



# **NCFE Level 1/2 Technical Award in Health and Fitness (603/7007/5)**

## **Examined Assessment**

Paper number: **Sample Assessment**

Date: **Sample 2022**

## **Mark Scheme**

v1.0 Pre-Standardisation

This mark scheme has been written by the assessment writer and refined, alongside the relevant questions, by a panel of subject experts through the external assessment writing process and at standardisation meetings.

The purpose of this mark scheme is to give you:

- examples and criteria of the types of response expected from a learner
- information on how individual marks are to be awarded
- the allocated assessment objective(s) and total mark for each question.

## **Marking guidelines**

### **General guidelines**

You must apply the following marking guidelines to all marking undertaken throughout the marking period. This is to ensure fairness to all learners, who must receive the same treatment. You must mark the first learner in exactly the same way as you mark the last.

- The mark scheme must be referred to throughout the marking period and applied consistently. Do not change your approach to marking once you have been standardised.
- Reward learners positively giving credit for what they have shown, rather than what they might have omitted.
- Utilise the whole mark range and always award full marks when the response merits them.
- Be prepared to award zero marks if the learner's response has no creditworthy material.
- Do not credit irrelevant material that does not answer the question, no matter how impressive the response might be.
- The marks awarded for each response should be clearly and legibly recorded in the grid on the front of the question paper.
- If you are in any doubt about the application of the mark scheme, you must consult with your team leader or the chief examiner.

### **Guidelines for using extended response marking grids**

Extended response marking grids have been designed to award a learner's response holistically and should follow a best-fit approach. The grids are broken down into levels, with each level having an associated descriptor indicating the performance at that level. You should determine the level before determining the mark.

When determining a level, you should use a bottom up approach. If the response meets all the descriptors in the lowest level, you should move to the next one, and so on, until the response matches the level descriptor. Remember to look at the overall quality of the response and reward learners positively, rather than focussing on small omissions. If the response covers aspects at different levels, you should use a best-fit approach at this stage and use the available marks within the level to credit the response appropriately.

When determining a mark, your decision should be based on the quality of the response in relation to the descriptors. You must also consider the relative weightings of the assessment objectives, so as not to over/under credit a response. Standardisation materials, marked by the chief examiner, will help you with determining a mark. You will be

able to use exemplar learner responses to compare to live responses, to decide if it is the same, better or worse.

You are reminded that the indicative content provided under the marking grid is there as a guide, and therefore you must credit any other suitable responses a learner may produce. It is not a requirement either, that learners must cover all of the indicative content to be awarded full marks.

### Assessment objectives

This unit requires learners to:

<b>AO1</b>	<b>Recall knowledge and show understanding.</b> The emphasis here is for learners to recall and communicate the fundamental elements of knowledge and understanding.
<b>AO2</b>	<b>Apply knowledge and understanding.</b> The emphasis here is for learners to apply their knowledge and understanding to real-world contexts and novel situations.
<b>AO3</b>	<b>Analyse and evaluate knowledge and understanding.</b> The emphasis here is for learners to develop analytical thinking skills to make reasoned judgements and reach conclusions.

The weightings of each assessment objective can be found in the qualification specification.

Qu	Mark scheme	Total marks
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**Section A**

**Total for this section: 22 marks**

<b>1</b>	<p><b>Which one of the following bones is in the axial skeleton?</b></p> <p><b>A</b> Clavicle  <b>B</b> Pelvis  <b>C</b> Radius  <b>D</b> Ribs</p> <p><b>Answer:</b> D (Ribs)</p>	<p><b>1</b></p> <p><b>AO1=1</b></p> <p><b>AP ref:</b> <b>1.1.1</b></p>
<b>2</b>	<p><b>Which one of the following is the correct definition for flexion?</b></p> <p><b>A</b> A decrease in the angle at a joint  <b>B</b> A movement of a limb towards the midline of the body  <b>C</b> A movement of a limb away from the midline of the body  <b>D</b> An increase in the angle at a joint</p> <p><b>Answer:</b> A (A decrease in the angle at a joint)</p>	<p><b>1</b></p> <p><b>AO1=1</b></p> <p><b>1.1.5</b></p>
<b>3</b>	<p><b>Which one of the following blood vessels delivers deoxygenated blood to the lungs?</b></p> <p><b>A</b> Aorta  <b>B</b> Pulmonary artery  <b>C</b> Pulmonary vein  <b>D</b> Vena cava</p> <p><b>Answer:</b> B (Pulmonary artery)</p>	<p><b>1</b></p> <p><b>AO1=1</b></p> <p><b>1.4.4</b></p>
<b>4</b>	<p><b>Identify one ball and socket joint in the human body.</b></p> <p>Award <b>one</b> mark for the correct response:</p> <ul style="list-style-type: none"> <li>• shoulder (1)</li> <li>• hip (1).</li> </ul>	<p><b>1</b></p> <p><b>AO1=1</b></p> <p><b>1.1.4</b></p>

