

CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International Advanced Subsidiary Level

MARK SCHEME for the October/November 2014 series

9396 PHYSICAL EDUCATION

9396/12

Paper 1, maximum raw mark 90

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Section A
Applied Anatomy and Physiology

(a) (i) 5 marks for 5 of:

	type of muscle contraction	type of movement occurring	agonist muscle
elbow joint	Isotonic / concentric	Extension	Triceps brachii
wrist joint		Flexion	Wrist flexors

(ii) 2 marks for 2 of:

1. Elbow – humerus + radius / ulna
2. Wrist – radius, ulna and carpals

(iii) 5 marks for 5 of:

(sub-max of 1 mark)

1. Hinge joint

(sub-max of 4 marks)

2. Shape of the articular surface – allow bones to fit together
3. Ligaments – attach bone to bone / restrict movement
4. Muscles around the joint – support bones / restrict movement
5. Joint capsule – lined with synovial membrane
6. Synovial membrane – secretes synovial fluid
7. Synovial fluid – provides lubrication
8. Hyaline/articular cartilage – prevents friction / stops bone rubbing together
9. Pads of fat – fills spaces, no free movement

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(b) (i) 4 marks for 4 of:

1. In lungs – gaseous exchange / carbon dioxide removed / oxygen absorbed
2. To pulmonary vein – transports oxygenated blood
3. To left atrium – fills with blood / diastole
4. Atrial systole / forces blood into ventricle
5. Through atrioventricular valves / bicuspid – forced open due to pressure
6. To left ventricle – fills with blood / diastole
7. Ventricular systole / pumps blood into aorta
8. Through semi-lunar / aortic valves

(ii) 6 marks for 6 of:

(sub-max of 2 marks per section)

Point A

1. Anticipatory rise
2. Caused by release of adrenaline / noradrenaline
3. Causes SA Node to increase heart rate

Point B

4. Receptors detect need for removing carbon dioxide and increase heart rate
5. Detected by chemoreceptors
6. Higher VO_2 / more O_2 being used

Point C

7. Recovery period / EPOC / oxygen debt
8. Fast decline back to resting HR
9. Recovery time depends on intensity and duration of exercise

(c) (i) 4 marks for 4 of:

1. Minute ventilation – volume of air inspired or expired / exchanged per minute / tidal volume \times breathing rate
2. (Large) increase during exercise
3. Residual volume – volume of air left in the lungs after maximal expiration
4. Stays the same

(ii) 4 marks for 4 of:

1. Lower partial pressure in atmosphere / less oxygen available at altitude
2. Reduced partial pressure of oxygen in the (arterial) blood
3. Reduction in the pressure gradient in lungs
4. Gaseous exchange more difficult / less effective
5. Less oxygen binds to haemoglobin / lower saturation
6. Carbon dioxide builds up at faster rate
7. Reduced performance for endurance events
8. At altitude not as much oxygen delivered to working muscles

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Section B
Acquiring, Developing and Performing Movement Skills

(a) 2 marks for 2 of:

1. Abilities innate, skills learned
2. Skills need specific abilities in order to complete successfully
3. Abilities underpin skills / foundation or building blocks of skills
4. Lack of ability can be a limiting factor in the quality of skills

(b) 4 marks for 4 of:

1. Closed – environment is stable / no interference from other performers / environment is predictable / pre-set routine / minimal adjustments need to be made / decisions are pre-planned / few decisions
2. Discrete – clear beginning and end / completed in a short space of time / skill must start again to be repeated
3. Internally paced – performer controls the speed of movement / performer decides when to start the movement
4. High organisation – difficult to break down / sub-routines difficult to separate from whole movement / practised as part of whole movement

(c) 6 marks for 6 of:

Principles:

1. Insight learning / discovery learning
2. Involves thinking about the solution to a problem
3. Performer develops understanding of the problem
4. Awareness of link between sub-routines / understand relationship between Stimulus and Response
5. Modify actions based on previous experience
6. Performer experiences the whole movement not just sub-routines

Advantages:

7. Performer able to alter their actions based on the current situation
8. Performer able to develop their own strategies
9. More flexible method of learning than operant conditioning / conditioning theories of learning
10. Helps motivation of the performer

(d) 4 marks for 4 of:

(sub-max of 1 mark)

1. Associative (Phase of learning)

(sub-max of 3 marks)

2. Allow time to practise
3. Provide extrinsic feedback
4. Encourage development of intrinsic feedback
5. Provide reinforcement / praise / rewards
6. Provide guidance – manual / mechanical / verbal / visual
7. Focus on gross / major errors of technique initially
8. As performer progresses more specific errors can be highlighted
9. Mental rehearsal / imagery / visualisation

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(e) 2 marks for 2 of:

(definition and example required for one mark)

1. (Positive feedback) – encouragement to repeat the skill / information to confirm the skill is correct / form of reinforcement, e.g. coach saying 'well done', visually seeing the ball hit the target or equiv.
2. (Negative feedback) – used to stop the skill being repeated / information provided to explain the skill is incorrect, e.g. coach highlighting poor technique / critical of technique or equiv.

