



Hale School

Year 12 Semester 2 ATAR examination, 2016

Question/Answer booklet

Write your name below:

## PHYSICAL EDUCATION STUDIES

### *TIME ALLOWED FOR THIS PAPER*

Reading time before commencing: Ten minutes

Working time for paper: Two and a half hours

### For Examiners only

Part 1	/20
Part 2	/78
Part 3	/30
Total	/128
Percentage	%

### Materials required/recommended for this paper

#### ***To be provided by the supervisor***

This Question/Answer booklet.

Separate Multiple Choice Answer sheet

Standard 8 Page Answer booklet (green)

#### ***To be provided by the candidate***

Standard Items: pens (blue/black preferred, pencils (including coloured), sharpener, correction fluid, 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	78	50
Section Three Extended answer	4	2	50	30	30
<b>Total</b>					100

## Instructions to Candidates

1. The rules for the conduct of the Hale School ATAR course examinations have been issued to you previously. 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 2B pencil to shade the boxes. If you make a mistake, use an eraser then shade your new answer. Do not 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.

Section 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 the green answer booklet provided.

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.

**Section One: Multiple-Choice**

**20 Marks**

Attempt **all** questions in this section. Record your answers on the separate Multiple-Choice Answer Sheet using a 2B pencil. Each question is worth **one** mark. Suggested working time for this section is 30 minutes.

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1. An A-league soccer team is winning all their matches, despite players bickering and not getting on with each other. According to Carron's model of group cohesion, which factors are positively influencing group dynamics the most?

- (a) Environment and team factors
- (b) Team and leadership factors
- (c) Personal and leadership factors
- (d) Environment and personal factors

2. A coach has designed a plan to teach, monitor and evaluate players' responses to the Mental Skills Training (MST) plan they have established. Which of the following is the most appropriate strategy for the coach to implement?

- (a) Players are not encouraged to consider the 4 C's of mental toughness during the off season and they are encouraged to just have a break
- (b) Stick to the original MST plan during the competitive phase regardless of players' performances
- (c) Presenting the details of the MST plan to all players in the pre-season phase of training and focusing on skills and strategies for the remainder of the competition season
- (d) Regular discussion and review of the players' statistics on performance and journal with questionnaires

3. A cyclist buys a bicycle which has crank lengths which are 3cm longer than his previous bicycle. What torque do the new cranks have compared to the old ones?

- (a) Smaller
- (b) Larger
- (c) No change
- (d) Three times smaller

4. Balance is an important skill in all types of sport. A key factor affecting balance is

- (a) aerobic power.
- (b) the height of the player.
- (c) the position of the centre of gravity.
- (d) muscular strength.

5. As a major event or tournament approaches a coach will provide a program that is referred to as tapering. During tapering, training typically:

- (a) Increases in volume and decreases intensity.
- (b) Increases in duration and decreases intensity.
- (c) Reduces in volume and increases intensity.
- (d) Increases in frequency and increases intensity.

6. In relation to coaching a state league netball team in the general preparatory (pre-season) phase which of the following statements is least correct:

- (a) It is used to progressively condition the energy systems most appropriate to netball
- (b) It should involve low volume training sessions and low intensity so as not to cause strain on muscles
- (c) It should incorporate increases in intensity and duration in a 'step-like' fashion
- (d) It should incorporate high volume training of low to moderate intensity and a mixture of training methods

7. During the Australian summer, in particular in January, temperatures exceed 40°C and cricket players are susceptible to dehydration. Which of the following may result from a player becoming dehydrated?

- (a) Increased cardiac output and increase in core body temperature
- (b) Vasodilation of peripheral blood vessels near the skin
- (c) Increased electrolyte levels and increased urine production
- (d) Reduced blood volume and increase in core body temperature

8. Once a diver is airborne off the 10 metre platform, which of the following can they alter to improve their performance?