<p><b>5</b></p>	<p><b>State two functions of synovial fluid.</b></p> <p>Award <b>one</b> mark for each function:</p> <ul style="list-style-type: none"> <li>• lubricates the joint (1)</li> <li>• reduces friction (1).</li> </ul>	<p><b>2</b></p> <p><b>AO1=2</b></p> <p><b>1.1.6</b></p>
<p><b>6</b></p>	<p><b>Identify one long bone in the leg and describe how its primary function helps performance in a named health and fitness activity.</b></p> <p>Award up to a maximum of <b>one</b> mark for a named long bone:</p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• femur (1)</li> <li>• tibia (1)</li> <li>• fibula (1).</li> </ul> <p>Award up to a maximum of <b>two</b> marks for describing its primary function and how it helps performance in a health and fitness activity:</p> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• to enable gross (large) movements (1)</li> <li>• in a 5km run, having long femurs will make your stride length longer which will allow you to take less strides over the run (1).</li> </ul> <p><b>Accept any other suitable responses.</b></p>	<p><b>3</b></p> <p><b>AO1=1</b></p> <p><b>AO2=2</b></p> <p><b>1.1.3</b></p>
<p><b>7</b></p>	<p><b>Protection is one function of the skeletal system.</b></p> <p><b>Identify a bone and, using a health and fitness activity of your choice, suggest how this bone provides protection during performance.</b></p> <p>Award up to a maximum of <b>one</b> mark for the bone:</p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• ribs (1)</li> <li>• sternum (1)</li> <li>• cranium (1)</li> <li>• vertebrae (1).</li> </ul>	<p><b>3</b></p> <p><b>AO1=1</b></p> <p><b>AO2=2</b></p> <p><b>1.1.2</b></p>

	<p>Award up to a maximum of <b>one</b> mark for what is being protected and <b>one</b> mark for the application to a suitable health and fitness activity:</p> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• (ribs) protects the lungs (1) from a fall when cycling (1)</li> <li>• (sternum) protects the heart (1) if a barbell lands on your chest during a bench press (1)</li> <li>• (cranium) protects the brain (1) if you fall off a treadmill when running (1)</li> <li>• (vertebrae) protects the spinal cord (1) when stretching the back during a warm-up or cool-down (1).</li> </ul> <p><b>Accept any other suitable responses.</b></p>	
<p><b>8</b></p>	<p><b>Harry is a 40 year old male.</b></p> <p><b>Calculate his maximum heart rate (MHR), showing your working out.</b></p> <p>Award <b>one</b> mark for correct working out and <b>one</b> mark for the correct answer.</p> <ul style="list-style-type: none"> <li>• <math>220 - 40 (1) = 180 \text{ bpm} (1)</math>.</li> </ul>	<p><b>2</b></p> <p><b>AO2=2</b></p> <p><b>1.4.5</b></p>
<p><b>9</b></p>	<p><b>Discuss the aerobic and anaerobic energy system requirements when an individual is taking part in circuit training.</b></p> <p>Award <b>one</b> mark for each of the following points up to a maximum of <b>four</b> marks:</p> <p><b>Aerobic (sub-max 3 marks)</b></p> <ul style="list-style-type: none"> <li>• the aerobic energy system will be the main energy system used as the length of the whole circuit may last a long time (1)</li> <li>• a station could be adapted to allow an individual to train aerobically in order to improve cardiovascular endurance by working for longer than one minute at a time (1)</li> <li>• a circuit may be redone several times in the same session. (1).</li> </ul>	<p><b>4</b></p> <p><b>AO3=4</b></p> <p><b>1.5</b></p>

	<p><b>Anaerobic (sub-max 3 marks)</b></p> <ul style="list-style-type: none"> <li>• used for high intensity short bursts of energy for individual exercises (for example, a push-up, burpees) (1)</li> <li>• each station can last less than one minute (1)</li> <li>• a station could be reps rather than a time (for example, push-ups as quickly as possible before moving onto the next station) (1)</li> <li>• individuals could have a rest between stations (1).</li> </ul> <p><b>Accept any other suitable discussion points as to whether circuit training is an aerobic or anaerobic health and fitness activity.</b></p>	
<p><b>10</b></p>	<p><b>Justify why good posture is of benefit to an individual participating in health and fitness activities.</b></p> <p>Award <b>one</b> mark for each of the following points up to maximum of <b>four</b> marks:</p> <ul style="list-style-type: none"> <li>• good posture is important because it places your body in a position where the stress on supporting ligaments, tendons and muscles is limited (1)</li> <li>• good posture allows your muscles to work efficiently so they fatigue less (1)</li> <li>• good posture decreases wear and tear on your joints allowing you to participate later in life (1)</li> <li>• good posture decreases the risk of injuries allowing you to avoid reversibility (1)</li> <li>• good posture decreases the risk of discomfort or pain allowing you to train for longer and at a higher intensity (1).</li> </ul> <p><b>Accept any other suitable responses.</b></p>	<p><b>4</b></p> <p><b>AO3=4</b></p> <p><b>1.1.8</b></p>

**Section B**

**Total for this section: 20 marks**

<p><b>11</b></p>	<p><b>Which one of the following statements would improve muscular endurance when weight training?</b></p> <p><b>A</b> High weight and high repetitions  <b>B</b> High weight and low repetitions  <b>C</b> Low weight and high repetitions  <b>D</b> Low weight and low repetitions</p> <p><b>Answer: C</b> (Low weight and high repetitions)</p>	<p><b>1</b></p> <p><b>AO1=1</b></p> <p><b>5.3.2</b></p>
<p><b>12</b></p>	<p><b>Which one of the following is a suitable fitness test to measure power?</b></p> <p><b>A</b> 30 m sprint test  <b>B</b> Stork stand test  <b>C</b> Vertical jump test  <b>D</b> Wall toss test</p> <p><b>Answer: C</b> (Vertical jump test)</p>	<p><b>1</b></p> <p><b>AO1=1</b></p> <p><b>5.1.2</b></p>
<p><b>13</b></p>	<p><b>In which one of the following activities is power most important?</b></p> <p><b>A</b> 10 k run  <b>B</b> 30 k cycle  <b>C</b> Golf putt  <b>D</b> Shot put</p> <p><b>Answer: D</b> (Shot put)</p>	<p><b>1</b></p> <p><b>AO2=1</b></p> <p><b>3.2.2</b></p>



