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UNCOVER
LEARNER
POTENTIAL

Level 1/2 Vocational Award in

SPORT & COACHING PRINCIPLES

(Technical Award)

Teaching from 2022 | Award from 2024

SAMPLE ASSESSMENT MATERIALS - UNIT 1

Contents

Surname	Centre Number	Candidate Number
First name(s)		4

LEVEL 1/2 VOCATIONAL AWARD IN

Sport and Coaching Principles - UNIT 1

Fitness for Sport

1 hour 20 minutes

SAMPLE ASSESSMENT MATERIALS

INSTRUCTIONS TO CANDIDATES

Use black ink or black ball-point pen. Do not use gel pen or correction fluid.
You may use a pencil for graphs and diagrams only.

Answer **all** questions.

Write your name, centre number and candidate number in the spaces provided at the top of this page.

Write your answers in the spaces provided in this booklet. If you run out of space, use the additional page(s) at the back of the booklet, taking care to number the question(s) correctly.

For Examiner's use only		
Question	Maximum Mark	Mark Awarded
1.	11	
2.	12	
3.	13	
4.	25	
5.	19	
Total	80	

INFORMATION FOR CANDIDATES

The number of marks is given in brackets at the end of each question or part question.

The total number of marks available is 80.

You are reminded of the need for clear and accurate written communication.

*Answer **all** questions.*

Examiner only

1. Rugby players require different components of fitness to perform in their positions.

Figure 1: Rugby player being tackled

(a) (i) Identify the main energy system used in the rugby tackle seen in Figure 1. [1]

Anaerobic ☐

Aerobic ☐

ATP-PC ☐

Cardiac ☐

(ii) Identify **two** main components of fitness that would be used when tackling in rugby. [2]

Component 1:

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Component 2:

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(iii) Define the **two** components of fitness you identified in *(a)* (ii). [2]

Component 1:

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Component 2:

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(iv) Name a recognised test for each of the components of fitness you identified in (a) (ii). [2]

Examiner only

Component 1:

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Component 2:

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(v) Explain how weight training could improve tackling in rugby. [4]

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2. **Figure 2: A badminton match**

Examiner only

(a) (i) Explain how a badminton player would use each of the components of fitness listed in the table below. [4]

Component of fitness	Explanation of when the component would be used
Reaction time	…… ……
Co-ordination	…… ……

(ii) Name a recognised fitness test for the following components of fitness. [2]

Reaction time:

……

Co-ordination:

……

(b) (i) Define the terms reliability and validity in relation to fitness testing. [2]

Examiner only

Reliability:……..

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Validity: ……..

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(ii) Explain why regular fitness testing is important for a badminton player. [4]

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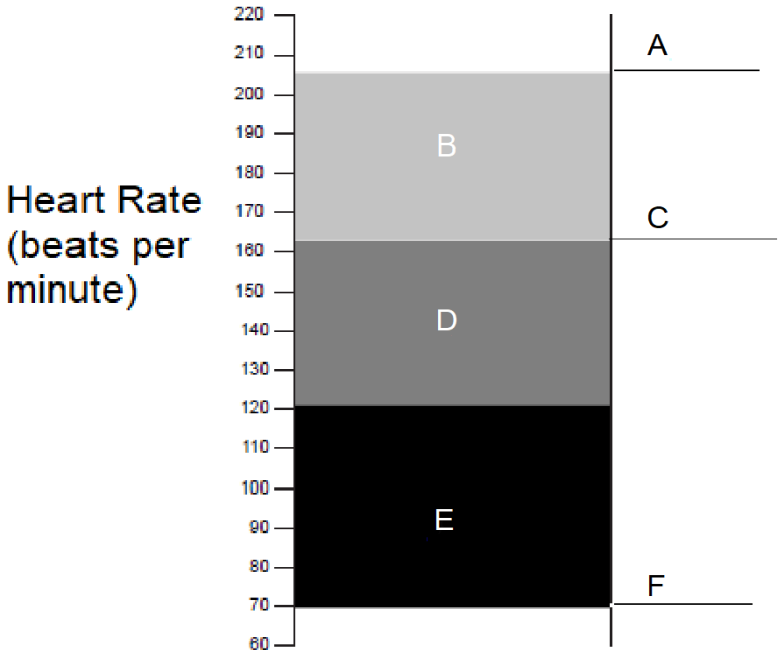
Examiner only

3. Harriet is a 15-year-old 1500m endurance athlete. This event requires a mixture of both aerobic and anaerobic energy production.

Figure 3: Harriet's training zones



(a) (i) Using Figure 3, identify the aerobic training zone. [1]

Tick (✓) **one** box only.

A ☐

B ☐

C ☐

D ☐

(ii) Using Figure 3, identify the anaerobic training zone. [1]

Tick (✓) **one** box only.

A ☐

B ☐

C ☐

D ☐

XXXXXXXXXXXxx

(iii) Using Figure 3, identify Harriet's anaerobic threshold. [1]

Examiner only

Tick (✓)**one** box only.

