



*Rewarding Learning*

**ADVANCED SUBSIDIARY (AS)  
General Certificate of Education  
2024**

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**Sports Science and the  
Active Leisure Industry**

Unit AS 2

The Active Leisure Industry:  
Health, Fitness and Lifestyle

[SAL21]

**TUESDAY 21 MAY, MORNING**

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**MARK  
SCHEME**

## Foreword

### Introduction

Mark Schemes are published to assist teachers and students in the preparation for examinations. Through the mark schemes teachers and students will be able to see what examiners are looking for in response to questions and exactly where the marks have been awarded. The publishing of the mark schemes may help to show that examiners are not concerned about finding out what a student does not know but rather with rewarding students for what they do know.

### The Purpose of Mark Schemes

Examination papers are set and revised by teams of examiners and revisers appointed by the Council. The teams of examiners and revisers include experienced teachers who are familiar with the level and standards expected of 16- to 18-year-old students in schools and colleges. The job of the examiners is to set the questions and the mark schemes; and the job of the revisers is to review the questions and mark schemes commenting on a large range of issues about which they must be satisfied before the question papers and mark schemes are finalised.

The questions and mark schemes are developed in association with each other so that the issues of differentiation and positive achievement can be addressed right from the start. Mark schemes therefore are regarded as a part of an integral process which begins with the setting of questions and ends with the marking of the examination.

The main purpose of the mark scheme is to provide a uniform basis for the marking process so that all markers are following exactly the same instructions and making the same judgements in so far as this is possible. Before marking begins a standardising meeting is held where all the markers are briefed using the mark scheme and samples of the students' work in the form of scripts. Consideration is also given at this stage to any comments on the operational papers received from teachers and their organisations. During this meeting, and up to and including the end of the marking, there is provision for amendments to be made to the mark scheme. What is published represents this final form of the mark scheme.

It is important to recognise that in some cases there may well be other correct responses which are equally acceptable to those published: the mark scheme can only cover those responses which emerged in the examination. There may also be instances where certain judgements may have to be left to the experience of the examiner, for example, where there is no absolute correct response – all teachers will be familiar with making such judgements.

The Council hopes that the mark schemes will be viewed and used in a constructive way as a further support to the teaching and learning processes.

## **General Marking Instructions**

### ***Introduction***

Mark schemes are intended to ensure that the GCE examinations are marked consistently and fairly. The mark schemes provide markers with an indication of the nature and range of candidates' responses likely to be worthy of credit. They also set out the criteria which they should apply in allocating marks to candidates' responses.

### ***Assessment objectives***

Below are the assessment objectives for GCE Sports Science and the Active Leisure Industry.

Candidates must:

demonstrate knowledge and understanding of sports science and the active leisure industry (AO1);  
apply knowledge, understanding and skills through different contexts appropriate to the sports science and the active leisure industry (AO2); and  
analyse and evaluate evidence to make reasoned and valid judgements about sports science and the active leisure industry (AO3).

### ***Quality of candidates' responses***

In marking the examination papers, examiners should be looking for a quality of response reflecting the level of maturity which may reasonably be expected of a 17-year-old or 18-year-old which is the age at which the majority of candidates sit their GCE examinations.

### ***Flexibility in marking***

Mark schemes are not intended to be totally prescriptive. No mark scheme can cover all the responses which candidates may produce. In the event of unanticipated answers, examiners are expected to use their professional judgement to assess the validity of answers. If an answer is particularly problematic, then examiners should seek the guidance of the Supervising Examiner.

### ***Positive marking***

Examiners are encouraged to be positive in their marking, giving appropriate credit for what candidates know, understand and can do rather than penalising candidates for errors or omissions. Examiners should make use of the whole of the available mark range for any particular question and be prepared to award full marks for a response which is as good as might reasonably be expected of a 17-year-old or 18-year-old GCE candidate.

### ***Awarding zero marks***

Marks should only be awarded for valid responses and no marks should be awarded for an answer which is completely incorrect or inappropriate.

### ***Types of mark schemes***

Mark schemes for tasks or questions which require candidates to respond in extended written form are marked on the basis of levels of response which take account of the quality of written communication. Other questions which require only short answers are marked on a point for point basis with marks awarded for each valid piece of information provided.

### ***Levels of response***

Tasks and questions requiring candidates to respond in extended writing are marked in terms of levels of response. In deciding which level of response to award, examiners should look for 'best fit' bearing in mind that weakness in one area may be compensated by strength in another. In deciding which mark within a particular level to award to any response, examiners are expected to use their professional judgement.

### ***Quality of written communication***

Quality of written communication is taken into account in assessing candidates' responses to all tasks and questions that require them to respond in extended written form. These tasks and questions are marked on the basis of levels of response. The description for each level of response includes reference to the quality of written communication.

For conciseness, quality of written communication is distinguished within levels of response. An example follows:

Level 1: Quality of written communication is basic.

Level 2: Quality of written communication is good.

Level 3: Quality of written communication is excellent.

