



Western Australian Certificate of Education Examination, 2010

Question/Answer Booklet

PHYSICAL EDUCATION STUDIES

Stage 2

Please place your student identification label in this box

Student Number: In figures

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In words

Time allowed for this paper

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

Materials required/recommended for this paper

To be provided by the supervisor

This Question/Answer Booklet
Multiple-choice Answer Sheet

To be provided by the candidate

Standard items: pens, pencils, eraser, correction fluid/tape, ruler, highlighters

Special items: non-programmable calculator

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 notes or other items of a non-personal nature in the examination room. 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 examination comprises a written examination worth 70 per cent of the total examination score and a practical examination worth 30 per cent of the total examination score.

Structure of this paper

Section	Number of questions available	Number of questions to be answered	Suggested working time (minutes)	Marks available	Percentage of total exam
Section One: Multiple-choice	20	20	30	20	14
Section Two: Short answer	8	8	75	50	35
Section Three: Extended answer	4	2	45	30	21
Total					70

Instructions to candidates

- The rules for the conduct of Western Australian external examinations are detailed in the *Year 12 Information Handbook 2010*. Sitting this examination implies that you agree to abide by these rules.
- 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, do not erase or use correction fluid, and shade your new answer. 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 and Three: Write answers in this Question/Answer Booklet.

- You must be careful to confine your responses to the specific questions asked and to follow any instructions that are specific to a particular question.
- Spare pages are included at the end of this booklet. They can be used for planning your responses and/or as additional space if required to continue an answer.
 - Planning: If you use the spare pages for planning, indicate this clearly at the top of the page.
 - Continuing an answer: If you need to use the space to continue an answer, indicate in the original answer space where the answer is continued, i.e. give the page number. Fill in the number of the question(s) that you are continuing to answer at the top of the page.

See next page

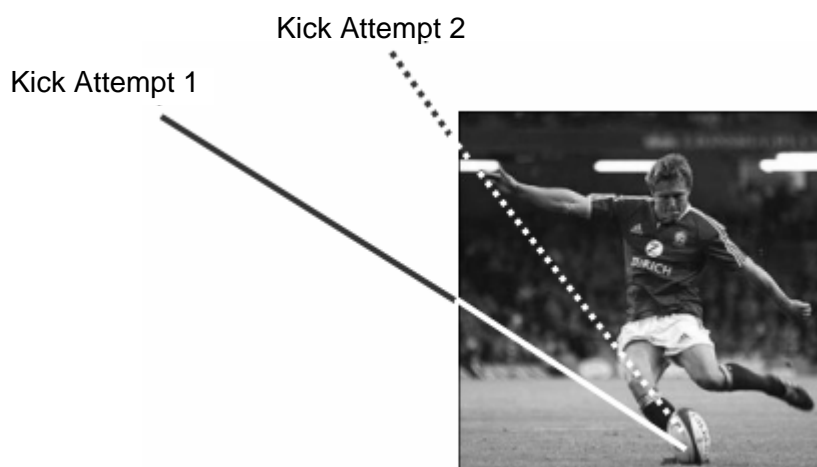
Section One: Multiple-choice

14% (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, do not erase or use correction fluid, and shade your new answer. 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.

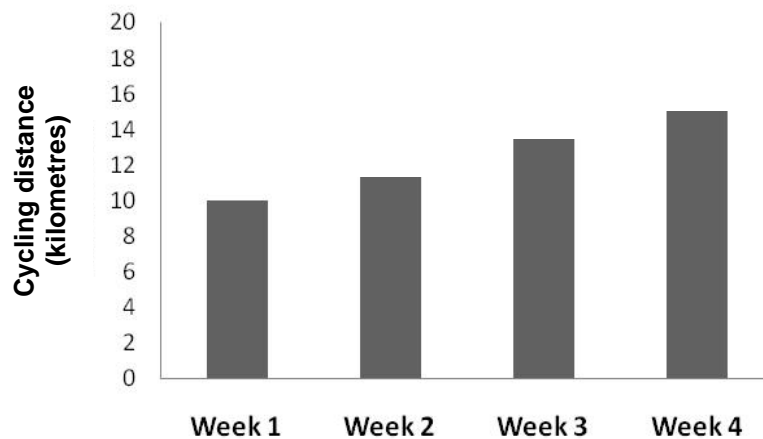
1. A rugby player is trying to maximise the distance he can kick the ball. Using the information provided in the diagram below, choose the answer that best explains why his first kicking attempt travels further than his second attempt.



