



# **PHYSICAL EDUCATION STUDIES**

## **Stage 3**

### **WACE Examination 2012**

#### **Marking Key**

Marking keys are an explicit statement about what the examiner expects of candidates when they respond to a question. They are essential to fair assessment because their proper construction underpins reliability and validity.

When examiners design an examination, they develop provisional marking keys that can be reviewed at a marking key ratification meeting and modified as necessary in the light of candidate responses.

**Section One: Multiple-choice**

**10.5% (15 Marks)**

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<b>Question</b>	<b>Answer</b>
1	d
2	c
3	b
4	a
5	d
6	a
7	b
8	a
9	c
10	c
11	c
12	a
13	a
14	d
15	b

Section Two: Short answer

31.5% (45 Marks)

Question 16

(6 marks)

The illustration shows a gymnast performing a back somersault while changing body positions when airborne.

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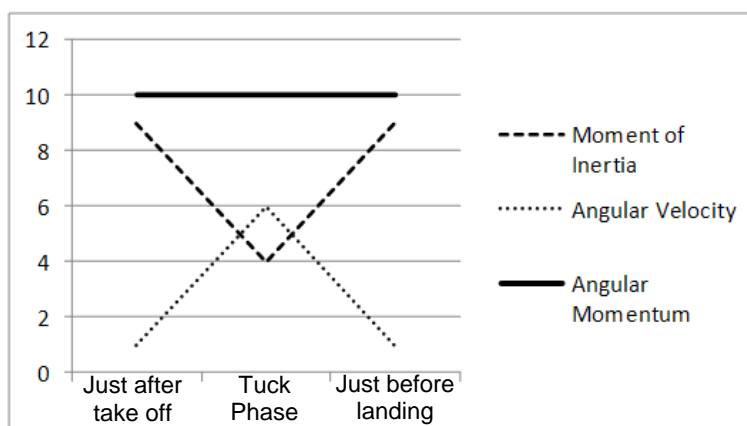
- (a) Circle the correct response. During the tuck phase of the back somersault, angular momentum will (1 mark)

increase.

decrease.

remain constant.

- (b) On the axes below, graph the relative change in the moment of inertia, the angular velocity and the resulting angular momentum in the somersault from just after the take off phase to the tuck phase, then to just before the landing phase. Label your lines clearly. (3 marks)



Description	Marks
1 mark for each correctly drawn line showing correct relative change; angular momentum line being horizontal (straight or curved lines both acceptable)	1-3
	<b>Total 3</b>

- (c) Assuming angular momentum is fixed, describe the **two** variables that limit the number of somersaults this gymnast can complete once airborne. (2 marks)

Description	Marks
1. Air time is how much time one has in the air / height of takeoff	1
2. Rotation time / rotation velocity is how long the average somersault takes <b>or</b> making a tighter tuck that reduces moment of inertia / reduce the radius of rotation	1
	<b>Total 2</b>

**NB:** Only 1 mark if response gives two factors as moment of inertia and angular velocity because they are variables of the one factor.

**Question 17**

**(6 marks)**

The picture below shows a bicycle pedal arm as a lever with the letters 'A' to 'E' representing it in **five** different positions.



- (a) The pedal arm is an example of which type of lever? (1 mark)

Description	Marks
2nd class lever	1
	<b>Total 1</b>

- (b) Circle which letter represents the position at which the greatest moment of force (torque) is applied. (1 mark)

A    B    **C**    D    E

Description	Marks
Position (c)	1
	<b>Total 1</b>

- (c) Explain **two** changes that could increase this lever's output and enable a cyclist to increase their linear velocity. (2 marks)

Description	Marks
Any two of:	1-2
increase force applied vertically at a right angle to the pedal arm	
increase length of pedal arm - lever length (equipment)	
increase the size of the cog to which chain is attached (equipment)	
<b>Total 2</b>	

- (d) If seat height is not adjusted in relation to the rider's leg length, the efficiency of force application is affected. State the functional anatomy principle behind this and explain its effect when the seat is set too low, resulting in extreme hip and knee flexion, with the heels being close to the buttocks during pedalling. (2 marks)