<b>14</b>	<p><b>Two males completed the multi-stage fitness test.</b></p> <p><b>Jack is 39 years old and scored 8/10.</b>  <b>Charlie is 27 years old and scored 7/10.</b></p> <p><b>Figure 1 shows the normative data for the multi-stage fitness</b></p> <p style="text-align: center;"><b>Beep test – males</b></p> <table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th></th> <th>poor</th> <th>fair</th> <th>average</th> <th>good</th> <th>very good</th> <th>excellent</th> </tr> </thead> <tbody> <tr> <td>12–13yrs</td> <td>3/4</td> <td>5/2</td> <td>6/5</td> <td>7/6</td> <td>8/9</td> <td>10/9</td> </tr> <tr> <td>14–15yrs</td> <td>4/7</td> <td>6/2</td> <td>7/5</td> <td>8/10</td> <td>9/9</td> <td>12/2</td> </tr> <tr> <td>16–17yrs</td> <td>5/1</td> <td>6/9</td> <td>8/3</td> <td>9/10</td> <td>11/4</td> <td>13/7</td> </tr> <tr> <td>18–25yrs</td> <td>5/2</td> <td>7/2</td> <td>8/6</td> <td>10/2</td> <td>11/6</td> <td>13/10</td> </tr> <tr> <td>26–35yrs</td> <td>5/2</td> <td>6/6</td> <td>7/10</td> <td>8/10</td> <td>10/7</td> <td>12/9</td> </tr> <tr> <td>36–45yrs</td> <td>3/8</td> <td>5/4</td> <td>6/5</td> <td>7/8</td> <td>8/10</td> <td>11/3</td> </tr> <tr> <td>46–55yrs</td> <td>3/6</td> <td>4/7</td> <td>5/6</td> <td>6/7</td> <td>7/8</td> <td>9/5</td> </tr> <tr> <td>56–65yrs</td> <td>2/7</td> <td>3/7</td> <td>4/9</td> <td>5/7</td> <td>6/9</td> <td>8/4</td> </tr> <tr> <td>&gt;65yrs</td> <td>2/2</td> <td>2/6</td> <td>3/8</td> <td>4/9</td> <td>6/2</td> <td>7/2</td> </tr> </tbody> </table> <p><b>test for males.</b></p> <p><b>Using the data shown in Figure 1, select the fitness level classification for Jack and Charlie against the normative data.</b></p> <p>Award <b>one</b> mark for each of the following:</p> <ul style="list-style-type: none"> <li>• Jack’s cardiovascular fitness level is classed as very good (1)</li> <li>• Charlie’s cardiovascular fitness level is classed as average (1).</li> </ul>		poor	fair	average	good	very good	excellent	12–13yrs	3/4	5/2	6/5	7/6	8/9	10/9	14–15yrs	4/7	6/2	7/5	8/10	9/9	12/2	16–17yrs	5/1	6/9	8/3	9/10	11/4	13/7	18–25yrs	5/2	7/2	8/6	10/2	11/6	13/10	26–35yrs	5/2	6/6	7/10	8/10	10/7	12/9	36–45yrs	3/8	5/4	6/5	7/8	8/10	11/3	46–55yrs	3/6	4/7	5/6	6/7	7/8	9/5	56–65yrs	2/7	3/7	4/9	5/7	6/9	8/4	>65yrs	2/2	2/6	3/8	4/9	6/2	7/2	<p><b>2</b></p> <p><b>AO2=2</b></p> <p><b>5.1.3</b></p>
	poor	fair	average	good	very good	excellent																																																																		
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<b>15</b>	<p><b>State two short-term effects of health and fitness activities on the body.</b></p> <p>Award <b>one</b> mark for each of the following answers, up to a maximum of <b>two</b> marks:</p> <ul style="list-style-type: none"> <li>• increased breathing rate (1)</li> <li>• increased heart rate and cardiac output (1)</li> <li>• increased breathing rate and tidal volume (1)</li> <li>• increased blood pressure (1)</li> <li>• increased body temperature (leading to sweating) (1)</li> <li>• decreased hydration levels (1)</li> <li>• muscle fatigue (1)</li> <li>• delayed onset muscle soreness (DOMS) (1)</li> <li>• light headedness (1)</li> <li>• nausea (1)</li> </ul>	<p><b>2</b></p> <p><b>AO1=2</b></p> <p><b>2.1.1</b></p>
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	<ul style="list-style-type: none"> <li>tiredness (1).</li> </ul> <p><b>Accept any other suitable responses.</b></p>	
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<b>16</b>	<p><b>State two long-term effects of health and fitness activities on the body.</b></p> <p>Award <b>one</b> mark for each of the following answers, up to a maximum of <b>two</b> marks:</p> <ul style="list-style-type: none"> <li>improved cardiovascular endurance (1)</li> <li>improved efficiency to use oxygen (1)</li> <li>lower blood pressure (1)</li> <li>decreased resting heart rate (1)</li> <li>improved muscular endurance (1)</li> <li>improved muscular strength (1)</li> <li>improved resistance to fatigue (1)</li> <li>muscle hypertrophy (1)</li> <li>increased volume of red blood cells (1)</li> <li>improved flexibility (1)</li> <li>body shape change – endomorph, ectomorph, mesomorph (1)</li> <li>cardiac hypertrophy (1)</li> <li>strengthening of respiratory muscles (intercostals, diaphragm) (1).</li> </ul> <p><b>Accept any other suitable responses.</b></p>	<p><b>2</b></p> <p><b>AO1=2</b></p> <p><b>2.1.2</b></p>
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<p><b>17</b></p>	<p><b>The Illinois agility test measures agility.</b></p> <p><b>Discuss the suitability of this test for a 100 m sprinter.</b></p> <p>Award <b>one</b> mark for each of the following points up to a maximum of <b>three</b> marks:</p> <p><b>Agree (sub-max 2 marks)</b></p> <ul style="list-style-type: none"> <li>the Illinois agility test does include an element of speed which is needed in a 100 m sprint (1)</li> <li>running between cones requires acceleration which is needed in a 100 m sprint race (1)</li> <li>you need to react at the start of the Illinois agility test to an external cue which can replicate the starting pistol in a 100 m sprint race (1)</li> </ul> <p><b>Disagree (sub-max 2 marks)</b></p> <ul style="list-style-type: none"> <li>100 m is ran in a straight line therefore, changing direction at speed is not needed (1)</li> <li>the Illinois agility test does not replicate the distance ran in 100 m sprint</li> <li>a more suitable test for a 100 m sprinter would be the 30 m sprint test to measure speed</li> <li>a more suitable test for a 100 m sprinter would be the ruler drop test to measure reaction time which is needed at the start of the race.</li> </ul> <p><b>Accept any other suitable responses.</b></p>	<p><b>3</b></p> <p><b>AO3=3</b></p> <p><b>5.1.2</b></p>
<p><b>18</b></p>	<p><b>Define speed and reaction time.</b></p> <p><b>Give one example of when you would use each in a health and fitness or sporting activity.</b></p> <p>Award <b>one</b> mark for each definition up to a maximum of <b>two</b> marks:</p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>speed - the maximum rate at which an individual can perform a movement or cover a distance in a period of time (1) <b>and/or</b> putting body parts into action as quickly as possible (1)</li> <li>reaction time - the time taken to respond to a stimulus (1).</li> </ul>	<p><b>4</b></p> <p><b>AO1=2</b></p> <p><b>AO2=2</b></p> <p><b>3.2.2</b></p>