In interpreting these level descriptions, an example is provided below. Examiners should refer to the specific guidance given within the mark scheme for each question:

**Band 1 (Basic):** The candidate makes only a limited selection and use of an appropriate form and style of writing. The organisation of material will lack clarity and coherence. There is little use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

**Band 2 (Good):** The candidate makes a reasonable selection and use of an appropriate form and style of writing. Relevant material is organised with clarity and coherence. There is some use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning clear.

**Band 3 (Excellent):** The candidate successfully selects and uses the most appropriate form and style of writing. Relevant material is organised with a high degree of clarity and coherence. There is widespread and accurate use of appropriate specialist vocabulary. Presentation, spelling, punctuation and grammar are of a sufficiently high standard to make meaning clear.

**1 (a)** Answers may address some of the following points:

- Membership fees
- Government grants
- Fundraising activities, e.g. fun runs or club lottery
- Sponsorship from local businesses
- Loans
- Donations

Award [1] mark for identification of each source of funding.

All other valid points will be given credit. [2]

(1 × [2])

(AO1)

[2]

**(b)** Answers may address some of the following points:

Leisure is defined as time free from the demands of work or duty when an individual rests or enjoys hobbies or sports.

**(i)** Active Leisure:

- Active leisure activities involve using physical or mental energy and usually happen outside of the home and with other people.
- Activities are often recreational and social in nature.
- Examples may include going for a walk or open water swimming.
- Activities occur during free time.

**(ii)** Passive Leisure:

- Passive leisure pastimes involve using little or no physical or mental activity.
- Activities can be solitary or with others.
- Examples may include watching TV or spectating at a match.
- Activities occur during free time.

Award [1] mark for definition and up to [2] marks for full description.

All other valid points will be given credit.

(2 × [3])

(AO1, AO2)

[6]

**(c) (i)(ii)** Answers may address some of the following points:

- An active and healthy lifestyle helps the individual 'feel good'. This is caused when the body releases chemicals called endorphins. Endorphins help relieve pain and stress. Physical activity also stimulates the release of dopamine, norepinephrine and serotonin. These chemicals regulate mood. These 'happy hormones' contribute to the individual's enjoyment of life.
- It can help relieve stress and anxiety. The mind is occupied when exercising, which can act as a distraction from the problems of daily life.
- An active and healthy lifestyle can reduce the chances of developing depression.
- It can improve concentration, enhance memory and learning, leading to better performance and results for an individual.
- A healthy and active lifestyle, particularly participation in sport, can provide excitement to an individual's life. It allows a person to challenge themselves, set goals and feel a sense of achievement.
- Improves self-esteem through an enhanced body image.
- Improves self-confidence and self-worth, being part of a group/team in a positive environment.

- Involvement in sport can relieve aggression. Aggression is channelled into sport/activity in a more positive controlled manner.
- Reduced feelings of lethargy and fatigue. The individual has more energy to keep going and cope better with everyday activities and demands.
- Provides opportunities to participate in risk taking behaviour, e.g. rock climbing/abseiling. This is a healthy approach to pushing boundaries and experiencing an adrenalin rush.

Award [1] mark for a brief explanation or [2] marks for a full explanation.  
All other valid points will be given credit.

(2 × [2])

(AO2)

[4]

**(d) The quality of written communication is assessed in this question.**

**Indicative Content:**

### **5 A Day Initiative**

- The 5 A Day initiative is aimed at getting people to increase the amount of fruit and vegetables they consume on a daily basis.
- 5 A Day highlights the health benefits of getting five 80g portions of fruit and vegetables daily which can help to improve and maintain people's health, boost immune system, have a healthy body, lowers the chances of disease, obesity, type 2 diabetes, stroke and some cancers.
- Enables young people to achieve a balanced diet by incorporating fruit and vegetables, addressing vitamin and mineral consumption. Fruit and vegetables are low in fat and calories, enabling young people to maintain a healthy weight and keeping their heart healthy.
- It can be expensive to consume a diet of 5 A Day.

### **Change4Life Initiative**

- Change4life is a government backed initiative. The government has looked for support from grass roots organisations to leading supermarkets and charities to create a lifestyle revolution on a huge scale.
- Change4life aims to create a movement in which everyone in society plays their part, helping to create fundamental changes to those behaviours that can help people lead healthier lives.
- Change4life aims to help young people make small, sustainable changes yet significant improvements in their diet and activity levels. It uses the slogan 'eat well, move more, live longer'.
- Continual promotion of the Change4life initiative is necessary to continue to ensure the message is communicated to all in society.

### **Healthy Schools**

- Healthy schools programme is a long term government initiative aiming to create young people who are happier, healthier, stay safe and do better in learning and life.
- This initiative involves students, staff and parents, working together in an effort to equip young people with the skills and knowledge for them to make informed choices about healthy living.
- The themes of the initiative include personal, social and health education, physical activity, healthy eating, and emotional health and

well-being. The initiative aims to help young people to develop healthy behaviour, reduce health inequalities, raise their achievement and promote social inclusion.

- Healthy schools will provide parents with information on food in school, e.g. healthy option ideas for school lunch for young people.
- Healthy schools will enable young people to have access to healthy food including breakfast clubs, lunch times and tuck shops.
- Promotion of the healthy eating message to young people, through cookery clubs and gardening club.

