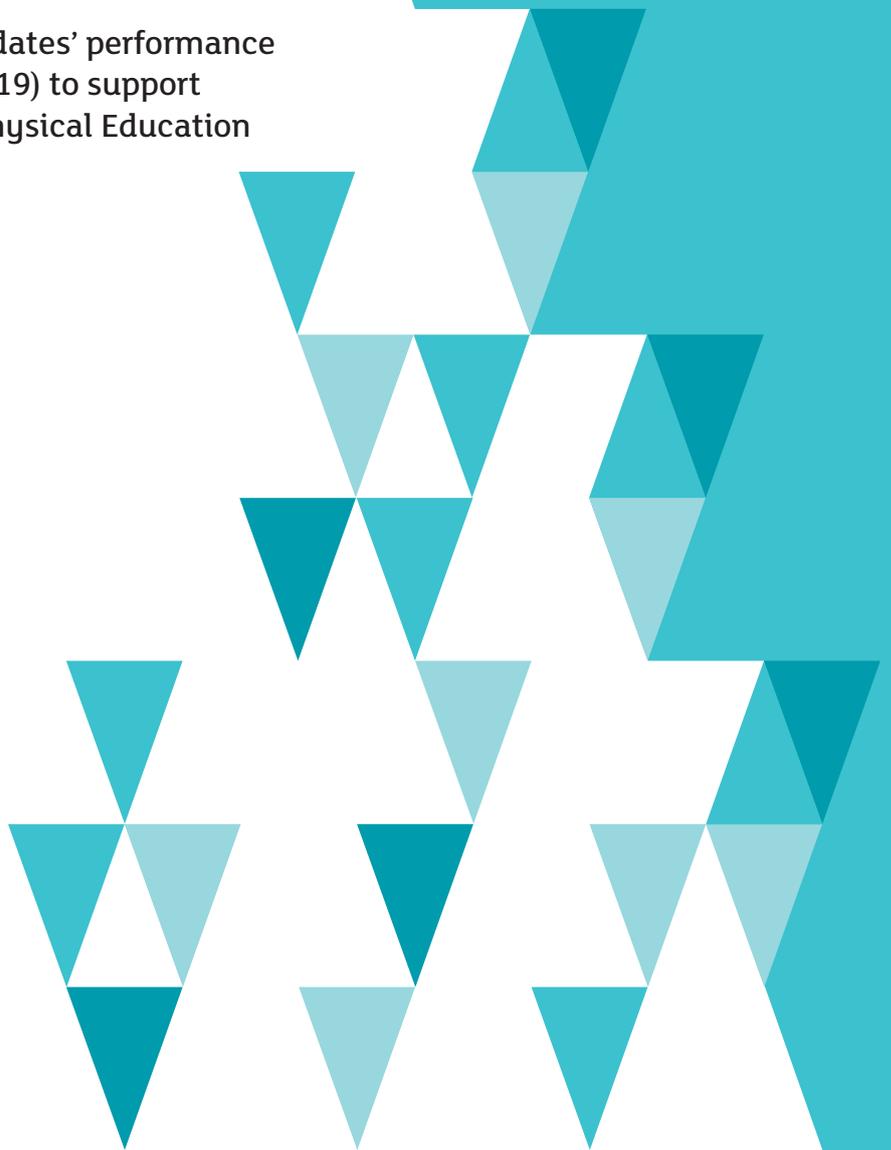


GCSE



CCEA GCSE Exemplifying Examination Performance Physical Education

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EXEMPLIFYING EXAMINATION PERFORMANCE

GCSE Physical Education

Introduction

These materials illustrate aspects of performance from the 2019 summer GCSE examination series of CCEA's revised GCSE Specification in 2017.

Students' grade A responses are reproduced verbatim and accompanied by commentaries written by senior examiners. The commentaries draw attention to the strengths of the students' responses and indicate, where appropriate, deficiencies and how improvements could be made.

It is intended that the materials should provide a benchmark of candidate performance and help teachers and students to raise standards.

For further details of our support package, please visit our website at www.ccea.org.uk

Best wishes



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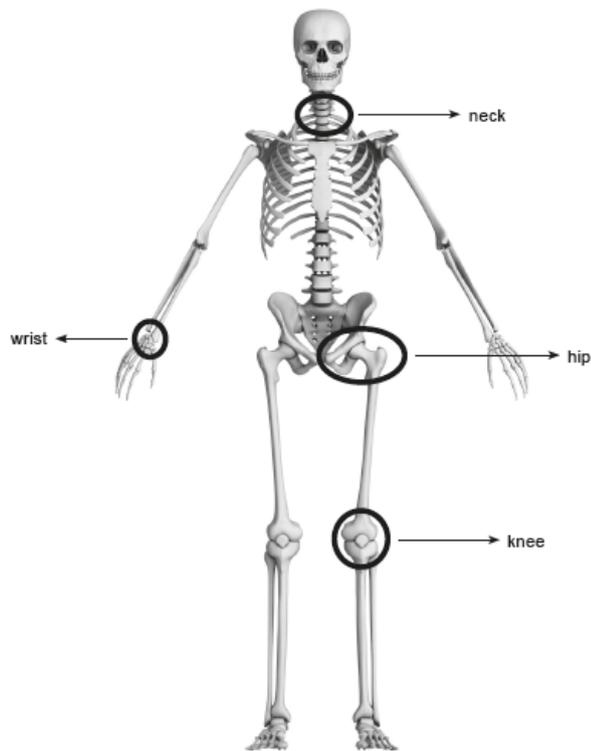
GCSE: Physical Education

Paper 1: Factors Underpinning Health and Performance

Grade: A Exemplar

Answer **all** questions

Q1 Fig. 1 shows the location of four different synovial joints. [1]



Source: istock/thinkstock.com/136200861

Fig. 1

Identify the **types** of synovial joint circled in **Fig. 1**.

Student's response

neck *pivot* [1]

hip *ball and socket* [1]

wrist *condyloid* [1]

knee *hinge* [1]

Examiner's comments

The candidate identified all of the synovial joints correctly, including the condyloid joint.

4/4 marks awarded.

Q2 Explain, using an example, how the skeleton provides protection during physical activity. [2]

Student's response

Its large bones protect the vital organs acting as a shield e.g skull protects the brain, ribs protect lungs, liver & heart

Examiner's comments

The candidate clearly explained the function of the skeleton 'to protect vital organs' and gave appropriate examples of how the skeleton provides protection during physical activity 'skull protects the brain, ribs protect lungs, liver and heart'. One example would have been appropriate.

2/2 marks awarded.

Q3a State which part of a synovial joint produces synovial fluid. [1]

Student's response

Synovial fluid is produced by the *Synovial membrane*

Examiner's comments

The candidate correctly identified that synovial fluid is produced by the '*synovial membrane*'.

1/1 mark awarded.

Q3b Explain how the production of synovial fluid will help an athlete's movement. [2]

Student's response

Synovial fluid lubricates the joint to allow friction free movement about the joint. It also supply nutrients to muscle and gets rid of metabolic waste products which will reduce fatigue

Examiner's comments

Clear understanding of the function of the synovial fluid during performance in physical activity was demonstrated by the candidate. For example '*lubricates the joint*' [1], '*to allow friction free movement*' [1].

2/2 marks awarded.

Q4 Explain the action of the antagonistic muscle pairs as a person performs a biceps curl. [3]

Student's response

during a bicep curl the bicep and tricep work as antagonistic pairs to perform a movement. The bicep shortens in size creating an concentric movement and it acts as the against or primemover. At the same time the tricep lengthens or relaxes creating an eccentric movement and acting as the antagonist.

They work together to perform an isotonic movement

Examiner's comments

The candidate gave a clear, competent and detailed explanation of how antagonistic muscles work together, in pairs, to contract and relax to enable flexion and extension of the arm to perform a biceps curl. For example, the candidate identified the antagonistic muscles as the '*biceps and triceps*' [1], and explained how in the upward movement the '*biceps shortens in size...concentric...acts as the agonist*' [1] and the '*triceps lengthens... eccentric... acting as the antagonist*' [1]. Contains some SPG issues but not assessed in this question.

3/3 marks awarded.

Q5 Study **Fig. 2** which shows the relationship between type I (slow twitch) and type II (fast twitch) muscle fibres for three athletes. Answer the questions that follow.

