

**General Certificate of Secondary Education**  
**Physical Education**  
**Unit B453: Developing Knowledge in**  
**Physical Education**  
**Specimen Paper**

**B453**

Time: 1 hour

Candidates answer on the question paper.

**Additional materials:**

Candidate  
Forename

Candidate  
Surname

Centre  
Number

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Candidate  
Number

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### INSTRUCTIONS TO CANDIDATES

- Write your name in capital letters, your Centre Number and Candidate Number in the boxes above.
- Use black ink. Pencil may be used for graphs and diagrams only.
- Read each question carefully and make sure you know what you have to do before starting your answer.
- Answer **all** the questions.
- Do not write in the bar codes.
- Do not write outside the box bordering each page.
- Write your answer to each question in the space provided.

### INFORMATION FOR CANDIDATES

- The number of marks for each question is given in brackets [ ] at the end of each question or part question.
- Your Quality of Written Communication is assessed on the question marked with an asterisk (\*).
- The total number of marks for this paper is 60.

#### FOR EXAMINER'S USE

<b>Section A</b>	
<b>Section B</b>	
<b>TOTAL</b>	

This document consists of **12** printed pages

**Section A**

Answer **all** questions. Please circle the correct answer.

- 1 A movement that predominantly uses a hinge joint in physical activity is:
- (a) Sprint start leg action in athletics
  - (b) The bowling arm action in cricket
  - (c) Heading the ball in football
  - (d) Ankle action when swimming breast stroke
- [1]
- 2 Which of the following is a role of the National Governing Bodies in sport?
- (a) To provide equipment to fitness clubs
  - (b) To write the curriculum for school physical education
  - (c) Ensure health and safety guidelines are in place
  - (d) Make money for the share-holders
- [1]
- 3 Which of the following is an example of intrinsic feedback?
- (a) The crowd booing a bad pass that has been made
  - (b) The performer hitting a pass and the technique feeling right
  - (c) The coach shouting encouragement following a good pass
  - (d) The performer passing to a team-mate who has shouted for the ball
- [1]
- 4 Which of the following is an example of extrinsic motivation?
- (a) Trying to beat your personal best in a 100 metre sprint
  - (b) Participating in badminton for enjoyment
  - (c) Wanting to swim a length of the swimming baths to gain a badge
  - (d) Taking up aerobics to get fitter
- [1]

5 Why is personal hygiene important in physical education?

- (a) To avoid minor infections
- (b) To be a more successful performer
- (c) To be able to lift and carry equipment safely
- (d) To keep the equipment clean

[1]

6 In order to improve the health of the biceps, which one of the following activities would be most effective?

- (a) Football
- (b) High jump
- (c) Canoeing
- (d) Hill walking

[1]

7 Overuse of tendons in physical activity can cause problems. Which one of the following problems is associated with tendon overuse?

- (a) Inflammation
- (b) Arthritis
- (c) Hypertrophy
- (d) Bruising

[1]

8 Which of the following would ensure healthy joints?

- (a) Maintaining a healthy weight
- (b) Use of massage oil
- (c) Eating more red meat
- (d) Lifting very heavy weights

[1]

9 Which of the following best describes the training principle of overload?

- (a) Concentrating on specific muscle to make it relevant
- (b) Putting the body under stress to improve strength
- (c) Doing too much exercise
- (d) Doing less exercise to rest muscles

[1]

10 Which of the following activities would be best described as both aerobic **and** anaerobic?

- (a) Sprinting
- (b) Long jump
- (c) Weightlifting
- (d) Tennis

[1]

11 Natalie has decided to take up cross-country running. Which type of training would be the most suitable for this activity?

- (a) Circuit training
- (b) Weight training
- (c) Continuous training
- (d) Flexibility training

[1]

12 After an hour's vigorous exercise programme, a 16-year old male, who does not train regularly, experiences some short-term effects on his body. Which one of the following would you expect to happen after such a short exercise programme?