- (a) Angular momentum & moment of inertia
- (b) Moment of inertia & angular velocity
- (c) Angular momentum & angular velocity
- (d) None of the above

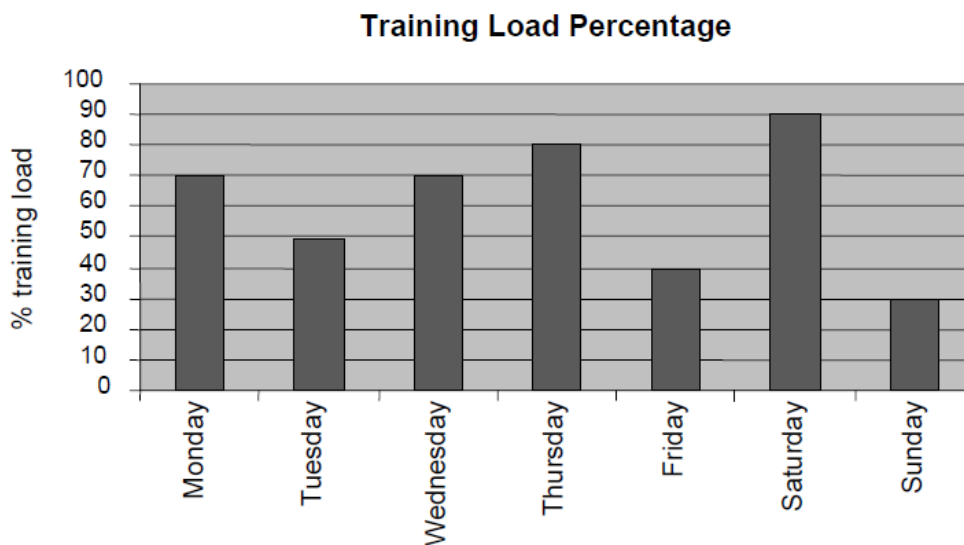
9. An elite athlete's resistance training program consists of exercises with light weights and high repetitions. This athlete is developing

- (a) the aerobic system and white muscle fibres.
- (b) the ATP-PC system and red muscle fibres.
- (c) the aerobic system and red muscle fibres.
- (d) the lactic acid system and white muscle fibres.

10. Junior coaches are required to teach their players a whole range of simple and complex skills. Teaching a complex skill is best achieved by the following methods:

- (a) Imitation and practice
- (b) Shaping and chaining
- (c) Demonstration and explanation
- (d) Massed and fixed practice

11. This graph illustrates variations in training load percentage for an athlete. This is referred to as a;



- (a) metacycle.
- (b) microcycle.
- (c) macrocycle.
- (d) mesocycle.

12. Different sporting activities require an athlete to produce varying amounts for force from the same muscle. A muscle develops the greatest amount of force when the muscle

- (a) shortens with a high velocity.
- (b) shortens with a low velocity.
- (c) does not shorten during contraction.
- (d) is fully extended.

13. Which of the statements below is most correct?

- (a) Laminar flow is uniform and runs perpendicular to the fluid flow
- (b) Turbulent flow is uniform and runs parallel with the fluid flow
- (c) A turbulent boundary layer runs parallel to the fluid flow
- (d) A tapered shapes allows a laminar boundary layer to separate later on the object

14. Elite sporting teams employ dieticians to plan meals and to ensure that athletes recover from exercise quickly and maximise their performance. Low GI food is recommended prior to competition. Which one of the following examples include only low GI foods?

- (a) Watermelon, honey, jelly babies
- (b) Apples, pasta, baked beans
- (c) Fruit bars, rice cakes, sports drinks
- (d) Wholemeal bread, bananas, rice bubbles

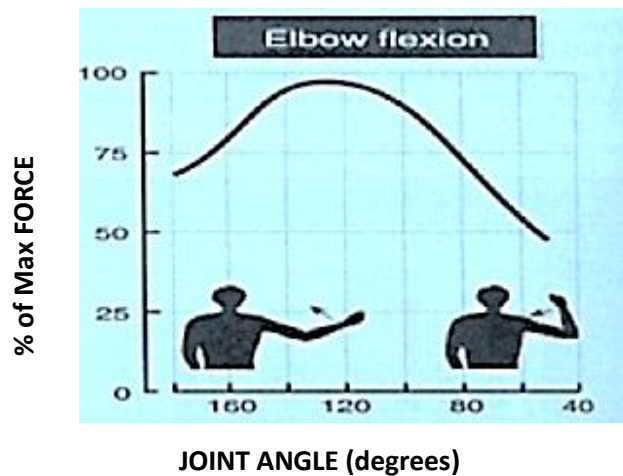
15. Which example below most correctly describes how the impulse-momentum relationship can be applied to improve performance?