#### **Other Acceptable Initiatives**

- Accept GP referral, cycle to work, daily mile and sugar tax.

All other valid points will be given credit.

#### **Level 1 ([1]–[3])**

##### **Overall impression: Basic**

- Basic knowledge and understanding of how government initiatives promote an active and healthy lifestyle. The candidate may include basic examples.
- Demonstrates a basic ability to discuss how government initiatives promote an active and healthy lifestyle. The candidate will provide basic explanations.
- Quality of written communication is basic. The candidate makes a limited selection and use of an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

#### **Level 2 ([4]–[6])**

##### **Overall impression: Good**

- Good knowledge and understanding of how government initiatives promote an active and healthy lifestyle. The candidate will provide relevant examples.
- Demonstrates a good ability to discuss how government initiatives promote an active and healthy lifestyle. The candidate will provide relevant explanations, using specific examples.
- Quality of written communication is good. The candidate makes a reasonable selection and uses of an appropriate form and style of writing. Relevant material is organised with some clarity and coherence. There is adequate use of specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning clear.

#### **Level 3 ([7]–[8])**

##### **Overall impression: Excellent**

- Excellent knowledge and understanding of how government initiatives promote an active and healthy lifestyle. The candidate will provide fully developed examples and show excellent understanding.
- Demonstrates an excellent ability to discuss how government initiatives promote an active and healthy lifestyle. The candidate will provide thorough explanations and will use a variety of relevant examples.
- Quality of written communication is excellent. The candidate successfully selects and uses an appropriate form and style of writing.

Relevant material is organised with a degree of clarity and coherence.  
There is extensive and accurate use of specialist vocabulary.  
Presentation, spelling, punctuation and grammar are of a high standard  
and ensure the meaning is clear.

AVAILABLE  
MARKS

[0] is awarded for a response not worthy of credit.  
(AO1, AO3)

[8]

20

2 (a) (i)(ii)(iii) Answers may address some of the following points:

### **Carbohydrate**

- Carbohydrates are broken down into glucose to provide energy for the body. It should make up around 60% of dietary intake.
- Main energy supply absorbed as glucose in small intestine. Transported around the body as blood glucose. Available for immediate energy and excess is stored as muscle and liver glycogen.
- Carbohydrate is important for the working of the nervous system and the metabolism of fat.
- Simple carbohydrates such as sucrose have a high GI indicating a fast release of energy. Simple carbohydrates are required to fuel high intensity, short duration activity, e.g. energy gels, sweets.
- Complex carbohydrates such as starches have a low GI indicating a slower release of energy, e.g. porridge, pasta or cereals.

### **Protein**

- Proteins are broken down into amino acids which are required for the repair of muscle tissue.
- Protein allows growth of muscle tissue.
- Protein aids the production of enzymes, hormones and haemoglobin.
- Protein should make up at least 15% of dietary intake. Meat, fish, dairy products, beans and pulses are the main sources of protein and can provide energy for the body.

### **Fat**

- Fat provides energy. It has a higher energy value than carbohydrates but requires greater oxygen and takes longer to break down.
- Fat should be around 25% of daily energy intake. There are different types of fat: saturated, unsaturated, transfat and polyunsaturated fats.
- Unsaturated and polyunsaturated fats can reduce LDL cholesterol.
- Fat assists hormone metabolism and transport of fat soluble vitamins (A,D,E and K).
- Fat provides protection and cushioning for the internal structures of the body.

### **Vitamins**

- Vitamins are vital for energy release from food and to maintain good health.
- Vitamins cannot be made in the body so correct food intake is essential to get the recommended daily allowance (RDA) of each vitamin. A healthy diet involving an emphasis on fruit and vegetables, whole grains, beans and legumes, low fat protein and dairy products is required.
- Vitamins act as antioxidants and enhance immunity and protection from disease.
- Vitamins can reduce fatigue and enhance recovery from training.
- Water soluble vitamins (B & C) are mainly found in fruit and vegetables, grains and dairy food. Vitamin B assist formation of red blood cells

maintenance of central nervous system. Vitamin C is an antioxidant promoting healthy teeth and gums and helps body absorb iron.

- Fat soluble vitamins (A, D, E and K) are mainly found in animal fats, vegetable oils, dairy foods and oily fish. Vitamin A aids bone health, vitamin D helps the body absorb calcium, vitamin E is an antioxidant and Vitamin K helps blood coagulate.

**Minerals:**

- Minerals are essential to aid the production of hormones and enzymes that control the internal functions of the body such as iodine which helps the thyroid and brain to function effectively.
- Minerals such as magnesium release energy from food, maintain strong bones and helps normal muscle and nerve function.
- Minerals such as calcium are important to build and maintain strong bones and teeth.
- Iron is a mineral responsible for making haemoglobin in red blood cells. This assists the oxygen carrying capacity of the blood.
- Sodium regulates water content in the body and controls body fluids inside and outside of cells.