	<p><b>Award one</b> mark for each example up to a maximum of <b>two</b> marks:</p> <p><b>A02</b></p> <ul style="list-style-type: none"> <li>• speed for example, an individual performing a 100 m sprint race in athletics (1)</li> <li>• reaction time - for example, a 100 m sprinter reacting to the starting pistol in a 100 m sprint race in athletics (1).</li> </ul> <p><b>Accept other suitable responses.</b></p> <p><b>Accept sporting examples, however, these need to be linked to specific sporting action and not just a named sport. Accept fitness tests.</b></p>	
<p><b>19</b></p>	<p><b>Specificity is one principle of training.</b></p> <p><b>State two more principles of training and explain how an individual could apply each principle in a health and fitness activity</b></p> <p>Award <b>one</b> mark for the principle of training up to a maximum of <b>two</b> marks:</p> <p><b>A01</b></p> <ul style="list-style-type: none"> <li>• progression (1)</li> <li>• overload (1)</li> <li>• reversibility (1)</li> <li>• tedium (1).</li> </ul> <p>Award <b>one</b> mark for the explanation up to a maximum of <b>two</b> marks:</p> <p><b>A02</b></p> <ul style="list-style-type: none"> <li>• (progression) an individual should gradually increase their workload so that the body adapts and gets fitter without causing injury (1)</li> <li>• (overload) an individual should work harder than normal so that the body adapts to this and fitness levels increase (1)</li> <li>• (reversibility) an individual will make sure they do not take a long break from their health and fitness activities as this could cause them to lose fitness (1)</li> <li>• (tedium) an individual will vary the type of health and fitness activities they do so that they do not become bored and stop participating (1).</li> </ul>	<p><b>4</b></p> <p><b>A01=2</b></p> <p><b>A02=2</b></p> <p><b>4.1.1</b></p>

**Section C**

**Total for this section: 20 marks**

<p><b>20</b></p>	<p><b>Which one of the following is a consequence of a sedentary lifestyle?</b></p> <p><b>A</b> Improved fitness  <b>B</b> Improved health  <b>C</b> Weight gain  <b>D</b> Weight loss</p> <p><b>Answer: C (Weight gain)</b></p>	<p><b>1</b></p> <p><b>AO1=1</b></p> <p><b>6.1.1</b></p>
<p><b>21</b></p>	<p><b>For which one of the following activities would carbohydrates be the most useful?</b></p> <p><b>A</b> 5 km run  <b>B</b> Shot put  <b>C</b> High jump  <b>D</b> 10 m dive</p> <p><b>Answer: A (5 km run)</b></p>	<p><b>1</b></p> <p><b>AO2=1</b></p> <p><b>6.1.2</b></p>
<p><b>22</b></p>	<p><b>Which one of the following is the current recommended daily allowance (RDA) of calories (kCal) for an average male according to the NHS?</b></p> <p><b>A</b> 1500 kCal  <b>B</b> 2000 kCal  <b>C</b> 2500 kCal  <b>D</b> 3000 kCal</p> <p><b>Answer: C (2500 kCal)</b></p>	<p><b>1</b></p> <p><b>AO1=1</b></p> <p><b>6.1.2</b></p>
<p><b>23</b></p>	<p><b>Before any training session, it is important to carry out a full warm-up.</b></p> <p>State <b>one</b> phase of a warm-up and give <b>one</b> practical example.</p> <p>Award <b>one</b> mark for each of the following answers:</p> <ul style="list-style-type: none"> <li>• mobilisation (1)</li> <li>• pulse raiser (1)</li> </ul>	<p><b>2</b></p> <p><b>AO1=1</b></p> <p><b>AO2 = 1</b></p> <p><b>8.1.4</b></p>

