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**PHYSICAL EDUCATION**

**0413/11**

Paper 1

**October/November 2017**

MARK SCHEME

Maximum Mark: 80

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**Published**

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This document consists of **16** printed pages.

Question	Answer	Marks
1	intrinsic / extrinsic / knowledge of performance / knowledge of results;  <i>Accept visual / verbal feedback.</i>	1

Question	Answer	Marks
2	have essential human needs / food / clothing / shelter / have friendship / support / have some value in society / able to mix with others;	1

Question	Answer	Marks
3	certain sports have age restrictions / older people often take part in less physically demanding activities / younger people more influenced by fashion and peer pressure / younger people are more influenced by body image, which can affect the choice of activity / younger people need support from adults / socio-economic factors / young children reliant on parents to fund activities / younger people are more likely to take part in activities that have a higher level of excitement or danger / older people are often less able to cope with high intensity / endurance activities / muscle deterioration due to age / older people often use physical activities as a health aid / people in 20–40s often have less time due to family and work commitments so take part in activities that take less time;  <i>Accept other valid examples.</i>	1

Question	Answer	Marks
4	a pep talk from your coach / pressure from coach / the warm up before an event / working towards a goal or target / bright lights / noise from a crowd / friendly or hostile watching / importance of game or activity / quality of opposition / large audience / intimidation from opposition;	1

Question	Answer	Marks
5	protein;	1

Question	Answer	Marks
6	the maximum volume of oxygen that a performer is able to use (in one minute for every kilogram of body weight);	1

Question	Answer	Marks
7	<p>improves confidence to complete the skill;</p> <p>more able to recognise game situations;</p> <p>more able to respond to game situations / more familiar with skill requirements;</p> <p>may allow for mistakes to be made without affecting game situations;</p> <p>allows feedback to take place;</p> <p>increases the speed / accuracy of the skill / allows mastering of a skill;</p>	2

Question	Answer	Marks
8	<p><i>injury:</i> cuts / grazes / concussion / dislocations / bruises / fractures / sprains / winding etc.;</p> <p><i>treatment:</i> for soft tissue injuries – rest / ice / compression / elevation;</p> <p>for winding – sit down leaning forward / massage / encourage steady breathing;</p> <p>for concussion – rest / prevent from sleeping / seek medical advice;</p> <p>for cuts – elevate limb / apply pressure to cut;</p> <p>for dislocations / fractures – rest / immobilise / support limb / seek medical support;</p> <p><i>Treatment must be suitable for injury given.</i></p>	2

Question	Answer	Marks
9	find a time and place where you will not be interrupted; relax using various techniques such as deep breathing; focus on the activity / avoid thinking about other factors / focus on personal goals; imagine yourself being successful in the activity; think about the various actions needed in the activity; remember a successful previous performance; picture the playing environment / crowd / noise;	<b>3</b>

Question	Answer	Marks
10	<i>One mark for each benefit. Benefits must match the exercise and exercises and benefits must be different.</i> <i>For example:</i> jogging – increases heart rate / increases blood flow / warms up muscles; stretches – loosens joints / improves flexibility / reduces risk of injury; sprint starts – skills practice / accustomed to environment; treading water – accustomed to temperature / increases heart rate / loosens muscles;	<b>3</b>

Question	Answer	Marks
11	<p>good sportsmanship / competes and plays fairly;</p> <p>plays by the rules;</p> <p>being able to motivate and encourage others to perform;</p> <p>is a highly motivated performer / has a high self-esteem / is confident;</p> <p>works hard;</p> <p>performs at a high standard / is successful;</p> <p>sets a trend for others to follow in their sport;</p> <p>conducts themselves in a way that encourages others to achieve high standards in their sporting and private life;</p> <p>contribution to community;</p> <p>is accessible so seen frequently in the media;</p> <p>take part in a popular activity or an activity that is growing in popularity;</p> <p>may represent a particular group / gender / ethnic group / disability;</p> <p>able to cope with stress / pressure from media;</p>	<b>4</b>

Question	Answer	Marks
12(a)	shape and support, for example ribs provide shape for the upper body; movement, for example allows muscle to attach to bone / biceps pull on the lower arm to create movement at the elbow; protection, for example the brain is protected by the skull / cranium; blood production, for example blood is produced in the marrow of long bones such as the femur; <i>Allow one mark for two functions without any examples.            Accept mineral storage, for example of calcium.</i>	<b>2</b>
12(b)(i)	fast twitch;	<b>1</b>
12(b)(ii)	contract quickly / fast; white in colour / limited blood supply; tires quickly / easily; allows all-out / explosive effort; provides power / maximum force (for a short period); are thick(er); do not use oxygen; <i>Allow ECF if wrong fibre type in (b)(i).</i>	<b>2</b>