- (a) Increase in cardiac output
- (b) Decrease in resting heart rate
- (c) Increase in lung volume
- (d) Increased breathing rate

[1]

**13** What is the **main** reason for SMART goal setting?

- (a) To punish performers who do not stick to an exercise programme
- (b) To reward performers financially if they stick to an exercise programme
- (c) To check whether the coach is setting a good exercise programme
- (d) To motivate participants to follow an exercise programme

[1]

**14** Why is feedback on performance especially important?

- (a) It discourages poor performers
- (b) It increases competition
- (c) It sets a personal best target
- (d) It helps to improve technique

[1]

**15** Which of the following is a potential hazard of a school playing field?

- (a) Correct footwear
- (b) Discarded litter
- (c) The sports equipment
- (d) Other players

[1]

**Section A Total [15]**

**Section B**

Answer **all** questions.

**16** How can physical activity keep our joints healthy?

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..... [2]

**17** Name **one** long term effect of exercise on the heart and the lungs. Describe how this effect enables people to follow an active, healthy lifestyle.

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..... [2]

**18** How would you use extrinsic motivation to encourage a teenager to follow an active, healthy lifestyle?

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.....  
..... [3]

**19** Describe **two** government initiatives to promote active, healthy lifestyles.

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.....  
..... [2]



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..... [4]

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[6]

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**Specimen Mark Scheme**

The maximum mark for this paper is 60.

SPECIMEN

Section A		
Question Number	Answer	Max Mark
1	<p><b>A movement that predominantly uses a hinge joint in physical activity is:</b></p> <p>A Sprint start leg action in athletics</p>	[1]
2	<p><b>Which of the following is a role of the National Governing Bodies in sport?</b></p> <p>C Ensure health and safety guidelines are in place</p>	[1]
3	<p><b>Which of the following is an example of intrinsic feedback?</b></p> <p>B The performer hitting a pass and the technique feeling right</p>	[1]
4	<p><b>Which of the following is an example of extrinsic motivation?</b></p> <p>C Wanting to swim a length of the swimming baths to gain a badge</p>	[1]
5	<p><b>Why is personal hygiene important in physical education?</b></p> <p>A To avoid minor infections</p>	[1]
6	<p><b>In order to improve the health of the biceps, which one of the following activities would be most effective?</b></p> <p>C Canoeing</p>	[1]
7	<p><b>Overuse of tendons in physical activity can cause problems. Which of the following problems is associated with tendon overuse?</b></p> <p>A Inflammation</p>	[1]
8	<p><b>Which of the following would ensure healthy joints?</b></p> <p>A Maintaining a healthy weight</p>	[1]
9	<p><b>Which of the following best describes the training principle of overload?</b></p> <p>B Put the body under stress to improve strength</p>	[1]

Question Number	Answer	Max Mark
10	<p><b>Which of the following activities would be best described as both aerobic <u>and</u> anaerobic?</b></p> <p>D Tennis</p>	[1]
11	<p><b>Natalie has decided to take up cross-country running. Which type of training would be the most suitable for this activity?</b></p> <p>C Continuous training</p>	[1]
12	<p><b>After an hour's vigorous exercise programme, a 16-year old male, who does not train regularly, experiences some short-term effects on his body. Which one of the following would you expect to happen after such a short exercise programme?</b></p> <p>D Increased breathing rate</p>	[1]
13	<p><b>What is the <u>main</u> reason for SMART goal setting?</b></p> <p>D To motivate participants to follow an exercise programme</p>	[1]
14	<p><b>Why is feedback on performance especially important?</b></p> <p>D It helps to improve technique</p>	[1]
15	<p><b>Which of the following is a potential hazard of a school playing field?</b></p> <p>B Discarded litter</p>	[1]
<b>Section A Total</b>		<b>[15]</b>