- (a) greater height of release
(b) optimum angle of projection
(c) greater velocity of projection
(d) greater inertia of the ball
2. The coach of an Olympic high jumper knows that his athlete jumps best when he focuses on his technique and not the height he must clear. On the basis of this information, which of the following types of feedback should the coach provide?
- (a) knowledge of result
(b) intrinsic feedback
(c) knowledge of performance
(d) terminal feedback
3. Aaron has improved his free-throw goal shooting percentage in basketball this season. Previously, he would walk up to the line and just shoot the ball 'whenever', but this season he has changed his approach. For every free throw, he walks up to the line, takes a deep breath, dribbles once and then takes his shot. What mental skill strategy is Aaron utilising to improve his performance?
- (a) self-talk
(b) imagery
(c) goal-setting
(d) performance routine

See next page

4. Vanessa has been training for her first 5 km race for the last three months. She has had no previous training experience. Which of the following responses would you expect to occur as a result of the training?
- (a) decreased cardiac output
 - (b) decreased resting heart rate
 - (c) decreased haemoglobin level
 - (d) decreased blood volume
5. The following graph represents the training load of a development soccer team leading into finals. Which training principle was followed properly, according to this graph?



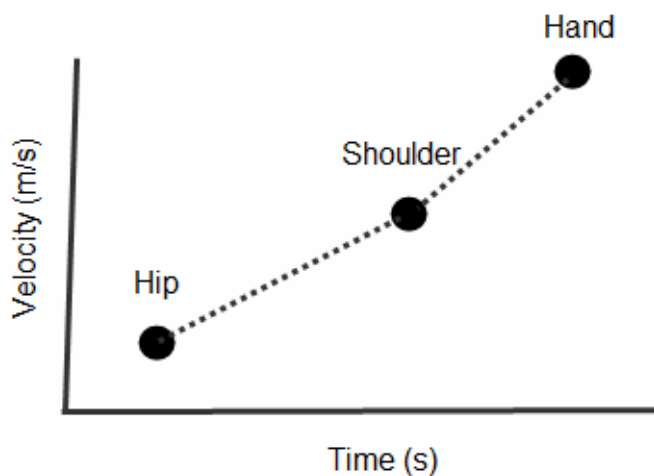
- (a) progressive overload
 - (b) specificity
 - (c) reversibility
 - (d) tapering
6. Following the last regular hockey match of the season, Coach Simpson discussed the match with his players, giving information about how the team played. He included comments on well-played sections as well as portions of the game he felt they could improve. Which interpersonal skill did Coach Simpson use with his players?
- (a) frontloading
 - (b) intrinsic feedback
 - (c) debriefing
 - (d) concurrent feedback
7. In the Winter Olympics, the biathlon requires athletes to have both aerobic endurance and shooting accuracy. Andrea was new to this sport and her coach structured her training to work on aerobic endurance and shooting accuracy on separate training sessions for the first two months before having her work on them in the same training session. What type of teaching strategy did Andrea's coach use?
- (a) specific or variable
 - (b) skill to skill
 - (c) theory to practice
 - (d) whole or part

8. The following table shows an example of a training day for a 1500-metre runner. What type of training method is this athlete using?