(f) 4 marks for 4 of:

(sub-max 1 mark)

1. (Intrinsic motivation) – pride / self-satisfaction / personal achievement / enjoyment or equiv.

(sub-max 3 marks)

2. Combine with extrinsic motivation
3. Make training enjoyable / fun / variable / competitive
4. Set realistic goals / targets
5. Ensure success
6. Highlight personal success / progress / avoid comparisons with other performers

(g) 4 marks for 4 of:

(sub-max of 1 mark)

1. Example, high jump made-up of run-up, take-off, flight and landing or equiv.

(sub-max 3 marks)

2. Series of sub-routines / set of neural commands
3. Completed in the correct sequence / order
4. Stored in long term memory
5. But run from short term memory
6. Effector mechanism / nervous system transfers EMP to muscles
7. Well learnt sub-routines become sub-conscious / relegated for new skill to be developed

(h) 4 marks for 4 of:

1. Relevant / specific practice / overlearning
2. Practice with distractions
3. Focus on / highlight specific cues
4. Increase intensity of the stimulus
5. Mental rehearsal / visualisation / imagery
6. Encourage (temporal / spatial) anticipation
7. Optimum arousal levels / Zone of Optimal Functioning / motivate performer
8. Transfer of learning / link to past experience
9. Make information / practice meaningful / enjoyable / interesting / memorable

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Section C
Contemporary Studies in Physical Education and Sport

(a) (i) 2 marks for 2 of:

1. (Institutionalised) – clubs / rules / regulations / officials / administration / organised
2. (Competitive) – against opponent – nature – self / to win / personal best / winners and losers

(ii) 6 marks for 6 of:

1. Sport seen as important part of society / people expect it / popular political vote
2. Improves health / fitness of the population / concerns over obesity / prevention / health costs
3. Contributes to other government policies, e.g. compulsory PE programmes
4. Helps prevent crime / social control
5. Creates employment
6. Gives people life skills / e.g.
7. Sport & leisure big business / revenue from sport
8. Increase medal winners / standard of elite / talent identification opportunity
9. Social-cultural policies / integration of society / equal opportunities / regeneration
10. National pride / feel good factor

(iii) 2 marks for 2 of:

1. (Privilege) – social class / access to membership of sport clubs / private education / individual coaching / sophisticated equipment = merchandise
2. (Purposefulness) – socially provided for / promote society's values / social control / provide functional skills for citizens

(b) (i) 4 marks for 4 of:
(sub-max 2 for each section)

Voluntary	Public
<ol style="list-style-type: none"> 1. Run by members / committee / AGM / unpaid volunteers 2. Possibly on trust / charity basis 3. Financed by members / fees / fundraising / sponsorship / money placed back into club 4. Runs on profit-loss but profit not an overriding concern 5. Provide for grass roots of sport 6. Aims to increase participation / performance in their sport / look for talent 7. Meet up with people with similar interests 	<ol style="list-style-type: none"> 8. Business operations run by local authority departments / local council 9. Trading on set prices / charges, etc. / according to pre-set budget 10. May involve subsidies as a matter of policy / Council tax or equivalent / provide a service to the community 11. Managed by local authority employees 12. Move to private management / Compulsory Competitive Tendering / Best Value 13. Facilities not as well equipped due to lack of funds 14. Can be pay as you go

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(ii) 3 marks for 3 of:

1. More choice
2. Better quality facilities (sport and social)
3. More opportunity to keep fit and healthy / to participate
4. Elitist / feel special
5. Personal trainer
6. Competitive market = deals for customers

(iii) 6 marks for 6 of:

1. Talent Identification Programme / talent spotting / regional scouts
2. Attract funding / sponsorship / media income / TV deals / athlete personal award
3. High quality facilities / Centres of Excellence
4. Support – sport science / medical / psychological support / physiotherapy / nutritional advice / biomechanics
5. Structured levels of competition
6. Coaching structure / high quality coaching
7. Structured progression route / development squads or equiv.
8. Provision of training camps
9. Co-ordinated approach from sporting authorities / whole sport plans
10. Holistic approach / education and career support / Athlete Career Education

(d) 7 marks for 7 of:

1. Raises profile of sport
2. Increases participation = improves health
3. Attracts sponsorship to certain sports / increased funding
4. Educate the population about a range of sports / detailed analysis
5. Large range of media / accessibility, e.g. radio / tv / satellite / internet / newspapers / global
6. Some sports have changed rules = more exciting / formats to make more media friendly
7. Interactive nature involves the spectator more
8. Can help change attitudes for the better
9. Promotes nationalism / loyalty to a team
10. Can help retain tradition / stability / middle class values