Description	Marks
1 mark for principle; 1 mark for explanation of low seat height	1
<u>Principle</u> : force-length or tension-length principle. Amount of force can be applied depends on the range of movement (angular displacement) and strength of the muscle contraction of joint extensors to push down on pedal.	
<u>Seat too low</u> – force output is less efficient because over-flexion of hip and knee (heels to buttock) limits muscle shortening to very small joint range muscle is contracting only through small range of movement and force output is reduced, or similar words	1
<b>Total 2</b>	

Question 18

(6 marks)

In 1968, the East German chief medical officer recommended compulsory administration of anabolic steroids to all of that country's athletes. For the next decade, the East German Olympic team placed top in the three in the medal tally, breaking many world records. Unfortunately, this regime had lasting negative physiological side effects on the athletes. State **two** short-term and **four** long-term negative physiological side effects that a male athlete on this team may have encountered.

Description	Mark allocation
Any two of: <b>Short-term</b>	1-2
<ul style="list-style-type: none"> <li>• Reduced sperm count / impotence</li> <li>• High blood pressure</li> <li>• Enlarged prostate</li> <li>• Difficulty urinating</li> <li>• Acne</li> </ul>	
Any four of: <b>Long-term</b>	1-4
<ul style="list-style-type: none"> <li>• Increase risk of heart disease/cardiovascular disease/sudden heart attack/death</li> <li>• Hyperinsulism</li> <li>• Atrophy of the testicles/infertility</li> <li>• Baldness - Alopecia</li> <li>• Acne</li> <li>• Development of breasts</li> <li>• Kidney disease/malfunction</li> <li>• Liver disease/liver cancer/liver dysfunction</li> <li>• Arterial damage/stroke risk</li> <li>• Harmful levels of cholesterol (higher LDL)</li> <li>• Stunted growth in adolescents.</li> </ul>	
<b>Total 6</b>	

NB: Acne one mark only (short or long)

Question 19

(5 marks)

An athlete is preparing to compete in a triathlon at the Olympic Games, which comprises a 1.5 km swim, a 40 km bike ride and a 10 km run.

- (a) In terms of the glycemic index(GI), justify the type of foods a triathlete should consume in the lead-up to, during and immediately after the event. (3 marks)

Description	Mark Allocation
Lead-up: The athlete should have a low GI meal so energy is released throughout the duration of the race	1
During: The athlete should have a high GI meal/drink/snack so energy from glucose can become available to the muscles	1
Immediately after: The athlete should have a high GI meal/drink/snack to assist recovery	1
<b>Total 3</b>	

- (b) On the basis of your answers to Part (a), give a specific example of an appropriate food the athlete could consume in the lead-up to and during the triathlon. (2 marks)

Description	Mark Allocation
Lead-up An appropriate example of a low GI food e.g. grains, cereals, nuts, bread	1
During An appropriate high GI <b>food</b> (not drink) that can be snacked on in a bike leg. e.g. banana, sweets, CHO gels, jube lollies	1
	<b>Total 2</b>

**Question 20**

**(6 marks)**

Your coach is concerned at the quality of your final quarter play in your chosen team sport and decides to video your performance in that part of a tough competition game.

- (a) Discuss the process of using video methods to analyse and reflect on performance in a sport of your choice. Include at least **four** steps in your answer. (2 marks)

Description	Marks
0 = does not discuss process or describes only 2 or fewer steps 1 = describes only 3 steps (e.g. incomplete – missing review or feedback or training plan); 2 = describes 4 valid steps/points	
Process of using a video – identifies 4 valid steps e.g. (i) Film section of game, (ii) Replay for analysis/review, identify errors/compare to ideal performance/compare to previous performance (iii) Give feedback, (iv) Implement strategy for correction at training, or similar terms/steps acceptable or Knudsen and Morrison (i) Preparation (ii) Observation (iii) Evaluation (iv) Intervention or Self Reflection (i) Reflect (ii) Recognise errors (iii) Plan (iv) Take action	1–2
	<b>Total 2</b>