Set	Repetitions x Distance	Time to complete repetition	Rest between repetitions
1	6 x 400 metres	75 seconds	90 seconds; slow jog
2	6 x 800 metres	180 seconds	200 seconds; jog/walk

- (a) continuous
(b) cross-training
(c) interval
(d) reversible
9. Two athletes were about to perform their ice skating routines in the 2010 Winter Olympics. One athlete was announced and with the cheering of the crowd and the excitement of the event he rushed onto the ice, adrenalin pumping, ready to perform. The other athlete heard the crowd, and felt the excitement but first took time to do some deep breathing, calming himself before going onto the ice. Both athletes performed near-perfect routines. What was the primary difference between these two athletes?
- (a) intrinsic motivation
(b) level of concentration
(c) preferred arousal level
(d) imagery technique
10. Which one of the following athletes would you expect to break down and utilise the greatest amount of glycogen during their event?
- (a) 100 metre sprinter
(b) high jumper
(c) javelin thrower
(d) long-distance swimmer
11. Lisa is new to resistance training. After the first two weeks, she noticed she could lift more weight than when she started. Her improvements in this very short period of time were most likely the result of which of the following?
- (a) respiratory adaptations
(b) improved haemoglobin levels
(c) neuromuscular adaptations
(d) increased muscle size

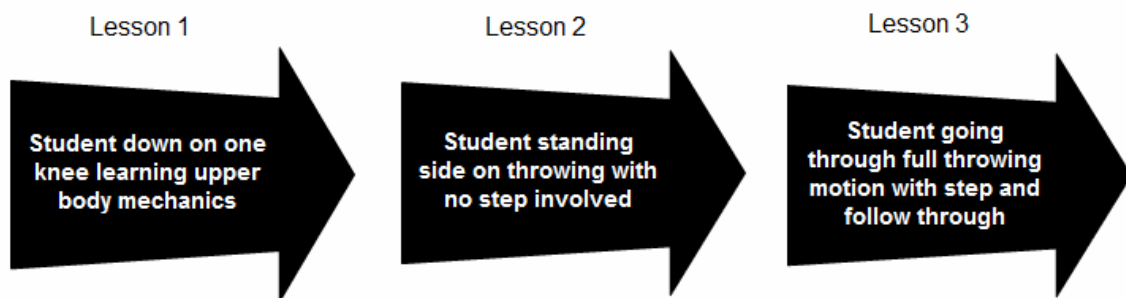
12. The length of an event can vary the contribution of energy systems. Choose the running event that would result in an almost equal contribution of energy from the aerobic and anaerobic energy systems.
- (a) 10000 metre
 - (b) 5000 metre
 - (c) 400 metre
 - (d) 100 metre
13. A recently-injured gymnast has improved the strength and power of his injured knee. Although he is now on his way to recovery, which of the following rehabilitation goals should the athlete also meet before returning to competition?
- (a) to increase inflammation
 - (b) to increase proprioception
 - (c) to decrease range of motion
 - (d) to decrease cardiorespiratory fitness
14. A sports scientist measured the velocity of each body segment during a specific movement and plotted the maximum velocity of each segment on the graph below. What type of movement is this action in terms of the coordination continuum?



- (a) summation
 - (b) simultaneous
 - (c) sequential
 - (d) specific
15. According to the principle of specificity, an athlete involved in an explosive, short-duration activity, such as the long jump, would give priority to improving which component of fitness?
- (a) isometric strength
 - (b) muscular power
 - (c) muscular endurance
 - (d) cardiorespiratory endurance