A ☐

C ☐

E ☐

F ☐

(iv) Identify the waste products from exercising within the aerobic energy system. [1]

Tick (✓) **one** box only.

Carbon dioxide and water ☐

Lactic acid and water ☐

Glucose and carbon dioxide ☐

Adrenaline and sweat ☐

(v) Identify the waste product from exercising within the anaerobic energy system. [1]

Tick (✓)**one** box only.

Carbon dioxide ☐

Lactic acid ☐

Glucose ☐

Adrenaline ☐

(b) Name two factors you would need to consider before developing a training programme for Harriet. [2]

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Examiner only

Figure 4: **A six week training programme for Harriet who is returning to training** following an extended break.

1. 10 minute walk, 20 minute jog, 10 minute walk. **2.** 20 minutes on a cycle ergometer at local leisure centre.	**Week 1**
1. 10 minute walk, 20 minute jog, 10 minute walk. **2.** 20 minutes on a cycle ergometer at local leisure centre.	**Week 2**
1. 25 minute jog, 10 minute walk. **2.** 20 minutes swimming at local leisure centre.	**Week 3**
1. 25 minute jog, 10 minute walk. **2.** 10 minutes on cross trainer and 15 minutes on cycle ergometer at local leisure centre.	**Week 4**
1. 30 minute jog. **2.** 15 minutes on rowing ergometer and 15 minutes on cycle ergometer at local leisure centre.	**Week 5**
1. 30 minute jog. **2.** 25 minutes swimming at local leisure centre.	**Week 6**

(c) (i) Select the main component of fitness being developed in the training programme above. [1]

Tick (✓) **one** box only.

Cardiovascular endurance ☐

Speed ☐

Reaction Time ☐

Strength ☐

(ii) Define the component of fitness you selected in c(i). [1]

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(iii) Assess the appropriateness of the training programme (Figure 4.) for Harriet, the 1500m endurance athlete, who is returning to training following an extended break. [4]

Examiner only

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Examiner only

4. During sprint training, the body needs to recover from each set of exercise in order to be ready for the next set. The cardio-vascular and cardio-respiratory systems work hard during these recovery periods.

(a) Identify the main function of skeletal muscle for a sprinter. [1]

Tick (✓) **one** box only.

- Protection ☐
- Movement ☐
- Muscle attachment ☐
- Blood cell production ☐

(b) You are a coach and have been asked to support an athlete by helping them to set appropriate targets. [8]

Explain, using examples, how effective goal setting can lead to an improvement in performance.

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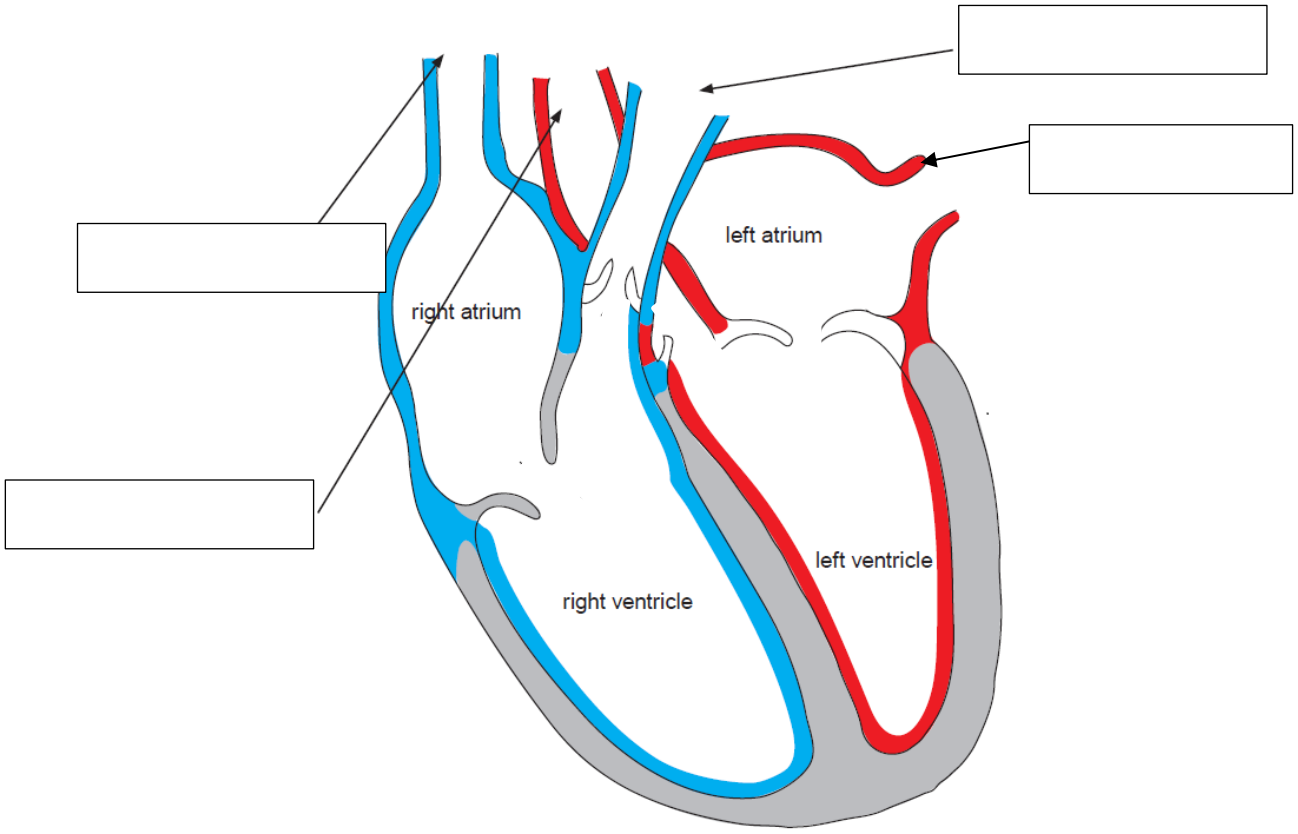
(c) (i) Label the diagram of the heart (Figure 5) with the following: [4]