- (a) A netballer applies a small force over a large time to change direction quickly
- (b) A baseballer limits the range of motion of his shoulder to increase the time component of the impulse equation
- (c) A cricket player ensures that he decreases the time with which he catches the ball to decrease peak force
- (d) A thrower increases the number of segments involved in sequential force summation

16. Which of the following selections appropriately describes the pathway a nervous system impulse takes to innervate muscle contraction?

- (a) Dendrite, cell body, axon, motor end plate, muscle fibre
- (b) Axon, cell body, motor end plate, fascicle
- (c) Dendrite, cell body, axon, motor end plate, epimysium
- (d) Axon, dendrites, motor end plate, cell body

17. The diagram below demonstrates the relationship between force production and the length of the muscle, determined by relative joint angle.



Which of the statements below does not support the information provided in the diagram?

- (a) A decrease in the effectiveness of contraction is seen when the muscle is stretched beyond resting length
- (b) The highest force is produced near the middle of the range of motion
- (c) Crossbridge formation is impaired as the muscle nears full flexion
- (d) Full extension maximises force production as it allows more time for crossbridges to attach

18. The experience that a person has in one sport will often have an effect on their learning of a new sport. Which type of transfer is most likely to occur when skills have some similarities but significant differences?

- (a) Positive
- (b) Skill to skill
- (c) Negative
- (d) Theory to practice

19. There are many successful styles of leadership. Different teams and situations are more suited to particular styles. An autocratic style is best suited when

- (a) it is an individual sport.
- (b) the team is more social than competitive.
- (c) team building is the key.
- (d) there is a crisis.

20. Which one of the following combinations of strategies would be most appropriate for an athlete who wants to improve their motivation?

- (a) Self talk and relaxation
- (b) Performance routines and thought stopping
- (c) Goal setting and self talk
- (d) Imagery and relaxation

**End of Section One**





**Question 22**

**8 marks**

Competing in extremely cold conditions can be dangerous to the well-being of an athlete unless training modifications are made to the athlete's training program.

a. During a long distance running event, describe the main ways the body exchanges heat with the environment. (3 marks)

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b. Identify the key physiological responses of the athlete when exercising in extreme cold. (2 marks)

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c. Discuss three practices that could be used during training to limit the negative effect of these environmental extremes on the athlete. (3 marks)

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b. What is the mechanical advantage of this type of lever? (1 mark)

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c. Explain how a swimmer manipulates the length of the resistance arm to make the recovery phase more efficient. (3 marks)

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**Question 26** (6 marks)

a. Define social loafing. (1 mark)

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b. Provide three reasons why social loafing may occur. (3 marks)

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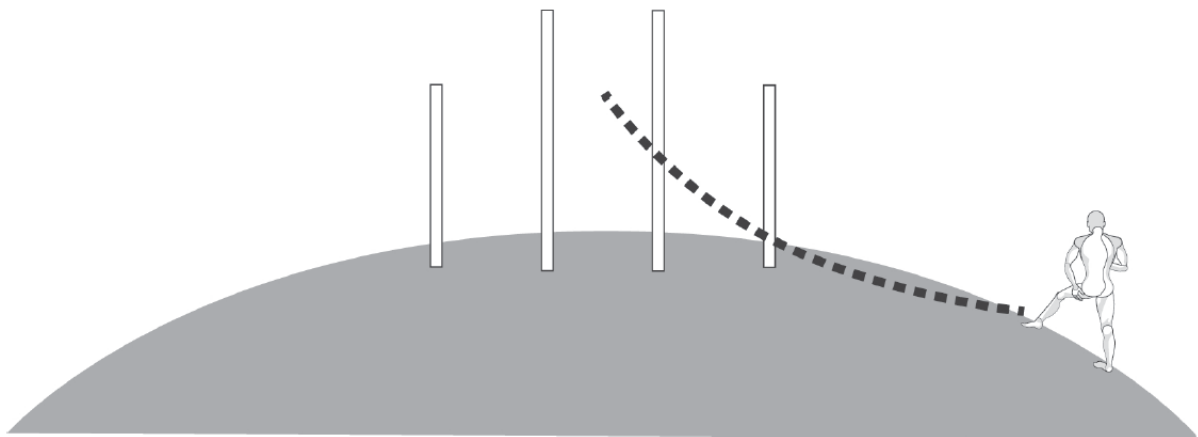








Many times during Eddie's career he has had to kick goals from the boundary line. In doing this, he kicked the ball to make it curve around the goalpost to score.



c. Explain the biomechanical principle which makes the ball curve in the air. Include a fully labelled diagram in your answer. (6 marks)

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**Section Three: Extended Answer**

**30 marks**

Attempt **two** of the following **four** questions. Write your answers in the Green Answer Booklet. Suggested working time for this section is 50 minutes.