	<ul style="list-style-type: none"> <li>dynamic stretches (1)</li> <li>practise movement (1).</li> </ul> <p>Award <b>one</b> mark for each of the following practical examples:</p> <ul style="list-style-type: none"> <li>(mobilisation) arm circling (1)</li> <li>(pulse raiser) gentle jogging (1)</li> <li>(dynamic stretches) high knees (1)</li> <li>(practise movement) passing drills (1).</li> </ul> <p><b>Accept any other suitable responses.</b></p>	
<p><b>24</b></p>	<p><b>At the end of a training session, it is important to carry out a full cool-down.</b></p> <p>State <b>one</b> phase of a cool-down and give <b>one</b> practical example.</p> <p>Award <b>one</b> mark for each of the following answers:</p> <ul style="list-style-type: none"> <li>pulse lowering (1)</li> <li>static stretches (1).</li> </ul> <p>Award <b>one</b> mark for each of the following practical examples:</p> <ul style="list-style-type: none"> <li>(pulse lowering) gentle jogging (1)</li> <li>(static stretches) hamstring stretch (1).</li> </ul> <p><b>Accept any other suitable responses.</b></p>	<p><b>2</b></p> <p><b>AO1=1</b></p> <p><b>AO2=1</b></p> <p><b>8.1.4</b></p>
<p><b>25</b></p>	<p><b>Lifestyle choices can negatively affect performance in health and fitness activities.</b></p> <p><b>Explain how drinking alcohol could negatively affect performance in health and fitness activities.</b></p> <p>Award <b>one</b> mark for each of the following answers, up to a maximum of <b>two</b> marks:</p> <ul style="list-style-type: none"> <li>decreases co-ordination which leads to poor performance (1)</li> <li>delays reaction which slows the body down and could lead to injury (1)</li> <li>impairs balance which could lead to you falling and causing injury (1)</li> <li>increases dehydration which leads to a decrease in performance (1).</li> </ul> <p><b>Accept any other suitable responses.</b></p>	<p><b>2</b></p> <p><b>AO2=2</b></p> <p><b>6.1.4</b></p>

<p><b>26 (a)</b></p>	<p><b>Lily works in a busy gym which has a variety of free weights, cardio and resistance machines.</b></p> <p><b>She has been asked to plan a health and fitness programme for a new client who wishes to increase her muscular strength.</b></p> <p><b>Identify two health and safety considerations of a fitness programme and for each consideration explain what Lily may need to include in her plan.</b></p> <p>Award <b>one</b> mark for each of the following, up to a maximum of <b>two</b> marks:</p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• facilities (1)</li> <li>• equipment checks and setup (1)</li> <li>• client behaviour (1)</li> <li>• levels of progress (1)</li> <li>• appropriate clothing and footwear (1).</li> </ul> <p>Award <b>one</b> mark for each of the following explanations, up to a maximum of <b>two</b> marks:</p> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• (facilities) Lily has several complicated machines and will need to find out if the client has used them before so they are less likely to hurt themselves (1)</li> <li>• (equipment checks and setup) as the gym is busy, the equipment will need to be checked before Lily’s new client uses it as they may not be aware if something isn’t setup properly (1)</li> <li>• (client behaviour) Lily will need to find out how her client behaves around a lot of equipment to make sure they don’t injure themselves (1)</li> <li>• (levels of progress) Lily will need to make sure she plans how the client may progress, so they do not try and increase their use of the equipment too quickly (for example, by lifting heavier weights) (1)</li> <li>• (appropriate footwear) as Lily’s client is new, they may not have been to a gym before and arrive with inappropriate footwear which would be unsafe to access parts of the gym or equipment safely (1)</li> <li>• (appropriate clothing) checks to make sure that the new client is not wearing inappropriate clothing that would restrict movement when lifting weights (1).</li> </ul> <p><b>Accept any other suitable responses.</b></p>	<p><b>4</b></p> <p><b>AO1=2</b></p> <p><b>AO2=2</b></p> <p><b>8.1.2</b></p>
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<p><b>26 (b)</b></p>	<p><b>Justify the importance of a high protein diet for Lily’s new client.</b></p> <p>Award <b>one</b> mark for each of the following points, up to maximum of <b>three</b> marks:</p> <ul style="list-style-type: none"> <li>• protein supports muscles growth - if Lily’s client has a high protein diet, then her muscles will increase in strength and size (1)</li> <li>• protein supports the repair of micro tears in muscle fibres - if Lily’s client does not eat a high protein diet, then her muscles will not repair as quickly (1)</li> <li>• eating protein rich foods shortly after physical activity helps muscles recover, enabling Lily’s client to train again quicker (1).</li> </ul> <p><b>Accept any other suitable responses.</b></p>	<p><b>3</b></p> <p><b>AO3=3</b></p> <p><b>6.1.2</b></p>
<p><b>27</b></p>	<p><b>When setting goals, it is important that they are realistic.</b></p> <p><b>State two other principles of goal setting and explain how an individual could apply these to a health and fitness goal.</b></p> <p>Award <b>one</b> mark for each principle of goal setting, up to a maximum of <b>two</b> marks:</p> <p><b>AO1</b></p> <ul style="list-style-type: none"> <li>• specific (1)</li> <li>• measurable (1)</li> <li>• attainable (1)</li> <li>• time bound (1).</li> </ul> <p>Award <b>one</b> mark for the corresponding application up to a maximum of <b>two</b> marks.</p> <p><b>AO2</b></p> <ul style="list-style-type: none"> <li>• (specific) the goal must be specific to the demands of the health and fitness activity for example to increase strength (1)</li> <li>• (measurable) it must be possible to measure whether the goal has been met, perhaps via a suitable fitness test (1)</li> <li>• (attainable) it must be possible to achieve, for example to lose a stone in weight (1)</li> <li>• (time bound) it must be set over a fixed period of time, for example over six months (1).</li> </ul> <p><b>Accept any other suitable responses</b></p>	<p><b>4</b></p> <p><b>AO1=2</b></p> <p><b>AO2=2</b></p> <p><b>7.1.3</b></p>