Examiner only

aorta
vena cava
pulmonary artery
pulmonary vein

Figure 5: The diagram of the heart



(ii) Identify which chamber of the heart pumps oxygenated blood around the body. [1]

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(iii) Identify which chamber of the heart pumps de-oxygenated blood to the lungs. [1]

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(d) (i) Name the muscle group that contracts to extend the knee. [1]

Examiner only

……

(ii) Identify the action where one muscle contracts and the other muscle relaxes. [1]

Tick (✓) **one** box only.

Antagonistic action

Agonistic action

Prime mover action

Synergist action

(e) Describe the short-term effects of exercise on body systems. [4]

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(f) Explain the long-term adaptations to the muscular-skeletal system resulting from a high intensity exercise programme. [4]

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Examiner only

Endurance athletes require commitment and hours of training to prepare their bodies for competition.

5 (a) (i) State **two** ways to warm up effectively. [2]

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2.

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(ii) Explain why warming up effectively is important for a marathon runner. [3]

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(b) Justify why the principles of training specified in the table below should be applied when designing an endurance training programme. [8]

Examiner only

Principle of training	Justification
Specificity	…… …… …… ……
Overload	…… …… …… ……
Progression	…… …… …… ……
Variance	…… …… …… ……

(c) Describe the long-term adaptations that could result from following an endurance training programme. [6]

Examiner only

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END OF PAPER

MARK SCHEME

Guidance for examiners

Generic marking principles

- Marks awarded are always whole marks (not half marks, or other fractions).
- Answers should only be judged on the quality of spelling, punctuation and grammar when these features are specifically assessed by the question as indicated by the mark scheme. The meaning, however, should be unambiguous.
- Marks should be awarded using the full range of marks defined in the mark scheme for the question (however; the use of the full mark range may be limited according to the quality of the candidate responses seen).
- Marks awarded are based solely on the requirements as defined in the mark scheme. Marks should not be awarded with grade thresholds or grade descriptors in mind.

Positive marking

It should be remembered that candidates are writing under examination conditions and credit should be given for what the candidate writes, rather than adopting the approach of penalising him/her for any omissions. It should be possible for a very good response to achieve full marks and a very poor one to achieve zero marks. Marks should not be deducted for a less than perfect answer if it satisfies the criteria of the mark scheme.

For questions that are objective or points-based, the mark scheme should be applied precisely. Marks should be awarded as indicated and no further subdivision made.

Mark schemes often list points which may be included in candidates' answers. The list is not exhaustive. *The inclusion of 'Credit any other valid response.*' (or similar instruction) within mark schemes allows for the possible variation in candidates' responses. Credit should be given according to the accuracy and relevance of candidates' answers.

Appropriate terminology is reflected in exemplar responses in mark schemes. However, unless there is a specific requirement within a question, candidates may be awarded marks where the answer is accurate but expressed in their own words.

Banded mark schemes

For band marked questions, mark schemes are in two parts, the indicative content and the assessment grid.

The indicative content suggests the range of points and issues which may be included in candidates' answers. It can be used to assess the quality of the candidate's response. As noted above, indicative content is not intended to be exhaustive and candidates do not have to include all the indicative content to reach the highest level of the mark scheme.

However, in order to reach the highest level of the mark scheme a candidate must meet the requirements of the highest mark band. Where a response is not creditworthy, that is, it contains nothing of any significance to the mark scheme, or where no response has been provided, no marks should be awarded.

In Level 1/2 Technical Award in Sport and Coaching Principles, each question will address one or more assessment objectives: from AO1, AO2 or AO3. Where appropriate, the assessment grid subdivides the total mark that may be allocated for a question into individual assessment objectives. These are shown in bands in the mark scheme. For each assessment objective, descriptors will indicate the different skills and qualities at the appropriate level.

