Course examination, 2018

Question/Answer booklet

YEAR 11
PHYSICAL EDUCATION STUDIES

Student Name: _____

Time allowed for this paper

Reading time before commencing work: ten minutes
Working time: two and a half hours

Materials required/recommended for this paper

This Question/Answer booklet Multiple-choice answer sheet

To be provided by the candidate

Standard items: pens (blue/black preferred), pencils (including coloured), sharpener, correction fluid/tape, eraser, ruler, highlighters

Special Items: non-programmable calculators approved for use in this examination

Important note to candidates

No other items may be taken into the examination room. It is **your** responsibility to ensure that you do not have any unauthorised material. If you have any unauthorised material with you, hand it to the supervisor **before** reading any further.

Structure of the examination

The Physical Education Studies ATAR course examination consists of a written component and a practical (performance) component.

Structure of this paper

Section	Number of questions available	Number of questions to be answered	Suggested working time (minutes)	Marks available	Percentage of written examination
Section One Multiple-choice	20	20	30	20	20
Section Two Short answer	10	10	70	76	50
Section Three Extended answer	4	2	50	30	30
				Total	100

Instructions to candidates

1. The rules for the conduct of the Western Australian external examinations are detailed in the *Year 12 Information Handbook 2018*. Sitting this examination implies that you agree to abide by these rules.

2. Answer the questions according to the following instructions.

   Section One: Answer all questions on the separate Multiple-choice answer sheet provided. For each question, shade the box to indicate your answer. Use only a blue or black pen to shade the boxes. If you make a mistake, place a cross through that square, then shade your new answer. Do not erase or use correction fluid/tape. Marks will not be deducted for incorrect answers. No marks will be given if more than one answer is completed for any question.

   Sections Two: Write your answers in this Question/Answer booklet. Wherever possible, confine your answers to the line spaces provided.

   Section Three: Consists of four questions. You must answer two questions. Write your answers in this Question/Answer booklet.

3. You must be careful to confine your answers to the specific questions asked and to follow any instructions that are specific to a particular question.

4. Supplementary pages for the use of planning/continuing your answer to a question have been provided at the end of this Question/Answer booklet. If you use these pages to continue an answer, indicate at the original answer where the answer is continued,
   i.e. give the page number.

See next page

Section One: Multiple-choice **20% (20 Marks)**

This section has **20** questions. Answer **all** questions on the separate Multiple-choice answer sheet provided. For each question, shade the box to indicate your answer. Use only a blue or black pen to shade the boxes. If you make a mistake, place a cross through that square, then shade your new answer. Do not erase or use correction fluid/tape. Marks will not be deducted for incorrect answers. No marks will be given if more than one answer is completed for any question.

Suggested working time: 30 minutes.

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1. The cause of fatigue for the ATP-CP energy system is:

   (a) Running out of ATP
   (b) A buildup of creatine phosphate
   (c) Creatine phosphate depletion
   (d) Too much Lactic Acid

2. Negative acceleration is when:

   (a) A person is moving backwards
   (b) Velocity is decreasing
   (c) Velocity is increasing
   (d) Velocity is constant

3. When an athlete is performing a forearm pass (dig) in volleyball the movement of the hands is closest to:

   (a) Supination
   (b) Pronation
   (c) Dorsi flexion
   (d) Plantar flexion

4. When air is breathed in a molecule of oxygen moves from the nasal cavity to the alveoli in which order

   (a) Pharynx, Trachea, Larynx, Bronchi, Bronchioles
   (b) Trachea, Larynx, Pharynx, Bronchioles, Bronchi
   (c) Pharynx, Larynx, Trachea, Bronchi, Bronchioles
   (d) Pharynx, Larynx, Bronchi, Bronchioles, Trachea

5. A baseball pitcher aims to pitch the ball with maximum velocity. To achieve this they should use:

   (a) Sequential movement
   (b) Simultaneous movement
   (c) Static movement
   (d) Single movement

See next page

6. When performing in a high jump event, the athletes land on a thick mat (high jump bun) rather than on the grass or a hard track surface. Which of the following statements are true?

