RAG GCSE PE

Paper 1: fitness and body systems

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| Topic | Content | RAG |
| 1.1-The structure of musculo-skeletal system | Discuss functions of the skeleton and impact on performance. |  |
| Highlight bone classification groups and examples in the body. |  |
| Explain bone names and locations in the body. |  |
| Highlight muscles names and their location and movements possible. Also the three muscle types. |  |
| Highlight the differences and the characteristics of each. Explore which athletes require fast twitch or slow twitch muscle fibres and why? |  |
| Explore antagonistic names and locations in the body. |  |
| Discuss movement types and relate to joints in the body. |  |
| Analyse movement patterns as part of sporting actions |  |
| Highlight movement axes and joints at all major joint areas in the body. |  |
| The role of ligaments and tendons and their relevance to physical activity and sport. |  |
| 1.2-The structure of cardio-respiratory system | Highlight the important structures of the cardiovascular system. Discuss why is the circulatory system key to exercise? |  |
| Explore the differences between each of these cardiovascular elements. |  |
| The structure of arteries, capillaries and veins. |  |
| How blood flows and is distributed. |  |
| Understand the components of blood. |  |
| Asses the respiratory system elements and highlight roles during exercise. During inspiration how does air enter the lungs? |  |
| Explain the composition of air and respiratory volumes. |  |
| Highlight the process of gaseous exchange and importance. |  |
| How the cardiovascular and respiratory system work together to let us take part in sport. |  |
| 1.3-Anaerobic and Aerobic Exercise | Explain the difference between Aerobic and anaerobic exercise using examples of each.  How the body uses glucose and oxygen to release energy. |  |
| How fats and carbohydrates give energy for different sorts of energy. |  |
| 1.4- the short and long term effects of exercise | What are the short term effects on the muscles, heart and respiratory system? |  |
| How the respiratory system and cardiovascular system work together so people can take part in physical activity and recover from it. |  |
| How to interpret graphs showing heart rate, stroke volume and cardiac output values at rest and during exercise. |  |
| 2.1- Levers and Mechanical Advantage | Explain how the body uses levers to bring about movement. Highlight lever classes and examples of each. |  |
| Explain the term ‘mechanical advantage’. Highlight sporting examples. |  |
| 2.2 - Planes and axes of movement | Explain the difference between planes and axes. |  |
| Highlight the planes and axes and movements to represent each (Sommersault, cartwheel, full twist) |  |
| 3.1 The relationship between health and fitness and the role exercise plays in both | What the terms health, exercise, fitness and performance mean. |  |
| The relationship between health and fitness |  |
| The role that exercise plays in keeping someone fit and healthy. |  |
| 3.2 – The components of fitness, measurement and benefits to sport. | Definitions and example of each. Highlight extreme use of these components. Discuss what components of fitness are important to. |  |
| Know the fitness tests of each fitness component. |  |
| 3.3– The Principles of Training and methods of training | Explain principles of training and aim of each. Refer to sporting examples to provide relevance. |  |
| What to consider when deciding which training methods to use for different activities. |  |
| How to use the training methods to improve specific components of fitness. |  |
| 3.4- The long term effects of exercise | Discuss long term effects of training on skeletal and muscular system. |  |
| Discuss long term effects of training on cardiovascular and respiratory system |  |
| 3.5 – How to optimise training and prevent injury | Identify typical injuries in sport and possible treatment for each and how to prevent them from occurring. |  |
| Highlight the categories of performance enhancing drugs and potential side effects. |  |
| 3.6- Effective use of warm up and cool down | Summarise components of a warm up/cool down using practical examples.  Discuss the purpose of a warm up/cool down with suggested activity ideas. |  |