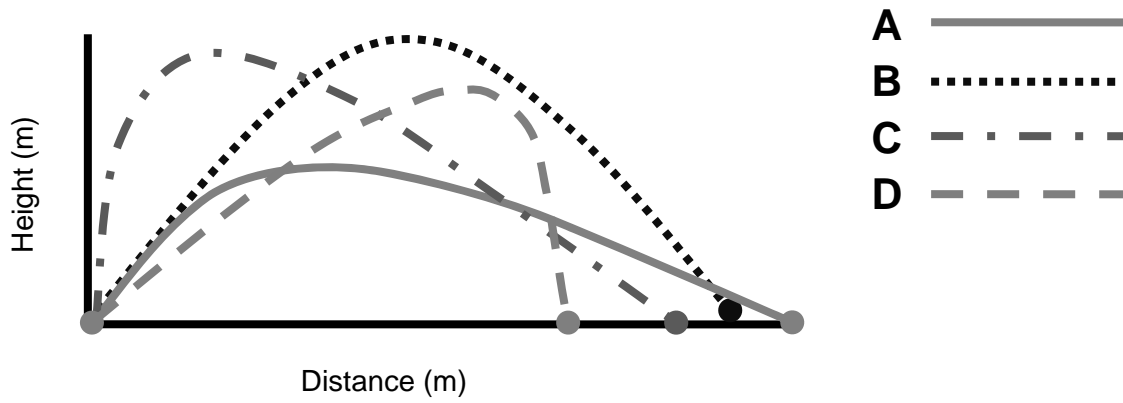
16. Behavioural change has been described as occurring in different stages. Paul is a new university student who has made a promise to himself that he will start going to the gym. However, for the next few months he feels he has too much study and will start going to the gym after the semester finishes. Select his current stage of change.
- (a) contemplation
 - (b) action
 - (c) pre-contemplation
 - (d) maintenance

17. Learning to throw a ball for the first time can be a difficult task. Therefore, a physical education teacher sets up the following plan to teach the skill of throwing in three lessons. What type of teaching method is this teacher utilising?



- (a) chaining
 - (b) shaping
 - (c) open
 - (d) simple
18. An unexpected event has caused a new head coach to be put in charge of a cricket team just two weeks before the grand final. The team has a very large number of members and is in need of motivation. What type of leadership style should the coach adopt under the circumstances?
- (a) autocratic
 - (b) laissez-faire
 - (c) democratic
 - (d) pessimistic
19. During a 400-metre swimming race, the announcers indicate the swimmer in the lead has decreased their time during each 100-metre split of the race. One could assume that the athlete is
- (a) decreasing their speed.
 - (b) maintaining their speed.
 - (c) maintaining their acceleration.
 - (d) decreasing their acceleration.

20. The graph below represents the trajectory of four different ball paths. Using your understanding of projectiles, state which ball path represents a ball **not** affected by air resistance or spin.



- (a) A
- (b) B
- (c) C
- (d) D

End of Section One

See next page

Section Two: Short answer

35% (50 Marks)

This section has **eight (8)** questions. Answer **all** questions. Write your answers in the spaces provided in this Question/Answer Booklet. Wherever possible, confine your answers to the line spaces provided. Use a blue or black pen (**not** pencil) for this section.

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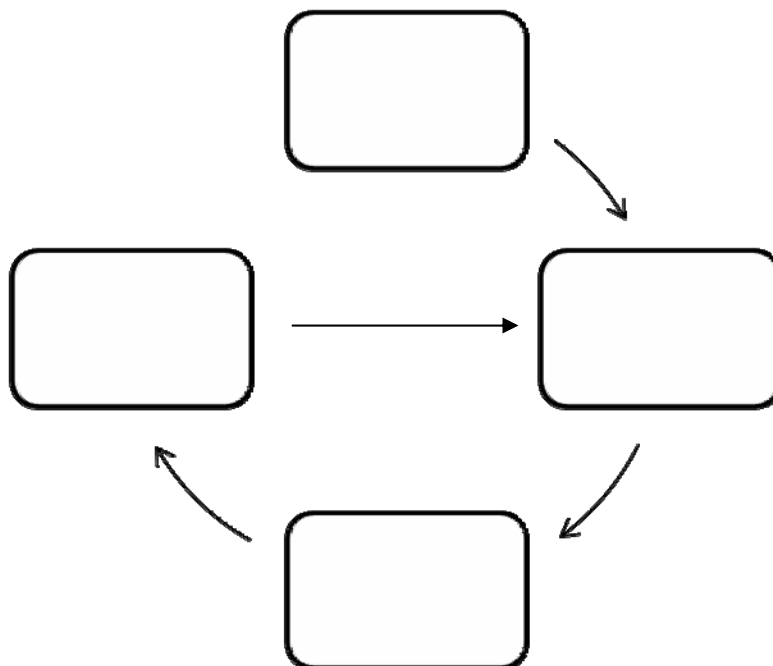
Suggested working time: 75 minutes.