I. The thick mat increases the time over which the athletes momentum changes.
II. The total impulse of the athlete will be reduced when landing on the thick mat compared to landing on a hard surface.
III. The peak force is reduced when landing on the thick mat.
IV. The mat will change the trajectory of the athlete, resulting in a flat trajectory and reduced risk of injury.

(a) I, II and III only
(b) I and III only
(c) I, II, III and IV
(d) III only

7. The origin point of a muscle is:

(a) The attachment point of the most superior bone
(b) The name of the major muscle within a group
(c) The attachment point to the bone which moves when a muscle contracts
(d) The attachment point to the bone which does not move when a muscle contracts.

8. A cricket outfielder has just collected a ball. They will need to throw the ball their maximum distance to reach their target of the wickets. If the landing height is below the take-off height, what angle of release will result in maximum distance being achieved.

(a) Above 45 degrees
(b) Below 45 degrees
(c) Exactly 45 degrees
(d) As close as possible to 0 degrees

9. Which of the following statements relating to blood pressure is true?

(a) Systolic and Diastolic Blood pressure can be measured in any blood vessel
(b) Systolic blood pressure is measured when the heart is contracting
(c) Systolic blood pressure is measured when the heart is relaxing
(d) Systolic blood pressure is normally the smaller reading when measuring blood pressure

See next page

10. Muscle fibres are arranged in a number of different ways depending on the muscle and the purpose of that muscle. Which arrangement allows for the most force to be produced?

(a) Multipennate
(b) Bipennate
(c) Fusiform
(d) Unipennate

11. To assist coaches in teaching skilled movement, motor skills are classified according to their characteristics. An “open” skill is where an athletes sensory environment is:

(a) Static and controlled
(b) Constantly changing
(c) Too challenging
(d) Simple rather than complex

12. Coaches use cues to improve performances in their athletes. A proprioceptive cue is where the coach:

(a) Gives a short phrase to remind the athlete of a specific action
(b) Verbalises a motivational phrase
(c) Physically moves the athletes limbs so they can feel the action
(d) Shows a visual sign

13. Compared to a novice performer, the optimum arousal zone for an elite athlete occurs when arousal is:

(a) Higher
(b) Lower
(c) The same
(d) Not comparable

14. A sprinter must have powerful leg muscles to achieve the high speeds needed to be successful. The most powerful hip extensor in the human body is:

(a) Hamstring
(b) Quadricep
(c) Gastrocnemius
(d) Gluteus Maximus

15. When standing in the anatomical position the bone lateral to the ulna is the:

(a) Carpals
(b) Radius
(c) Humerus
(d) Phalanges

See next page

16. When someone plantar flexes their foot, the agonist muscle is the gastrocnemius. The antagonist muscle is the:

(a) Tibialis Anterior
(b) Quadricep
(c) Soleus
(d) Hamstring

17. "What you train for is what you get" refers to which principle of training?

(a) Reversibility
(b) Specificity
(c) Progressive overload
(d) Intensity

18. A hockey player watching her shot go in the goal is an example of feedback that is:

(a) Internal, knowledge of performance
(b) External, knowledge of performance
(c) External, knowledge of results
(d) Internal, knowledge of results

19. Isotonic resistance training is typically undertaken with:

(a) A fixed load with muscle shortening and lengthening through the full range of movement
(b) A fixed load with no change in muscle length
(c) A machine which varies the load depending on the resistance provided by the muscles with muscle shortening and lengthening through the full range of movement
(d) A machine which varies the load depending on the resistance provided by the muscles with no change in muscle length.

