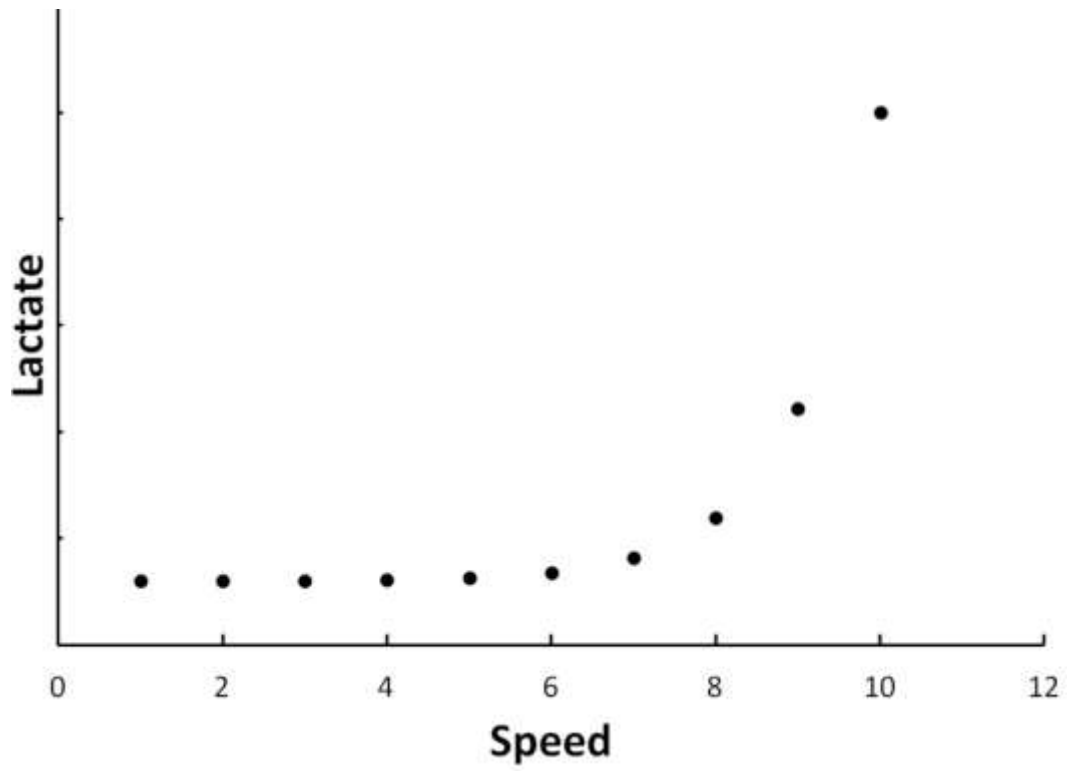
SECTION B – Question 4 - Continued

2. _____

2 marks
Total 13 marks

Question 5 (8 marks)

Joe is a 35 year old untrained male who is looking to improve his aerobic fitness. The graph below shows the relationships between speed and lactate accumulation during his initial training session.



Source: <http://www.runningwritings.com/2011/10/when-threshold-training-isnt-threshold.html>

a. What speed does Joe reach his Lactate Inflection Point?

1 mark

SECTION B - Question 5 – continued
TURN OVER

b. Explain what is meant by the term Lactate Inflection Point.

2 marks

c. If Joe continues training aerobically, what chronic muscular adaptations would occur that result in Joe's Lactate Inflection Point increasing?

4 marks

d. On the graph, draw a curve that would indicate that the chronic adaptations identified in part **c.** had occurred.

1 mark

Total 8 marks

SECTION B – Continued

Question 6 (14 marks)

Read the following article.

Brutally honest Sam Stosur admits she 'choked' in shock second-round loss to China's Zheng Jie

A brutally honest Samantha Stosur confessed to a mental meltdown after suffering yet more Australian Open heartache at Melbourne Park.

In a dramatic and devastating collapse, Stosur capitulated from 5-2 up in the deciding set to crash out of the Open with a 6-4 1-6 7-5 loss to China's former semi-finalist Zheng Jie on Wednesday.

The shattering defeat continued Stosur's nightmare run at her home grand slam, the 2011 US Open champion having never ventured beyond the fourth round in 11 visits to Melbourne.

After battling back from a set down to seize control of the second-round contest, Stosur committed tennis suicide, ultimately falling on her sword with her ninth double fault after two hours and 42 tension-filled minutes.

Source: <http://www.foxsports.com.au/tennis/brutally-honest-sam-stosur-admits-she-choked-in-shock-second-round-loss-to-chinas-zheng-jie/story-e6frf4mu-1226555418809>

- a. Identify and explain a psychological factor that may have led to Samantha Stosur 'choking.'