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**Question 31**

**15 marks**

A novice triathlete has come to you for advice on nutrition. They are planning on competing in an Olympic distance triathlon (1.5km swim, 40km bike, 10km run) and wants to know what to eat, when and why.

- a. With reference to the glycaemic index, give this novice athlete detailed information so they can perform to the best of their ability. (8 marks)



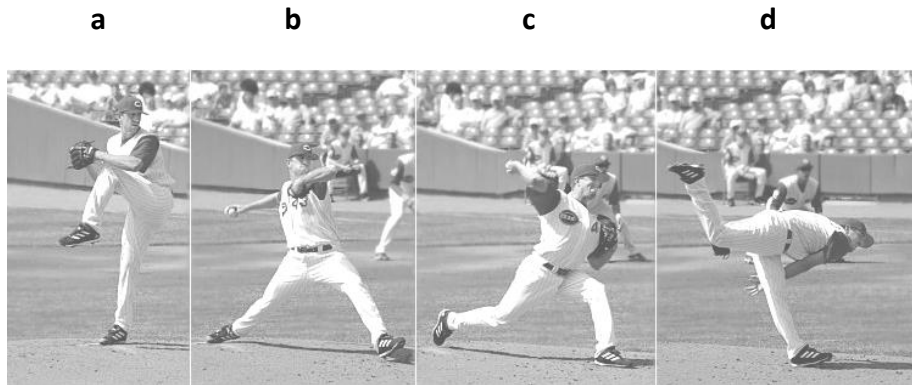
The sport of triathlon has strict drafting rules. Drafting is the act of riding behind another cyclist, where the following cyclist uses less energy to maintain the same speed that they are trailing. This creates an unfair advantage.

- b. Using Bernouli's principle, explain in detail why drafting behind another cyclist gives an athlete this advantage. You may use a diagram to assist your explanation. (7 marks)

**Question 32**

**15 marks**

An integral aspect of a training program is the analysis of skills and the selection of appropriate skill improvement strategies. Consider the images of a baseball pitch (overarm throw) shown below.



a. With examples related to throwing, outline the key tasks in qualitative analysis that a pitching coach should undertake to evaluate this throwing action. (8 marks)

b. Identify the muscle fibre type that you would expect to find as the dominant one in the muscles responsible for pitching a baseball and outline characteristics of this fibre type. (7 marks)

**Question 33****15 marks**

In 1968 the Summer Olympic Games was held in Mexico, the first time the games were staged in Latin America. The high elevation of Mexico City, at 2,240 m (7,350 ft) above sea level, influenced many of the events, particularly in track and field. No other Summer Olympic Games before or since have been held at high elevation. Although a performance reducer for endurance athletes, many records were set in jumps, leaps, vaults, and throws, as well as all of the men's track events of 400 meters and less. It was also the first games at which there was a significant African presence in men's distance running. Africans won at least one medal in all running events from 800 meters to the marathon, and in so doing they set a trend for future games. Most of these runners came from high-altitude areas of countries like Kenya and Ethiopia, and they were well-prepared for the 2240 m elevation of Mexico City.

- a. Explain why the altitude of Mexico City was an advantage for explosive events but a disadvantage for endurance events. (7 marks)
- b) Identify four physiological adaptations of athletes acclimatised to altitude and explain how the physiological adaptations would be an advantage to their performance. (8 marks)

**Question 34****15 marks**

You are the coach of a sporting team that has recently concluded its competitive season. The team had an unsuccessful campaign and many players complained about feeling 'flat' physically and psychologically during the finals series. What's more, as the season went on there seemed to be growing instances of player conflict.

a. Divide the twenty four week competitive phase into three mesocycles. Explain why and how training would be modified in each mesocycle to improve performance next season.

(6 marks)

b. Discuss a method of measuring group cohesion and describe strategies for developing a more cohesive team.

(9 marks)

**End of Section Three**

**End of Paper**