- (b) Give an example of **one** skill weakness and **one** physiological weakness that you observe from the video of your final quarter play in the sport of your choice. (2 marks)

Description	Marks
Skill weakness - one valid example for their sport	1
Physiological weakness - one valid example for their sport	1
	<b>Total 2</b>

- (c) Describe how the information could be addressed at your next training session. Consider each weakness observed in Part (b). (2 marks)

Description	Marks
In answer links the weakness observed in final quarter and appropriate training strategy (1 mark per example) <b>Skill</b> errors due to opposition pressure/ poor decision making – drills activities practice pressure situations <b>Physiological/</b> fatigue errors – increase aerobic fitness; or strength or power (depending on weakness example given)	1–2
<b>Total 2</b>	

Question 21

(6 marks)

An effective coach will adapt their leadership style to suit different team circumstances. Assume you are coaching a novice team. For each leadership style, describe **one** coaching situation for which the style is appropriate and **one** negative consequence of using only that style. Complete the table below to show your understanding.

Coaching Style	Description	Marks
<b>Coaching Style</b>	<b>Coaching situation appropriate for this style</b>	
<b>Casual / Laissez-faire</b>	e.g. allowing players to choose what to do and for how long/when they'll do it e.g. when letting team play a mini game to see what they have learned; practise your skills while waiting for the whole team to arrive; or valid example	1
<b>Authoritarian</b>	e.g. when teaching dangerous, risky skills to ensure safety; when coaching intense fitness training sessions to ensure compliance to the reps and intensity; or valid example	1
<b>Democratic</b>	e.g. players vote on their favourite minor game to play; players choose the drill to do; or valid example	1
<b>Coaching Style</b>	<b>Negative consequence of using only this style</b>	
<b>Casual / Laissez-faire</b>	e.g. players can waste time and fool around; risky or dangerous situations could occur with bats/objects; players lack direction i.e. may not know what they don't know; or similar valid negative factor	1
<b>Authoritarian</b>	e.g. not as much fun; too strict; players feel anxious because coaching style is too harsh/too critical; too many rules at training or similar valid negative factor	1
<b>Democratic</b>	e.g. coaching sessions lose their focus of team goals; not choose what's important to learn and practise; waste time debating or deciding; or similar valid negative factor	1
<b>Total 6</b>		



Question 22

(5 marks)

For an athlete's thought 'to bounce and catch a tennis ball' to become a precise motor action, the information must be sent from the brain to the arm and hand muscles.

- (a) Describe the function of the following elements of the neuromuscular system involved in producing this action. (3 marks)

Axons of the motor neurone  
Dendrites of the sensory neurone  
Spinal cord

Description	Marks
<b>Axons of motor neurones</b> transmit electrical signals/stimulation/information away (from cell body) to muscle fibres (to contract), or similar words	1
<b>Dendrites of sensory neurones</b> are the sensory receptors signalling / sensing movement has occurred, or similar words	1
<b>Spinal cord</b> relays (carries) information between (from and to) brain (central nervous system) and muscles (periphery)	1
	<b>Total 3</b>

- (b) Define the motor unit.

Description	Marks
<b>Motor unit</b> is term for the motor neurone and all the muscle fibres with which it connects/innervates or similar words, (may also state that for precision movements few muscle fibres per MU; for gross actions that large numbers of muscle fibres per MU but not essential for full mark)	1
	<b>Total 1</b>

- (c) Explain the 'all-or-nothing' principle of muscle stimulation.

Description	Marks
<b>'All or nothing' principle:</b> if the motor neurone electrical threshold is reached then all the muscle fibres with which it connects will contract to maximum and all at the same time, or similar words.	1
	<b>Total 1</b>

Question 23

(5 marks)

(a) Define social loafing.

(1 marks)

Description	Marks
Definition: Reduction of effort and motivation by an individual within a team as the group size increases – or similar words Alternatively - Exerting less effort to achieve a goal when they work in a team as compared to when they work alone – or similar words (Answer must make reference to individual effort within a group.)	1
	<b>Total 1</b>

(b) To demonstrate your understanding of Carron’s model of group cohesion, identify and apply with an example each of the **four** factors to your performance as a member of a sporting team.

