

CAMBRIDGE INTERNATIONAL EXAMINATIONS

Cambridge International Advanced Subsidiary and Advanced Level

MARK SCHEME for the May/June 2015 series

0413 PHYSICAL EDUCATION

0413/11

Paper 1 (Paper 1), maximum raw mark 80

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Mark schemes will use these abbreviations:

- ;** separates marking points
- /** alternatives
- ()** contents of brackets are not required but should be implied
- R** reject
- A** accept (for answers correctly cued by the question, or guidance for examiners)
- lg** ignore (for incorrect but irrelevant responses)
- AW** alternative wording (where responses vary more than usual)
- AVP** alternative valid point (where a greater than usual variety of responses is expected)
- ORA** or reverse argument
- underline** actual word underlined must be used by candidate (grammatical variants excepted)
- max** indicates the maximum number of marks that can be given
- +** statements on both sides of the + are needed for that mark

Question	Expected answers	Additional guidance	Marks
1	suitable example ;	e.g. tennis serve	[1]
2	age ; interests ; social circumstances / finances ; facilities available ; where people live ; gender ; time available ; level of fitness / health ;		[1]

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Question	Expected answers	Additional guidance	Marks
3	<p>impact with ground or obstacles ;</p> <p>impacting with another person ;</p> <p>sudden or twisting movement ;</p> <p>environment – hot or cold, wet or dry ;</p> <p>lack of preparation, lack of warm up or cool down ;</p> <p>not following rules or instructions / poor technique ;</p> <p>inadequate clothing / lack of use of protective clothing ;</p> <p>use of broken or damaged equipment ;</p> <p>playing with an injury / tiredness / overtraining ;</p>		[1]
4	<p>increase in heart rate / greater blood pressure ;</p> <p>constriction of blood vessels ;</p> <p>dilates air passages ;</p> <p>increase in glucose and oxygen pumped to the muscle / increased blood flow to the muscles ;</p> <p>increase in breathing rate ;</p> <p>sweating ;</p> <p>pupil dilation ;</p>		[1]
5	<p>sports facilities of a high standard / greater choice of sports available ;</p> <p>specific to a sport ;</p> <p>limited number of people have access so greater availability of facilities ;</p> <p>individual classes / coaching available ;</p>		[1]

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Question	Expected answers	Additional guidance	Marks
6	<p>movement only occurs when muscles either contract or relax ;</p> <p>one end of the muscle is attached to a fixed bone ;</p> <p>one end of the muscle attached to a moveable bone ;</p> <p>when the muscle contracts it pulls on the moveable bone ;</p> <p>muscles work in pairs ;</p> <p>muscles usually work across joints ;</p>		[1]
7	<p>ball and socket ;</p> <p>hinge ;</p> <p>gliding ;</p> <p>pivot ;</p> <p>saddle ;</p> <p>condyloid ;</p>		[max 2]
8	<p>ability to cope with stress ;</p> <p>emotional state / positive approach / motivated / try to resolve problems / able to focus ;</p> <p>feel good factor / play for fun / happy ;</p> <p>rational ;</p> <p>comfortable with their own company ;</p> <p>be confident / good self-esteem ;</p> <p>aware of others and able to empathise ;</p>		[max 2]

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Question	Expected answers	Additional guidance	Marks
9	<p>greater acceptance of disability performers / more positive view of disability sports ;</p> <p>greater understanding of the type of sports available / greater awareness of sports ;</p> <p>increase number of role models ;</p> <p>increase level of participants ;</p> <p>increase levels of sponsorship for individuals ;</p> <p>increase in media coverage of other sporting events ;</p> <p>increase level of funding into the sport, facilities and coaching ;</p> <p>places disability sports on an international stage ;</p> <p>motivates people to participate / makes sport more popular ;</p>		[max 3]

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Question	Expected answers	Additional guidance	Marks
10	<p>prevents soreness ;</p> <p>increase in circulation helps to clear lactic acid away ;</p> <p>loosens tight muscles so they won't be stiff later ;</p> <p>helps the performer be ready for the next training session / recovers quicker ;</p> <p>provides time for reflection on the session completed ;</p> <p>prevents the blood pooling ;</p> <p>prevents injury or fatigue ;</p> <p>gradual reduction in heart rate ;</p> <p>gradual reduction in body temperature ;</p> <p>gradual reduction in breathing rate ;</p> <p>prevents feeling sick, dizzy or faint ;</p>		[max 3]
11	<p>identifies strengths so they can be built on ;</p> <p>identifies weaknesses to work on / areas to improve ;</p> <p>stops mistakes being repeated before they become established ;</p> <p>see if extra training or practice is needed ;</p> <p>set goals or targets for improvement ;</p> <p>motivates the performer / develops greater confidence and self-esteem ;</p> <p>allows comparison to the ideal performance ;</p>		[max 4]
			[Total 20]
B1 (a)	<p>carries oxygen ;</p> <p>carries carbon dioxide ;</p>		[2]