Section B		
Question Number	Answer	Max Mark
16	<p><b>How can physical activity keep our joints healthy?</b></p> <p>One mark for each of two ways from:</p> <ol style="list-style-type: none"> <li>1 By strengthening the connective tissue thus preventing hyperextension of joints</li> <li>2 By strengthening muscle thus protecting the joint</li> <li>3 By keeping to a varied exercise programme</li> <li>4 By exercising regularly but within the capabilities of the young person.</li> </ol>	[2]
17	<p><b>Name <u>one</u> long term effect of exercise on the heart and the lungs. Describe how this effect enables people to follow an active, healthy lifestyle.</b></p> <p>One mark for a correct effect from:</p> <ol style="list-style-type: none"> <li>1 Lower (resting) heart rate stroke volume and cardiac output</li> <li>2 Higher/better lung/tidal volumes.</li> </ol> <p>One mark for a correct description from:</p> <ol style="list-style-type: none"> <li>1 To prevent heart problems/disease</li> <li>2 To be able to keep going/maintain exercise</li> <li>3 To recover quicker</li> <li>4 Be able to exercise without risk of health problems</li> <li>5 To avoid lung disease/problems.</li> </ol>	[2]
18	<p><b>How would you use extrinsic motivation to encourage a teenager to follow an active, healthy lifestyle?</b></p> <p>One mark for each of three explanations from:</p> <ol style="list-style-type: none"> <li>1 Give praise/encouragement</li> <li>2 Badges/(tangible) rewards</li> <li>3 Give opportunity to join a team/a club</li> <li>4 Point out the health/fitness benefits</li> <li>5 Show others as role models</li> <li>6 Show positive benefits for body image/to look good</li> <li>7 To make friends/do as friends do.</li> </ol>	[3]
19	<p><b>Describe <u>two</u> government initiatives to promote active, healthy lifestyles.</b></p> <p>One mark for each of two descriptions from:</p> <ol style="list-style-type: none"> <li>1 Five hours of high quality Physical Education and sport per week</li> <li>2 One hour of physical activity per day</li> <li>3 Eating five fruit and vegetables a day</li> <li>4 Any other current initiatives.</li> </ol>	[2]



Question Number	Answer	Max Mark
20*	<p><b>Explain how local provision can encourage participation in physical activities.</b></p> <p>Six marks total. Levels marked question:</p> <p><b>Level 1 [1-2 marks]</b></p> <p>Candidate makes some points about aspects of local provision but struggles to make any relevant links between the aspects identified and levels of participation.</p> <p>Candidate shows ability to communicate at least one point using some appropriate terminology. Sentences have limited coherence and structure, often being of doubtful relevance to the main focus of the question. Errors of grammar, punctuation and spelling may be noticeable and intrusive.</p> <p><b>Level 2 [3-4 marks]</b></p> <p>Candidate makes several points about aspects of local provision and demonstrates good knowledge and understanding, making some links between the aspects identified and levels of participation.</p> <p>Candidate shows ability to present relevant material in a planned and logical sequence. Appropriate terminology is used. Sentences, for the most part relevant, are presented in a balanced, logical and coherent manner which addresses the question. There will be occasional errors of grammar, punctuation and spelling.</p> <p><b>Level 3 [5-6 marks]</b></p> <p>Candidate makes several developed points analysing the link between local provision and levels of participation and demonstrates excellent knowledge and understanding, explaining the role that the identified aspects of local provision play in increasing involvement in physical activity.</p> <p>Candidate shows ability to present relevant material in a well planned and logical sequence. Material is clearly structured using appropriate terminology confidently and accurately. Sentences, consistently relevant, are well structured in a way which directly answers the question. There will be few, if any, errors of grammar, punctuation and spelling.</p> <p><b>Indicative content:</b></p> <ol style="list-style-type: none"> <li>1 Facilities provided by the local authority/city/town council</li> <li>2 Through private enterprise/clubs</li> <li>3 Giving wide variety from which to choose</li> <li>4 Subsidies/making activities affordable</li> <li>5 Being local means easy access</li> <li>6 By providing specific group sessions eg over 50s/women only</li> <li>7 Giving taster courses/providing specific coaching/teaching</li> <li>8 Encouraging those with disabilities by ease of access eg wheelchair ramps</li> <li>9 Providing transport to the facilities</li> <li>10 Effective advertising/promotion of their activities.</li> </ol>	<b>[6]</b>