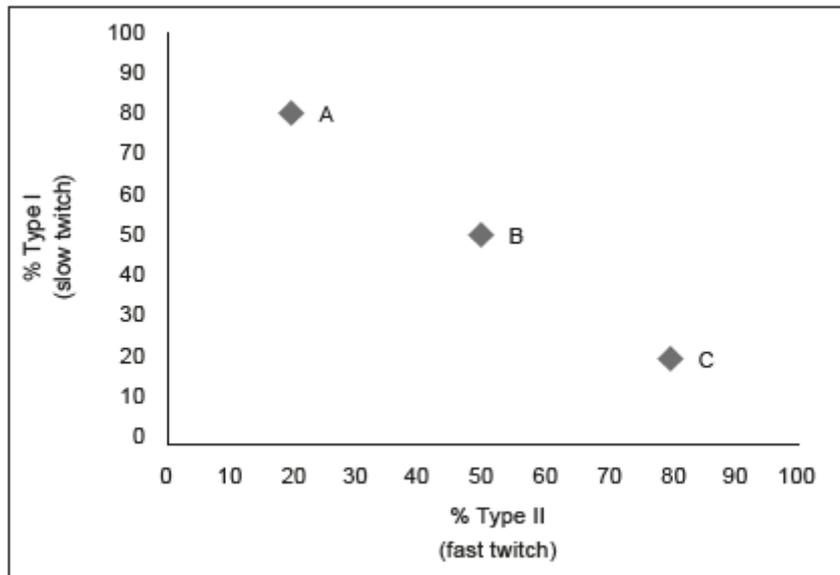


Fig. 2

Q5a State the athlete most likely to be a marathon runner. [1]

Student's response

The marathon runner is athlete A

Examiner's comments

The candidate correctly identified Athlete A as the marathon runner.

1/1 mark awarded.

Q5b Use **specific** evidence from **Fig. 2** to justify your choice. [2]

Student's response

Marathon runner requires lots of Type 1 slow twitch muscle fibres and for Type II as it requires them to run a long time (endurance) from the Fig. 2 A has 80% muscle Type 1 and 20% Type 2 which means they are endurance runners.

Examiner's comments

The candidate used specific evidence from Fig. 2 to justify her choice of athlete 'A' being suitable to run the marathon. For example, 'A has 80% Type 1 and 20% Type 2' [1] and explained the suitability of type 1 muscle fibres to the runner's performance 'endurance' [1].

2/2 marks awarded.

Q5c State the athlete most likely to be a shot-putter. [1]

Student's response

The shot-putter is athlete C

Examiner's comments

The candidate correctly identified Athlete C as the shot-putter.

1/1 mark awarded.

Q5d Use **specific** evidence from **Fig. 2** to justify your choice. [2]

Student's response

To be a Shotputter it does not require not require you to run for long periods. It only has 20% type 1 and it is 80% type 2 as it requires an explosive effort over a short period.

Examiner's comments

The candidate used specific evidence from Fig. 2 to justify her choice of athlete 'B' being suitable for the shot-putt event. For example, '20% Type 1 and 80% Type 2' [1] and explained the suitability of type 2 muscle fibres to this event 'requires an explosive effort over a short period of time' [1].

2/2 marks awarded.

Q6 A person joins a running club and focuses on aerobic training for 12 weeks. State **three physical changes** this will have on the person's **cardiovascular system**.

Explain how each of these changes will help improve performance. [6]

Quality of written communication will be assessed in your answer.

Student's response

They will develop a larger heart with stronger, thicker walls, this means they will be able to eject more blood to the working muscles with each beat allowing for more oxygen to reach working muscles and therefore go for longer (this is an increase in stroke volume). There will be a more concentrated network capillary, this will mean there is a greater surface area for the diffusion of O₂ entering blood and CO₂ leaving to happen quicker therefore theres a greater supply of O₂ rich blood reaching working muscles to go for longer period of time. There will be a greater supply of venules in the working muscles meaning waste products such as CO₂ will be removed quicker and more and therefore the athlete can continue running longer without fatigue. All of these are effective as aerobic training allows you to go long periods with oxygen.

Examiner's comments

The candidate provided a highly competent and detailed identification and explanation of three physical changes that occur as a result of long-term optimal training on the cardiovascular system. The overall impression of the candidate's answer was excellent.

- Physical change 1: '*thicker walls ... be able to eject more blood to the working muscles with each beat allowing for more oxygen to reach working muscles and therefore go for longer (this is an increase in stroke volume)*'.
- Physical change 2: '*more concentrated network capillary ...greater surface area for the diffusion of O₂ entering the blood and CO₂ leaving to happen quicker therefore theres a greater supply of O₂ rich blood reaching working muscles...*'.
- Physical change 3: '*greater supply of venules ... waste products such as O₂ will be removed quicker...athlete can continue running longer without fatigue*'.

The quality of written communication for this answer was deemed very good. The candidate used specific terminology throughout and the answer was organised and coherent. The candidate's presentation, spelling, punctuation and grammar were of a sufficiently high standard to make meaning clear.

Level 3 marks awarded.

Q7 The respiratory system plays a crucial role for an athlete in sustaining activity.

Q7a State one function of the trachea. [1]

Student's response

brings incoming air (O₂) from throat to lungs. Contains cilia hair which traps dirt and is removed through coughing.

Examiner's comments

The candidate clearly understood the function of the trachea '*brings incoming air (O₂) from throat to lungs*' [1]. The candidate further explained the role of the trachea to filter incoming air '*cilia hair which traps dirt and is removed through coughing.*' However, this was unnecessary for a question awarded [1] mark.

1/1 mark awarded.

Q7b State one function of the alveoli. [1]

Student's response

hollow cavities of alveoli sacs which the diffusion of O₂ and CO₂ in & out of blood takes place.

Examiner's comments

The candidate clearly understood the function of the alveoli '*hollow cavities of alveolar sacs which the diffusion of O₂ and CO₂ in and out of blood takes place*' [1].

1/1 mark awarded.

Q8 Describe the process of inspiration when a person is resting. [4]

Student's response

during inspiration the chest cavity increases in size. This is because the external, intercostal muscles and diaphragm (flattens) contracts increasing the size of the lungs and decreasing the air pressure causing air to rush in

Examiner's comments

The candidate provided a highly competent and detailed description of the process of inspiration when a person is resting. For example, '*chest cavity increases in size* [1]...*external intercostal muscles* [1] *and diaphragm (flattens) contracts* [1] *increasing the size of the lungs and decreasing the air pressure causing air to rush in*' [1].

4/4 marks awarded.

Q9 A person participates in a high intensity circuit class. Explain the short-term effects of this exercise on the digestive system. [6]

Quality of written communication will be assessed in your answer.

Student's response

Blood is diverted away from the digestive system to the heart lungs and working muscle through vascular shunting so as there is more oxygen for the working muscles and greater gas exchange to go for longer. Digestive system improves as the stomach muscles become stronger allowing breakdown of food to be easier preventing constipation. Digestion slows during exercise to conserve energy for exercise. This is why we should eat up to 2 hrs before exercise so as the energy can be released.

During exercise the digestive system only gets 5% of blood flow whereas gets 25% at rest.

Exercise dehydrates the digestive system.

Examiner's comments

The candidate gave a highly competent and detailed explanation of the short-term effects of vigorous exercise on the digestive system. The overall impression of the candidate's answer was excellent.

For example, the candidate stated that '*blood is diverted away from the digestive system to the heart, lungs and working muscles*' and gave an appropriate example of this '*during exercise the digestive system only gets 5% of blood flow whereas gets 25% at rest*'. The candidate described this process using specific terminology '*vascular shunting*' and the purpose of this '*more O₂ for the working muscles*'. The candidate further explained that '*digestion slows during exercise to conserve energy for exercise*'. The candidate also identified that with exercise '*stomach muscles become stronger allowing breakdown of food easier preventing constipation*'.

The quality of written communication in this response was considered very good. The candidate used specific terminology throughout and the answer was organised and coherent. The candidate's presentation, spelling, punctuation and grammar were of a sufficiently high standard to make meaning clear.

Level 3 marks awarded.

Q10 Study the example in **Table 1** of an athlete performing a sprint start. State the function of the nervous system at each stage. [3]

Student's response

Table 1

Stage	Performing a sprint start	Function of the nervous system
1	You are lining up at the start of the 100 m race and you hear the starter's pistol.	<i>Sensory</i>
2	Your central nervous system processes the sound and makes decisions – pistol means go.	<i>Interprative</i>
3	You use your muscles to move your arms and legs to sprint.	<i>Motor</i>

Examiner's comments

The candidate demonstrated a good understanding of the function of the nervous system at different stages.