20. A middle distance runner is undertaking the following training program.

Distance	**Intensity**	**Recovery time**	**Repetitions**	**Sets**
200 metres	80% maximum speed	90 seconds	6	2

How could this program be safely overloaded to see ongoing improvements?
(a) Increase the distance to 400 metres
(b) Decrease the recovery time to 80 seconds
(c) Increase the recovery time to 100 seconds
(d) Increase the number of sets to 4

End of Section One

See next page

Section Two: Short answer **50% (76 Marks)**

This section has **10** questions. Answer **all** questions. Write your answers in the spaces provided. Use a blue or black pen (**not** pencil) for this section.

Supplementary pages for the use of planning/continuing your answer to a question have been provided at the end of this Question/Answer booklet. If you use these pages to continue an answer, indicate at the original answer where the answer is continued, i.e. give the page number.

Suggested working time: 70 minutes.

Question 21 **(5 marks)**

Stacey Peralta has just arrived at the batting crease after the previous batter was bowled out. Stacey's last two innings have seen her score a total of 5 runs.

(a) Describe a mental strategy Stacey could use to improve her self-confidence and give an example of how she would use it before she faces the first ball.

(2 marks)

(b) She swung and missed the first ball completely. Stacey identified that her lack of concentration was probably the reason. Describe a different mental strategy Stacey could use to improve her concentration and describe how she would use it before she faces the next delivery.

(2 marks)

See next page

(c) On the second ball Stacey hit a great shot scoring 4 runs. Stacey blocked out everything and just focused on the ball leaving the bowler's hand. What quadrant of Nideffer's model of attentional control would this place Stacey in?

(1 mark)

Question 22 **(4 marks)**

Complete the table below on components and functions of the circulatory system.

Component	Function
Heart	Muscular organ that pumps blood around the body
Arteries	
	Transports blood towards the heart
Capillaries	
	Carries oxygen and removes carbon dioxide, clots the blood, fights infection

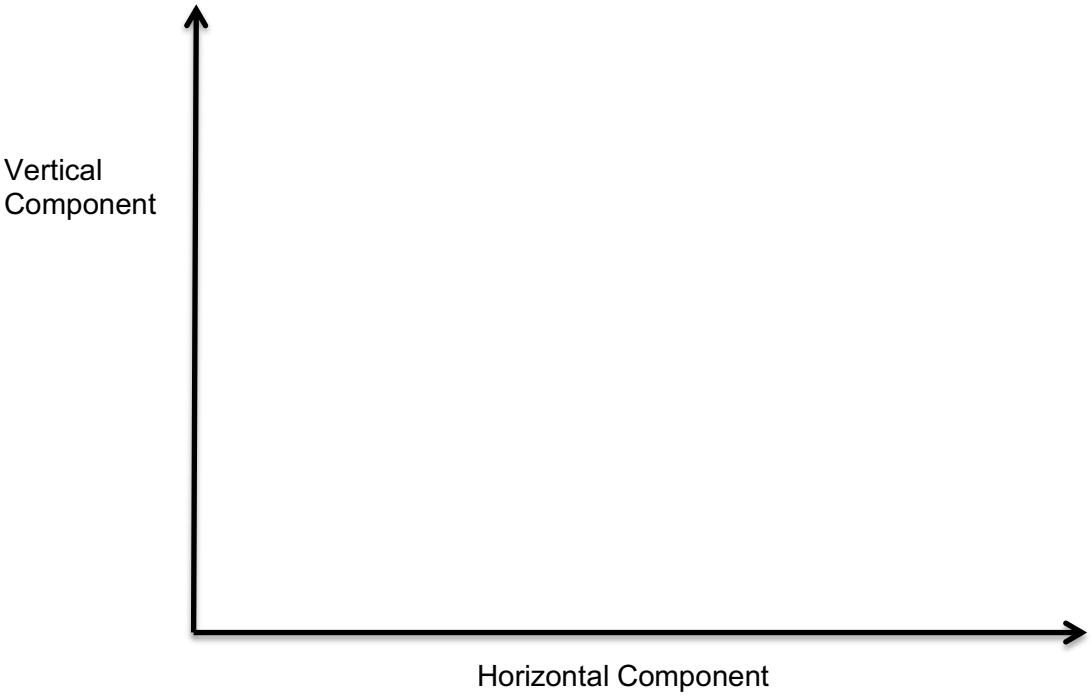
See next page

Question 23 **(15 marks)**

An AFL player needs to be proficient in many skills to be considered a great player. They must able to pass the ball effectively to a team mate using both a handball and a kick.