**Water:**

- Water is the main source of transport within the body. The water we consume is absorbed by the intestines, and circulated throughout the body in the form of body fluids such as blood. Blood is 78% water and transports oxygen and nutrients and removes waste products such as carbon dioxide and lactic acid.
- Water aids cellular function. Water controls distribution of electrolytes and acidity changes in cells.
- Water aids temperature regulation. Water absorbs heat and is transported to the skin where it is excreted as sweat which helps the cooling process of the body.

Award [1] for identification of key phrase and up to [2] for full explanation.

All other valid points will be given credit.

(3 × [3])

(AO1, AO2)

[9]

**(b) (i)** Answers may address some of the following points:

**Carbohydrate loading process:**

- Carbohydrate loading is a nutritional strategy used by endurance athletes to maximise the storage of glycogen in the muscles and liver.
- Carbohydrate loading can be completed by eating a carbohydrate 'rich' diet in the 2-3 days leading up to the event to ensure glycogen stores in the muscle and liver are full. High levels of complex carbohydrates/starches which have a low GI should be consumed, e.g. porridge, pasta or cereals.
- Another method of carbohydrate loading involves completing a glycogen completion training session 6-7 days before the event. The next 3 days involve tapering training and a normal diet, then 3 days before the event eat a carbohydrate rich diet. High levels of complex carbohydrates/starches have a low GI should be consumed, e.g. porridge, pasta or cereals.

- Pre-event meal/snack, high in carbohydrate should be ingested 2–4 hours before the event

**Positive impact**

- Glycogen stores are high in the muscles and liver enabling the endurance athlete to start their event with full storage of glycogen. This enables the athlete to perform at their peak level utilising the aerobic energy system for longer offsetting fatigue.

Award up to [4] marks for the explanation of the process and up to [2] marks for the description of positive impact on performance.

All other valid points will be given credit.

(1 × [6])

(AO1, AO3)

[6]

(ii) Answers may address some of the following points:

- Consumption of isotonic drinks can quickly maintain blood glucose levels. Isotonic have 6–8% carbohydrate content.
- Glucose is essential to supply energy during an endurance event.
- Replaces lost fluids and keep body hydrated. The higher the carbohydrate level in the drink, the slower the rate of stomach emptying. This reduces urine output and encourages fluid retention.
- Replaces electrolytes lost through sweat and urine. Electrolytes are essential minerals that help maintain the acid base balance in your body's cells such as sodium, potassium, calcium and magnesium.
- Drinks have an osmolality of 280–330mOsm/kg, a measure of the number of particles of carbohydrates, electrolytes, sweeteners and preservatives in a fluid. The osmolality rating of isotonic drinks best approximates that of the body's natural fluid balance.
- Ingesting carbohydrates in liquid form with a high glycaemic index ratings (how quickly they are converted and enter the bloodstream) will help maintain a sustained level of blood sugar.

Award up to [2] marks for the examination of each positive effect.

All other valid points will be given credit.

(2 × [2])

(AO2)

[4]

19

3 (a) (i)(ii) Answers may address some of the following points:

- Overload occurs when the body systems are stretched beyond their normal functioning level. The FITT principle can be applied to control the level of overload.
- Frequency: The number of weight sessions a week could be increased, e.g. from 2 sessions to 3 sessions. The number of reps can be increased, e.g. 6 reps up to 8 reps.
- Intensity: Intensity can be monitored during a weight training session, e.g. monitoring the weight lifted. Intensity can be increased by increasing the weight, number of repetitions or decreasing amount of rest between sets.
- Time: The duration of the training session can be adjusted. Additional weight training exercises can be added to progress the training programme and lengthen the time of the session.

- Type: The training method used can vary to aid overload, e.g. resistance machine training or free weight training could be added to a weights based programme to add variation and allow overload to occur. Different sets can be applied to a weights programme, e.g. supersets or tri-sets.

All other valid points will be given credit.

Award [1] for identification and up to [2] for each description.

(2 × [3])

(AO1, AO2)

[6]

(b) (i)(ii) Answers may address the following points:

#### **PAR-Q**

- A Physical Activity Readiness Questionnaire (PAR-Q) must be completed by the client to obtain information regarding medical conditions. A PAR-Q will outline an individual's medical history and highlight any major factors that would stop them from participating. If a client answers 'Yes' to one or more questions, they should be instructed to talk to their doctor before beginning an exercise programme.
- Fitness instructors would use PAR-Q to determine the safety or possible risk of exercising for an individual based upon their answers to specific health history questions.
- The fitness instructor needs to know the health of the individual so that they can plan a programme that is suitable to their age, health status and current activity level. They do not want to plan a programme that would endanger the client.
- The PAR-Q will help the fitness instructor identify the small number of adults for whom physical activity may be inappropriate or those who should have medical advice concerning the type of activity most suitable for them. The fitness instructor will then advise them to see a doctor before starting a programme.

#### **Risk Assessment**

- A risk assessment is a procedure used to prevent accidents and ill health by helping people think about what could go wrong and identify ways to prevent problems. The fitness instructor must be aware that risk assessment is good practice.
- A risk assessment should be completed to ensure the training environment is safe. A fitness instructor must assess risks and apply control measures. Equipment should be checked to ensure it is safe and up to specific standard for safe usage.