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Question	Expected answers	Additional guidance	Marks
(b)	<p>gas exchange in the alveoli becomes more efficient ;</p> <p>vital capacity increases – more air can be exhaled so more carbon dioxide can be exhaled in one breath ;</p> <p>more oxygen will reach muscles allowing them to work for longer and harder / allows longer training / quicker recovery</p> <p>the onset of lactic acid is slower / oxygen debt tolerance increases ;</p> <p>tidal volume increases / the volume of air breathed in or out per breath increases / VO_2 max increases ;</p> <p>reduction in breathing rate ;</p> <p>increase in strength of diaphragm and intercostal muscles ;</p> <p>increase in minute volume ;</p> <p>increase in alveoli / capillarisation ;</p>		[max 3]

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Question	Expected answers	Additional guidance	Marks
(c)	<p>lacks mobility so may find running fast or distances difficult ;</p> <p>finds jumping difficult so basketball and volleyball would be difficult due to excess weight ;</p> <p>size may prevent gymnastic movements being easy due to lack of flexibility ;</p> <p>high levels of weight make endurance activities difficult to sustain as the performer will tire quickly / less able to sustain effort / less able to take part in aerobic activities ;</p> <p>movement difficult – can make precise physical movements difficult ;</p> <p>health can be affected when overweight which would make playing any sport difficult ;</p> <p>lacks speed or agility / activities that require changes of direction may prove difficult ;</p>		[max 3]
(d)	<p><i>feature:</i> red in colour ;</p> <p>dense with capillaries ;</p> <p>carries large amounts of oxygen ;</p> <p>contracts slowly / produces little power ;</p> <p><i>benefits:</i> can work for long periods of time ;</p> <p>allows longer training sessions ;</p>	<p>max 2 marks for features</p> <p>max 1 mark for benefit</p>	[max 3]
(e) (i)	<p><i>agility:</i> the ability to change direction at speed whilst under control ;</p> <p><i>flexibility:</i> range of movement at a joint / able to stretch or bend ;</p>		[2]

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Question	Expected answers	Additional guidance	Marks
(ii)	<p>football: agility – being able to beat a player by dribbling past them at speed ;</p> <p>flexibility – able to take a throw in ;</p> <p>tennis: agility – being able to change direction to reach a drop shot ;</p> <p>flexibility – serving the ball ;</p> <p>rugby: agility – able to side step a player ;</p> <p>flexibility – being able to spin pass the ball ;</p>	<p>no mark for name of activity examples must match activity</p>	[2]

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Question	Expected answers	Additional guidance	Marks
(f)	<p><i>specific:</i> because of the specific nature of the target it has a relevance to the sport and creates a desire to improve ;</p> <p><i>measurable:</i> being able to measure progress provides an incentive, the performer knowing how close they are to their target ;</p> <p><i>accepted:</i> by accepting the target, it indicates the desire to reach the agreed target. It also allows the coach and performer to discuss and agree the way forward ;</p> <p><i>realistic:</i> the target is achievable. If the target is not realistic performers see little point in trying to achieve it ;</p> <p><i>time related:</i> keeping the targets within a short period of time allows targets to be achieved and interest maintained ;</p> <p><i>exciting:</i> if the target is interesting the performer will want to work to achieve the target ;</p> <p><i>recorded:</i> by recording results the performer will be able to see the progress they have made ;</p>		[max 5]

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Question	Expected answers	Additional guidance	Marks
(g)	<p><i>Cooper run:</i> equipment – flat surface, stop watch, whistle, tables ;</p> <p>mark a circuit of 400m with cones every 100m / or examples of a measured track ;</p> <p>performers run on a sound to start for 12 minutes ;</p> <p>record the distance covered in 12 minutes ;</p> <p>compare results against tables ;</p> <p><i>Multi-stage fitness test:</i> equipment – CD , pre-recorded tape, cones, flat surface, tables ;</p> <p>court marked with two lines 20m apart ;</p> <p>performers run between the 2 lines before the tape beeps ;</p> <p>performer stops when they fail to reach the line before the tape beeps ;</p> <p>the test has 21 levels ;</p> <p>results are compared to a table ;</p>	no mark for name of test	[5]
			[Total 25]
B2 (a)	<p>teenagers / children when growing ;</p> <p>men ;</p> <p>people involved in an active lifestyle / involved in sport ;</p> <p>people with a large build ;</p>		[max 2]

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Question	Expected answers	Additional guidance	Marks
(b)	<p>rest the injury to avoid making the injury worse ;</p> <p>ice the area to reduce the swelling / ice constricts the blood vessels and reduces bleeding ;</p> <p>compression (to keep the ice pack on the injury) which helps stop bleeding and swelling ;</p> <p>elevation by raising the injured part reduces swelling by reducing the flow of blood to the area and reduces localised pain ;</p>		[max 2]
(c) (i)	working against a force or load ;		[1]
(ii)	<p>weight training using free weights or machines ;</p> <p>resistance machines, e.g. cycles, rowing machines, etc. where the load can be increased ;</p> <p>use of bands, parachute or tyres to act as a resistance when running ;</p> <p>swimming – using flippers, tow buoys and hand paddles ;</p> <p>circuit training if examples such as doing press-ups or pull-ups at stations are included in the description ;</p>		[max 2]