Question	Answer	Marks
12(c)	<p>larger stroke volume / greater volume of blood pumped in each heart beat / more blood per beat;</p> <p>requires fewer beats to achieve the blood supply to muscles;</p> <p>cardiac output increases so more blood is pumped in one minute;</p> <p>cardiac muscle increases in size;</p> <p>cardiac muscle increases in strength;</p> <p>muscles become better at extracting oxygen from the blood so demands less blood to be pumped;</p>	<b>3</b>
12(d)(i)	<p>the range of movement at a joint / be able to stretch;</p>	<b>1</b>
12(d)(ii)	<p><i>Any sport can be used as long as the example explains the benefits of being able to reach or extend.</i></p> <p><i>For example:</i></p> <p>a hurdler is able to extend their lead leg to clear the hurdle;</p> <p>in providing a powerful, propelling kick in breaststroke;</p>	<b>1</b>
12(d)(iii)	<p>sit and reach test;</p> <p>subject sits with straight legs and feet flat against sit and reach box or bench;</p> <p>if a bench is used a ruler is placed with 15 cm extending over the end of the bench and zero towards the subject;</p> <p>subject reaches forward with both arms extended as far as possible along the box / ruler;</p> <p>at full stretch the position must be controlled for the score to be recorded;</p> <p>the best score from 3 attempts is compared to normative data tables;</p> <p><i>Accept other suitable tests.</i></p>	<b>3</b>

Question	Answer	Marks
12(e)(i)	to win (a medal / reward); to speed recovery from injury and be able to take part; to aid recovery from heats / rounds; financial rewards / funding; assumption that other competitors are also taking drugs; pressure from coaches / some governing bodies; gain media attention / sponsorship; <i>Accept references to specific drug effects with reasons, e.g. to increase muscle mass, to reduce anxiety etc.</i>	<b>2</b>
12(e)(ii)	high levels of testing in and out of season; better quality testing / monitoring; banning performers if they are caught / risk of disqualification; use of blood passports; better education for athletes about the long-term effects of drugs; publicise examples of actions taken against other athletes who have been found to have taken drugs; loss of medals / records / titles / sponsorship;	<b>3</b>
12(e)(iii)	to lose weight / play sports with weight restrictions / mask other drugs;	<b>1</b>



Question	Answer	Marks
12(f)(i)	<p><i>No mark for a named sport.</i></p> <p><i>If four principles are named but no description is given award one mark max.</i></p> <p><i>Each appropriate principle and a description for one mark.</i></p> <p><i>For example in Netball target for a goal attacker should be:</i></p> <p>specific – to improve shooting percentage by 20%;</p> <p>measurable – find existing shooting percentage in training or in previous games and compare once target has been set;</p> <p>agreed – the shooter and coach will agree what is achievable based on previous performances;</p> <p>realistic – ensure that the targets set are not too difficult or easy, if the performer achieves 90% shot success an increase of 20% would be difficult etc.;</p> <p>time phased – the target will be reviewed half-way through the season and reset if needed;</p> <p>exciting – shooting from different positions in relation to the post to add variety and challenge;</p> <p>recorded – record shots taken / scored so that coach and player can review progress;</p>	<b>4</b>
12(f)(ii)	<p>training time could be wasted / lack focus;</p> <p>lack of direction could be de-motivating;</p> <p>difficult to know if progress is being made;</p> <p>reduces the strength of the coach / performers relationship;</p> <p>lack of interest / stops performing;</p>	<b>2</b>

Question	Answer	Marks
13(a)	<p>able to accept decisions without overreacting / able to control emotions;</p> <p>able to accept losing / failure;</p> <p>be positive when situations are difficult in a game / keep going;</p> <p>feel they have the ability to do well / have confidence / are motivated;</p> <p>are able to focus;</p> <p>more likely to be able to co-operate in team sports;</p> <p>can cope with stress, e.g. taking a penalty in football;</p> <p>able to make good decisions during the performance;</p>	<b>2</b>
13(b)	<p>long-distance running requires a lot of energy;</p> <p>pasta is high in carbohydrates;</p> <p>carbohydrates provide an energy source;</p> <p>the store of glycogen in muscles and the liver is increased;</p> <p>glycogen is the most efficient energy source;</p> <p>when the body runs out of glycogen it uses fat as an energy source and the body has to work 'harder' to use fat / eq.;</p>	<b>2</b>

Question	Answer	Marks
13(c)(i)	<p><i>Activity must be outdoor and adventurous, e.g. canoeing, hill walking, campcraft / hostelling, horse riding, orienteering, rock climbing, rowing, sailing, skiing, snowboarding, windsurfing etc.</i></p> <p><i>For example:</i></p> <p>in hill walking</p> <p><i>safety equipment:</i> water-proof clothing / warm clothing / suitable footwear / map / compass / GPS / torch / whistle / first-aid kit / water-proof rucksack / emergency rations;</p> <p><i>Reason must relate to the item. One mark for each reason.</i></p>	<b>2</b>
13(c)(ii)	<p><i>For example in hill walking:</i></p> <p>reassure the injured person;</p> <p>leader should keep calm;</p> <p>ensure area is safe;</p> <p>assess injury / provide appropriate treatment;</p> <p>ensure injured person is kept warm / sheltered;</p> <p>leave injured person with at least two members of the group;</p> <p>establish location;</p> <p>phone / contact emergency services / provide information relating to injury;</p> <p>lead the rest of the group off the hills;</p>	<b>2</b>

