

Physical Education

General Certificate of Secondary Education

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

Mark Scheme for June 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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
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Any enquiries about publications should be addressed to:

OCR Publications
PO Box 5050
Annesley
NOTTINGHAM
NG15 0DL

Telephone: 0870 770 6622
Facsimile: 01223 552610
E-mail: publications@ocr.org.uk

Annotations used:

| | | |
|---|-------|---------------------------------|
|  | ? | Unclear |
|  | BOD | Benefit of doubt |
|  | Cross | Incorrect |
|  | L1 | Level 1 |
|  | L2 | Level 2 |
|  | L3 | Level 3 |
|  | REP | Repeat |
|  | Tick | Correct |
|  | VG | Vague |
|  | SEEN | Noted but no credit given |
|  | S | S (indicates 'sub max reached') |
|  | EG | Example |
|  | K | Knowledge |
|  | DEV | Development |

- Sub-maxes are indicated with **S**; the guidance section of the mark scheme shows which questions these are relevant to.
- **K** and **DEV** used instead of ticks on question 25 to indicate where knowledge or development points from the indicative content have been made.
- On question 25, one K or DEV does not necessarily equate to one mark being awarded; the marking is based on a levels of response mark scheme which awards a level and mark holistically based upon the quality of the response overall against the levels descriptors.

| Question | | Answer | Marks | Guidance |
|----------|--|--|-------|--|
| 1 | | a. It selects the Great Britain team for the Olympics | 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 | | d. They attach muscles to bones | 1 | |
| 3 | | b. Making sure equipment is stored away when not in use | 1 | |
| 4 | | a. An increase in lung volume | 1 | |
| 5 | | c. Maintain a healthy body weight | 1 | |
| 6 | | c. Payment for refereeing in a football game | 1 | |
| 7 | | b. Trying to perfect the right technique when practising badminton | 1 | |
| 8 | | b. Quadriceps | 1 | |
| 9 | | d. To produce red blood cells | 1 | |
| 10 | | a. Encourages people to be interested in physical activities | 1 | |
| 11 | | b. A continuous and varied training method with speed and endurance | 1 | |
| 12 | | c. A tennis player concentrating on the ball as the opponent hits it | 1 | |

| Question | | Answer | Marks | Guidance |
|----------|--|---|-----------|----------|
| 13 | | d. A rugby player wearing a gum shield | 1 | |
| 14 | | a. The body works harder than normal with stress and discomfort | 1 | |
| 15 | | b. The movement of the agonist is countered by the action of the antagonist | 1 | |
| | | Total | 15 | |

| Question | Answer | Marks | Guidance |
|----------|---|--|---|
| 16 | 3 marks from: 1. Litter / glass / debris on the field / animal faeces/ syringes/ sharp objects 2. Slippy/ muddy surface / wet / icy surface/ uneven ground/surface / (pot) holes / stones or rocks/ mole hills 3. Hard surface /unforgiving surface 4. Goalposts / corner posts / netting / (personal) equipment/ footwear 5. Other people/ other activities / members of the public /dogs/animals 6. Weather/ sunlight | 1 1 1 1 1 1 [3] | |
| 17 | 3 marks from: 1. Increase in breathing rate / faster or heavy breathing/ out of breath/ shortness of breath 2. Increase in tidal volume/ increase (slight) in residual volume 3. Increase in minute volume 4. Increase in oxygen uptake/ gaseous exchange | 1 1 1 1 [3] | Take in more air – too vague |
| 18 | 4 marks from: 1. (Frequency) – how often / eg the number of training sessions each week 2. (Intensity) – how hard / eg create a training zone / how hard the performer trains / how much weight they are lifting 3. (Time) – How long / the length of time you train/ The duration that the training takes up / 20+ minutes for aerobic exercise/ the number of reps 4. (Type) – This must be chosen that suits the needs of or relevant to the performer eg a games player would have anaerobic/sprinting work as well as aerobic / continuous training | 1 1 1 1 [4] | Accept any examples that seek to describe each element of FITT (although practical examples is not a requirement) Do not accept – repeating the words in the question eg frequency/ intensity etc without a description. Eg how intense you train = 0 BUT: Increasing (on it's own) frequency, intensity and time = 1 mark only. (If they go on to give more info then more marks available but have used up one of the possible 3 marks available out of frequency, intensity and time) |