#### **Appropriate Attire**

- A fitness instructor must check the personal attire of the client and ensure clothing is suitable for the activity undertaken. Jewellery should be removed, hair should be tied back and appropriate footwear should be worn to provide grip.

#### **Education of client regarding use of equipment**

- Correct lifting technique when weight training must be coached specifically to avoid injury. The fitness instructor must insist that this correct technique is used consistently.
- The fitness instructor must ensure that the resistance being used is appropriate to the age, maturity and experience of the athlete to avoid injury.

**Use of 'spotter' for weight lifting**

- Use of a 'spotter' may be recommended to assist the client with free weights. This person supports another person during a particular exercise. The emphasis is on allowing the participant to lift or push more than they could normally do safely. The 'spotter' must be ready to intervene and support if the client gets into difficulty.

**Warm-up**

- A warm-up should be planned into the exercise programme to gradually prepare the body for exercise. It will gradually increase the heart rate and body temperature.
- It will reduce risk of injury.

**Cool down**

- A cool-down is necessary to gradually bring the body back to pre-exercise state. It will gradually decrease the heart rate and body temperature.
- A cool down will reduce effects of DOMS.

**Avoidance of contraindicated exercises**

- A contraindicated exercise is a movement that is not recommended because it is potentially dangerous. For example, extreme movements that cause extension or flexion of a joint beyond its normal range, such as full circle neck rotations.
- The fitness instructor must use safe stretching and mobility exercises during the warm-up and cool-down to prevent joint injury.

**Other Acceptable Method**

- Accept fitness testing

All other valid points will be given credit.

Award [1] for key phrase and up to [2] marks for description.

(2 × ([3])

(AO2)

[6]

**(b) (iii)** Answers may address the following points:

- Performance goals relate to a specific standard to be achieved and are unaffected by others' performance and so totally under control of the individual.
- Performance goals encourage motivation and make a performer feel satisfied with a performance even if they do not win.
- Performance goals may encompass physical, technical, tactical and psychological aspects of performance.
- Performance goals take the focus away from the end result, relieving pressure/anxiety and allow the athlete to focus on one aspect of performance.
- A Performance goal should be SMART/SMARTER.
- A performance goal may be a 100m sprinter trying to beat their PB or a forward trying to increase their scoring ratio or a tennis player targeting a first serve percentage of 80%.

Award [1] mark for key statement and up to [2] for full explanation of performance goal in a named sport.

All other valid points will be given credit.

(1 × [3])

(AO2, AO3)

[3]

(c) Answers may address some of the following points:

(i) **Advantages:**

- Circuit training can target a number of fitness components such as muscular strength, muscular endurance and cardiovascular endurance.
- It can be designed to be sport specific, e.g. medicine ball throws could be added into a basketballer's circuit training session.
- This training method can be adjusted to suit age, fitness and health of the athlete.
- Circuit training enables a large number of participants to train together at different stations.
- A wide range of exercises to select from which maintain the athletes' enthusiasm and motivational levels, e.g. squats, lunges, sprints, weight based stations.
- Easy to measure improvements from previous sessions, e.g. in fixed load circuits the number of repetitions can be progressed or time can be added to time based circuits.

(ii) **Disadvantages:**

- Some exercises may require specialised equipment to carry out the training, e.g. free weights, rowing ergs.
- An adequate amount of space is required to set up the circuit exercises and equipment.
- In general, circuit training can only be conducted where appropriate facilities/equipment are available.
- Use of additional equipment requires appropriate health and safety monitoring.
- Circuit training can cause chronic injury through repetitive impact for some athletes.

Award [1] mark for each advantage or disadvantage.

All other valid points will be given credit.

(2 × [3])

(AO2)

[6]

(d) (i)(ii)(iii) Answers may address some of the following points:

**Strength**

- Strength is the ability to overcome a resistance. There are different types of strength: explosive, static, maximal, core and dynamic.
- A golfer may apply strength maximally and explosively when executing skills/movements such as the drive.
- Static strength is used when gripping a golf club.
- Core strength is important to a golfer as it maintains good posture, avoid injuries and have a stable base.
- A golfer can execute the golf swing more effectively with a high level of dynamic strength.

**Flexibility**

- Flexibility is the range of motion about a joint, usually controlled by the length of a muscle.
- Flexibility enables golfers to have a greater range of motion and allows for the efficient performance of skills such as a full backswing.

- A high level of flexibility allows full shoulder turn and execution of the backswing, downswing and follow through correctly.
- Flexibility decreases risk of injury.
- Flexibility improves the speed and power of muscular contraction enabling the golfer to hit further distances.

**Power**

- Power is a combination of strength and speed.
- Power is the greatest amount of force possible applied through the execution of the golf swing.
- Power is measured by club head speed. The faster the speed of the club, the farther the ball will travel down the fairway.