(a) The ball can take many different paths as it flies through the air during a game. On the axis below, draw and label the three main trajectories an object can travel through the air. For each trajectory describe one benefit and give an example of when this trajectory would likely occur in an AFL game.

(9 marks)



See next page

(b) AFL is a highly demanding sport with some players running up to 15 kilometres in a game. Identify and describe three immediate responses of the circulatory system as a player is running around the field.

(6 marks)

See next page

Question 24 **(6 marks)**

Nicole, a basketball centre is often being beaten for rebounds and the tip off to begin play. Despite being tall, Nicole's vertical leap is quite small. Her coach has identified that Nicole lacks power in her legs and has created a resistance training program for Nicole to improve her leg power.

Exercise	**Sets**	**Repetitions**	**Weight (%1RM)**	**Recovery period (min)**
Squats	3	6-8	70	1
Barbell Lunges	8	6-8	95	4
Leg Curls	3	5-7	40	3
Calf Raises	3	15-20	70	3

(a) Unfortunately, the coach has made at least three errors. Identify **three** items of information from the table that are incorrect and explain why.

(3 marks)

See next page

(b) Besides being able to jump high to get rebounds, Nicole must be able to sprint from one end of the court to the other. It's important that she is able to rebound defensively and offensively. Explain which training type the coach should prescribe to help with this element of Nicole's game.

(3 marks)

See next page

Question 25 **(6 marks)**

Describe the mechanics of breathing, how the body breathes in (inspiration) and how the body breathes out (expiration). You may choose to include diagrams in your answer.

See next page

Question 26 **(6 marks)**

Nutritional considerations are an important part of a serious athletes preparation. Often athletes follow a strict nutritional plan to maximize performance.

(a) Using examples, describe the Glycaemic Index.

(3 marks)

(b) State which of the macronutrients is the most important fuel source for an elite 800 m runner and justify your response.

(3 marks)

See next page

Question 27 **(12 marks)**

A Tennis coach aims to develop his students skills and game play.

(a) He uses feedback regularly as he is teaching his students. Describe the three purposes of feedback and give an example of each that the tennis coach may use with his students

(6 marks)

(b) Suggest one strategy a coach can use to improve intrinsic motivation and one strategy to improve extrinsic motivation

(2 marks)

See next page

(c) With the exception of linear motion. Describe two other types of motion occurring in a Tennis match and provide one example for each.

(4 marks)

See next page

Question 28 **(7 marks)**

At 32 years of age, Jake is very well regarded amongst his team members. He is the captain and for the last two years has been the second highest goal scorer. Jake realises that he will not be in the A division team forever and there will come a time in the near future where he will have to reassess his goals.

(a) Identify two factors that will influence Jakes future goals. For each factor describe one way Jake could minimise its effect and maintain his involvement and enjoyment in his soccer club.

(4 marks)

(b) Identify the likely dominant muscle fibre type of an elite soccer winger and justify your response.

(3 marks)

See next page

Question 29 **(6 marks)**

Fitness is a multi-faceted concept and can be divided into health related and performance related components. Describe three **performance related** components of fitness and suggest a fitness test for each.

See next page

Question 30 **(9 marks)**

A coach is addressing a group of experienced sprinters. She is explaining running technique and is telling them their foot strike must be directly under their body, not in front and their foot must remain in contact with the ground for as long as possible before it is lifted for the recovery phase.

(a) Describe Newtons second and third law and explain why this technique will result in the best performance.