3/3 marks awarded.

Q11a In the weeks leading up to a major competition a student feels overwhelmed by the pressure to perform.

State **two** negative coping strategies the student could use which could result in neglecting mental well-being.

1. [1] 2. [1]

Student's response

1. *they could overtrain*
2. *they meal feel stressed and not talk to anyone or sleep.*

Examiner's comments

The candidate stated '*overtrain*' [1] and '*not talk to anyone*' [1] as two negative strategies a person could use that could result in neglecting mental well-being. The candidate did state a third negative strategy '*not...sleep*' but this was unnecessary. The examples provided however show that the candidate has a clear understanding. 2/2 marks awarded.

Q11b The Public Health Agency recommends taking the following five positive coping steps to help maintain and improve well-being.

Connect

Be active

Take notice

Keep learning

Give

Give an example of how a person could perform **two** of these coping steps.

Coping step 1 [1] Coping step 2 [1]

Student's response

Coping step 1 *keep learning*

Example *they could take up a new hobby or interest*

Coping step 2 *Take notice*

Example *Be aware of the world around you and reflect on experiences*

Examiner's comments

The candidate was aware of the PHA recommendations to maintain and improve well-being and gave appropriate examples of how these could be performed. For example, '*keep learning...take up a new hobby*' [1]; *take notice... be aware of the world around you and reflect on experiences*' [1].

2/2 marks awarded.

Q12 Some adults perform little or no physical activity. They sit about for much of the day reading, watching television, playing video games, or using a mobile phone.

Q12a What type of lifestyle are these people leading? [1]

Student's response

Sedentary life style.

Examiner's comments

The candidate correctly identified the type of lifestyle as '*sedentary*' [1].

1/1 mark awarded.

Q12b State **two** risks to their health if they continue this type of lifestyle.

1. [1] 2. [1]

Student's response

1. *the may feel depressed or lonely as they may not interact or connect with others – social exclusion*
2. *The may develop coronary heart disease e.g asthma heart attack stroke.*

Examiner's comments

The candidate showed a good understanding of the risks associated with leading a sedentary lifestyle. However, they stated more than two risks which was unnecessary e.g. '*depressed*', '*lonely*' '*coronary heart disease*'.

2/2 marks awarded.

Q12c An adult would like to become physically fit to improve health.

Complete **Table 2** below to show the minimum recommended guidelines of physical activity for **adults**. [3]

Student's response

Table 2

	Recommended guidelines of physical activity for adults
Minimum frequency per week	<i>5 days a week</i>
Minimum minutes per week	<i>150 minutes in bouts of at least 10 mins e.g 5 x 30 mins</i>
Minimum intensity	<i>75 minutes of vigorous activity. 2 days bone & muscle strengthening</i>

Examiner's comments

The majority of candidates attained two of the three marks available. This candidate correctly identified the minimum frequency per week '*5 days a week*' and the minimum minutes per week '*150 minutes*'. However, they incorrectly stated the minimum intensity as '*vigorous*'.

2/3 marks awarded.

Q13 A student wants to join Teen Fit classes at the local gym to improve physical fitness.

Explain **one** procedure the fitness instructor should follow with the student before allowing them to take part in the class for the first time. [2]

Student's response

They should complete an Introduction so as they are aware of how to use facilities appropriately and safely to prevent damage or injury.

Examiner's comments

The candidate correctly identified a health and safety procedure '*induction*' [1] that should be followed before someone exercises for the first time. The candidate gave an explanation for the purpose of the procedure as 'aware of the how to use facilities appropriately and safely to prevent damage or injury'. This explanation was awarded [1] by the examiner but as a BOD (benefit of the doubt) for the reason that the candidate was referring to how to perform exercises or use equipment correctly and safely when they stated '*facilities*'.

2/2 marks awarded.

Q14 Some athletes illegally take performance-enhancing drugs without regard to possible side effects or negative consequences.

Q14a Give **two** reasons, other than to improve performance, why athletes take performance-enhancing drugs.

1. [1] 2. [1]

Student's response

1. *the feel under pressure by social media to do well and scared to fail/let them down.*
2. *Coach puts them under pressure to gain sponsorship or to keep it.*

Examiner's comments

The candidate provided two clear reasons why a person may take illegal drugs including '*feel under pressure by social media...scared to fail*' [1] and the '*coach puts them under pressure to gain sponsorship or to keep it*' [1].

2/2 marks awarded.

Q14b State **three** possible negative consequences on the athlete of long-term use of performance-enhancing drugs.

1. [1] 2. [1] 3. [1]

Student's response

1. *Increase Bp or heart rate leading to heart attack.*
2. *Makes them more aggressive and then make them low affecting mental health*
3. *If they are taking them to suppress pain they may make the injury worse.*

Examiner's comments

Three clearly negative consequences of long-term use of illegal drugs were given by the candidate. For example, 'heart attack [1]... more aggressive [1]... suppress pain may make the injury worse' [1].

3/3 marks awarded.

Q15 A person's diet can affect their ability when participating in physical activity.

State **three** nutritional components that should be included in a diet and explain how each could help a person's performance in an exercise programme. [6]

Quality of written communication will be assessed in your answer.

Student's response

Carbohydrates should make up 55% – 60% of your diet. It is a primary source of energy required which will allow them to exercise can be split into complex or simple carbohydrates.

Fats should make up 25% – 30% of your diet. They are a secondary source of energy that the body need. Provides insulation and protects the vital organ, acting as a cushion.

Dietary fibres are the component of food which can't be digested. It provides bulk to food, preventing constipation and absorbs poisonous waste in food.

Examiner's comments

The candidate gave a highly competent and detailed explanation of three nutritional components that should be included in a diet and how each could positively affect performance in physical activity. The overall impression of the candidate's answer was excellent.

The quality of written communication for this answer was of a high level as the candidate used specific terminology throughout and the answer was organised and coherent. The candidate's presentation, spelling, punctuation and grammar were of a sufficiently high standard to make meaning clear.

Level 3 marks awarded.

Q16 Study the sleep audit of a GCSE PE student in **Table 3**. Answer the questions that follow.

Q16a Compare the sleep audit with government recommendations to identify **two strengths** of the student's sleeping pattern.

1. [1] 2. [1]

Table 3

	Hours slept	Quality of sleep	Nap periods
Monday	Sleep at: 22:30 Woke at: 07:30 Total: 9 hours	Good <ul style="list-style-type: none"> • No phone 1 hour before sleep • Cup of tea 30 minutes before bed 	None
Tuesday	Sleep at: 22:30 Woke at: 07:30 Total: 9 hours	Good <ul style="list-style-type: none"> • Cup of tea 10 minutes before bed • No phone 1 hour before sleep 	None
Wednesday	Sleep at: 22:30 Woke at: 07:30 Total: 9 hours	Not very good <ul style="list-style-type: none"> • Stressed about controlled assessments • No phone 1 hour before sleep 	None
Thursday	Sleep at: 22:30 Woke at: 07:30 Total: 9 hours	Very good <ul style="list-style-type: none"> • No phone 1 hour before sleep 	None
Friday	Sleep at: 00:00 Woke at: 07:30 Total: 7 ½ hours	Not good <ul style="list-style-type: none"> • Cup of tea 30 minutes before bed • Browsed on my phone throughout the night 	None
Saturday	Sleep at: 01:00 Woke at: 08:00 Total: 7 hours	Not good <ul style="list-style-type: none"> • Cup of tea 30 minutes before bed • Browsed on my phone throughout the night 	None
Sunday	Sleep at: 22:30 Woke at: 07:30 Total: 9 hours	Good <ul style="list-style-type: none"> • Room too hot, woke to open window • Cup of tea 30 minutes before bed 	None

Student's response

1. *They are taking no nap periods throughout the day – getting 9 hrs sleep which meers recommend*
2. *They are going to bed at the same time every night during the school week*

Examiner's comments

Two strengths in the student's sleeping pattern were identified compared to PHA guidelines e.g. '*no nap periods*' [1] and '*going to bed at the same time every night during the school week*' [1].

2/2 marks awarded.

Q16b Compare the student's sleep audit with government recommendations to identify **two areas for improvement**.