(4 marks)

Description	Marks
Carron’s Model of Group Cohesion - Four factors affect the development of cohesion (correct name of factor with correct example)	
<b>Environmental</b> – factors binding members to a team Examples include – contracts, location, age, eligibility, provided opportunities for socializing – <b>linked to a sport</b>	1
<b>Personal</b> – individual characteristics of team members Examples include – motives for participating - task motivation - affiliation motivation. Self motivation - develop ownership feelings and social groupings – <b>within the sporting team</b>	1
<b>Leadership</b> – the style of leadership and the relationships developed Examples include – the leaders and coaches’ behavior - leadership styles influence different individuals in the development of group cohesion. Coach – team relationship, Coach – athlete relationship – <b>linked to a sporting situation</b>	1
<b>Team</b> – relates to the characteristics of the task - factors relating to the group - creation of team short and long-term goals Examples include – team identity, targets – desire for group success, member ability and roles, rewarding of individual and team efforts. Team stability – how long the team has been together. Shared vision and goals. Shared understanding of strategies and tactics being used. Placing team goals before personal. Working together complementing each other’s strength – <b>linked to a sporting situation</b>	1
	<b>Total 4</b>

Section Three: Extended answer

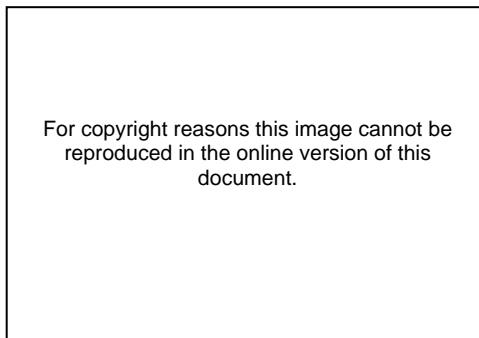
(40 Marks)

Question 24

(20 marks)

- (a) Soccer involves striking patterns using the lower leg rather than an implement (see image below). Demonstrate your understanding of any **four** of the following biomechanical principles when striking (kicking) the ball in soccer. (12 marks)

- segmental interaction
- force-time
- inertia
- optimal projection
- spin



To assist your explanations you may include fully-labelled diagrams.

Description	Marks
A maximum of 3 marks for each of four (4) principles; 1 mark per valid point to a total of 3 marks connected to each principle	
1. <b>Segmental interaction</b> (a) segments must be coordinated – each segment sequentially stabilised (b) maximise the number of segments (c) large to small body segments (d) power/velocity v's precision/accuracy	1–3
2. <b>Principle of force-time</b> (a) impulse the application of force over time (b) maximise the time of impact that the force is applied to the ball (c) maximise impulse by increasing the force applied	1–3
3. <b>Inertia</b> (a) the ball's tendency to resist acceleration – resting inertia must be overcome (may include mention of 'Newton's 1st Law' – but not necessary for the mark) (b) rotational movement, greater moment of inertia more torque, muscle force (c) lever arm	1–3
4. <b>Optimal projection</b> (a) velocity at impact (b) angle of release/flight trajectory (c) height of release – explanation in relation to ball projection	1–3
5. <b>Spin</b> (a) friction/drag greater on high pressure side (b) ball deviates lifts or dips to the low pressure side (c) Magnus effect/force named	1–3
	<b>Total 12</b>

- (b) In 2007, FIFA, the ruling body of international soccer, introduced a ban on international matches at venues more than 2500 metres above sea level. It cited concerns over players' health and the unfair advantage gained by acclimatised home teams. Identify **four** physiological adaptations of players acclimatised to altitude and explain how the physiological adaptations would be an advantage to player performance. (8 marks)

<b>Description</b>	<b>Marks</b>
1 mark for each correct physiological response and 1 mark for an explanation of how this response helps the acclimatised athlete. Any four of:	1–8
Increased capillarisation – increased ability to supply oxygen/increased blood to the muscles	
Increased haemoglobin volume and concentration – increases amount of oxygen carried by the blood	
Increased red blood cell/erythrocyte volume – more red blood cells to carry oxygen	
Increased blood viscosity – more nutrients and oxygen in the body's blood	
Increased aerobic enzymes – allows use of oxygen to produce energy/ATP faster	
Increased mitochondria – Allow higher intensity aerobic respiration	
	<b>Total 8</b>

Question 25

(20 marks)

Mary is a promising triathlete training for an élite under-23 championship. She posts fast times for the 40 km cycle leg and average times for the 10 km run leg, but the 1500 m swimming leg of the race is her weakest. She is slow at the start of the swim leg, especially when diving into ocean waves.