**Muscular Endurance**

- A specific muscle or group of muscles making repeated contractions over a significant period of time.
- Muscular endurance is linked to the body’s effectiveness of getting oxygen to the working muscles and removing waste products. The golfer will become more efficient at working continuously without fatiguing.
- Golfers execute their golf swing repeatedly throughout a game. A high level of muscular endurance will help maintain optimal swing mechanics for 3-4 hours of golf over 18 holes.
- Endurance can impact concentration. A good level of local muscular endurance will prevent mental fatigue and improve concentration.

**Other Acceptable Method**

- Accept balance, co-ordination and speed of body part.

All other valid points will be given credit.

Award [1] mark for the identification of each component.

Award up to [2] marks for the description of each component.

(3 × [3])

(AO1, AO2)

[9]

30

4 (a) (i)(ii)(iii) Answers may address some of the following points:

- Research in the UK has estimated the average life expectancy is 80–82 years for female and 78 for males. This is affected by the misuse of legal and illegal substances, including smoking/nicotine addiction, alcohol addiction and misuse of illegal substances such as cannabis, cocaine and heroin.

**Legal substances**

**Alcohol**

- Alcohol is a substance that contains ethanol. It enters the bloodstream and is broken down in the liver. Recommended guidelines for drinking alcohol are no more than 14 units in a week.
- Long term effects include a weakened immune system as individuals become vulnerable to infections.
- Organs such as the brain, heart, liver and pancreas can be damaged by long term alcohol misuse.

- Nerve damage.
- Hypertension.
- Stroke.
- Mouth, throat and liver cancer.
- Impair mental health.

### **Nicotine**

- Nicotine is a highly addictive substance found in all tobacco products and some e-cigarette liquids. It derives from the tobacco plant and is generally smoked in the form of a cigarette.
- The body quickly absorbs nicotine into the bloodstream and it reaches the brain creating a feeling of relaxation and pleasure.
- Smoking/nicotine addiction has been linked with illnesses such as pneumonia and respiratory infections.
- Stroke.
- Tobacco smoke contains chemicals that are carcinogenic causing mouth, throat and lung cancer.
- Coronary heart disease.

### **Illegal substances**

#### **Cannabis/Marijuana**

- Cannabis is a mind altering (psychoactive) drug. It is a mix of flower, stems, seeds and leaves from the cannabis saliva plant. It is usually smoked as a cigarette.
- When cannabis is smoked, the active ingredient THC (delta-9-tetrahydrocannabinol) passes from the lungs to the bloodstream. This chemical is carried to the brain and influences the activity of brain cells.
- Long term, regular use can lead to physical dependence and addiction.
- It can also cause serious health problems such as bronchitis, emphysema and bronchial asthma.
- Extended use may cause suppression of the immune system.

#### **Heroin**

- Heroin is an opioid drug made from morphine, a natural substance taken from the seed pod of opium poppy plants.
- Heroin can be a white or brown powder. Individuals inject, snort, or smoke heroin. It enters the brain rapidly and binds to opioid receptors on cells involved in feelings of pleasure and pain causing a rush of euphoria.
- Long term use can increase the risk of contracting HIV and hepatitis C virus through injecting heroin.
- It can also cause insomnia
- Long term use can cause liver and kidney disease.
- It can cause an irregular menstrual cycle for women and sexual dysfunction for men.

#### **Cocaine**

- Cocaine is an intense, euphoria producing stimulant drug with strong addictive potential.
- It is derived from cocoa leaves and it undergoes a series of chemical transformations to produce a white crystalline powder which is snorted or injected. Crack cocaine is smoked, either alone or on marijuana or tobacco.

- Long term effects include ischemic heart conditions and irregular heart beat.
- Sudden cardiac arrest can occur.
- Convulsions.
- Strokes.
- Death.

Award [1] for identification of substance and up to [2] marks analysis of long term effects.

All other valid points will be given credit.

(3 × [3])

(AO1, AO3)

[9]

- (b) The quality of written communication is assessed in this question.

### Indicative Content

- Coronary heart disease is characterised by the deposit of fatty substances on the lining of the artery walls. Over time this deposit builds up and effects the flow of blood.
- An active lifestyle can prevent CHD. Individuals need to participate regularly in physical activity, government guidelines recommend 30 minutes/5 days a week for adults and 60 minutes per day for children.
- Individuals need to do moderate intensity exercise, which will increase the heart rate, working within the appropriate age related training zone.
- Exercising appropriately will improve the efficiency of the heart and circulatory system. It will increase the levels of HDLs (high density lipoproteins) and help break down LDLs (low density lipoproteins).
- A balanced diet will help prevent CHD. A low cholesterol diet will prevent a build up of plaque or atheroma on the walls of the coronary arteries.
- Food consumption needs to be considered and adapted to prevent CHD. Food high in salt, sugar and fat needs to be reduced. High saturated fat will increase levels of LDLs in the blood. Low salt intake will be a preventative measure against CHD.
- A reduction in alcohol consumption, drinking in moderation, using the government recommended alcohol intake guidelines will help prevent CHD.
- Cessation of smoking will also help prevent CHD.

All other valid points will be given credit.