Candidates' responses to questions are assessed against the relevant assessment objectives. Where a question addresses more than one assessment objective, candidates may achieve different bands within that question. In these cases, a mark will be awarded for each assessment objective then totalled to give an overall mark for the question.

The marking of banded mark questions should always be positive. This means that, for each candidate's response, marks are accumulated for the demonstration of relevant skills, knowledge and understanding; they are not deducted from a maximum on the basis of errors or omissions. Examiners should first read and annotate the candidate's answer to pick out the evidence that is being assessed in that question. The mark scheme can then be applied. This is done as a two stage process.

Stage 1 – Deciding on the band

Beginning at the lowest band, examiners should look at the candidate's answer and check whether it matches the descriptors for that band. If the descriptors at the lowest band are satisfied, examiners should move up to the next band and repeat this process for each band until the descriptors match the answer.

If an answer covers different aspects of different bands within the mark scheme, a 'best fit' approach should be adopted to decide on the band and then the candidate's response should be used to decide on the mark within the band. For instance, if a response is mainly in band 2 but with a limited amount of band 3 content, the answer would be placed in band 2, but the mark awarded would be close to the top of band 2 as a result of the band 3 content.

Examiners should not seek to mark candidates down as a result of small omissions in minor areas of an answer.

Stage 2 – Deciding on the mark

During standardising (the marking conference), detailed advice from the Principal Examiner on the qualities of each mark band will be given. Examiners will then receive examples of answers in each mark band that have been awarded a mark by the Principal Examiner. Examiners should mark the examples and compare their marks with those of the Principal Examiner.

When marking, examiners can use these examples to decide whether a candidate's response is of a superior, inferior or comparable standard to the example. Examiners are reminded of the need to revisit the answer as they apply the mark scheme in order to confirm that the band and the mark allocated is appropriate to the response provided.

Differentiation within our mark schemes

The following grid demonstrates our starting point to formulating our mark schemes. These are used in order to ensure differentiation between our bands. Mark schemes will use this table as the basis for the assessment of each question but will reflect the specific demands of the question.

Band Descriptor	AO1	AO2	AO3
Excellent	• Aware of a wide range of detailed and accurate knowledge. • Demonstrates fully developed understanding that shows relevance to the demands of the question. • Effective and precise use of terminology.	• Knowledge and understanding is consistently applied to the context of the question/task. • Practical skills are consistently and effectively applied and are of a high standard. • Is able to form a fully developed and thorough interpretation that is fully accurate.	• Analysis and evaluation skills are used in a highly effective way. • Evidence is selected to construct an effective and balanced argument. • Detailed and substantiated evaluation that offers secure judgements leading to rational conclusions.
Very Good Good	• Has a range of detailed and accurate knowledge. • Demonstrates well developed understanding that is relevant to the demands of the question. • Precise use of terminology.	• Knowledge and understanding is applied to the context of the question/task. • Practical skills are effectively applied and are of a high to medium standard. • Is able to form a developed interpretation that is mostly accurate.	• Analysis and evaluation skills are used in an effective way. • Evidence is selected to construct a developed argument, that may not be presented in equal measure. • Detailed evaluation that offers generally secure judgements, with some link between rational conclusions and evidence.
Satisfactory	• Includes accurate knowledge. • Demonstrates sound understanding that is relevant to the demands of the question/task • Generally precise use of terminology.	• Knowledge and understanding is mainly applied to the context of the question/task. • Practical skills are appropriately applied and are of a medium standard. • Is able to form a sound interpretation that is generally accurate.	• Analysis and evaluation skills are used in an appropriate and sound way. • Evidence is selected to construct a sound argument OR • Evidence is selected to construct a detailed one-sided argument. • Evaluation that offers some judgements, with some link between conclusions and evidence.

Basic	• Shows some accurate knowledge. • Demonstrates partial understanding that is relevant to the demands of the question. • Some use of appropriate terminology.	• Knowledge and understanding is partially applied to the context of the question/task. • Practical skills are of a medium to low-level standard. • Is able to form some interpretation that shows some accuracy.	• Analysis and evaluation skills are used in a suitable way with a sound level of competence but may lack precision. • Evidence is selected to construct a one-sided argument • Evaluation that offers generalised judgements and conclusions, with minimal use of evidence.
Limited	• Limited knowledge with some relevance to the topic or question. • Little or no development seen. • Very little or no use of terminology.	• Knowledge and understanding is applied in a minimal manner to the context of the question/task. • Practical skills are of a low-level standard. • Can only form a simple interpretation, if at all, with very limited accuracy.	• Analysis and evaluation skills are used with limited competence. • Unsupported evaluation that offers simple or no judgements/conclusions.