1. [1] 2. [1]

Student's response

1. *They should make sure to go to bed at the same on a Friday and Saturday also*
2. *Don't browse on phone throughout the night at weekend.*

Examiner's comments

Two areas for improvement in the student's sleeping pattern were identified compared to PHA guidelines e.g. '*go to bed at the same on Friday and Saturday also*' [1] and '*don't browse on phone throughout the night at weekend*' [1].

2/2 marks awarded.

Q16c Set a SMART objective for the student to promote better sleeping habits. [2]

Student's response

They could not use their phone for one hour before bed for 7 nights a week within 2 weeks.

Examiner's comments

The candidate was familiar with the concept of setting SMART objectives and gave an example of a specific, measurable, achievable, relevant and time-bound objective to enable them to be awarded full marks. For example '*They could not use their phone* (specific and relevant) *for one hour before bed for 7 nights a week* (measurable and achievable) *within 2 weeks* (time-bound).

2/2 marks awarded.

Q16d In the student's sleep action plan what **two** targets could be set to help achieve the SMART objective?

1. [1] 2. [1]

Student's response

1. *Set phone down in kitchen an hr before going to bed each night*
2. *Don't set an alarm on your phone 5 times a week to make sure you don't touch it after 21:30.*

Examiner's comments

There was a clear link between 16 (c) and (d). The candidate set two targets that would help the student attain the overall SMART objective set. For example, '*set phone down in kitchen 1hr before going to bed each night*' [1]; and '*Set an alarm on your phone 5 times a week to make sure you don't use it after 21:30*' [1].

2/2 marks awarded.

Q17 State **three** examples of how parents could have a negative influence on their children's participation in sport.

1. [1] 2. [1] 3. [1]

Student's response

1. *They may not give them money for gear of membership as they may not be able to afford it.*
2. *They may discourage them by talking negatively about their performance.*
3. *They may not take them to training or matches or watch them.*

Examiner's comments

Three examples were stated and explained by the candidate to demonstrate clear understanding of the negative influence a parent can have on a family's participation in physical activity and sport. For example, '*not give money for gear*' [1]; '*discourage them by talking negatively about their performance*' [1]; and '*may not take them to training*' [1]. The candidate did give a fourth example that was unnecessary for the marks awarded.

3/3 marks awarded.

Q18 People with a disability are less than half as likely to participate in sports than non-disabled people. (DCAL Continuous Household Survey 2014/15.)

Describe **two** ways in which Disability Sport NI promotes equality of access to sport for people with a disability in Northern Ireland.

1. [2] 2. [2]

Student's response

1. *They generate funding from the government afford accessible facilities and transport which encourages disabled athletes to participate.*
2. *They provide positive role models for them and gives examples of those of which have succeeded in sport e.g Michael McKillop.*

Examiner's comments

The candidate demonstrated a good understanding of the role of Disability Sport NI in promoting equality of access to sport for people with a disability by describing two examples. This differed from many other candidates who gave simple statements which only allowed them to access two of the four marks. This candidate stated the role e.g. 'provide positive role models' [1] and developed this role further e.g. 'give examples of those of which have succeeded in sport e.g. Michael McKillop' [1].

4/4 marks awarded.

Q19 Study the information in **Table 4** below regarding two leisure organisations. Answer the questions that follow.

Q19a State the sector that each leisure organisation belongs to and use specific evidence from **Table 4** to justify your choice.

Table 4

Organisation 1		Organisation 2	
Belfast Leisure is funded and controlled by the local council.		The Little Gym is owned and run by four personal trainers.	
Opening hours: Mon to Fri 09.00–18.30 Sat and Sun 10.00–16.00		Opening hours: Mon to Sat 06.30–22.00 Sun 08.00–18.00	
Membership: £32 per month, Concessionary rate: £19 per month		Membership: £35 per month	
Mon–Fri timetable: 09.30 Spin 10.30 Yoga 12.30 Body Pump 16.30 Circuits	Sat–Sun timetable: 10.00 Spin 11.00 Yoga	Mon–Sat timetable: 06.45 Spin 07.45 Bootcamp 10.30 Yoga 11.30 Body Pump 17.30 Spin 18.00 Circuits 19.00 HITT 20.00 Body Combat 20.30 Pilates	Sun timetable: 08.30 HITT 10.00 Body Pump 11.00 Spin 15.00 Body Balance

Student's response

Organisation 1 belongs to the *Public sector as it is ran by the local council and its fees are cheaper offering a concessionary meaning it is not profit making and it has less classes available. Its providing a service.* [2]

Organisation 2 belongs to the *Private seactor as it has long opening hours with dearer fees as it is aiming to make profit.* [2]

Examiner's comments

The candidate identified the correct organisation type e.g. 'public sector' and used specific evidence from Table 4 to explain appropriate characteristics of the sector e.g. 'ran by local council...' [1].

4/4 marks awarded.

Q19b Using **specific** evidence from **Table 4**, explain which of the leisure organisations would be most suitable for a person who works Monday to Friday 09.00–17.30. [2]

Student's response

Organisation 2 as it is opening 06.45 to 20:30 meaning they can go before or after. Also they would be able to go to organisation 1 as its opening hours don't suit the time or work.

Examiner's comments

The candidate correctly identified 'Organisation 2' [1] as the most suitable due to operating longer opening hours 'opening 06.45 to 20.30 meaning they can go before or after work' [1].

2/2 marks awarded.

Q19c Using **specific** evidence from **Table 4**, explain which of the leisure organisations would be most suitable for a person who receives income support. [2]

Student's response

Organisation 1 as the membership fees are cheaper (£32) whereas organisation 2 is (35) it also has a concessory rate of £19 meaning they will be able to afford it easier.

Examiner's comments

The candidate correctly identified 'Organisation 1' [1] as the most suitable due to having a reduced membership fee 'membership fees are cheaper (£32) whereas organisation 2 is (35) [1]. This candidate also referred to the opportunity of a person who receives income support being able to avail of the concessionary rate 'concessionary rate of £19 meaning they will be able to afford it easier'.

2/2 marks awarded.

Q20 You have been asked to organise a 7-a-side football knockout competition in February for the local primary schools. The competition will run from 09.30–13.00 with eight primary schools entering. Your school will provide two pitches and equipment at no cost. The cost of running the competition includes:

- Two referees £40
- Trophy for winners and runners-up medals £25
- Refreshments £15

Q20a Use **Table 5** to create the draw and timetable for the 7-a-side football competition.

You must include:

- The **order of play** to identify overall winner and runners-up (label schools A–H)
- The **pitch each game will be played on**
- The **timeline** for the competition
- The **duration of play time for each game** [8]

Student's response

Table 5

09.30–10.00	Arrival and team registration		
<i>10.00–10.30</i>	<i>Pitch 1</i> <i>AVB</i>	<i>QF</i>	<i>Pitch 2</i> <i>EVF</i>
<i>10.00–11.00</i>	<i>Team</i> <i>CVD</i>		<i>Team</i> <i>GVH</i>
<i>11.00–11.10</i>	<i>break</i>		
<i>11.10–11.40</i>	<i>Teams</i> <i>A/B v C/D</i>	<i>SF</i>	<i>Teams</i> <i>E/F v G/H</i>
<i>11.40–12.30</i>	<i>Lunch</i>		
<i>12.00–12.30</i>	<i>A/B / C/D</i>	<i>Final</i>	<i>E/F / G/H</i>
<i>12.30–13.00</i>	<i>Presentation of medals</i>		

HALF = 10 mins (2 halves)

Halftime = 5 mins

5 mins extra time if needed

Examiner's comments

The candidate planned an appropriate and safe knockout competition. The order of play for the knockout competition, the use of pitches and the timeline were outlined clearly and with a high level of competency. This candidate planned break periods between play for teams which reduced the risk factor to the players. The duration of play was not only shown through an appropriate timeline but was clearly stated as '*10 mins*' a half with '*half time =5 mins ... 5mins extra time if needed*'.

8/8 marks awarded.

Q20b Calculate the entry fee per team with the aim to break even. [1]

Student's response

The entry fee per team will be £10

Examiner's comments

The £10 fee was correctly given.

Q20c As the event manager it is important to plan for unforeseen problems, other than hazards, which could threaten the success of the competition.

Identify **three** problems that could arise and the action you would put in place to overcome this.