### Level 1 ([1]–[3])

#### Overall impression: Basic

- Basic knowledge and understanding of how an active and healthy lifestyle can help prevent Coronary Heart Disease. The candidate may include basic examples.
- Demonstrates a basic ability to discuss how an active and healthy lifestyle can help prevent Coronary Heart Disease. The candidate will provide basic explanations.
- Quality of written communication is basic. The candidate makes a limited selection and use of an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

**Level 2 ([4]–[6])**

**Overall impression: Good**

- Good knowledge and understanding of how an active and healthy lifestyle can help prevent Coronary Heart Disease. The candidate will provide relevant examples.
- Demonstrates a good ability to discuss how an active and healthy lifestyle can help prevent Coronary Heart Disease. The candidate will provide relevant explanations, using specific examples.
- Quality of written communication is good. The candidate makes a reasonable selection and uses of an appropriate form and style of writing. Relevant material is organised with some clarity and coherence. There is adequate use of specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning clear.

**Level 3 ([7]–[8])**

**Overall impression: Excellent**

- Excellent knowledge and understanding of how an active and healthy lifestyle can help prevent Coronary Heart Disease. The candidate will provide fully developed examples and show excellent understanding.
- Demonstrates an excellent ability to discuss how an active and healthy lifestyle can help prevent Coronary Heart Disease. The candidate will provide thorough explanations and will use a variety of relevant examples.
- Quality of written communication is excellent. The candidate successfully selects and uses an appropriate form and style of writing. Relevant material is organised with a degree of clarity and coherence. There is extensive and accurate use of specialist vocabulary. Presentation, spelling, punctuation and grammar are of a high standard and ensure the meaning is clear.

[0] is awarded for a response not worthy of credit.

(AO1, AO3)

[8]

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- 5 (a) Answers may address some of the following points:
- Work-life balance is the perfect balance between time spent on work activities and everything else. It is a process that requires regular attention and adjustments in order to maintain it.
  - Allow and normalise flexible working. Flexible working includes part-time work; work outside the normal 9-5; and working compressed hours, where staff work fewer days but for longer hours. It also includes the option of working from home.
  - Communicate employee benefits and rights. This might include parental, adoption or sickness leave. It may include benefits like the cycle to work scheme. It might include support services available in work such as access to counselling services.
  - Promote Exercise. Facilities could be provided before, during lunch or after work to allow time for exercise. This may be use of changing facilities, shower, gym facilities or bicycle storage. It may also be in the form of a discount membership deal with a local gym.
  - Encourage staff to use their leave and downtime. Encourage staff to book time off and use up their annual leave. Staff will in turn be more productive on return from holidays.
  - Make sure employee workloads are reasonable. Excessive workloads are a major cause of stress. This can lead to a poor work-life balance and burnout. Reducing workload may enhance productivity.
  - Ensure the workplace culture is supportive of a good work-life balance. Trust staff to do their jobs and managers/owners should lead by example.

All other valid points will be given credit.

Award [1] mark for brief description or [2] marks for full description for each strategy.

([2] × [2])

(AO2)

[4]

- (b) The quality of written communication is assessed in this question.

Answers may address some of the following points:

Participation rates for females are much lower than males. The barriers that exist can be practical, personal, social and cultural.

**Practical barriers**

- Lack of time and access to childcare. Females tend to have less leisure time due to family and work commitments.
- Lack of money. Females earn less than men therefore may be unable to afford gym fees or sports club membership costs.
- Lack of transport which can be particularly a problem in rural areas.
- Personal safety to exercise and train on the streets, travelling on public transport and in rural areas is a particular problem for women.
- Women's sport attracts less funding than men's sport. Women make up 41% of all athletes funded in the UK (Women's sport and fitness foundation).
- At community level, girls' teams tend to attract less sponsorship from local businesses because they do not have a large supporter base. These inequalities in funding result in poorer facilities, equipment and kit as well as less sponsorship for female athletes.
- Poor access to facilities. Some facilities prioritise male sport and females have access at less convenient times.
- Golf is an example of a sport that has traditionally restricted access to

females, e.g. Augusta National was a male only golf club until 2012.

### **Personal barriers**

- Body image: Female adolescents report greater body image dissatisfaction than males. This can become a vicious circle. The more self-conscious females feel about their bodies, the less likely they are to take part in sport, yet participation in sport has a positive effect on their bodies.
- Esteem: This is the individual's lack of self confidence/self esteem in their ability to participate. Girls tend to be less self-confident than boys and rate their performance or ability in sport more negatively than boys. This can be influenced by peer and stereotypical views.
- Dislike competitive element of sport: Many females dislike the competitive nature of sport and activities such as yoga or aerobics which are fitness based.

