

# **Physical Education**

General Certificate of Secondary Education

Unit **B453**: Developing Knowledge in Physical Education

## **Mark Scheme for January 2012**

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All examiners are instructed that alternative correct answers and unexpected approaches in candidates' scripts must be given marks that fairly reflect the relevant knowledge and skills demonstrated.

Mark schemes should be read in conjunction with the published question papers and the report on the examination.

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Annotations used in the detailed Mark Scheme (to include abbreviations and subject-specific conventions)

	281	?	Unclear
	31	BOD	Benefit of doubt
	21	Cross	Cross
	311	L1	Level 1
	321	L2	Level 2
	331	L3	Level 3
	271	REP	Repeat
	11	Tick	Tick
	731	VG	Vague
	811	SEEN	Noted but no credit given
	361	S	S (to be used to indicate 'sub max reached' in these units)
	661	EG	Example/Reference
	611	K	Knowledge
	741	DEV	Development

Question		Answer	Marks	Guidance
1		a. To help store minerals	1	For all multi choice questions from 1-15 accept any written indication of the answer eg circle/tick/cross out and then tick etc. If two or more indicated then no marks.
2		a. Training at least three times a week	1	
3		c. A drinks company pays for the organisation of a marathon	1	
4		d. Wearing fashionable sports equipment when going to the gym	1	
5		c. A number of stretching activities	1	
6		a. Extra-curricular physical activities open for anyone to join	1	
7		c. Broken glass on a football pitch	1	
8		d. To try to stick to an exercise programme	1	
9		a. Long intervals of moderate exercise	1	
10		b. Increase in stroke volume	1	
11		b. Vascular shunt	1	

Question		Answer	Marks	Guidance
12		d. Prevents bones from wear and tear	1	
13		c. Hitting a shot in tennis and it feeling like a good shot	1	
14		a. An outward leg movement in breaststroke	1	
15		a. Inflammation in joints	1	
		<b>Section A Total</b>	<b>15</b>	

Question	Answer	Marks	Guidance
16	<p><b>(long term effects of exercise on muscles)</b>  <b>3 marks from:</b></p> <ol style="list-style-type: none"> <li>1. Increase in size (of muscle fibres)/hypertrophy of muscles / increase in muscle fibres</li> <li>2. Increase in strength/power/speed (of muscle fibres) / increase in muscle tone</li> <li>3. Increased tolerance to lactic acid/onset of fatigue delayed</li> <li>4. Greater potential for energy production/more energy available / increase in energy stores</li> <li>5. Size/number of mitochondria increased</li> <li>6. Increase in myoglobin (within muscle cells)</li> <li>7. More oxygen to working muscles / increase in blood flow / increase in capillaries</li> <li>8. Increased (muscular) endurance</li> <li>9. Increased flexibility</li> <li>10. Increased rate of removal of lactic acid</li> <li>11. Causes injuries</li> <li>12. Helps prevent injuries</li> </ol>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p><b>[3]</b></p>	<ul style="list-style-type: none"> <li>• Accept more than one answer if found on one line to a max of three</li> <li>• Do not accept decreases lactic acid</li> </ul>

Question	Answer	Marks	Guidance
17	<p><b>(private enterprise)</b>  <b>3 marks from:</b></p> <ol style="list-style-type: none"> <li>1. Can provide <u>good/better</u> facilities to attract more</li> <li>2. Can provide <u>good/better</u> equipment to attract more</li> <li>3. Can offer other services of support/provide personal trainers to enable participation / better coaching</li> <li>4. Can offer an exclusive/comfortable environment so more likely to join and return / social aspects</li> <li>5. Can be locally available/good access so that people can participate easily / more facilities or equipment.</li> <li>6. Sponsoring teams or individuals to participate</li> <li>7. Promotional campaigns / advertises facilities / benefits / free taster days</li> </ol>	<p>1 1 1 1 1 1 1 <b>[3]</b></p>	<ul style="list-style-type: none"> <li>• Must have explanations for marks to be scored</li> <li>• Different exercise programmes = vague</li> <li>• Trained coaches = vague</li> <li>• Better trained coaches = Pt 3</li> <li>• Leaflets = 0</li> <li>• Leaflets advertising facilities = pt 7</li> </ul>
18	<p><b>(Tendonitis)</b>  <b>3 marks from:</b></p> <ol style="list-style-type: none"> <li>1. Inflammation of the tendon / redness</li> <li>2. Skin can be warm/hot</li> <li>3. Tenderness / painful</li> <li>4. Swelling can occur</li> <li>5. Reduction in mobility/can't move very well/ stiffness / weakness</li> </ol>	<p>1 1 1 1 1 1 <b>[3]</b></p>	<ul style="list-style-type: none"> <li>• In this case accept a list as a description up to a max of three marks</li> <li>• Ache = vague</li> </ul>