When you look at each of our mark schemes, each band has a sequence of performance descriptors. The descriptors work like a ladder: from a bottom rung, to a top. The lower level band 'Limited' is the simplest descriptor in terms of candidates' performance. The descriptors progress through the grid to the more challenging aspect of that assessment objective. It's important to note that not all questions will use every bullet point listed in the table above, however candidates should demonstrate **all of the requirements** that are included in the published mark schemes in order to achieve full marks at a particular level. If a candidate gets full marks at a particular level, markers should see whether they're also demonstrating any of the requirements from the next level up. Often candidates will achieve some of the descriptors at one level, but not all of them. In this case, apply a best fit principle.

Further information on how the mark schemes for our Vocational Awards have been constructed, including information on the use of the mark bands for Excellent, Very Good and Good can be found in the Vocational Awards Administration Guide.

Question			Answer	AO1	AO2	AO3	Total Mark
1.	*Rugby players require different components of fitness to perform* in their positions.						
	(a)	(i)	*Identify the main energy system used in the rugby tackle seen in Figure 1.*	1			1
			ATP-PC				
		(ii)	*Identify two main components of fitness that would be used when tackling in rugby.*	2			2
			Award **one** mark for each correct component of fitness, up to a maximum of **two** marks: • strength • power • balance • agility • speed • reaction time. (Marks should only be awarded for components of fitness that are linked to a high intensity rugby tackle)				
		(iii)	*Define the two components of fitness you identified in a(ii).*	2			2
			Award **one** mark for each correct definition of the component of fitness identified in a (ii) up to a maximum of **two** marks, for example: • strength – maximal contraction • power – speed x strength • balance – stability of the body's centre of mass above the base of support • agility – ability to change direction at speed • speed – A to B in the quickest possible time • reaction time – to respond to a stimulus quickly. Credit any other valid response. Award marks for the correct definitions of the components of fitness even if the wrong components were identified in question 1a(ii).				
		(iv)	*Name a recognised test for each of the components of fitness you identified in (a) (ii).*	2			2
			Award **one** mark for each correct test, for example: • muscular strength – hand grip dynamometer/ rep max • power – vertical jump test • balance – the stork stand • agility – Illinois agility test • speed – 30/50 metre sprint • reaction time – ruler drop test. Credit any other valid response Award marks for the correct test for the components of fitness identified, even if the wrong components were identified in question 1a(ii).				

		(v)	Explain how weight training could improve tackling in rugby.		4		4
			Award **one** mark for a limited explanation of how weight training could improve tackling in rugby, for example: Linking the components of strength and power to weight training. Award **two** marks for a basic explanation of how weight training could improve tackling in rugby, for example: Linking the components of strength and power to weight training. Linking weight training to rugby tackling could include: • high intensity movement • short duration movement. Award **three** marks for a more developed explanation of how weight training could improve tackling in rugby, for example: Linking the components of strength and power to weight training could: • improve performance in strength to be more powerful. Linking weight training to rugby tackling could include: • high intensity movement • short duration movement • explosive movement. Award **four** marks for a fully developed explanation of how weight training could improve tackling in rugby, for example: Linking the components of strength and power to weight training could: • improve power - tackling harder • improve performance in strength to be more powerful, in order to tackle with more force. Linking weight training to rugby tackling could include: • high intensity movement • short duration movement • explosive movement • generation of force • rest periods for recovery. Credit any other valid response.				

<table>
<tr><th colspan="3">Question</th><th>Answer</th><th>AO1</th><th>AO2</th><th>AO3</th><th>Total Mark</th></tr>
<tr><td>2.</td><td colspan="2">Figure 2 shows a badminton match.</td><td></td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>(a)</td><td>(i)</td><td>Explain how a badminton player would use each of the components of fitness listed in the table below.</td><td></td><td>4</td><td></td><td>4</td></tr>
<tr><td></td><td></td><td></td><td>Award one mark for a basic explanation of each of the two components of fitness, for example:

<table><tr><th>Component of fitness</th><th>Explanation</th></tr><tr><td>Reaction time</td><td>Use of reaction time to return a smash.</td></tr><tr><td>Co-ordination</td><td>Use of coordination in two or more movements at the same time.</td></tr></table>Award two marks for a more developed explanation of each of the two components of fitness, for example:

<table><tr><th>Component of fitness</th><th>Explanation</th></tr><tr><td>Reaction time</td><td>Use of reaction time to move to the correct position in response to the stimulus i.e.: an opponent's smash.</td></tr><tr><td>Co-ordination</td><td>Use of coordination in lunging forward whilst returning the drop shot.</td></tr></table>Credit any other valid response.</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td></td><td>(ii)</td><td>Name a recognised fitness test for the following components of fitness.</td><td>2</td><td></td><td></td><td>2</td></tr>
<tr><td></td><td></td><td></td><td>Award one mark for each correct test, for example:

Reaction time - ruler drop test
Co-ordination – alternate hand wall throw

Credit any other valid response.</td><td></td><td></td><td></td><td></td></tr>
<tr><td></td><td>(b)</td><td>(i)</td><td>Define the terms reliability and validity in relation to fitness testing.</td><td>2</td><td></td><td></td><td>2</td></tr>
<tr><td></td><td></td><td></td><td>Award one mark for each correct definition, for example:
Reliability
• being dependably accurate and consistent over time
Validity
• the test measures what it claims to measure.
Credit any other valid response.</td><td></td><td></td><td></td><td></td></tr>
</table>