Student's response

1. Problem *A team not show up and therefore can't cover costs.* [1]
Action *Ask each team to pay an extra £2 to cover it.* [1]

2. Problem *referee not show up.* [1]
Action *have a stand by referee from one of the organisers or teams could gree to have someone to volunteer.* [1]

3. Problem *weather conditions not good or safe to play on.* [1]
Action *Have a date set for any changes need that suit every team.* [1]

Examiner's comments

Three specific threats were stated and the contingency action explained was appropriate. For example, '*A team not show up and therefore can't cover costs*' [1]. The contingency for this was deemed appropriate as on the day '*ask each team to play an extra £2 to cover it*' [1].

6/6 marks awarded.

GCSE: Physical Education

Paper 2: Developing Performance

Grade: A Exemplar

Answer **all** questions

Q1 A Year 10 student wins the discus but does not perform well in the 800 m heat. The student is upset as they thought they were fit.

Identify and explain the concept to help the student understand the difference in performances on Sports Day. [2]

Student's response

The relative concept of fitness. This means you could be fit to perform in one activity but not another. Discus requires anaerobic energy production whereas 800 m requires aerobic energy production.

Examiner's comments

The candidate clearly identified fitness as being a '*relative concept*', and had a highly competent understanding of this, demonstrated through the use of a specific clear example. For example, '*fit to perform in one activity but not another. Discus requires anaerobic energy production whereas 800m requires aerobic energy production*'. The candidate was able to explain why the tasks were different by referring to the relative important of the components of fitness.

2/2 marks awarded.

Q2 Explain why the exercise baseline is different for a person exercising to become '**fit for health**' compared to '**fit for performance**' in a specific sporting event. [2]

Student's response

Fit for health means that they work at a baseline of appropriate and sufficient exercise to get the body in reasonable working order to carry out everyday tasks fit for performance means to work above the baseline and do regular and appropriate exercise to get the body in the best shape possible to carry out the activity as efficiently and effectively as possible.

Examiner's comments

The candidate demonstrated a very good understanding of the difference between physical fitness for health compared with physical fitness for performance. '*Fit for health means that they work at a baseline of appropriate and sufficient exercise to get the body in reasonable working order to carry out everyday tasks* [1]. *Fit for performance means to work above the baseline and do regular and appropriate exercise to get the body in the best shape possible to carry out the activity as efficiently and effectively as possible*' [1]. This was a very detailed answer for the marks awarded and not all information was necessary to attain [2].

2/2 marks awarded.

Q3 Explain what determines a person's aerobic energy production potential. [2]

Student's response

It is determined by the ability of the respiratory and circulatory systems to deliver oxygen and nutrients to the working muscles and the ability of the muscles to use this supply.

Examiner's comments

A highly competent explanation of what determine a person's potential aerobic energy production. '*...ability of the respiratory and circulatory systems to deliver oxygen and nutrients [1] to the working muscles and the ability of the muscles to use the supply*' [1].

2/2 marks awarded.

Q4a Identify an athletic event that would require anaerobic fitness. [1]

Student's response

100 m sprint

Examiner's comments

The candidate stated an acceptable athletic event that requires anaerobic energy production e.g. '*100m sprint*' [1].

1/1 mark awarded.

Q4b Explain why developing anaerobic fitness would be important for this athletic event. [2]

Student's response

Because anaerobic fitness enable the person to go for a short period of time in an explosive effort i.e 90+% MHR. Therefore it is suitable for 100 m because it is very explosive over a short period of time at high intensity.

Examiner's comments

There was a clear link between the answer given in 4(a) and the explanation of why developing anaerobic fitness would be important for this athletic event. For example, '*...explosive effort i.e. 90+% MHR [1]... over a short period of time at high intensity*' [1].

2/2 marks awarded.

Q5 Identify a team sport and explain different situations where the following three components of physical fitness would be used.

Student's response

Team sport	<i>Camogie</i>
Muscular speed	<i>Sprint into space to quickly lose your defender. [1]</i>
Muscular endurance	<i>Enable you to be able to run/last the full duration of match without tiring. [1]</i>
Muscular strength	<i>Allow you to push your opponent off the ball. [1]</i>

Examiner's comments

The candidate explained different situations when the three stated components of physical fitness would be used in a named team sport. There were no repeated situations and the answers given were specific to the named team sport i.e. 'camogie'. For example, muscular speed occurs when you '*sprint into space to quickly lose your defender*' [1]; muscular endurance needed to '*enable you to be able to run/last the full duration of match without tiring*' [1]; and muscular strength will '*allow you to push your opponent off the ball*' [1].

3/3 marks awarded.

Q6a Explain the difference between static and dynamic flexibility training. [2]

Student's response

Static flexibility is when you slowly go into the stretch until mild tension is felt and hold it for 10–30 secs then come out of it slowly. Dynamic flexibility is when you bounce, jerk or swing to provide the stretch and create greater muscle length.

Examiner's comments

The candidate gave a very clear understanding of the difference between static and dynamic flexibility training, explaining clearly how each type of flexibility training is performed; rather than just stating static – no movement, dynamic – movement, which was the case for many candidates. '*Static flexibility is when you slowly go into the stretch until mild tension is felt and hold it for 10-30secs then come out of it slowly.* [1] *Dynamic flexibility is when you bounce, jerk or swing to provide the stretch and create greater muscle length*' [1].

2/2 marks awarded.

Q6b Explain how an increase in flexibility may allow a sportsperson to improve performance in **two** different physical activities. [2]

Student's response

Named activity *Hurling.*

The athlete will be able to bend down easier to pick up the ball. Therefore they will be able to pick it up off the ground quicker and will be able to pass it quicker.

Flexibility will also allow them to jump up and stretch more to catch a high ball. Will also increase their stride length so can run faster. [2]

Named activity *Athletics-Sprint*

It will allow the athlete to increase the length of their stride. Therefore the athlete will cover more ground in less time so they will become faster. [2]

Examiner's comments

The candidate clearly identified and explained an area of a specific sport that would be improved by increasing a sportsperson's flexibility. For example, in the '*hurling*' example an increase in flexibility will help by the player being able to '*bend down easier to pick up the ball*' [1]. And the candidate then explained how this will improve the sportsperson's performance '*they will be able to pick it up off the ground quicker and will be able to pass it quicker*' [1]. The candidate did provide another two examples of how an increase in flexibility will help improve a hurler's performance but these were unnecessary.

In the second physical activity '*Athletics – Sprint*' the candidate identified how increased flexibility will '*allow the athlete to increase the length of their stride*' [1]. And explained clearly how this will improve the athlete's performance '*the athlete will cover more ground in less time so they will become faster*' [1].

4/4 marks awarded.

Q7a Explain what continuous steady pace training involves. [3]

Student's response

It involves you exercising until you reach the desired intensity e.g 80% MHR. You then maintain this intensity for a specific period of time e.g 20 mins and there is no rest periods.

Examiner's comments

The candidate demonstrated a highly competent understanding of continuous steady-pace training, and used appropriate example of intensity and times to explain this. '*...involves you exercising until you reach the desired intensity e.g. 80% [1]. You then maintain this intensity for a specific period of time e.g. 20mins [1] and there is no rest periods [1].*

3/3 marks awarded.

Q7b State **two** reasons why this would be an effective method of training for a long distance runner.

1. [1] 2. [1]

Student's response

1. *It is specific to the event as there is no rest and develops respiratory and oralatory systems*
2. *Prevents build up of lactic acid.*

Examiner's comments

The candidate showed a very good understanding of the effectiveness of continuous steady-pace training for a long distance runner. For example, '*It is specific to the event as there is no rest periods [1] and develops respiratory and circulatory systems [1].* The candidate did state a third reason of the effectiveness of this method of training for long distance running i.e. '*prevents build up of lactic acid*'. Although this is appropriate and accurate it was not necessary for the marks awarded.

2/2 marks awarded.

Q8a Explain what circuit training involves. [4]

Student's response

It involves you completing a series of different exercises at a number of different stations. You work different body parts to cover all major muscles in the body. You work body parts in rotation to avoid injury. There is a set number of reps, sets, rest and circuits.

Examiner's comments

The candidate provided a highly competent understanding of circuit training, which included key areas; different exercises; work major muscles; fixed number of reps, sets, time and rest.

4/4 marks awarded.