### **Social and cultural barriers**

- Male dominated culture of sport: Some females dislike sport as they perceive it to be a male dominated activity.
- Some ethnic communities do not regard sport as a viable career path. Parental expectations may not focus on the benefits of sport so girls from some ethnic groups may not be encouraged by parents to participate.
- It can be difficult for some women of a religious background to participate, e.g. the Muslim faith requiring women to be covered and this may prevent participation.
- Female invisibility: There is a lack of media coverage of women's sport and therefore less role models on view. At all levels women are underrepresented in the sports sector.
- There is an imbalance in the media coverage of women's sport as the focus is mainly on men's sport. There is a low proportion of media coverage compared to men's sport, limited variety of women's sport and a lack of consistent presence

### **Financial Barriers**

- Traditionally less money and power is associated with females in sport. Females generally earn less money than men and occupy fewer positions of power in sporting institutions.
- Unequal prize money has and still exists in professional sport. E.g. golf, soccer and basketball do not offer equal prize money in at least one competition.
- Less sponsorship exists for women's sport as it is perceived not to have the same popularity as male sports.

### **Evidence of Progress**

- Sports associations, non-government organisations, local initiatives as well as the private sector are playing a more active role in facilitating change to enable women and girls to participate.
- The number of women participating from grass roots level up to elite level has increased.
- Equal pay has been achieved in some sports, e.g. all four Tennis Grand Slams awarded equal pay by 2007 and the US Woman's National Soccer team achieved an equal pay settlement in 2022. In 2021, 'The

Hundred' cricket competition offered equal prize money to men and women.

- Media coverage has increased with women's sport being broadcast regularly on Sky Sports and on BBC. In addition, there is increased coverage online and in printed media.
- Female sports presenters are more clearly visible during media coverage of sport.
- Spectators have increased at women's sporting events. E.g. Euro 2022 Women's soccer final there was a record crowd attendance of 87,192 and 17 million people watched on TV as England won over Germany in the final.
- Equality of labour rights have improved, e.g. in 2022, professional female soccer players in England were granted maternity leave and long term sickness benefits.

### **Cultural movement**

- '20x20' Irish culture movement 2018. 'If she can't see it, she can't be it' Women's sports movement to increase participation, attendance and coverage of women's sport by 20% by year 2020. Aiming to raise awareness and change mind sets.

### **Public sector campaigns/initiatives:**

- 'This Girl Can' Sport England 2015 Nationwide campaign to get women and girls moving, regardless of their shape, size and ability.
- The FA run a 'Let Girls Play' campaign, aiming to give all girls equal access to play football in schools by 2024.

### **Private sector campaigns/initiatives**

- 'She breaks barriers' Adidas campaign 2018. This project aims to break down barriers for women and girls across Europe by working directly with non-profit sports organisations, empowering local leaders and coaches, and providing the sports industry with the necessary tools to lead change.
- Lidl, since 2016, have been the biggest corporate supporter of women's sport in Ireland. Investing 4 million into Ladies Gaelic Football. Campaigns such as 'Level the playing field – Lidl Serious Support' have been very successful in raising awareness.
- 'Equal play' 2021 is an initiative from Sports Direct, in partnership with charity Women in Sport, hoping to tackle the gender gap in sports. The campaign hopes to increase visibility of females within sports, create welcoming spaces for women to discover new sports, provide information, training and kit and support grass root organisations worldwide to do the same.

All other valid points will be given credit.

### **Level 1 ([1]–[4])**

#### **Overall impression: Basic**

- Basic knowledge and understanding of the barriers that have existed for females in sport and the progress that has been made to overcome these barriers. The candidate may include basic examples.
- Demonstrates a basic ability to examine the barriers that have existed for females in sport and the progress that has been made to overcome these barriers. The candidate will provide basic explanations.

- Quality of written communication is basic. The candidate makes a limited selection and use of an appropriate form and style of writing. The organisation of material may lack clarity and coherence. There is little use of specialist vocabulary. Presentation, spelling, punctuation and grammar may be such that intended meaning is not clear.

**Level 2 ([5]–[7])**

**Overall impression: Good**

- Good knowledge and understanding of barriers that have existed for females in sport and the progress that has been made to overcome these barriers. The candidate will provide relevant examples.
- Demonstrates a good ability to examine the barriers that have existed for females in sport and the progress that has been made to overcome these barriers. The candidate will provide relevant explanations, using specific examples.
- Quality of written communication is good. The candidate makes a reasonable selection and uses of an appropriate form and style of writing. Relevant material is organised with some clarity and coherence. There is adequate use of specialist vocabulary. Presentation, spelling, punctuation and grammar are sufficiently competent to make meaning clear.

**Level 3 ([8]–[10])**

**Overall impression: Excellent**

- Excellent knowledge and understanding of the barriers that have existed for females in sport and the progress that has been made to overcome these barriers. The candidate will provide fully developed examples and show excellent understanding.
- Demonstrates an excellent ability to examine the barriers that have existed for females in sport and the progress that has been made to overcome these barriers. The candidate will provide thorough explanations and will use a variety of relevant examples.
- Quality of written communication is excellent. The candidate successfully selects and uses an appropriate form and style of writing. Relevant material is organised with a degree of clarity and coherence. There is extensive and accurate use of specialist vocabulary. Presentation, spelling, punctuation and grammar are of a high standard and ensure the meaning is clear.

[0] is awarded for a response not worthy of credit.  
(AO1, AO3)

[10]

14

**Total**

**100**

**AVAILABLE  
MARKS**