Section D

Total for this section: 18 marks

28	<p><b>Identify the components of health-related fitness that are important for performers in a 10-kilometre run.</b></p> <p><b>Justify your choices.</b></p>	<p><b>9</b></p> <p><b>AO1=3</b></p> <p><b>AO2=3</b></p> <p><b>AO3=3</b></p> <p><b>3.2.1</b></p>									
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 10%;">Level</th> <th style="width: 10%;">Marks</th> <th style="width: 80%;">Descriptor</th> </tr> </thead> <tbody> <tr> <td style="text-align: center;">3</td> <td style="text-align: center;">7–9</td> <td> <p><b>AO3 – Excellent</b> analysis and evaluation of the components of health-related fitness that is <b>comprehensive</b> and <b>highly relevant</b>. Supported with <b>excellent</b> justifications of the importance for performers that are <b>comprehensive</b> and <b>highly detailed</b>.</p> <p><b>AO2 – Excellent</b> application of knowledge and understanding of the components of health-related fitness which could explain the importance for performers that is <b>highly detailed</b> and <b>highly relevant</b> to the question.</p> <p><b>AO1 – Excellent</b> recall of knowledge and understanding of the components of health-related fitness that is <b>comprehensive</b>. Subject specific terminology is used <b>consistently</b> throughout.</p> </td> </tr> <tr> <td style="text-align: center;">2</td> <td style="text-align: center;">4–6</td> <td> <p><b>AO3 – Good</b> analysis and evaluation of the components of health-related fitness that is <b>detailed</b> and <b>mostly relevant</b>. Supported with <b>good</b> justifications of the importance for performers that are <b>detailed</b>.</p> <p><b>AO2 – Good</b> application of knowledge and understanding of the components of health-related fitness that is <b>detailed</b> and <b>mostly relevant</b> to the question.</p> <p><b>AO1 – Good</b> recall of knowledge and understanding of the components of health-related fitness that is <b>mostly detailed</b>. Subject specific terminology is used, but not always consistently.</p> </td> </tr> </tbody> </table>			Level	Marks	Descriptor	3	7–9	<p><b>AO3 – Excellent</b> analysis and evaluation of the components of health-related fitness that is <b>comprehensive</b> and <b>highly relevant</b>. Supported with <b>excellent</b> justifications of the importance for performers that are <b>comprehensive</b> and <b>highly detailed</b>.</p> <p><b>AO2 – Excellent</b> application of knowledge and understanding of the components of health-related fitness which could explain the importance for performers that is <b>highly detailed</b> and <b>highly relevant</b> to the question.</p> <p><b>AO1 – Excellent</b> recall of knowledge and understanding of the components of health-related fitness that is <b>comprehensive</b>. Subject specific terminology is used <b>consistently</b> throughout.</p>	2	4–6	<p><b>AO3 – Good</b> analysis and evaluation of the components of health-related fitness that is <b>detailed</b> and <b>mostly relevant</b>. Supported with <b>good</b> justifications of the importance for performers that are <b>detailed</b>.</p> <p><b>AO2 – Good</b> application of knowledge and understanding of the components of health-related fitness that is <b>detailed</b> and <b>mostly relevant</b> to the question.</p> <p><b>AO1 – Good</b> recall of knowledge and understanding of the components of health-related fitness that is <b>mostly detailed</b>. Subject specific terminology is used, but not always consistently.</p>
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	1	1–3	<p><b>AO3 – Limited</b> analysis and evaluation of the components of health-related fitness. Supported with <b>limited</b> justifications for the importance for performers that have <b>minimal detail</b> and are <b>mostly superficial</b>.</p> <p><b>AO2 – Limited</b> application of knowledge and understanding of the components of health-related fitness that has <b>minimal detail</b> and are <b>mostly superficial</b> with <b>minimal relevance</b> to the question.</p> <p><b>AO1 – Limited</b> recall of knowledge and understanding of the components of health-related fitness that has <b>minimal detail</b>. Subject specific terminology is often <b>inappropriate</b>, and a lack of understanding is evident.</p>	
		0	No relevant material.	