Q8b(i) Create a circuit training workout with nine stations to help a group of people develop aerobic and muscular endurance fitness. [3]

Student's response

Complete in following order

1. *Press up (upper)*
2. *Step up (lower)*
3. *Crunches (core)*
4. *Bicep curl (upper)*
5. *Squat (lower)*
6. *Russian twists (core)*
7. *Tricep dips (upper)*
8. *Lunges (lower)*
9. *Plank (core)*

Examiner's comments

The candidate included nine stations with appropriate exercises for circuit training to develop aerobic and muscular endurance, to attain full marks. The candidate also stated the body area to be worked by the exercise e.g. '1. *Press up (upper)*, 2. *Step up (lower)*, 3. *Crunches (core)*'.

3/3 marks awarded.

Q8b(ii) Justify the order of the exercises for the participants to complete. [3]

Student's response

Exercises must be completed in rotation i.e upper then lower then core to ensure no body part is overworked. By completing exercises in rotation it helps to prevent injury and fatigue.

Examiner's comments

The candidate clearly linked 8(b)(i) and (ii). In part (i) the candidate included the order of exercises as 'upper...lower...core' and then in part (ii) clearly explained the principle of rotation in detail. For example, '*Exercises must be completed in rotation [1], i.e. upper, then lower, then core [1] to ensure no body part is overworked...prevent injury and fatigue*' [1].

3/3 marks awarded.

Q8(iii) Complete **Table 1** by stating a **specific** (do not use ranges) suitable work time and recovery period for your circuit training workout. [2]

Student's response

Table 1

Work time	<i>45 secs</i>
Recovery	<i>15 secs</i>

Examiner's comments

The candidate stated a specific suitable work time and recovery time i.e. '*45secs*' [1] to '*15secs*' [1]. The candidate did not give a range and demonstrated an understanding that the recovery time should be equal or less than the work time.

2/2 marks awarded.

Q8(iv) Justify the principles underlying your choice of work and recovery times.
[3]

Student's response

The circuit is used to develop aerobic energy production therefore the athlete is working at an intensity of 80–90% MHR. The work time must be between 30 seconds and 2 mins therefore 45 secs is suitable. The recovery must be 1:1 or less as they are only working at a moderate intensity ie. 80–90% MHR so rest of 15 seconds is suitable.

Examiner's comments

The candidate provided a clear and highly competent understanding of the principles underlying the effective intensity, time and recovery of the circuit training workout to develop aerobic fitness and muscular endurance. The candidate explained the ratio of 1:1 or less for the balance between the work time and the recovery time. For example, '*The recovery time must be 1:1 or less as they are working at 80-90% MHR...*' The candidate also showed knowledge of the timing guidelines for circuit training to develop aerobic fitness of being between 30 seconds and two minutes. The intensity of the exercises were used to justify the work time. For example, '*... to develop aerobic energy production therefore the athlete is working at an intensity of 80-90%MHR. The work time must be between 30seconds and 2mins, therefore 45secs is suitable.*'

3/3 marks awarded.

- Q8(v)** To ensure the participants' level of fitness improves, identify **three** specific things that could be adjusted in the circuit training workout to allow progressive overload.
 1. [1] 2. [1] 3 [1]

Student's response

1. *Increase the number of reps completed at each station.*
2. *Decrease the recovery time between stations.*
3. *Increase the number of sets completed at each station.*

Examiner's comments

The candidate identified increasing the work time at each station i.e. '*Increase the number of reps completed at each station*' [1]; decreasing the recovery time between stations [1]; and increasing the number of complete circuits included '*increase the number of sets completed*' [1]. The latter was given a BOD for all candidates.
 3/3 marks awarded.

- Q8(vi)** One of the participants, in addition to the circuit training session, completes a weights programme. Plan a **specific** (do not use ranges) and suitable **Week 1** weight training programme for the person by completing **Table 2**. [3]

Student's response

Table 2

	Week 1
Repetition Maximum	25
Repetitions	25
Sets	1

Examiner's comments

The candidate demonstrated an appropriate and sound application of the use of isotonic weight training to develop muscular endurance for the first phase of the training programme. Specific examples were given i.e. '*25RM; 23reps; 1set.*'
 3/3 marks awarded.

Q9 There are various factors which underpin fair assessment when fitness testing. Study **Fig. 1** and **Fig. 2** below which show an athlete undertaking a flexibility test before and then after a training programme.



Fig. 1
Flexibility test **before** training programme

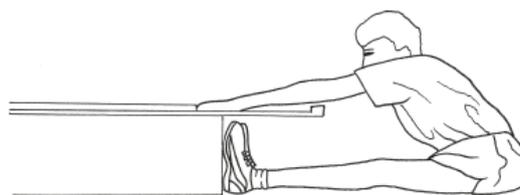


Fig. 2
Flexibility test **after** training programme

Refer specifically to **Fig. 1** and **Fig. 2** to evaluate the various factors that must be considered when conducting flexibility tests before and after a training programme. [6]

Quality of written communication will be assessed in your answer.

Student's response

This specificity of the event must be considered. The tests shown above are specific as they do assess the athletes flexibility. The tests must also be valid. Both these tests, before and after are both valid measures of flexibility in the athletes hamstrings and lower back however, they are not a valid measure of the persons overall flexibility. The results obtained from both tests should be reliable in order to be able to compare the results.

The results obtained from these tests will not be comparable because protocol has not been followed correctly in both tests. In the test before the training programme, protocol has been followed strictly as shoes have been removed, an assistant is used to measure and to hold down knees. In the after test, shoes have not been removed, there is no assistant and knees have not been held down. The accuracy of measurement also differs from the before and after tests as the measurement is more accurate in the before test as the assistant is used. In the upper test no assistant is used and the athlete may be inclined to cheat. Athletes conditions with regards to their well-being and state of readiness should also be considered.

Examiner's comments

The candidate displayed a highly competent and detailed understanding of appropriately applying the factors that underpin fair assessments. The overall impression of the candidate's answer was excellent and was awarded marks in Level 3.

The quality of written communication for this answer was excellent with specific terminology used throughout the well organised and coherent answer. The candidate's presentation, spelling, punctuation and grammar were of a sufficiently high standard to make meaning clear.

The candidate considered and evaluated the factors that underpin fair assessment including:

- specificity i.e. *'the tests shown above are specific as they do asses the athletes flexibility'*;
- validity i.e. *'both these tests, before and after are both valid measures of flexibility in the athletes hamstrings and lower back however they are not a valid measure of the persons overall flexibility'*;
- protocol i.e. *'The results obtained from these tests will not be comparable because protocol has not been followed correctly in both tests. In the test before the training programme protocol has been followed strictly as his shoes have been removed, an assistant is used to measure and to hold down knees. In the after test, shoes have not been removed, there is no assistant and knees have not been held down.'* This provided only moderate evaluation of the effect of not following the protocol on the results of the flexibility test.
- accuracy of measurement i.e. *'...the measurement is more accurate in the before test as the assistant is used. In the after test no assistant is used and the athlete many be inclined to cheat.'*

Q10 The week before GCSE PE moderation the teacher conducts a final assessment of the students' fitness levels. **Table 3** outlines the students' scores.

Table 3

Test	Student A	Student B
Multi-stage fitness test	Level 10 Lap 3	Level 7 Lap 5
1 minute press-up test	50	36
1 minute sit-up test	38	31
Sit and reach test	24 cm	28 cm

On the day of moderation the students remained in good physical health and free from injury. The two students performed the fitness tests under exactly the same conditions. **Table 4** outlines the students' scores.

Table 4

Test	Student A	Student B
Multi-stage fitness test	Level 11 Lap 8	Level 6 Lap 5
1 minute press-up test	58	29
1 minute sit-up test	46	21
Sit and reach test	27 cm	23 cm

Compare the students' results in **Table 3** and **Table 4**.

Q10a Explain what could account for Student A's scores on the day of moderation. [2]

Student's response

Student A's scores improved on the day of moderation because they felt the need to perform well because another person was there to watch them and they wanted to do their best to impress and to bring their grade up.

Examiner's comments

The candidate identified a correct factor and explained clearly how this would positively affect performance in fitness testing '*...felt the need to perform well because another person was there to watch them [1] and they wanted to do their best to impress and to bring their grade up*' [1].

2/2 marks awarded.

Q10b Explain what could account for Student B's scores on the day of moderation. [2]

Student's response

On the day of moderation, Student B's scores decreased and they performed worse than they had done before. This could have been because they were anxious and worried and may not have slept well the previous night because they were worried.

Examiner's comments

The candidate identified a correct factor and explained clearly how this would negatively affect performance in fitness testing '*...may not have slept well the previous night [1] because they were worried*' [1].

2/2 marks awarded.