Question 21

(8 marks)

One of the most important aspects of coaching is assisting an athlete to address technical errors observed during the performance of their skill. Below is a diagram used to describe the steps of the observation process.

- (a) Using your understanding of the observation process, correctly label the diagram below. (4 marks)



- (b) Feedback from a coach is an important means of helping athletes to improve. Name two forms of feedback that could benefit junior athletes. (2 marks)

One: _____

Two: _____

- (c) Provide an example of each of the forms of feedback you named in part (b), using a skill of your choice. (2 marks)

Example One: _____

Example Two: _____

Question 22

(6 marks)

When an athlete uses an implement to strike a ball they try to contact the ball at a position on the bat or racket called the 'sweet spot' to maximize the distance the ball is hit.

The image below shows a young cricketer swinging a bat with the goal of hitting the ball as far as he can.



- (a) Name and explain the biomechanical principle that the player would apply in choosing the position of the 'sweet spot' to maximise the distance the ball is hit. (3 marks)

Principle: _____

Explanation: _____

- (b) Identify the **three (3)** factors related to projectile motion that affect the distance the cricket ball will travel. (3 marks)

Factor One: _____

Factor Two: _____

Factor Three: _____

Question 23

(6 marks)

Read the following extract from an article published in *The West Australian*.

Former junior Australian Open winner Brydan Klein will make his comeback from a six-month racial abuse ban at the Cliffs Esperance International beginning on Tuesday. Klein was given the ban for calling his South African opponent a 'kaffir' during a match in England in June 2009.

But the final two months were converted to a probationary period after Klein completed a racial sensitivity training course, allowing him to resume in Esperance ahead of the Australian Open wildcard playoffs next month.

In 2007, Klein was slapped with a two-month ban by Tennis Australia for bad on-court behaviour.

The world No.208 knows he cannot afford to fall foul of officials again. "I'm planning on never again having anything happen like what happened a few months ago," he said. "I've been seeing a sports psychologist and working on different techniques, trying to stay calm while in a competitive situation. I've been putting myself in a lot of heated situations in practice and I've been practising all different things."

Name and describe three techniques the sports psychologist may have suggested Brydan use to control himself during a competitive situation and to refocus on the match.

Technique One: _____

Description: _____

Technique Two: _____

Description: _____

Technique Three: _____

Description: _____

Question 24**(6 marks)**

Nick Johnson (29 years old) is a professional Australian Rules football player who has been plagued with a serious neck injury. Due to this injury he has been forced to retire. Before he came to this realisation, he consulted his specialist, the club doctor and his family. After finalising his decision, he called a press conference to announce his retirement to the media.

Using the transtheoretical model, name the stages of change Nick has gone through to announce his retirement from Australian Rules football and justify why he is in each stage of change.

Stage One: _____

Justification: _____

Stage Two: _____

Justification: _____

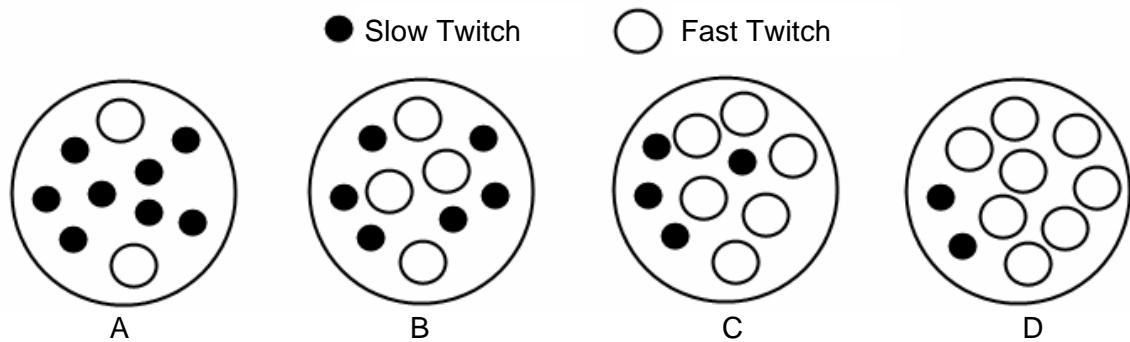
Stage Three: _____

Justification: _____

Question 25

(8 marks)