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Question	Expected answers	Additional guidance	Marks
(d)	<p>heart start beating faster ;</p> <p>even if exercise remains consistent the heart rate will still increase slowly ;</p> <p>blood is pumped around the body faster ;</p> <p>blood is shunted to working muscles ;</p> <p>stroke volume is increased / the volume of blood pumped from the heart in each beat increases ;</p> <p>the cardiac output increases / the total amount of blood pumped from the heart in one minute increases ;</p> <p>blood pressure increases ;</p> <p>arteries dilate to allow greater flow of blood ;</p>		[max 4]

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Question	Expected answers	Additional guidance	Marks
(e)	<p>e.g. canoeing ensure the correct number and quality of canoes ;</p> <p>all life preservers are in good order ;</p> <p>all safety equipment available and in good order ;</p> <p>difficulty of water suitable for the ability of the group ;</p> <p>sufficient experienced and qualified instructors ;</p> <p>ability of the group similar / pair up performers ;</p> <p>mobile phone available in case of difficulty ;</p> <p>extra clothing when people return wet ;</p> <p>check weather conditions on that day ;</p> <p>ensure whole group know the planned route and activity ;</p> <p>ensure all the group are confident in water and can swim ;</p> <p>first aid equipment ;</p> <p>check health of the group ;</p> <p>food and water available for energy ;</p>	no mark for name of activity	[4]

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(f)	<p>training should be varied and interesting to motivate the performer to train ;</p> <p>goal setting should be used to motivate the athlete to train ;</p> <p>training should be matched to the individual need of the athlete ;</p> <p>prevent overtraining and stress injuries caused by not having light sessions and rest days ;</p> <p>the coach should be able to recognise signs of overtraining such as a decline in training performances ;</p> <p>ensure the training load is spread across the week with regular sessions to avoid an all or nothing approach ;</p> <p>too much emphasis on one aspect of training, e.g. if strength is a key component of an event, too much work on skill levels will result in reversibility ;</p> <p>try to train an athlete in a group as this prevents isolation ;</p> <p>if injuries occur look at different types of work to maintain some level of fitness, e.g. swimming can be used if a leg injury occurs as it does not place a load on muscles or joints (maintenance activities) ;</p> <p>give accurate feedback / positive feedback ;</p> <p>ensure overload is planned into training programme ;</p>		[max 5]
			[Total 20]

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Question	Expected answers	Additional guidance	Marks
B3 (a)	<p>braille signs ;</p> <p>large print signs and maps of the centre ;</p> <p>sound loop giving instructions ;</p> <p>hand rails to changing areas, stairs, etc. ;</p> <p>different textures to floor surfaces that provide routes around the centre ;</p> <p>larger changing areas ;</p> <p>access for guide dogs ;</p> <p>provide staff to support people with visual impairment ;</p> <p>level surfaces at entrances ;</p> <p>sound indicators on doors / automatic doors ;</p> <p>ensure good lighting for partially sighted ;</p>		[max 2]
(b)	<p>increase in the awareness of sports due to high levels of media coverage ;</p> <p>involvement in sports more fashionable ;</p> <p>greater awareness of healthy lifestyles ;</p> <p>greater encouragement of disability sports participation ;</p> <p>improved awareness of cultural differences ;</p> <p>more female participation ;</p> <p>demand due to greater amounts of time available to people for leisure ;</p> <p>people have more disposable income ;</p> <p>wider range of sports available ;</p>		[max 3]

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Question	Expected answers	Additional guidance	Marks
(c)	<p>greater employment due to construction of facilities ;</p> <p>improvement in infrastructure which includes road, rail, air systems ;</p> <p>improvement in communication systems which includes television, telephone systems ;</p> <p>greater awareness from other countries which might bring in investment to the country ;</p> <p>income into the country through tourism ;</p> <p>housing and redevelopment left after the event ;</p> <p>possible debt ;</p> <p>nation feeling positive / feel good factor / sense of pride ;</p> <p>people are more likely to become involved in sport ;</p> <p>greater opportunities for people to be involved in high level sports due to improvements in coaching structures and facilities ;</p> <p>opportunities to meet people from other countries ;</p> <p>increased security at the event ;</p> <p>government needs to raise funds for the event ;</p>		[max 5]

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Question	Expected answers	Additional guidance	Marks
(d)	intrusion into the performer’s private life ; media demands can reduce training time ; critical comments on the performance ; campaigns for other players to take their place / bias in reporting ; campaigns against individual players ; analysis of performance looking at the weaker aspects and undermining confidence ; negative comments before a game may result in a poor performance ; distracts a performer / creates levels of anxiety ; anxiety reduces performance / over or under motivated ; create too high expectations of a performer ; might resort to cheating or drug taking to maintain position ; create a poor public image / reduce public attitude / negative comments on social media ;		[max 5]
			[Total 15]