| Question | Answer | Marks | Guidance |
|----------|--|--|----------|
| 19 | <p>4 marks from:</p> <p>1 mark sub max for identifying location:</p> <p>1. Found in / around (synovial) joints</p> <p>3 marks sub max for function:</p> <p>2. It lubricates the joint</p> <p>3. Thus protecting (cartilage)/prevents injury/ wear and tear</p> <p>4. Ensures smooth/unobstructed/ efficient movement/ prevents friction/ stiffness / pain</p> <p>5. This is secreted into the joint by the synovial membrane. eg knee joint</p> <p>6. Nourishes the cartilage/ keeps joint healthy</p> <p>7. Helps to stabilise the joint</p> | <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>[4]</p> | |

| Question | Answer | Marks | Guidance |
|----------|--|---|---|
| 20 | <p>6 marks from:</p> <ol style="list-style-type: none"> 1. Copying others/modelling 2. Description or a practical example – watching a netball pass and doing the same 3. Trial and error 4. Description or a practical example – trying to hit the shuttle in badminton and eventually hitting it correctly and then repeating the correct action 5. Being influenced by role models/significant others/those we look up to/experts/ written or video information 6. Description or a practical example – watching a Premiership footballer and using their techniques 7. Trying hard/effort/being (intrinsically or extrinsically) motivated 8. Description or a practical example - trying really hard to learn to hit the ball in tennis 9. Practise/rehearsal/whole or part learning/other practice methods 10. Description or a practical example – going over and over the skill of shooting in basketball 11. Get feedback/reinforcement/ reward 12. Description or a practical example – coach saying ‘well done’ if skills in netball are performed correctly watching own performance video | <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>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>[6]</p> | <p>Embolden words are for cues and are not exclusive</p> <p>Look for a description that is relevant for each method and this may be in the form of a practical example but may not:</p> <p>Eg Pt 1 copying = 1 mark</p> <p>Pt 2 watching others demonstrate and replicating their movements = 1 mark</p> |

| Question | Answer | Marks | Guidance |
|----------|--|--|--|
| 21 | <p>3 marks from:</p> <ol style="list-style-type: none"> 1. Builds up during exercise / builds up/ produced in muscle/ when there is a lack of oxygen / when working hard / high intensity activity 2. Causes fatigue/tiredness 3. Causes pain / discomfort / stiffness/ soreness/ aching 4. So more likely to stop 5. Can lead to decrease performance / activity / restricts movements / slows you down/ can't do as much | <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>1</p> <p>[3]</p> | <p>One mark max for a list</p> <p>Do not accept 'cramp' or references to cramp</p> <p>Give BOD for 'tighten up' or 'can't move' (pt5)</p> |

| Question | Answer | Marks | Guidance |
|----------|--|--|---|
| 23 | <p>5 marks from:</p> <ol style="list-style-type: none"> 1. Educate about health and fitness / raises awareness of positive reasons/health benefits of participation 2. Enjoyment/fun/ of following these courses leads to a healthy lifestyle /motivating/ feel good about yourself/ less stress 3. Measures health/fitness/diet / helps to (self) evaluate 4. Helps to set goals for better health/fitness/diet 5. School provides resources/(better) equipment that can be used by all 6. Encourages participation because of the practical element/you have to participate in practical activities to complete the course / getting people into sport / getting involved / extra PE lessons/ improving skills 7. Provides role models in the school/others want to copy successful pupils/others around you are motivated 8. You get to try new/a range/different games /activities /different opportunities/ 9. Get to try new roles/ being an official/ a coach 10. You make friends with others who participate and this encourages you to participate in games 11. You get reward/a certificate/qualification through participation/ career pathway 12. Links often made with outside clubs/agencies which encourage participation outside school 13. Extra-curricular activities are often taken up for exam candidates to improve/curricular activities are often taken up for exam candidates to improve | <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>1</p> <p>[5]</p> | <p>Embolden words are for cues and are not exclusive</p> <p>Do not accept National Curriculum (NC) on it's own</p> |