Q11 Skills can be classified by using a closed to open continuum.

Q11a Identify and explain the classification of a free throw in basketball using this continuum.

Student's response

A free throw in basketball is *closed* skill [1]

Because *It is unaffected by the environment and by other players. The conditions and technique remain the same throughout and will never change.* [2]

Examiner's comments

The candidate correctly identified the classification of the skill as '*closed*' and demonstrated a highly competent understanding of closed skills. For example, '*It is unaffected by the environment and other players. The conditions and technique remain the same throughout and will never change.*'

3/3 marks awarded.

Q11b Identify and explain the classification of a pass in a competitive football game using this continuum.

Student's response

A pass in a competitive football game is *open* skill [1]

Because *It is affected by the environment and by other players e.g strong wind or a defender. The situation is constantly changing and they must adapt to the changes of the game.* [2]

Examiner's comments

The candidate correctly identified the classification of the skill as '*open*' and demonstrated a highly competent understanding of open skills. For example, '*It is affected by the environment and other players...The situation is constantly changing and they must adapt to the changes of the game.*' The candidate used a clear and appropriate example to clarify further their understanding. For example, '*strong wind or defender*'.

3/3 marks awarded.

Q12 Table 5 presents examples of different types of skills. Use the terms below to complete Table 5. [3]

Cognitive skill Perceptual skill Motor skill

Student's response

Table 5

Example	Type of skill
Striking a ball	<i>Motor skill</i>
Reading coaching points on how to strike a ball	<i>Cognitive</i>
Looking where the goal keeper is before deciding where to aim the ball	<i>Perceptual</i>

Examiner's comments

The candidates correctly identified the three types of skills.
3/3 marks awarded.

Q13 Agility is a factor that underpins skilled performances.

Q13a What is agility? [1]

Student's response

The ability to change direction or position when moving at speed.

Examiner's comments

The candidate gave a clear explanation of agility '*The ability to change direction or position when moving at speed.*'

1/1 mark awarded.

Q13b Explain the importance of agility for the following two sports. [1]

Student's response

Tennis *Allow athlete to quickly change direction to move towards the ball.* [1]

Football *The goal keeper would need it to quickly change direction to block a ball.* [1]

Examiner's comments

The candidate demonstrated clear and competent understanding of the importance of agility for a tennis player and a footballer. For example, '*...quickly change direction to move towards the ball*'; and '*The goal keeper would need it to quickly change direction to block a ball.*'

2/2 marks awarded.

Q14 Study **Fig. 3** which shows the relationship between the level of arousal and performance for two athletes. Answer the questions that follow.

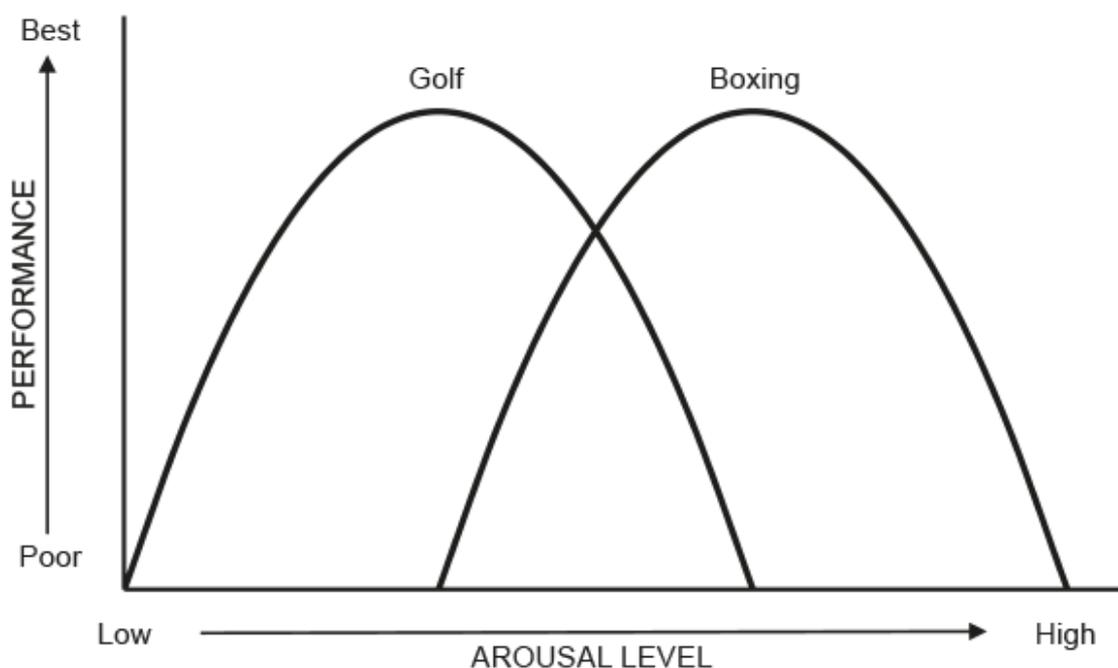


Fig. 3

Q14a Evaluate the performance and arousal levels of the boxer and the golfer in **Fig. 3**. [3]

Student's response

The golfer and boxer have different optimum levels of arousal. The golfer has a lower optimum level of arousal than the boxer. This is because golf requires an athlete to have fine motor skills and to be calm and relaxed whereas boxing requires the athlete to be more aggressive and hyped up to have gross motor skills.

Examiner's comments

The candidate displayed a highly competent understanding of how levels of arousal affect performance in different sports. The candidate identified that the 'golfer and boxer have different optimum levels of arousal.' They identified that the boxer required higher arousal levels than the golfer; and gave a clear explanation of the difference in the nature and requirements of the sports. For example, 'The golfer has a lower optimum level of arousal than the boxer [1]. This is because golf requires an athlete to have fine motor skills and to be calm and be relaxed [1]. Whereas boxing requires the athlete to be more aggressive and hyped up...' [1].

3/3 marks awarded.

Q14b Explain the effect on performance if, during the fight, the boxer's arousal levels became too high. [2]

Student's response

It will have a negative affect on their performance. They will become too aggressive and will tend to overreact. The control of behaviour will be lost and decision making will be negatively affected.

Examiner's comments

The candidate clearly identified that the athlete's performance would '*...negatively affect...*' performance [1] and justified why this may be the case '*They will become too aggressive and will tend to overreact. The control of behaviour will be lost and decision making will be negatively affected*' [1].

2/2 marks awarded.

Q14c For the duration of the 18 holes the golfer's arousal levels were consistently too low. Explain how this could affect performance. [2]

Student's response

It will have a negative affect on performance and the athlete may become bored, uninterested and tired leading to poor decisions being made and less efficient and effective performance.

Examiner's comments

The candidate clearly identified that the athlete's performance would have a '*...negative affect...*' on performance [1] and justified why this may be the case '*...athlete may become bored, uninterested and tired leading to poor decisions being made and less efficient and effective performance*' [1].

2/2 marks awarded.

Q15 Periodisation is the organised division of training into phases.

Q15a Identify and explain the focus of the following two phases of periodisation.

Student's response

Phase 1 – Off-season

Focus *It is the transition period. The main focus is on rest and recovery to allow the body to rest. The athlete may also focus on doing some low intensity aerobic work as a form of active rest e.g low intensity swim. [3]*

Phase 2 – Pre-season

Focus *This is the preparation period. Emphasis is placed on developing general fitness such as aerobic and strength work then towards the end of pre season emphasis shifts to power, speed and skill related fitness. [3]*

Examiner's comments

The candidate displayed a highly competent understanding of both the phases of training. For example in Phase 1 – Off-season, the candidate stated correctly that this was the '*transition period*' and that the main focus was '*...on rest and recovery*'. They also explained how the '*athlete may also focus on doing some low intensity aerobic work as a form of active rest e.g. low intensity swim.*' In Phase 2 – Pre-season, the candidate stated correctly that this was the '*preparation period*' and emphasis was '*...on developing general fitness such as aerobic and strength work then towards the end of pre season emphasis shifts to power, speed and skill related fitness*'.

6/6 marks awarded.

Q15b Table 6 shows a typical week of an **in-season** football training programme. Each training session began with a 10 minute warm up.