**It is not a requirement that the learner formulates a response specifically against each assessment objective as laid out in the indicative content (IC).**

**A learner’s demonstration of recall (AO1) and application (AO2) of knowledge and understanding can be implied through the learner’s ability to analyse and evaluate the question topic required for AO3.**

**Indicative content**

**AO1 – Learners will recall knowledge and understanding of the components of health-related fitness that are important for performers in a 10-kilometre run that may include the following:**

- **cardiovascular endurance** - the ability of the heart and lungs to supply oxygen to the working muscles
- **muscular endurance** - the ability of a muscle or muscle group to undergo repeated contractions avoiding fatigue
- **body composition** - a comparison of the percentages of bone, fat, water, and muscle within the body
- **flexibility** - the range of movement possible at a joint
- **muscular strength** - the ability to overcome a resistance

	<p><b>AO2 – Learners will apply knowledge and understanding of the components of health-related fitness that are important for performers in a 10 kilometre run that may include the following:</b></p> <ul style="list-style-type: none"> <li>• <b>cardiovascular endurance</b> - it will mean that they can perform aerobically for the whole run. This will mean that they will have a supply of energy throughout the run</li> <li>• <b>muscular endurance</b> - muscular endurance in the legs will enable them to work for longer without fatigue</li> <li>• <b>body composition</b> - if fat is lost and muscle is developed this could improve the strength in her legs, greater muscle levels will help with muscular endurance</li> <li>• <b>flexibility</b> - a greater range of movement at the hips/knees could lead to an increase in stride length</li> <li>• <b>muscular strength</b> - if the runner increases the intensity of the run, then they will need to use muscular strength to do this. If the intensity of the run is increased without having appropriate muscular strength, then the runner is likely to pull a muscle and get injured.</li> </ul> <p><b>AO3 – Learners will analyse and evaluate the components of health-related fitness that are important for performers in a 10-kilometre run that may include the following:</b></p> <ul style="list-style-type: none"> <li>• <b>cardiovascular endurance</b> - therefore, fatigue will be delayed, and they will be able to run a faster time</li> <li>• <b>muscular endurance</b> - this will result in their time becoming faster as they can work at a higher intensity for longer</li> <li>• <b>body composition</b> - lower fat levels will mean that they have less weight to carry her around as they run. This will mean that they will find running easier and could run a faster time</li> <li>• <b>flexibility</b> - increased stride length will mean they will cover more ground with each stride, and this will reduce their overall time</li> <li>• <b>muscular strength</b> - explosive muscular strength may be used at the start of the race to get a good start and get ahead of the competitors. It may also be used at the end of a race for a sprint finish.</li> </ul> <p><b>Accept any other suitable responses.</b></p>	
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<b>29</b>	Explain the importance of rest and recovery after an individual has participated in a weight training session.		<b>9</b>
			<b>AO1=3</b>
			<b>AO2=3</b>
			<b>AO3=3</b>
			<b>6.1.3</b>
	<b>Level</b>	<b>Marks</b>	<b>Descriptor</b>
	3	7–9	<p><b>AO3 – Excellent</b> analysis and evaluation of the importance of rest and recovery that is <b>comprehensive</b> and <b>highly relevant</b>. Supported with <b>excellent</b> justifications which relate to a weight training session that are <b>comprehensive</b> and <b>highly detailed</b>.</p> <p><b>AO2 – Excellent</b> application of knowledge and understanding of the importance of rest and recovery which could explain the relation to a weight training session that is <b>comprehensive</b> and <b>highly detailed</b> and <b>highly relevant</b> to the question.</p> <p><b>AO1 – Excellent</b> recall of knowledge and understanding of the importance of rest and recovery that is <b>comprehensive</b>. Subject specific terminology is used <b>consistently</b> throughout.</p>
	2	4–6	<p><b>AO3 – Good</b> analysis and evaluation of the components of the importance of rest and recovery is <b>detailed</b> and <b>mostly relevant</b>. Supported with <b>good</b> justifications which relate to a weight training session that are <b>detailed</b>.</p> <p><b>AO2 – Good</b> application of knowledge and understanding of the importance of rest and recovery that is <b>detailed</b> and <b>mostly relevant</b> to the question.</p> <p><b>AO1 – Good</b> recall of knowledge and understanding of the importance of rest and recovery that is <b>mostly detailed</b>. Subject specific terminology is used, but not always consistently.</p>
	1	1–3	<p><b>AO3 – Limited</b> analysis and evaluation of the importance of rest and recovery. Supported with <b>limited</b> justifications relating to a weight training session that have <b>minimal detail</b> and are <b>mostly superficial</b>.</p>

		<p><b>AO2 – Limited</b> application of knowledge and understanding of the importance of rest and recovery that has <b>minimal detail</b> and is <b>mostly superficial</b> with <b>minimal relevance</b> to the question.</p> <p><b>AO1 – Limited</b> recall of knowledge and understanding of the importance of rest and recovery that has <b>minimal detail</b>. Subject specific terminology is often <b>inappropriate</b>, and a lack of understanding is evident.</p>	
	0	No relevant material.	
<p><b>Indicative content</b></p> <p><b>It is not a requirement that the learner formulates a response specifically against each assessment objective as laid out in the indicative content (IC).</b></p> <p><b>A learner’s demonstration of recall (AO1) and application (AO2) of knowledge and understanding can be implied through the learner’s ability to analyse and evaluate the question topic required for AO3.</b></p> <p><b>AO1 – Learners will recall knowledge and understanding of the methods that are important to rest and recovery that may include the following:</b></p> <ul style="list-style-type: none"> <li>• sleep/rest</li> <li>• rehydration</li> <li>• food intake</li> <li>• ice baths</li> <li>• massages.</li> </ul> <p><b>AO2 – Learners will apply knowledge and understanding of the importance of rest and recovery after an individual has participated in a weight training session that may include the following:</b></p> <ul style="list-style-type: none"> <li>• <b>sleep/rest</b> - whilst resting and sleeping after a weight training session, your body can prioritise which parts need energy, allowing you to wake up feeling re-energised</li> <li>• <b>rehydration</b> - drinking water will rehydrate the body and replace fluids lost during the weight training session via sweating which is essential to avoid the effects of dehydration</li> <li>• <b>food intake</b> - during a weight training session there will be many micro tears in the muscle tissue</li> </ul>			