| Question | Answer | Marks | Guidance |
|----------|---|--|---|
| 24 | <p>5 marks from:</p> <ol style="list-style-type: none"> 1. Grants can be available from government / local authorities / schools which may help participation. 2. If parents are able to fund activities more likely to participate/ if funds inadequate less likely to afford activity 3. (If family) have good funds tendency to eat healthily 4. Funding via the lottery can improve provision for young people 5. Sponsorship may be available if young person is particularly good 6. Some clubs have membership fees that need to be paid to participate 7. Equipment / kit can be bought if funded well 8. Entrance fees / hiring facilities may affect participation 9. Provision/ quality of facilities 10. Set up clubs/ leagues / OSHL clubs 11. Can motivate to participate/ can de-motivate by spending available funds on other priorities 12. Pay for transport to gain access 13. Coaching or teaching fees may be a barrier | <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>1</p> <p>[5]</p> | <p>Embolden words are for cues and are not exclusive</p> <p>(accept opposites for negative aspects for lack of funds)</p> <p>Promotional campaigns = vague</p> |

| Question | Answer | Marks | Guidance |
|----------|---|-------|--|
| 25* | <p><u>Levels of response</u></p> <p>Level 1 (1-2 marks) Candidates make only one or two valid points about short and / or long term effects on the heart. Little explanation offered / more of a list. There is little or no use of technical vocabulary and sentences have limited coherence and structure. There is much irrelevant material eg effects on other organs/body systems. Errors in grammar, punctuation and spelling may be noticeable and intrusive.</p> <p>Level 2 (3-4 marks) Candidates identify some short term and some long term effects on the heart. 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>Level 3 (5-6 marks) Candidates make many developed points about both short and long term effects on the heart. 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>The following are GUIDELINES ONLY. Refer to Level descriptors at all times. DO NOT USE TICKS FOR QUESTION 25</p> <ul style="list-style-type: none"> • Give K for each (knowledge) point found in the indicative content. • Give DEV for development of a point • Give EG for a practical example that is worthy of credit as a development or an illustration of a point <p>The number of knowledge points does not indicate the level. Look again at the descriptors to moderate and pinpoint your mark.</p> <p>Take into account the following discriminators:</p> <p>Features of Level 1 <u>are likely to</u> include:</p> <ul style="list-style-type: none"> ➤ May only deal with <u>either</u> short or long term effects ➤ One or two points made with no development ➤ Some incorrect points or unrelated to the heart <p>Features of Level 2 <u>are likely to</u> include:</p> <ul style="list-style-type: none"> ➤ Could deal very effectively with long or short term but not both. ➤ Little development of some points <p>Features of Level 3 <u>are likely to</u> include:</p> <ul style="list-style-type: none"> ➤ Both long and short developed well ➤ No irrelevant or incorrect material |

| Question | Answer | Marks | Guidance |
|----------|--|------------|--|
| | <p><u>Indicative content</u></p> <p>Short term effects on heart</p> <ol style="list-style-type: none"> 1. Increase in heart /pulse rate 2. Anticipatory rise <ul style="list-style-type: none"> • Heart rate may increase even before exercise is started 3. Increase in cardiac output <ul style="list-style-type: none"> • More blood / O₂ available • Amount of blood pumped out per minute 4. Increase in stroke volume (during exercise) <ul style="list-style-type: none"> • More O₂ available for working muscles • Volume of blood pumped out (by each ventricle during one contraction) <p>Long term effects on heart</p> <ol style="list-style-type: none"> 5. Lower resting heart rate <ul style="list-style-type: none"> • Tire less easily • Less likely for heart disease • Quicker recovery 6. Increase in stroke volume <ul style="list-style-type: none"> • More O₂ available for working muscles • Volume of blood pumped out • Increase in stroke volume at rest and during exercise 7. Cardiac output increases <ul style="list-style-type: none"> • More blood / O₂ available • Amount of blood pumped out per minute 8. Heart is stronger <ul style="list-style-type: none"> • More blood can be pumped out • More efficient 9. Heart is larger/ hypertrophy <ul style="list-style-type: none"> • Heart walls get thicker 10. Less likely to suffer heart problems / CHD <ul style="list-style-type: none"> • heart disease / healthier heart • More likely to be fit / better endurance | [6] | <ul style="list-style-type: none"> • Bullet points indicate likely developments but are not exhaustive |

OCR (Oxford Cambridge and RSA Examinations)
1 Hills Road
Cambridge
CB1 2EU

OCR Customer Contact Centre

Education and Learning

Telephone: 01223 553998

Facsimile: 01223 552627

Email: general.qualifications@ocr.org.uk

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