		(ii)	*Explain why regular fitness testing is important for a badminton player.*		4		4
			Award **one** mark for a limited explanation of why fitness testing is important for a badminton player, for example: • to show what is working well and how well you play badminton Award **two** marks for a basic explanation of why fitness testing is important for a badminton player, for example: • to highlight strengths and weaknesses • to compare data with other badminton players Award **three** marks for a more developed explanation of why fitness testing is important for a badminton player, for example: • to highlight strengths and weaknesses of a badminton player's fitness • to compare data with other badminton players/themselves • to aid in goal/target setting Award **four** marks for a fully developed explanation of why fitness testing is important, for example: • to highlight strengths and weaknesses of a badminton player's fitness in order to develop strategies for improvement • to compare data with other badminton players/themselves and to monitor progress • to aid in goal/target setting for increased motivation, focus and concentration • to establish a baseline of results to monitor improvement over time. Credit any other valid response.				

Question			Answer	AO1	AO2	AO3	Total Mark
3.	*Harriet is a 15-year-old 1500m endurance athlete. This event requires a mixture of both aerobic and anaerobic energy production.* *Figure 3 shows the different heart rate training zones.*						
	(a)	(i)	*Using Figure 3, identify the aerobic training zone.*	1			1
			Award **one** mark for: D				
		(ii)	*Using Figure 3, identify the anaerobic training zone.*	1			1
			Award **one** mark for: B				
		(iii)	Using Figure 3, identify Harriet's anaerobic threshold.	1			1
			C				
		(iv)	*Identify the waste products from exercising within the aerobic energy system.*	1			1
			Award **one** mark for: Carbon dioxide and water				
		(v)	*Identify the waste product from exercising within the anaerobic energy system.*	1			1
			Award **one** mark for: Lactic acid				
	(b)		*Name two factors you would need to consider before developing a training programme for Harriet.*	2			2

			Award **one** mark for each correct factor, up to a maximum of **two** marks:
			• personal
			  • returning from injury,
			  • level of fitness
			  • age
			  • lifestyle
			  • cost
			• environmental
			  • facilities and equipment and coaching available				

	Figure 4 shows a six week training programme for Harriet who is returning to training following an extended break.						
	(c)	(i)	*Select the main component of fitness being developed in the training programme above.*		1		1
			Award **one** mark for: • cardiovascular endurance.				
		(ii)	*Define the component you selected in c(i).*	1			1
			Award **one** mark for a basic definition, for example: • the ability to exercise for a sustained period of time.				
		(iii)	*Assess the appropriateness of the training programme (Figure 4.) for Harriet, the 1500m endurance athlete, who is returning to training following an extended break.*			4	4
			Award **one** mark for a limited assessment of the programme, for example: The training programme is: • specific as it is matched to Harriet's needs Award **two** marks for a basic assessment of the programme, for example: The training programme: • is specific as it is matched to Harriet's needs • demonstrates progression for Harriet and is varied Award **three** marks for a more developed assessment of the programme, for example: The training programme: • is specific as it is matched to Harriet's needs, of a 1500m endurance athlete • is specific for an athlete returning from an injury • demonstrates progression over time and intensity • is varied in the use of different activities Award **four** marks for a fully developed assessment of the programme, for example: The training programme: • is specific as it is matched to a 1500m endurance athlete and returning from injury • is specific for cardiovascular endurance • demonstrates progression in the duration and intensity of the activity and increases in difficulty over time • is varied using different equipment and ranges across several activities reducing chances of boredom and plateauing. Credit any other valid response. Candidates may refer to other principles of training including overload and reversibility. Candidates must relate their responses to Harriet.				

Question			Answer	AO1	AO2	AO3	Total Mark
4.	*During sprint training, the body needs to recover from each set of exercise in order to be ready for the next set. The cardio-vascular and cardio-respiratory systems work hard during these recovery periods.*						
	(a)		*Identify the main function of skeletal muscle for a sprinter.*	1			1
			Award **one** mark for: • movement.				
	You are a coach and have been asked to support a sprinter by helping them to set appropriate targets.						
	(b)		Explain, using examples, how effective goal setting can lead to an improvement in performance.		8		8
			Indicative content Answers may refer to the following: effective goal setting can lead to improvements by: • improving focus – identifying what needs to be achieved, how to achieve it and by when • improving motivation will allow the athlete to maintain training and stick to the task in hand i.e. improve their fitness goal/target • improving effort – a clear direction of improvement and targets and maintaining the effort to achieve this • improving concentration/adherence by sticking to a schedule and knowing the direction of travel and what to achieve • Setting SMART (specific, measurable, agreed/achievable, realistic and time phased) targets objectives. Credit any other valid response.				
Band			AO2 Apply skills (including practical skills), knowledge and understanding in a variety of contexts and in planning and carrying out investigations and tasks.				
4			7-8 marks The candidate has demonstrated an excellent application of knowledge and understanding of how effective goal setting can lead to an improvement in performance by: • providing a detailed and effective explanation of how effective goal setting can lead to improvements in performance • including a wide range of sporting examples • producing a fully developed and thorough interpretation of evidence that is accurate.				
3			5-6 marks The candidate has demonstrated a good application of knowledge and understanding of how effective goal setting can lead to an improvement in performance by: • providing a detailed explanation of how effective goal setting can lead to improvements in performance • including a range of sporting examples • producing a developed interpretation of evidence that is mainly accurate.				
2			3-4 marks				