The following diagrams represent a cross-section of muscle with the fast twitch and slow twitch fibre types found in four elite athletes.



(a) Identify the diagram that most likely represents the fibre type percentage of a marathon runner. (1 mark)

(b) Identify the diagram that most likely represents the fibre type percentage of a high jumper. (1 mark)

(c) Complete the following table with characteristics of each muscle fibre type. (6 marks)

Fibre Type Characteristics	
Slow Twitch	Fast Twitch
1.	4.
2.	5.
3.	6.

Question 26

(5 marks)

Outline **five (5)** of the immediate effects of intense physical activity on the circulatory system.

(5 marks)

Effect One: _____

Effect Two: _____

Effect Three: _____




Effect Four: _____

Effect Five: _____

Question 27

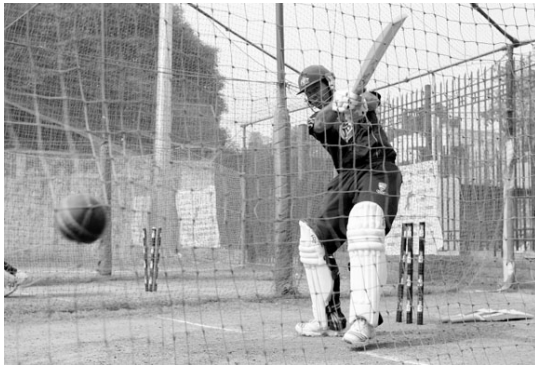
(5 marks)

Using the information below on resistance training, complete the table.

Type of resistance training	Type of muscular contraction used	Definition of muscular action used
	<p>Isokinetic</p>	
		
		

Question 28

(6 marks)



(a) Using the images above, identify the type of 'transfer of learning' that is shown. (1 mark)

(b) Identify **two (2)** other types of 'transfer of learning'. (2 marks)

Type One: _____

Type Two: _____

(c) Describe **three (3)** effects that can occur as a result of transfer of learning. (3 marks)

Section Three: Extended answer

21% (30 Marks)

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

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Suggested working time: 45 minutes.

Question 29

(15 marks)

Speed skating is the fastest human-powered sport in the world that is not mechanically assisted. Skaters can reach speeds of more than 60 kilometres per hour. By comparison, cross-country skiers can average speeds up to 25 kilometres per hour.



Below are the winning times for two events at the 2010 Vancouver Winter Olympics:

Event (Men's)	Time
500 m Speed Skating	34.906 sec
50 km Cross Country Skiing	2 hours 5 min 35.5 sec

- (a) Using the information provided in the table, compare and contrast the relative contribution of the three energy systems in the two events shown. (5 marks)

Question 30

(15 marks)

Below is the training diary for Scott, a 37-year-old male kayak paddler, five weeks before he participates in his tenth Avon Descent (marathon paddling event across several days). He finished eighth in this race last year.