(a) Assume the coach wishes to focus on improving her dive entry technique:

- using specific examples, apply **three** methods of analysis that her coach could use to detect skill errors in the dive entry, and
- using specific examples, explain how he could use both theory-to-practice and training-to-competition principles to provide positive learning transfer to ocean settings. In your answer, define these transfer categories. (12 marks)

Description	Marks
States 3 of skill analysis methods and applies to detecting technique error for dive entry.	1-6
1. <b>video analysis</b> , (1 mark ) plus valid example of error detecting in dive entry (1 mark ) e.g. record, review, feedback & training – ‘arms spread apart on entry’	
2. <b>peer/coach/mentor feedback</b> (1 mark) plus example of error detecting in dive entry (1mark ) e.g. direct <u>observation</u> by coach providing <u>verbal</u> feedback ‘mistiming the beginning of a dive into the oncoming wave – too late and get caught in wash’	
3. <b>questionnaires</b> (1mark ) plus valid example of error detecting in dive entry (1 mark) e.g. ‘rating own confidence in dive entry in different competitions; or different water conditions’	
4. <b>reflective journals/diary/training log</b> (1) plus valid example of error detecting in dive entry (1), e.g. self reflection diary ‘what did the dive feel like in these water conditions’	
5. <b>use of checklists and observations schedules</b> . e.g. using <u>criteria</u> to give <u>written</u> feedback	
Gives accurate definition of <b>theory-to-practice principle</b> Theory-to-practice principle What is learned in a theory or classroom allows learning of skills, tactics or strategies. (or similar)	1

<p>Provides basic understanding by explaining with at least one basic example 1 mark for basic, simple example; 2 marks for more expansive/comprehensive explanation with specific examples to dive entry</p> <p>Examples...</p> <p>a) to teach rules of the swim leg (1 mark, basic no further explanation/ elaboration); teaching rules and also questioning athlete’s understanding and practicing the start (elaboration of point = 2 marks)</p> <p>b) teach how to read the wave patterns (1 mark basic); teaching how to read wave patterns with athlete describing their reading of waves to coach and practicing dives in different wave conditions (elaboration or point = 2 marks)</p> <p>c) identifies arms not joined on entry, coach demonstrates rocket shape for dive entry (1 mark basic point); demonstrating and teaching the biomechanical principle for streamlining (drag reduction) that underpins better diving skill (2 marks elaboration of point)</p>	<p>1–2</p>
<p>Gives accurate definition of <b>training to competition</b> principle Training to competition When skills learned during training are applied in a competitive situation (or similar)</p>	<p>1</p>
<p>Provides basic understanding by explaining with at least one basic example 1 mark for basic, simple example; 2 marks for more comprehensive description/explanation; fuller explanation with specific examples to dive entry practice</p> <p>Examples...</p> <p>1 mark for giving basic single example, such as, practising diving into ocean, for no further elaboration;</p> <p>2 marks for elaborated explanation of types of practice activities that simulate conditions similar to competition or describes how skill drills/practices could mirror/simulate the competition, such as wading into ocean; then running into ocean to dive when waist deep; or practice running from sand into water to dive from thigh level; or practice in varied ocean water conditions – calm and rough water</p>	<p>1–2</p>
	<p><b>Total 12</b></p>