Question	Answer	Marks	Guidance
19	<p><b>(SMART) 5 marks from:</b></p> <p>1. S = Specific - need to make the goal a particular target / to your sport / you know what you are trying to achieve or eg beat your personal best time</p> <p>2. M = Measurable - need to be able to measure the goal or to know how well you have done/to assess progress</p> <p>3. A = Achievable - must be within the capabilities of the individual/or A = Agreed - or eg you can agree your targets with your coach or peer</p> <p>4. R = Recorded - goals should be written down or R = Realistic - must be within the capabilities of the individual/or attainable</p> <p>5 = Time-phase/timed / time - goals should have a time given for completion.</p>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p><b>[5]</b></p>	<ul style="list-style-type: none"> <li>• <b>1 mark max for only listing <u>all</u> five</b></li> <li>• <b>Must have descriptions for full marks</b></li> <li>• <b>Accept practical examples as descriptions</b></li> <li>• <b>If mark given for description then one mark for list becomes irrelevant</b></li> <li>• <b>Specific to your needs = BOD Pt 1</b></li> <li>• <b>Knowing your goal = Vague</b></li> </ul>





Question	Answer	Marks	Guidance
21	<p><b>(Recent government initiatives)</b>  <b>5 marks from:</b></p> <ol style="list-style-type: none"> <li>1. Healthy Living programme - to encourage following healthy lifestyles</li> <li>2. aimed to tackle barriers of limited parental awareness of weight status and associated health risks/parental beliefs that a healthy lifestyle is too challenging/pressures on parents which undermine healthy food choices/a perception that there are limited opportunities for active lifestyles</li> <li>3. 5 (+)A Day message</li> <li>4. Fruit and veg / different colours/rainbow foods provide a wide range of vitamins, minerals, fibre and healthy antioxidants, which can help to protect the body throughout life</li> <li>5. Run-up to the 2012 Olympics/2012 initiatives for health</li> <li>6. Promotion of healthy diets and physical activity</li> <li>7. Walking to school/use of bikes to get to school / Bikes around London / bikeability</li> <li>8. Simple message easy to understand/has little scientific standing but is known by many so very motivating</li> <li>9. Top Tips for Top Mums/advice to mothers</li> <li>10. Encourages parents across the country to share tips and ideas with each other on how they get their children to eat more fruit and vegetables</li> </ol>	<p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p>	<ul style="list-style-type: none"> <li>• Accept for one mark the name of the initiative and a further mark for an attempt at an accurate description.</li> <li>• Do not accept NC</li>   <li>• Other relevant government initiatives (<a href="http://nds.coi.gov.uk/environment">http://nds.coi.gov.uk/environment</a> for principle examiner to check on further possible examples)</li> <li>• Or check Welsh initiatives</li> <li>• Eating 5 fruit and veg a day = 2 marks</li> <li>• Eating 5 a day = 1 mark</li> </ul>

Question	Answer	Marks	Guidance
	11. Change4Life healthy lifestyles marketing initiative	1	
	12. Partnerships with commerce to appeal to young people/more motivating/attractive to young / any relevant change towards a more healthy lifestyle/Great Swapathon – change habits	1	
	13. Small Steps 4 Life	1	
	14. Healthy lifestyles through small changes in diet / exercise / wellness	1	
	15. Five Choices to help you stay healthy	1	
	16. You should not smoke/Do some regular physical activity/Eat a healthy diet/Try to lose weight if you are overweight or obese/Don't drink too much alcohol	1	
	17. 30 minutes of (moderate aerobic) physical activity, on most days	1	
	18. Minimum of two sessions of muscle-strengthening activities per week (not on consecutive days)	1	
	19. Children and teenagers should get at least one hour a day of moderate physical activity / 5X60 initiative (Wales)	1	
	20. Can be achieved by a mixture of play/PE/games/dance/cycling/a brisk walk to school/sports/various outdoor activities or equivalent	1	
	21. School based initiatives.	1	
	22. Description of school-based initiatives eg walking to school or canteen provision	1	
	23. Free swimming	1	
	24. Access to swimming for young and older people	1	
		<b>[5]</b>	