	Mon	Tues	Wed	Thur	Fri	Sat	Sun
WEEK 1	Continuous 10km paddle round trip– Riverton to Mt Henry Bridge.	Weights – emphasis on upper body and abdominals 90 mins 3 sets 20 reps at 50% max	Jogging - 90 mins at 140BPM	Weights – full body circuit 90 mins 45 sec on with 15 off	Double-Ski with brother easy talking continuous 12km	Swim at Challenge Stadium with Aussie Masters 5km aerobic base	Surf Club Ski Training 5x1500m time trials Rapids practice 2hrs
WEEK 2	Swiftwater rescue skills course for Avon safety – 2hr	Morning - rowing ergos – intervals 4x1km with 10 min rest between Afternoon – continuous 10km	Weights – 4 sets of 12 reps at 80% back, chest, legs, arms and abs	Paddle to work 4km continuous Paddle home 4km continuous	Swim with brother 6km interval session	Continuous 15km paddle 5km hard, 5km easy 5km hard.	Surf Club Iron Man training – sand running, board paddle, ski, swim 3hrs
WEEK 3	Rapids practice anaerobic and skills– 3hrs	Continuous paddle 10km	River paddle – 500 m fast, 1km technique total approx 6km	Weights – circuit 90 mins 30 secs on 30 off – high intensity	2hr hills bike ride with brother	Surf Club Race to Rotto 20km paddle – 2.5hrs 1st place	Surf Club Cruise to Cottesloe 20km return 3hrs
WEEK 4	SICK DAY	SICK DAY	SICK DAY	SICK DAY	Continuous paddle 10km easy	Continuous 15km paddle 2.5km fast/2.5km easy distance per stroke	Surf Club Pentathlon – 1.2km swim, 4km sand run, 1.5 board paddle, 10km bike, 2km ski. Total approx 1.25hrs
WEEK 5	10km continuous paddle river	REST	Morning – 8km paddle Afternoon – 8km paddle	Rapids practice 2hrs	REST	AVON STARTS	

- (a) Describe the training principles and methods Scott has considered in setting up this program. (10 marks)

ACKNOWLEDGEMENTS

Section One

Question 1 Photograph adapted from: Dave's Football Blog (2007). Free creative commons. Retrieved April, 2010 from <http://www.davesfootballblog.com/wp-content/uploads/2007/07/lastkick250.jpg>

Section Two

Question 22 (n.d.). Young cricketer swinging a bat [Photograph]. Retrieved April, 2010, from <http://www.activities4kids.com.au/images/cricket%20kid.jpg>

Question 23 Extract from: Quartermaine, B. (2009, November 14). West Australian Klein admits facing career match point. *The West Australian*. Retrieved April, 2010 from <http://www.perthnow.com.au/sport/tennis/west-australian-klein-admits-facing-career-match-point/story-e6frg273-1225797773719>

Question 27 Image: (n.d.). Hawkins [Photograph]. Retrieved April, 2010, from <http://www.teambath.com/wp-content/uploads/PS1%20CC%20Biodex%20Hawkins.jpg>

Bissaillon, B. (n.d.) Barbell [Image]. Retrieved April, 2010 from http://www.building-muscle101.com/images/barbell_curl.jpg

(n.d.). Female in hover exercise position [Photograph]. Retrieved April, 2010, from http://www.menshealth.com/media/images/cma/abs_bridge_301x153.jpg

Question 28 (n.d.). Cricketer at the nets [Photograph]. Retrieved April, 2010, from <http://static.guim.co.uk/Guardian/sport/gallery/2008/oct/28/golf-cricket/GD9367311@Australia-cricket-cap-6311.jpg>

(n.d.). Cricketer batting. [Photograph]. Retrieved April, 2010, from http://www.seatwave.ie/filestore/SEASON/IMAGE/australia-cricket_009488_1_MainPicture.jpg

Section Three

Question 29 (n.d.). Speed skater. [Photograph]. Retrieved April, 2010, from http://newsimg.bbc.co.uk/media/images/42337000/jpg/_42337997_skating_416.jpg

(n.d.). XC Skier [Photograph]. Retrieved April, 2010, <http://home.hia.no/~stephens/vo2skiingfield2.jpg>

Question 31 <http://img.slate.com/media/1/123125/2104730/2194606/2196568/>
(n.d.). Discus thrower [Photograph]. Retrieved April, 2010, from [080820_FRC_Clay_EX.jpg](http://img.slate.com/media/1/123125/2104730/2194606/2196568/080820_FRC_Clay_EX.jpg)

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