	The candidate has demonstrated a basic application of knowledge and understanding of how effective goal setting can lead to an improvement in performance by: • providing a partial explanation of how effective goal setting can lead to improvements in performance • including some sporting examples • producing some interpretation of evidence that is partially accurate.
1	1-2 marks The candidate has demonstrated a limited application of knowledge and understanding of how effective goal setting can lead to an improvement in performance by: • providing a limited explanation of how effective goal setting can lead to improvements in performance • Including few sporting examples • producing limited interpretation of evidence is limited and often inaccurate.
0	Response not creditworthy or not attempted.

	(c)	(i)	*Label the diagram of the heart (Figure 5) with the following:*	4			4
			Award **one** mark for each correct identification: • left top – vena cava • left bottom – aorta • right top – pulmonary artery • right bottom – pulmonary vein.				
		(ii)	*Identify which chamber of the heart pumps oxygenated blood around the body.*	1			1
			Award **one** mark for: • left ventricle.				
		(iii)	*Identify which chamber of the heart pumps de-oxygenated blood to the lungs.*	1			1
			Award **one** mark for: • right ventricle.				
	(d)	(i)	*Name the muscle group that contracts to extend the knee.*	1			1
			Award **one** mark for: • quadriceps.				
		(ii)	*Identify the action where one muscle contracts and the other muscle relaxes.*	1			1
			Award **one** mark for: • antagonistic.				

	(e)		*Describe the short-term effects of exercise on body systems.*	4			4

			Award **one** mark for a limited description of the short-term effects of exercise on body systems.
			Answers could include:
			an increase in:
			• heart rate
			• stroke volume
			• cardiac output
			• tidal volume
			• breathing frequency
			• minute ventilation
			• blood pressure
			• body temperature
			
			Award **two** marks for a basic description of the short-term effects of exercise on body systems.
			Answers could include:
			• the impact of the effects listed above, for example:
			  • more oxygen to the working muscles
			• temperature of muscles increases and reduces the risk of injury
			• blood pressure increases due to vasodilation and vasoconstriction
			
			Award **three** marks for a more developed description of the short-term effects of exercise on body systems, for example:
			• the impact of the effects listed above
			• oxygen uptake and transport to the working muscles
			• production of waste products from energy systems including carbon dioxide, water and lactic acid
			• elasticity of muscles
			• redistribution of blood flow
			Award **four** marks for a fully developed description of the short-term effects of exercise on body systems, for example:
			• the impact of the effects listed above
			• the relationship between the short-term effects and exercise which would include:
			  • intensity
			  • duration.
			Credit any other valid response.				

	(f)		*Explain the long-term adaptations to the muscular-skeletal system resulting from a high intensity exercise programme.*		4		4
			Award **one** mark for a limited explanation of how the muscular-skeletal system would adapt as a result of high intensity exercise, for example: • muscular hypertrophy Award **two** marks for a basic explanation of how the muscular-skeletal system would adapt as a result of high intensity exercise, for example: • muscular hypertrophy • increase in bone density Award **three** marks for a more developed explanation of how the muscular-skeletal system would adapt as a result of high intensity exercise, for example: • muscular hypertrophy – muscles become larger and stronger due to the increase in muscle fibres • muscles withstand higher amounts of lactic acid • increases anaerobic threshold (muscles can store more glycogen for energy) • bones will become thicker and stronger Award **four** marks for a fully developed explanation of how the muscular-skeletal system would adapt as a result of high intensity exercise, for example: • muscular hypertrophy – muscles become larger and stronger due to the increase in muscle fibres • muscles withstand higher amounts of lactic acid • increases anaerobic threshold (muscles can store more glycogen for energy) • increase in bone density • bones will become thicker and stronger • increase in bone surface area • ability to attach more muscles to the bone • muscles and bones will see increased capillarisation where more blood vessels are created maximising blood flow. Credit any other valid response.				