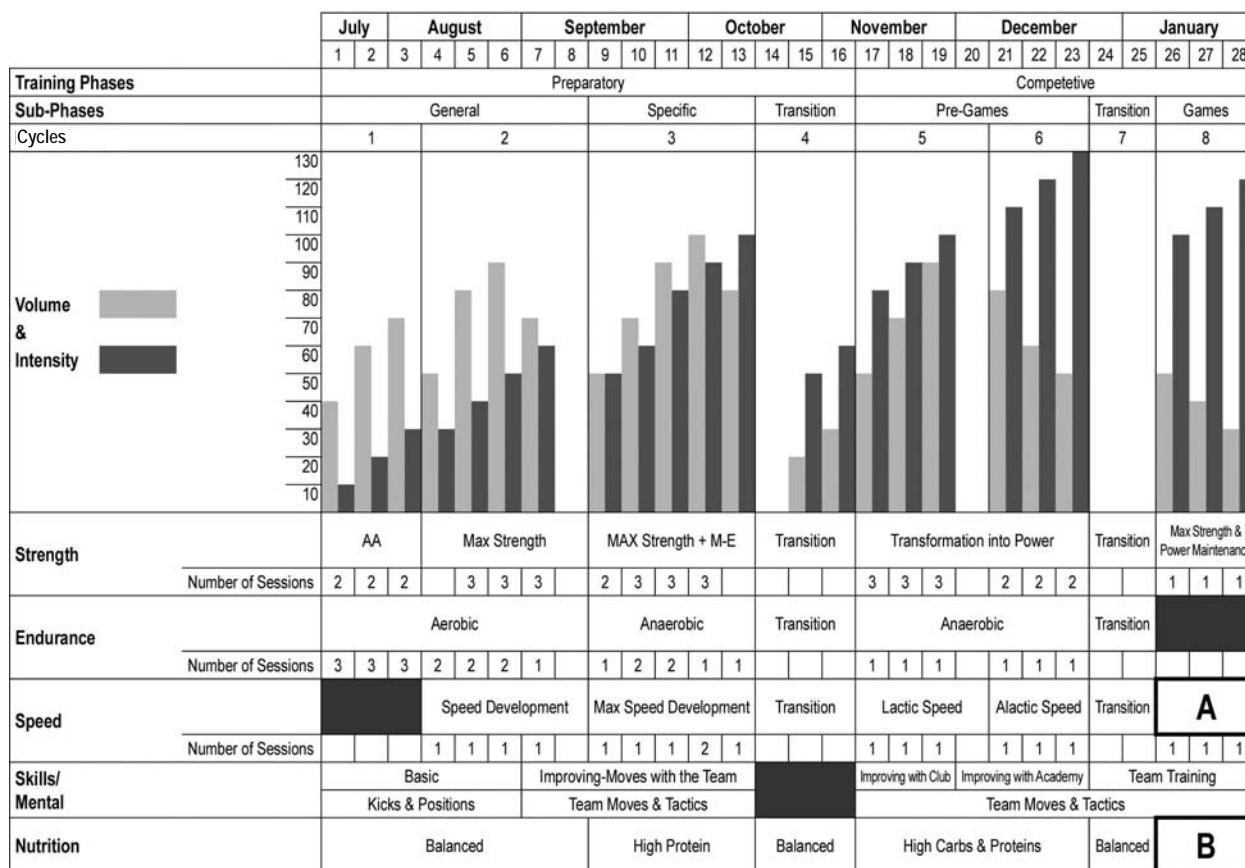
- (b) Drag is experienced in many aquatic activities. Explain the **three** types of aquatic drag for this triathlete using an example for each. Explain **two** methods of reducing drag and how each of these can affect the athlete's performance. (8 marks)

Description	Marks
1 mark for each label, 1 mark for each example, 1 mark for each of two of valid ways of reducing drag (total 2)	
<b>Type of Drag</b> (1 mark for each type, 1 mark for example)	
1. Surface/skin frictional/fluid e.g. Swimmers shaving heads or wear caps, swimsuits, or other suitable example (1mark)	1-6
2. Form (shape or pressure drag) e.g. body shape in the dive - stream line reduce frontal surface area or other suitable example	
3. Wave Drag (occurs at the interface between water and air) e.g. Swimmer reduces up and down movement of the head, recovery of limbs under the water and keeping the head in line with the body or other suitable example	
<b>Reducing Drag</b> 2 methods	
Equipment modification; shaving down; swim suit/other appropriate method	1
Technique modification	1
	<b>Total 8</b>

Question 26

(20 marks)

Below is an example of a periodisation chart for a rugby player recovering from a knee injury. Note that labels for some training blocks are obscured.