(6 marks)

(b) A sprinter is heavily reliant on their leg muscles to propel them down the track faster than their competitors. A characteristic of skeletal muscle is contractibility which is a muscles ability to shorten and contract. Identify and describe three other characteristics of skeletal muscle.

(3 marks)

End of Section Two
See next page

Section Three: Extended answer **30% (30 Marks)**

This section contains **four (4)** questions. You must answer **two (2)** questions. Write your answers in the spaces provided.

Supplementary pages for the use of planning/continuing your answer to a question have been provided at the end of this Question/Answer booklet. If you use these pages to continue an answer, indicate at the original answer where the answer is continued, i.e. give the page number.

Suggested working time: 50 minutes.

Question 31 **(15 marks)**

Stella is a promising junior in Athletics. She is a talented sprinter but the javelin is her strongest event. Stella uses brute force to throw the Javelin as far as she can but she has asked you to help her apply the principles of projectile motion to improve on her personal best throw.

(a) Explain the three major factors that can be manipulated to alter the range of the javelin. Explain each factor individually and describe how it can be applied to maximise her performance.

(9 marks)

See next page

(b) To maximise Stella's performance, the heart must contract and relax in an orderly sequence to ensure efficient circulation of blood to all parts of the body. This sequence is known as the cardiac cycle. Identify the phases of the cardiac cycle and describe the changes that occur during each stage.

(6 marks)

See next page

Question 32 **(15 marks)**

Sam is aiming to defend his title as club champion of his golf club. He is having trouble with his game currently, in particular his driving. The aim of the golf drive is to propel the ball down the fairway as far as possible.

(a) Identify the principles to improve balance and describe how Sam uses the principles to increase the distance he drives the ball.

(6 marks)

See next page

(b) Although now considered to be an expert, there was a time when Sam was a novice and he experienced difficulty hitting a golf ball. Describe the Fitts and Posner model of skill acquisition. For each phase, outline a characteristic of the learner in that stage, describe what the performance would actually look like and state how the coach can best help an athlete develop in that stage.

(9 marks)

See next page

Question 33 **(15 marks)**

Jeffrey, an AFL Full forward has just marked the ball and he is about to take a set shot at goal. Jeffrey must now attempt to kick the ball through the goals in order to score six points for his team.

(a) The ability of Jeffrey to selectively attend to cues and to process the incoming information is very important to his successful performance. Name a model Jeffrey could use to improve his overall goal kicking performance. Identify and apply the four step process that he will undergo as he processes information and aims to improve his overall goal kicking performance.

(9 marks)

See next page

See next page

(b) Jeffrey has been training for many years to prepare his body for the demands of AFL football. Identify one adaptation and the benefit of this adaptation that would have occurred in each of Jeffrey's muscular, circulatory and respiratory systems as a result of his years of training.

(6 marks)

See next page

Question 34 **(15 marks)**

Dexter Crump is the national 400m swimming champion. He can swim the 400 m in 4 minutes and 37 seconds.

(a) During this race, Dexter will activate all 3 energy systems. Identify each of the energy systems and explain how each will contribute to his energy output and his performance during the race.

(9 marks)

(b) Prior to performance, Dexter must ensure that he is in the ideal performance state to be able to perform at an optimal level. The ideal performance state refers to the relationship between arousal and performance. Identify and describe the hypothesis that outlines the relationship between arousal and performance. Draw a graph in the space below which shows this relationship and identify the optimum performance zone.

(6 marks)

End of questions

See next page

Supplementary page

Question number: _____

Supplementary page

Question number: _____

See next page

Supplementary page

Question number: _____

ACKNOWLEDGEMENTS

Question 32
https://www.shutterstock.com/image-photo/golfer-preparing-driving-stroke-462367897?src=t_F6uh4l-hi3-7dKn7f75Q-2-97

Question 33
https://www.shutterstock.com/image-photo/austin-texasusa-october-20-2013-united-1115500745?src=yzyzTCc78NezPtA-a-Xfug-5-85

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