Table 6 – In-season

	Mon	Tue	Wed	Thur	Fri	Sat	Sun
Intensity	Hard	Moderate	Rest	Moderate	Rest		Rest
Content of session	15 min anaerobic runs e.g. shuttle runs/ pyramid runs Intensity: 90% + MHR 25 min drill work e.g. pass and move, run and shoot at angles Intensity: 80% MHR 20 min conditioned game Intensity: 80% MHR	15 min fast feet drills Intensity: 80% MHR 10 min speed, agility and quickness drills over 10 m Intensity: 90% + MHR 15 min individual skill and ball work		Speed work 4 sets of 10 sprints, 25 m 10 min conditioned game Intensity: 80% MHR 45 min tactics, set pieces/ plays		Match	

Use specific evidence from **Table 6** to explain the suitability of the **in-season** football training programme. [4]

Student's response

This is suitable for in season training programme as the frequency of the sessions is low as it is 3 per week before the match and it is at a higher intensity to match the intensity of the competition ie 2 sessions are at an anaerobic intensity of 90+% MHR which is similar to competition. There is also a large emphasis placed on developing skills and 45 mins on Thursday and tactics and drills and on each day skill related fitness has been included. 3 rest days have also been included which is necessary to allow muscles to repair and fuel stores to be full before the match. Both aerobic and anaerobic fitness has been maintained as 80% MHR on Monday and also 90% MHR.

Examiner's comments

The candidate demonstrated a highly competent understanding of the suitability of the training programme for the in-season phase. They identified that the training at the beginning of the week *'match the intensity of the competition i.e. 2 sessions are at an anaerobic intensity of 90+% MHR which is similar to competition'*. They also identified that there was *'a large emphasis placed on developing skills, 45mins on Thursday, and tactics and drills and on each day skill related fitness has been included'*. The candidate concluded by identifying that having *'3 rest days'* included was necessary *'to allow muscle to repair and fuel stores to be full'* before the match. 4/4 marks awarded.

Q16 A person completed the **'Couch to 5 K'** programme, with a run time of 5 km in 35 minutes. The person sets a new goal to run **10 km in 55 minutes**, in 8 weeks time. To help complete this goal the person joined a running club. **Table 7** outlines the **Week 1** session plan provided by the running coach.

Table 7

Mon	Tue	Wed	Thur	Fri	Sat	Sun
Run 10 km; CSP; 5 min 30 sec pace/km		Swim 3 km; CSP; 22 min pace/km	Run 8 km; CSP; 5 min pace/km	Swim 3 km; CSP; 20 min pace/km	Run 16 km; CSP; 5 min pace/km	Run 5 km; CSP; 4 min 30 sec pace/km

Q16a Referring to information in **Table 7** apply the principles of **specificity**, **overload** and **rest/recovery** to evaluate the safety, appropriateness and effectiveness of the person's running programme in Week 1. [9]

Quality of written communication will be assessed in your answer.

Student's response

The training programme must be graphic therefore it must match the component of fitness, type of exercise and training method. The component of fitness is specific as it will develop aerobic energy production and muscle endurance. The type of exercise is not specific as on the Wednesday and Friday swimming has been included which is not specific as it is a running event so only running should be used. The training method is specific as it is CSP which is specific to the event as it involves the athlete running for long period of time at a moderate intensity e.g 80% MHR without rest which is specific to the event. Overload is the starting load placed upon your body to allow it to be put under stress or training so you can adapt and become fitter. The overload has not been planned correctly as the frequency of the sessions are 6 per week which is too high and it should be reduced to 3. The intensity of these

sessions are also too high as some sessions involve the athlete running at a pace of 4 mins 30 sec per km which is 2 mins 30 seconds quicker than they can do.

Therefore the intensity should be decreased to one more similar to what they are capable of. The principle of rest/recovery has also not been applied properly as it only allows 1 day for the athlete to recover. This should be increased to allow fuel stores to be full and muscles to grow and repair.

Examiner's comments

The candidate displayed a highly competent application and understanding of the principles of specificity, overload and rest/recovery to evaluate the safety, appropriateness and effectiveness of the training programme. The overall impression of their answer was excellent and was awarded marks in Level 3.

The quality of written communication was high with appropriate terminology used throughout a well organised and coherent answer. The presentation, spelling, punctuation and grammar were all a sufficiently high standard to make meaning clear.

- Specificity: the candidate had a clear understanding of this principle of training as they stated for the programme to be effective '*it must match the component of fitness, type of exercise and training method*'. The candidate identified that the training was specific to develop the required components of fitness i.e. '*aerobic energy production and muscular endurance*' and the training method was suitable '*as it is CSP which is not specific to the event as it involves the athlete running for long period of time at a moderate intensity e.g. 80% MHR without any rest*'. The candidate evaluated that the type of exercise was not specific '*as on the Wednesday and Friday swimming has been included which is not specific as it is a running event so only running should be used*'.
- Overload: the candidate showed a clear understanding of this principle of training by stating that it is '*the starting load placed upon your body to allow it to put under stress of training so you can adapt and become fitter*'. The candidate correctly evaluated that the overload had '*not been planned correctly*'. They evaluated that the planned frequency of the sessions were inappropriate and unsafe as there were '*6 per week which is too high and it should be reduced to 3*'; as was the planned intensity as some of the sessions involved the '*athlete running at a pace of 4mins 30secs per km which is 2mins 30seconds quicker than they can do. Therefore the intensity should be decreased*'.
- Rest/recovery: the candidate evaluated that this had not been planned appropriately or safely as they were not enough rest days and recommended introducing more rest days to avoid injury or fatigue.

Q16b Complete **Table 8** to create a safe, appropriate and effective 8 week training programme for the person by applying effectively the principles of **specificity, overload, progressive overload** and **peaking**. [8]

Student's response

Table 8

	Mon	Tue	Wed	Thur	Fri	Sat	Sun
Week 1–2	<i>Run CSP 5 km 7 mins/ km</i>		<i>Run CSP 6 km 7:15 mins/ km</i>			<i>Run CSP 8 km 7:30 mins/ km</i>	
Week 3–4	<i>Run CSP 5 km 6:30 mins/ km</i>		<i>Run CSP 6 km 7 mins/ km</i>	<i>Run CSP 8 km 7:15 mins/ km</i>		<i>Run CSP 10 km 7:30 mins/ km</i>	
Week 5–6	<i>Run CSP 5 km 5:30 mins/ km</i>		<i>Run CSP 7 km 5:45 mins/ km</i>	<i>Run CSP 4 km 5:15 mins/ km</i>		<i>Run CSP 10 km 6:15 mins/ km</i>	
Week 7	<i>Run CSP 5 km 5 mins/ km</i>		<i>Run CSP 7 km 5:30 mins/ km</i>	<i>Run CSP 4 km 5 mins/ km</i>		<i>Run CSP 10 km 5:30 mins/ km</i>	
Week 8	<i>Run CSP 6 km 5 mins/ km</i>		<i>Run CSP 8 km 5:15 mins/ km</i>				<i>Run 10 km 55 mins/ <u>5:30 km</u> event</i>

Examiner's comments

The candidate created a safe, appropriate and effective 8 week training programme by applying the principles of specificity, overload, progressive overload and peaking in a practical and competent manner.

8/8 marks awarded.

- Specificity: the candidate demonstrated the safe, appropriate and effective application of specificity by making sound decisions about the type of exercise i.e. 'run' and training method i.e. 'CSP'.
- Overload: the candidate demonstrated the safe, appropriate and effective application of overload by planning the runs in Week 1-2 at an intensity of 5km that was ran at the person's current pace of '7mins/km' and longer runs of '6km' and '8km' at a time slightly slower pace of '7.15mins/km' and '7.30mins/km'. The frequency of the sessions i.e. 3 was also appropriately planned.
- Progressive overload: the candidate demonstrated the safe, appropriate and effective application of progressive overload by gradually increasing the intensity and frequency of the planned training sessions over the weeks. For example, the number of sessions increased from 3 in Week 1-2 to 4 in Week 3-4. The planned intensity progressively got higher the further into the training programme the person got. For example, the person was aiming to run for longer at a faster pace '10km' at '6.15min/km pace'. This was reasonably applied and could be feasibly completed by the runner. The candidate also planned for the pace to gradually get faster so that the runner would be at race pace by the end of Week 7.
- Peaking: the candidate planned that the person would decrease the amount of training sessions from four to two in Week 8. They also decreased the distances they were running compared with the 10km race e.g. 5km to give the person time for their muscles to recover and refuel. A BOD was given to the candidate regarding the pace of these runs as they could have been slower but the candidate's plan was deemed feasible for the runner.