- (a) Explain the reasons for the changes in training load across the seven months of recovery, citing particular cycles that justify your explanations. In relation to Cycle 8, justify the training recommendations that you would make for both the Speed element (labelled 'A') and the Nutrition element (labelled 'B') if you were coaching this athlete. (12 marks)

Concept	Description	Marks
Injury	<ul style="list-style-type: none"> <li>Discuss low volume and intensity to start the season</li> </ul>	1
Recovery	<ul style="list-style-type: none"> <li>Recovery phases used at the end of phase 2, start of 4, end of 5 etc.</li> </ul>	1
Peaking	<ul style="list-style-type: none"> <li>Identifies peaking in phases 4–6 due to increase in intensity and decrease in volume</li> <li>Increase in intensity and decrease in volume between phases 4–8 indicates peaking</li> </ul>	1
Tapering	<ul style="list-style-type: none"> <li>Greater rest periods at the end of the season</li> <li>Increase in intensity and decrease in volume between phases 4–8 indicates tapering</li> </ul>	1
Maintenance	<ul style="list-style-type: none"> <li>Increase in intensity and decrease in volume between phases 6–8 helps maintenance</li> <li>decrease in frequency helps maintenance</li> </ul>	1
Periodisation	<ul style="list-style-type: none"> <li>Identifies that the chart breaks the season into smaller, more manageable cycles</li> </ul>	1
Overtraining	<ul style="list-style-type: none"> <li>The tapering process (phases 4–7) reduces the chance of overtraining</li> </ul>	1



<b>For Cycle 8: Speed</b> – Peaking - Answer indicates that the player has peaked in the lead-up to the competition phase	1
Speed – maintenance - Answer indicates that the idea is to maintain key elements without trying to improve	1
<b>For Cycle 8: Nutrition</b> – Answer indicates more carbohydrates needed in this period	1
Nutrition – Answer indicates that more carbohydrates are needed because of increase training demands	1
Nutrition – Answer indicates that because training intensity is greater, there is a greater energy input needed from the diet	1
	<b>Total 12</b>

- (b) For full recovery, a player with a knee injury requires coaching to re-learn motor skill techniques. Explain in detail your understanding of how the coach could use both static-dynamic and simple-complex activities in teaching locomotor skills relevant to this player's recovery. In your answer, provide examples that show a progression within each coaching activity. (8 marks)

Description	Marks
Correctly explains <b>static-dynamic</b> coaching activities. Can state a definition e.g. increasing the requirement of players in the drill to move, initially from standing still to finally full running (1 mark)	1
Provides specific and relevant examples of relatively static locomotor activities <b>or</b> example of dynamic locomotor activity only. 1 mark = Single example (i.e. no progression) <b>or</b> 2 marks = Provides contrasting examples at opposite ends of the spectrum only <b>or</b> 3 marks = Provides elaboration of at least three activities across the spectrum to show progression steps e.g. stretch, to slow walk, to jog slow, to jog faster, to run half pace, to sprint full speed; <b>or</b> slow jog to sudden accelerations - stop on whistle etc must show understanding through a range of building activities at least three steps in a progression	1–3
Correctly explains <b>simple-complex</b> activities. Can state a definition e.g. drill activities that begin with simple skills (simple movements or simple patterns) and increase in their skill, decision making or patterns for players	1
Provides specific example of simple activities – straight line walk, jog run then to cut manoeuvres, direction changes, different gaits, side steps, dodge, run backwards etc.  1 mark = Single example (i.e. no progression) <b>or</b> 2 marks = Provides contrasting examples at opposite ends of the spectrum only <b>or</b> 3 marks = Provides elaboration of at least three activities across the spectrum to show progression steps	1–3
	<b>Total 8</b>

**Question 27**

**(20 marks)**

An Olympic decathlete competes in ten individual track and field events over a period of two days. Most events, like the shot put, long and high jump, the 100 metre sprint and hurdles are power based and only the last event, the 1500 metre event requires significant aerobic capacity.