Question Number	Answer	Max Mark
21	<p><b>Describe an occasion when correct carrying technique will reduce the chance of injury during or preparing for a physical activity.</b></p> <p>Two marks for each of two descriptions from:</p> <ol style="list-style-type: none"> <li>1 Bending legs/use of large muscle groups</li> <li>2 Keeping back straight/protecting the back muscles</li> <li>3 When lifting/carrying equipment in the sports hall</li> <li>4 Do not lift/carry unless necessary</li> <li>5 Enlist the help of others/use lifting/carrying equipment.</li> </ol>	[2]
22	<p><b>Describe the difference between aerobic and anaerobic exercise, giving an example of each.</b></p> <p>One mark for a correct description of aerobic exercise (points 1-3) and one mark for a correct example of aerobic exercise.</p> <p><b>Aerobic</b></p> <ol style="list-style-type: none"> <li>1 Aerobic is about cardiovascular endurance/fitness of heart, blood and blood vessels</li> <li>2 It involves the presence of oxygen</li> <li>3 Aerobic work involves the ability to exercise for a long time</li> <li>4 Examples of aerobic activities are: interval training/fartlek training/circuit training/cross training/aerobics/continuous running for over 20 minutes.</li> </ol> <p>One mark for a correct description of anaerobic exercise (points 5-7) and one mark for a correct example of anaerobic exercise.</p> <p><b>Anaerobic</b></p> <ol style="list-style-type: none"> <li>5 Anaerobic is about ability to work at a high intensity</li> <li>6 For a short period of time</li> <li>7 Anaerobic is without oxygen</li> <li>8 Examples of anaerobic activities are: sprint running/sprint swimming/players in a netball or basketball match who work for up to about 40 seconds.</li> </ol>	[4]
23	<p><b>Explain how skills in physical activities can be learned effectively.</b></p> <p>One mark for each of five explanations from:</p> <ol style="list-style-type: none"> <li>1 Practice/rehearsal</li> <li>2 Copying/watching others/imitating</li> <li>3 Role models/qualified teachers/coaches will motivate to learn</li> <li>4 Training for better physical fitness/fitness training</li> <li>5 Trial and error/having a go at the skills</li> <li>6 Being taught</li> <li>7 Through extrinsic motivation/rewards</li> <li>8 By enjoyment/having fun learning</li> <li>9 By learning part of the skill then building on it/whole-part-whole/learn sub routines.</li> </ol>	[5]

Question Number	Answer	Max Mark
24	<p><b>Choose the role of either participant, leader or official and describe how you might reduce risks and injuries in that particular role.</b></p> <p>Answers must analyse requirements for the chosen role.</p> <p>One mark for each of four descriptions from:</p> <ol style="list-style-type: none"> <li>1 Correct clothing - relate to the role chosen</li> <li>2 Personal protective equipment - relate to role chosen</li> <li>3 Follow health and safety procedures - relate to the role chosen</li> <li>4 Lift, carry and place equipment safely/correct technique - relate to the role chosen</li> <li>5 Participate at the appropriate level (if relevant) - relate to the role chosen</li> <li>6 Warm-up/cool down - relate to the role chosen</li> <li>7 Keep fit and healthy - relate to the role chosen.</li> </ol>	<b>[4]</b>
25*	<p><b>Explain how goal setting can help to develop self-confidence to follow an active lifestyle.</b></p> <p>Six marks total. Levels marked question.</p> <p><b>Level 1 [1-2 marks]</b></p> <p>Candidate makes some points about how goal setting can help to develop self-confidence but struggles to make any relevant links between the aspects identified and participation in an active lifestyle.</p> <p>Candidate shows ability to communicate at least one point using some appropriate terminology. Sentences have limited coherence and structure, often being of doubtful relevance to the main focus of the question. Errors of grammar, punctuation and spelling may be noticeable and intrusive.</p> <p><b>Level 2 [3-4 marks]</b></p> <p>Candidate makes several points about how goal setting can help to develop self-confidence and demonstrates good knowledge and understanding, making some links between the aspects identified and participation in an active lifestyle.</p> <p>Candidate shows ability to present relevant material in a planned and logical sequence. Appropriate terminology is used. Sentences, for the most part relevant, are presented in a balanced, logical and coherent manner which addresses the question. There will be occasional errors of grammar, punctuation and spelling.</p> <p><b>Level 3 [5-6 marks]</b></p> <p>Candidate makes several developed points about how goal setting can help to develop self-confidence so that they can participate in an active lifestyle and demonstrates excellent knowledge and understanding, explaining the factors that affect increasing involvement in an active lifestyle.</p> <p>Candidate shows ability to present relevant material in a well planned and logical sequence. Material is clearly structured using appropriate terminology confidently and accurately. Sentences, consistently relevant, are well structured in a way which directly answers the question. There will be few, if any, errors of grammar, punctuation and spelling.</p>	