	<ul style="list-style-type: none"> <li>• <b>food intake</b> - glycogen stores will be depleted due to anaerobic and aerobic energy being used when weight training</li> <li>• <b>ice baths</b> - will reduce muscle soreness following a weight training session (DOMS)</li> <li>• <b>massages</b> - will prevent muscle soreness following a weight training session (DOMS).</li> </ul> <p><b>AO3 – Learners will analyse and evaluate the importance of rest and recovery to an individual after participating in a weight training session that may include the following:</b></p> <ul style="list-style-type: none"> <li>• <b>sleep/rest</b> - sleep and rest give your body time to recover, conserve energy and repair the muscles used during the weight's session; the quicker you recover the sooner you can train again</li> <li>• <b>rehydration</b> - the amount you need to drink will depend on the intensity of the session and the environment in which you worked out (temperature); if you rehydrate, you will be ready to train again quicker</li> <li>• <b>food intake</b> - for hypertrophy to occur the tears need to be repaired via protein; eating protein rich foods or taking a protein shake/bar will speed up this process and allow for a quicker recovery</li> <li>• <b>food intake</b> - eating carbohydrate rich foods will refuel carbohydrates stores quicker, the quicker the glycogen stores are refilled; the quicker training can recommence</li> <li>• <b>ice baths</b> - ice baths will help the body remove lactic acid from the worked muscles; the cold will cause vasoconstriction, forcing the lactic acid out, and once out of the cold, the blood vessels will vasodilate bringing with it plenty of oxygen rich blood</li> <li>• <b>massages</b> - massage will increase blood flow to the sore area, speeding up the healing process and reducing pain, which will allow a quicker return to a weight training session.</li> </ul> <p><b>Accept any other suitable responses.</b></p>	
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### Assessment Objective Grid

Section A						
Question	AO1	AO2	AO3	Total	ACR	Q Type
1	1			1	1.1.1	MCQ
2	1			1	1.1.5	MCQ
3	1			1	1.4.4	MCQ
4	1			1	1.1.4	SAQ
5	2			2	1.1.6	SAQ
6	1	2		3	1.1.3	SAQ
7	1	2		3	1.1.2	SAQ
8		2		2	1.4.5	SAQ
9			4	4	1.5	SAQ
10			4	4	1.1.8	SAQ
<b>Section A totals</b>	<b>8</b>	<b>6</b>	<b>8</b>	<b>22</b>		
<b>Total required</b>	<b>8–10</b>	<b>6–8</b>	<b>5–6</b>	<b>22</b>		
<b>Kil</b>	<b>6</b>					
Section B						
Question	AO1	AO2	AO3	Total	ACR	Q Type
11	1			1	5.3.2	MCQ
12	1			1	5.1.2	MCQ
13		1		1	3.2.2	MCQ
14		2		2	5.1.3	SAQ
15	2			2	2.1.1	SAQ
16	2			2	2.1.2	SAQ
17			3	3	5.1.2	SAQ
18	2	2		4	3.2.2	SAQ
19	2	2		4	4.1.1	SAQ
<b>Section B totals</b>	<b>10</b>	<b>7</b>	<b>3</b>	<b>20</b>		
<b>Total required</b>	<b>8–9</b>	<b>7–8</b>	<b>4–5</b>			
<b>Kil</b>	<b>6</b>					

<b>Section C</b>						
Question	AO1	AO2	AO3	Total	ACR	Q Type
20	1			1	6.1.1	MCQ
21		1		1	6.1.2	MCQ
22	1			1	6.1.2	MCQ
23	1	1		2	8.1.4	SAQ
24	1	1		2	8.1.4	SAQ
25		2		2	6.1.4	SAQ
26a	2	2		4	8.1.2	SAQ
26b			3	3	6.1.2	SAQ
27	2	2		4	7.1.3	SAQ
<b>Section C totals</b>	<b>8</b>	<b>9</b>	<b>3</b>	<b>20</b>		
<b>Total required</b>	<b>8-9</b>	<b>7-8</b>	<b>4-5</b>			
<b>Kil</b>	<b>2</b>					
<b>Section D</b>						
Question	AO1	AO2	AO3	Total	ACR	Q Type
28	3	3	3	9	3.2.1	ERQ
29	3	3	3	9	6.1.3	ERQ
<b>Section D totals</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>18</b>		
<b>Total required</b>	<b>6</b>	<b>6</b>	<b>6</b>	<b>18</b>		
<b>Kil</b>	<b>0</b>					
<b>Examined assessment total</b>						
<b>EA overall Total</b>	<b>32</b>	<b>28</b>	<b>20</b>	<b>80</b>		
<b>EA overall total required</b>	<b>32-36</b>	<b>28-32</b>	<b>16-20</b>	<b>80</b>		
<b>EA overall KiL</b>	<b>16</b>					