Question	Answer	Marks
13(d)	<p><i>heart rate during the test:</i> is lower / does not go as high / heart rate increases at a slower rate;</p> <p><i>heart rate during recovery:</i> faster recovery / lower;</p>	<b>2</b>
13(e)(i)	<p><i>Accept a named example of aerobic training.</i></p> <p>circuit training / fartlek training / continuous training / interval training;</p>	<b>1</b>
13(e)(ii)	<p><i>Answers must explain how to achieve overload.</i></p> <p>overload can be achieved by:</p> <p>increasing the amount of training done in a single session, e.g. a performer could increase the number of circuit-training sessions from 2 per week to 3 per week;</p> <p>train for longer by increasing the length of time spent training, e.g. continuous training session increase the time spent running from 12 to 15 minutes;</p> <p>reduce the time spent recovering between exercises, e.g. fartlek training reducing the time spent walking between the running part of the sessions;</p> <p>increase the work done in a session by decreasing the amount of time spent training, e.g. interval training decrease the length of time spent running but increase the distance covered during the run;</p> <p>increase the amount of exercise completed, e.g. continuous training complete 12 lengths of a swimming pool rather than 10;</p> <p><i>Accept responses relating to increases in frequency, intensity, time and type (relating to intensity changes) of exercise.</i></p>	<b>3</b>

Question	Answer	Marks
13(f)	<p><i>One mark awarded for each effect and one mark for a resulting benefit for a performer. Accept a repetition of the benefit for a performer providing it is appropriate to the effect. Accept examples when describing a benefit. Max. three marks for effects alone.</i></p> <p><i>Accept other links – examples of benefits and effects may include:</i></p> <p>increase in muscle development (hypertrophy) / repair of torn muscle fibres to increase size / muscle bulk increases; able to lift heavier weights / generate higher force;</p> <p>improves posture; which provides better stability and balance, e.g. in gymnastics the performer is able to hold a balanced position on a beam;</p> <p>increase development of fast-twitch fibres; able to sprint faster;</p> <p>increase development of slow-twitch fibres; ability to run for longer;</p> <p>muscles become more flexible; which allows a greater ability to stretch, e.g. a goalkeeper would have a greater ability to reach a high ball;</p> <p>muscle co-ordination improves; so movements are quicker / speed of reaction improves, e.g. a cricketer could react to catch a ball close to the wicket;</p> <p>muscular endurance improves; fatigue slower and improve their ability to use oxygen, which reduces the rate of lactic acid build up, e.g. a performer would be able to last longer in an endurance event;</p> <p>increased tolerance to lactic acid; a performer would be able to last longer in an endurance event;</p> <p>increase in capillarisation / improved blood supply; reduces the onset of lactic acid build up, e.g. performer is able to perform for a longer period;</p> <p>mitochondria increase; which increases the supply of energy to the muscle so the performer is able to perform for a longer period;</p>	6

Question	Answer	Marks
14(a)	<p>sports have become more fashionable resulting in greater demand;</p> <p>people have more time / funds to spend on playing;</p> <p>increase in media coverage of sports has increased interest;</p> <p>greater awareness of health factors;</p> <p>increases in specific groups playing sport, e.g. disability groups, female participation, retired / older players;</p> <p>meet the demand of a global event, e.g. Olympic Games;</p>	<b>2</b>
14(b)	<p>meet the needs of a local community;</p> <p>low costs / free access to equipment / facilities;</p> <p>easy to access as locally based;</p> <p>develops greater community cohesion / interact with others;</p> <p>some sports would not take place without voluntary organisations;</p> <p>provide a safe and structured environment for young people to take part in sports / provide coaching opportunities;</p> <p>provide opportunities for inner-city groups to participate in activities in rural areas;</p> <p>provide opportunities for young people to be introduced to different sports / access competitions;</p> <p>provide opportunities for young people to be involved in coaching / admin / officiating etc.;</p> <p>provide qualified staff for instruction of activities / to improve skills;</p>	<b>3</b>

Question	Answer	Marks
14(c)	costs of bidding for the games too high and money could be lost; cost of developing facilities too great / economic issues; infrastructure poor and would require too much development; little public support or interest in sports / little interest in many sports; political instability / terrorism in the country / region; security a concern / crime; country would make little use of the facilities after the games; not wanting the disruption that results from hosting the games; fear of national failure / loss of reputation; event may have a poor reputation;	<b>4</b>

Question	Answer	Marks
14(d)	greater social awareness and acceptance of disabilities; greater acceptance of performers with disabilities as elite athletes; increase in media coverage of disability sports; increased talent identification programmes / scholarships; more countries have developed Paralympic sports; ex-Paralympians have a greater role within the media / role models; increases in the quality and quantity of coaches; greater funding / sponsorship for elite athletes to train full time and travel; elite athletes are fully professional; more international competitions available; legislation has ensured equal access to sports facilities / increase in facilities available / greater access to sports facilities causing greater participation, e.g. ramps and lifts at sports centres; increasing link between Paralympic and able-bodied sports; greater variety of sports adapted; improvements in technology / prosthetic limbs;	<b>6</b>