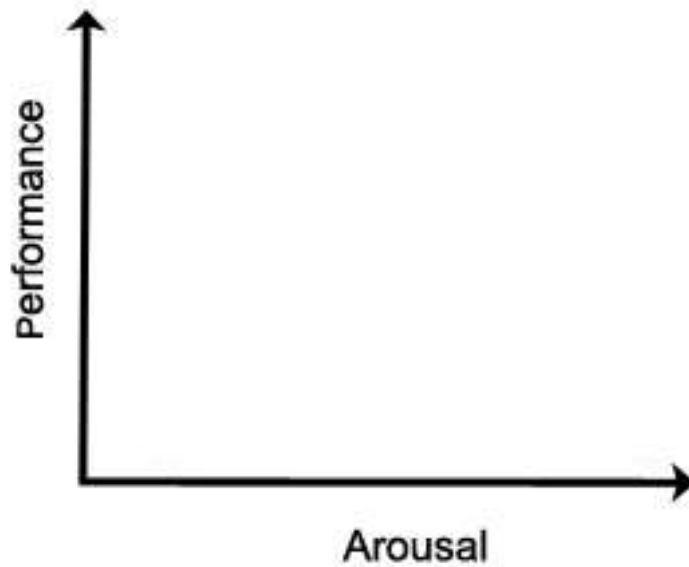
2 marks

SECTION B - Question 6 – continued
TURN OVER

- b. Suggest a psychological technique that Stosur could apply to enhance performance and describe how it could be implemented.

3 marks

- c. On the axis below, draw the Inverted -U hypothesis showing the optimal performance zone. Place an X where you anticipate Stosur's arousal levels were for this match.



3 marks

SECTION B – Question 6 - Continued

d. Stosur served a double fault after performing for 2 hours and 42 minutes.

i. identify a physiological reason for fatigue that may have contributed to Stosur serving a double fault.

ii. Explain the mechanisms responsible for this form of fatigue and how it impacts performance.

iii. Suggest and outline an appropriate recovery method that Stosur should undergo following her performance.

1 + 3 + 2 = 6 marks

SECTION B – Continued
TURN OVER

Question 7 (9 marks)

a. Explain the conservation of momentum in ten pin bowling when the ball hits the pins.

3 marks

b. Is ten pin bowling an open or closed skill?

1 mark

c. Explain why

2 marks

SECTION B – Question 7 - Continued

- d. Explain what intrinsic feedback is and provide two examples of how this may be applied in the game of ten pin bowling

3 marks
Total 9 marks

Question 8 (10 marks)

- a. Skills are often classified as Serial, Discrete or Continuous. Define each of these skills and provide a sporting example of each.

6 marks

SECTION B - Question 8- continued
TURN OVER

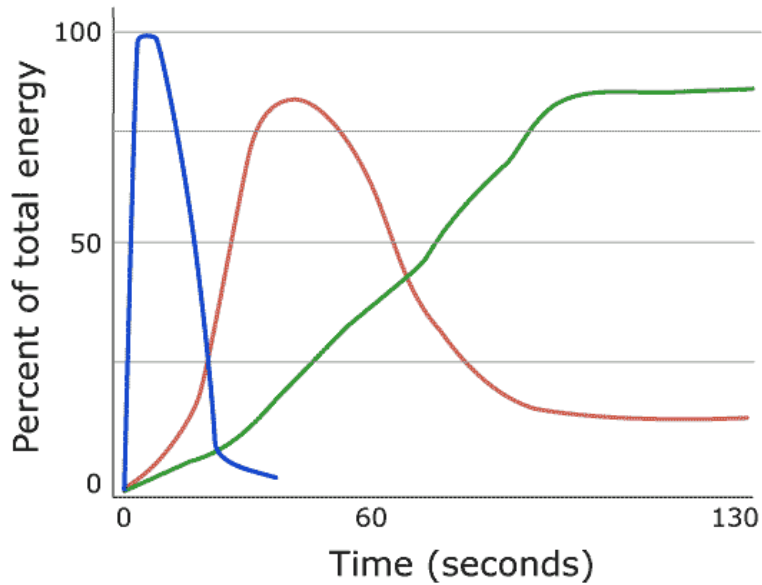
b. Outline the difference between knowledge of performance and knowledge of results.

4 marks
Total 10 marks

SECTION B – Continued

Question 9 (8 marks)

The following graph shows the three energy systems contribution to energy production.



Source: <http://www.mxtrainingblog.com/>

a. Identify the three energy systems and their associated by-products in the table below.

	Energy System	By-Products
Blue Line	i.	ii.
Green Line	iii.	iv.
Red Line	v.	vi.

6 marks

b. Compare the differences in the rate and yield of ATP production between the chemical process of the blue line compared to the green line.

2 marks

Total 8 marks

**SECTION B – Continued
TURN OVER**

Question 10 (9 marks)

The VO_2 maximum cycle ergometer test is often used by the Australian Institute of Sport to determine capabilities of cyclists in their program.

a. What training principle is evident in this situation?

1 mark

The test is used to determine VO_2 maximum of athletes.

b. Explain how two cyclists may have the same absolute VO_2 maximum result but different relative VO_2 maximum results.

2 marks

c. Identify one respiratory and one cardiovascular chronic adaptation that would occur from the training the cyclist would do. Explain how each of these would improve performance in a cycling event.

Respiratory: _____

SECTION B- Question 10 – Continued

Cardiovascular: _____

6 marks
Total 9 marks

END OF QUESTION AND ANSWER BOOK