- (a) From a functional anatomy perspective, discuss the characteristics of different muscle fibres for athletic performance. Explain the main attributes of each of the three muscle fibre types in terms of energy source, contraction speed and fatigue rate. Use this information to justify which fibre type(s) would be prevalent in an élite Olympic decathlete compared with an élite marathon runner. (12 marks)

Description	Mark Allocation
1 mark for each fact	
Type I Energy source – aerobic (oxidisation) Contraction Speed – slow Fatigue rate – slow	1–3
1 mark for each fact	
Type IIa Energy source – anaerobic (glycolysis) – can partially use aerobic pathway Contraction speed – intermediate to fast Fatigue rate – rapid	1–3
1 mark for each fact	
Type IIb Energy source – aerobic (glycolysis) Contraction speed – rapid Fatigue rate – rapid	1–3
2 marks (one for answer, one for justification)	
Prevalence of Type IIa fibres would be most suited to a decathlete because the majority of events are power-based (anaerobic), but these fibres can still partially access the aerobic pathway for the 1500 metres	1–2
A marathon runner would have a high percentage of Type I fibres	1
	<b>Total 12</b>

- (b) Stephen has just competed in the hurdles event of the decathlon in front of his home crowd. This is usually one of his strongest events and his performance is normally flawless. Public expectations of Stephen were high. However, he clipped three hurdles in the last half of the 110 m race and nearly fell over. His confidence has been shaken. He is anxious, feeling unsettled and nervous, as his next event, the discus, is one of his weakest. Discuss how Stephen could apply **four** mental skills strategies to help him re-focus for the discus event, which starts in 15 minutes time. (8 marks)

<b>Description</b>		<b>Marks</b>
1 mark = name mental skill strategy relevant to performance plus 1 mark for an application to the athletic context. Any four of:		
1.	Self-talk (1 mark) – positive affirmations focusing on discus event; forget previous one it's done; focus on what's in his control; or other relevant example (1 mark)	1–2
2.	Relaxation (1 mark) – progressive muscle relaxation laying on side of track or other relevant example (1 mark)	1–2
3.	Imagery (1 mark) – focus on discus; image timing and grace; image feeling of flow or other relevant example (1 mark)	1–2
4.	Performance routines (1 mark) – practice his routines for the discus event while waiting e.g. should flex; twisting truck; perform discus action or other relevant example (1 mark)	1–2
5.	Goal-setting (1 mark) – re-evaluate goals for this event (from poor hurdles score); set a confidence building goal for first throw; set a goal that is achievable; or other relevant example (1 mark)	1–2
		<b>Total 8</b>

## ACKNOWLEDGEMENTS

### Section Two

**Question 16** Photographic sequence adapted from: Tribble, P. (2008). Do a back flip [Image] from: Van Deusen, A. *Learn a back flip*. Retrieved February 20, 2012, from <http://gymnastics.about.com/>.

**Question 17** Image of bicycle pedal adapted from: Fischer, D. (2007, March 6). *Fixed gear bike for AF1 Exhibition*. Retrieved February 20, 2012, from [www.highsnobiety.com/](http://www.highsnobiety.com/).

### Section Three

**Question 24(a)** *Soccer kick* [Image] from: [www.footiewallpapers.com/soccer-kick-image-jpg-748x702px/omegaalpha.ca%7Cpictures%7Ccontent%7Csoccer%20kick.jpg/](http://www.footiewallpapers.com/soccer-kick-image-jpg-748x702px/omegaalpha.ca%7Cpictures%7Ccontent%7Csoccer%20kick.jpg/).

**Question 26** Periodisation chart adapted from: *Rugby player after injury* [Chart]. Retrieved February 20, 2012, from <http://training-periodization.com/what-will-you-find/what-will-you-find/examples/rugby-player-after-injury/>.