5.	*Endurance athletes require commitment and hours of training to prepare their bodies for competition.*						
	(a)	(i)	*State **two** ways to warm up effectively.*	2			2
			Award **one** mark for each correct answer up to a maximum of **two** marks, for example: • heart raising activity - walking/slow jogging • doing strides/pick-ups - transition from walking to a faster pace and increase the intensity of activity • dynamic stretches such as lunges and leg swings • some form of mental preparation. Credit any other valid response.				
		(ii)	*Explain why warming up effectively is important for a marathon runner.*		3		3
			Award **one** mark for a basic explanation of why warming up effectively is important for a marathon runner, for example: • to reduce the risk of injury • to improve the blood flow to the working muscles • to prepare physically/mentally for the race Award **two** marks for a more developed explanation of why warming up effectively is important for a marathon runner, for example: • to reduce the risk of injury by increasing the elasticity of muscles • to pump more oxygen and improve the blood flow to the working muscles • to be mentally in the zone Award **three** marks for a fully developed explanation of why warming up effectively is important for a marathon runner, for example: • to increase the elasticity of muscles therefore they can stretch further to generate more force and reduce the risk of injury • to pump more oxygen to the working muscles and therefore offset the production of the waste product lactic acid that causes fatigue • to be mentally in the zone and focused on the race ahead • to improve the speed of contraction to run faster in the race.				

	(b)		*Justify why the principles of training specified in the table below should be applied when designing an endurance training programme.*			8	8
			Award **one** mark for a basic justification and up to **two** marks for a more developed justification for **each** of the **four** principles of training, for example: Specifity Basic: • the training method is specific to the sport and improves a component of fitness that is very important to the sport More developed: • training should reflect what happens within the sporting activity Overload Basic: • stressing the body and its systems by doing more than usual More developed: • overloading will lead to adaptation and improvements in cardiovascular endurance Progression Basic: • being able to make the training a little harder over several weeks should see slight improvements over time More developed: • training should become progressively harder within sessions and over time Variance Basic: • changing the activity or duration or type of training reduces the chances of boredom More developed: • maintains motivation and helps keep the athlete fresh and reduces the chance of athletes losing interest and losing focus or motivation. Credit any other valid response.				

	(c)		Describe the long-term adaptations that could result from following an endurance training programme.	6			6
			Indicative content Answers may refer to the following: • a decrease in resting heart rate • an increase in stroke volume • an increase in maximum cardiac output • cardiac hypertrophy • an increase in tidal volume • a decrease in resting breathing frequency • an increase in maximum minute ventilation • a decrease in resting blood pressure • temperature regulation is more efficient • more efficient vasodilation and vasoconstriction of blood vessels • elasticity of muscles • muscular hypertrophy • efficiency of removal of waste products from energy systems including carbon dioxide, water and lactic acid • an increase in energy system thresholds (work in energy systems for longer) • increased capillarisation. Credit any other valid response.				

Band	AO1 Demonstrate knowledge and understanding from across the specification
3	5-6 marks A very good response which demonstrates: • a range of accurate knowledge of the long-term adaptations as a result of following an endurance training programme • developed understanding that is relevant to the demands of the question • relevant evidence/examples • depth and range of evidence/examples used • appropriate use of terminology.
2	3-4 marks A good response which demonstrates: • accurate knowledge of the long-term adaptations as a result of following an endurance training programme • understanding that is relevant to the question • some appropriate evidence/examples • depth or range to evidence/examples used • generally appropriate use of terminology.
1	1-2 marks A basic response which demonstrates: • some knowledge of the long-term adaptations as a result of following an endurance training programme • some understanding relevant to the topic or question • few relevant evidence/examples • some use of appropriate terminology.
0	Response not creditworthy or not attempted.

Mapping of questions to specification content and assessment objectives - Unit 1

Question			Specification content (main focus)											Mark allocation			
			Topic and Section											Total Marks	AO1 Marks	AO2 Marks	AO3 Marks
			1.1				1.2			1.3							
			1.1.1	1.1.2	1.1.3	1.1.4	1.2.1	1.2.2	1.2.3	1.3.1	1.3.2	1.3.3	1.3.4				
1	(a)	(i)		1										1	1		
		(ii)					2							2	2		
		(iii)					2							2	2		
		(iv)						2						2	2		
		(v)										4		4		4	
2	(a)	(i)					4							4		4	
		(ii)						2						2	2		
	(b)	(i)						2						2	2		
		(ii)							4					4		4	
3	(a)	(i)		1										1	1		
		(ii)		1										1	1		
		(iii)		1										1	1		
		(iv)		1										1	1		
		(v)		1										1	1		
	(b)									2				2	2		
	(c)	(i)					1							1		1	
		(ii)					1							1	1		
		(iii)									4			4			4
4	(a)			1										1	1		
	(b)												8	8		8	
	(c)	(i)	4											4	4		
		(ii)	1											1	1		
		(iii)	1											1	1		
	(d)	(i)	1											1	1		
		(ii)		1										1	1		
	(e)				4									4	4		
	(f)					4								4		4	
5	(a)	(i)								2				2	2		
		(ii)								3				3		3	
	(b)										8			8			8
	(c)					6								6	6		
Total Section Marks			7	8	4	10	10	6	4	7	12	4	8	80	40	28	12
Total Topic Marks			29				20			31							

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