Question Number	Answer	Max Mark
25* cont	<p><b>Indicative content:</b></p> <ol style="list-style-type: none"> <li>1 Ensuring/giving/enabling success</li> <li>2 Recognising progress/progress made obvious/measurable/recorded/gives evidence of growth/progression of skill</li> <li>3 Encouraging/exciting</li> <li>4 Gives evidence of fitter/faster/stronger/fitness</li> <li>5 Motivating/to keep going/try harder/achieve even higher levels</li> <li>6 Has more control over what is happening/in their hands/are agreed</li> <li>7 Identifying changes/improvements that are achievable/specific/realistic</li> <li>8 Gives more time for the performer to improve/time phased.</li> </ol>	<b>[6]</b>
26	<p><b>Exercise is important in maintaining an active, healthy lifestyle. Describe a warm-up exercise. Explain the importance of a warm-up when exercising.</b></p> <p>One mark for description of suitable warm up exercise One mark for each explanation from:</p> <ol style="list-style-type: none"> <li>1 To improve performance/skills/technique</li> <li>2 To increase flexibility</li> <li>3 To improve speed of movement</li> <li>4 To improve strength of muscular contraction</li> <li>5 To reduce injury.</li> </ol>	<b>[4]</b>
27	<p><b>State <u>three</u> long term benefits of training on a performer's well-being.</b></p> <p>One mark for each of three benefits from:</p> <ol style="list-style-type: none"> <li>1 Feel better about yourself - self esteem, confident</li> <li>2 Feel better about the way you look</li> <li>3 Feel better within yourself, be more active</li> <li>4 Can better cope with stress</li> <li>5 More likely to be healthy/fitter/stronger/more supple etc</li> <li>6 Body systems work better.</li> </ol>	<b>[3]</b>
28	<p><b>Identify and explain <u>two</u> extrinsic motivating factors that are important for a performer learning new skills.</b></p> <p>Two marks total. Candidate must identify and explain each point for one mark.</p> <ol style="list-style-type: none"> <li>1 Rewards/badges/trophies</li> <li>2 Positive feedback/encouragement from others/coaches/teachers</li> <li>3 Knowing how well you are doing/knowledge of results</li> </ol>	

Question Number	Answer	Max Mark
<b>28 cont</b>	4 This raises arousal levels that drive the learner to succeed 5 This raises the confidence levels of the learner 6 This can help to control anxiety	[2]
	<b>Section B Total</b>	<b>[45]</b>
	<b>Paper Total</b>	<b>[60]</b>

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## Assessment Objectives Grid (includes QWC)

Question	AO1	AO2	AO3	Total
1	1	-	-	1
2	1	-	-	1
3	1	-	-	1
4	1	-	-	1
5	1	-	-	1
6	1	-	-	1
7	1	-	-	1
8	1	-	-	1
9	1	-	-	1
10	1	-	-	1
11	1	-	-	1
12	1	-	-	1
13	1	-	-	1
14	1	-	-	1
15	1	-	-	1
16	2	-	-	2
17	2	-	-	2
18	3	-	-	3
19	2	-	-	2
20*	2	-	4	6
21	2	-	-	2
22	2	-	2	4
23	-	-	5	5
24	-	-	4	4
25*	2	-	4	6
26	1	-	3	4
27	3	-	-	3
28	1	-	1	2
<b>TOTALS</b>	<b>28</b>	<b>0</b>	<b>32</b>	<b>60</b>