Question	Answer	Marks	Guidance
22	<p><b>(Describe Principles of Training)</b>  <b>6 marks from:</b>            (Overload)            1. Work harder than normal/puts body under stress/adaptation will follow/comes about by increasing frequency/intensity/duration.            2. Eg Lifting heavier weights.            (Specificity)            3. Training should be particular/relevant to needs (Do not accept specific on its own without explanation)/relevant energy system used/relevant muscle groups used / specific sport or specific area of the body.            4. Eg choosing main muscle groups used in activity to train for strength.            (Progression)            5. (Gradually) becomes more difficult/demanding/challenging/once adapted then more demands on body.            6. Eg Doing more repetitions of sprints at each training session.</p>	<p>1 1 1 1 1 1 <b>[6]</b></p>	<ul style="list-style-type: none"> <li>• 3 marks max with no suitable practical examples.</li> <li>• If just a practical example is given but gives idea of the principle then award two marks (one for the description and one for the example)</li> <li>• Eg working harder, lifting more and more heavier weights = 2 marks</li> <li>• Specific to your needs = BOD Pt 3</li> </ul>

Question	Answer	Marks	Guidance
23	<b>4 marks from:</b> <b>(3 marks max for description of joint)</b> 1. Where two or more bones meet 2. Has a joint capsule 3. Has synovial fluid 4. Synovial membrane 5. Has cartilage (on articulating surfaces) 6. Has ligaments (linking bone to bone) <b>(1 mark max for example of a hinge joint)</b> 7. Elbow or knee or ankle	1 1 1 1 1 1 1 <b>[4]</b>	
24	<b>(Good personal hygiene)</b> <b>4 marks from:</b> 1. Wash your hair regularly 2. Keep nails short/cut (to avoid infection from dirt) 3. Keep your nails clean (to avoid infection/passing on infection) 4. Wash your skin/hands/shower (after activities to avoid infections) / wash your feet (to avoid infections) 5. Dry your feet (to avoid picking up (fungal) infections) 6. Shower before swimming to avoid taking dirt/infection into the pool 7. Wash your clothes/change your clothes / underwear/change your socks. 8. Cover or clean cuts or abrasions / to form a barrier / infections against spreading infection	1 1 1 1 1 1 1 1 <b>[4]</b>	<ul style="list-style-type: none"> <li>Do not accept washing on its own (Vg)</li> </ul>

Question	Answer	Marks	Guidance
25*	<p><b>(Feedback and motivation)</b>  <b>Levels of response</b>  <b>Level 1 (1-2 marks)</b>  Candidates make only one or two valid points about feedback. Identification of feedback with little explanation. There is little or no use of technical vocabulary and sentences have limited coherence and structure. There is much irrelevant material. Errors in grammar, punctuation and spelling may be noticeable and intrusive.</p> <p><b>Level 2 (3-4 marks)</b>  Some explanation points but mainly description. There is some use of technical vocabulary and sentences for the most part are relevant and are coherent. There are occasional errors in grammar, punctuation and spelling.</p> <p><b>Level 3 (5-6 marks)</b>  Candidates make many developed points about the link between different types of feedback with motivation and with participation. Candidate demonstrates excellent knowledge and understanding of the factors involved. Candidate gives relevant material that is clearly structured and using appropriate terminology and technical vocabulary. There are few if any errors in grammar, punctuation and spelling.</p>		<p><b>Refer to the Level Descriptors at all times.</b>  <b>K = each point found in the indicative content.</b>  <b>DEV = development of this point (which could be a practical example)</b></p> <p>K normally given for types of feedback.</p> <p>DEV normally given for link to motivation or relevant practical example.</p> <p>LEVEL 3 would normally have <u>three or more</u> examples of feedback linked well to motivation</p>

Question	Answer	Marks	Guidance
	<p><b><u>Indicative content</u></b>  <b>Types of feedback:</b></p> <ol style="list-style-type: none"> <li>1. Intrinsic will tell you how well you are doing/feeling the right movement</li> <li>2. Extrinsic will give external feedback</li> <li>3. Positive feedback is encouraging</li> <li>4. Negative feedback involves criticism</li> <li>5. Knowledge of results will give motivation to try harder</li> <li>6. Knowledge of performance will give info about technique</li> <li>7. Others - eg terminal feedback/concurrent feedback etc.</li> </ol> <p><b>How they can motivate:</b></p> <ol style="list-style-type: none"> <li>6. By giving information to improve</li> <li>7. Praising</li> <li>8. Rewarding</li> <li>9. By reinforcing good actions/performance/participation / want to continue or persist</li> <li>10. Giving targets/goals to go for</li> <li>11. Can help you enjoy the activity/have fun</li> <li>12. Showing others that you have achieved something</li> <li>13. Give you the drive to improve</li> <li>14. Raise self-esteem/self-belief / confidence</li> <li>15. Negative feedback/criticism can spur you on or encourage you to prove yourself or shown then that they are wrong</li> </ol>		
	<b>Section B Total</b>	<b>45</b>	

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