Paper 2: Health and Performance

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| Topic | Content | RAG |
| 1.1 - Physical, emotional and social health | Definitions and application to lifestyle. |  |
| How taking part in sport can help with emotional and social health. |  |
| The impacts of fitness on well-being- both positives and negative effects. |  |
| How can exercise help an individual’s health? Exploring the aspects of lifestyle choices – diet, activity levels, Work, rest & sleep balance & recreational drugs. |  |
| 1.2 - The consequences of a sedentary lifestyle | What is meant by a sedentary lifestyle and the aspects? |  |
| What are the consequences to a sedentary lifestyle? |  |
| 1.3 - Energy use, diet, nutrition and hydration | Highlight components of a balanced diet. How do the nutritional requirements change for different athletes? |  |
| Explain the methods of dietary manipulation dependant on activity and how these work. |  |
| Highlight variations in optimum weight according to roles in specific physical activities and sports. |  |
| 2.1- Classification of skills | Discuss how sports skills are classified. (open/closed, basic/complex, low organisation/high organisation) |  |
| Highlight each of the continuums. |  |
| 2.2 - Use of goal setting and SMART targets | Discuss reasons for goal setting and examples of successful goals. Analyse data related to sport psychology. |  |
| 2.3 - Guidance and feedback on performance | Discuss the difference between; Visual, Verbal, Manual & Mechanical guidance. |  |
| 2.4 - Mental preparation for performance | Discuss what could go through the mind of an elite athlete moments before an event. Draw on pupil experiences. |  |
| Highlight preparation strategies and the elements. Apply to sporting events and how they might be used before a competition. |  |
| 3.1 – Engagement patterns of social groups in physical activity & sport | Discuss participation rates for different groups; gender, age, ethnicity, disability & socio-economic status |  |
| 3.2 – Commercialisation of physical activity and sport | Highlight the ‘golden triangle’ and the influence of the media and commercialisation. |  |
| Analyse advantages and disadvantages of commercialisation for the sponsor, player, sport and spectator. |  |
| 3.3 – Ethical and sociocultural issues in sport | Explore how many different displays of sportsmanship, fairness or etiquette that has been seen. |  |
| Highlight positive and negative sporting behaviours seen in sport. Discuss reasoning and possible causes. |  |
| Highlight case studies - Dwain Chambers, Luis Suarez and Angel Matos (Taekwondo) Discuss case details, reasoning and outcomes. |  |

Glossary of key terms

The following list contains all relevant technical vocabulary, terminology and definitions associated with the content for Components 1 and 2. Students will be expected to know and understand these and other words and definitions, particularly for use in the examination papers. This glossary is not an exhaustive list of key terms and should be used in conjunction with the content for components 1 and 2 to support teaching and learning.

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| Key Term | Definition |
| Aerobic work | Working at a moderate intensity so that the body has time to utilise oxygen for energy production allowing the body to work for a continuous period, e.g. long-distance events, for the duration of a match |
| Anaerobic work | Working at a high intensity without oxygen for energy production, therefore limited energy so work period will be short, e.g. sprinting up the wing in a football match |
| Antagonistic  muscle pairs | Pairs of muscles that work together to bring about movement. As one muscle contracts (agonist) the other relaxes (antagonist). For example, the biceps and triceps. The triceps relax to allow the biceps to contract to flex the arm at the elbow. Roles are reversed to extend the arm at the elbow |
| Axis | A line around which the body/body part can turn |
| Basic skill | A simple skill requiring little concentration to execute |
| Closed Skill | A skill performed in a predictable environment, e.g. a player taking a penalty |
| Complex skill | A skill requiring a lot of attention/concentration |
| Deviance | Behaviour that goes against the moral values or laws of the sport |
| Distributed practice | Intervals between skill practice in a training session for rest or mental rehearsal |
| Exercise | A form of physical activity done to maintain or improve health and/or fitness; it is not competitive sport |
| Energy Balance | This is the basis of weight control. For body weight to remain constant energy input (via food) must equal energy expenditure |
| Feedback | Information received during or after a performance about the performance |
| Fitness | The ability to meet the demands of the environment |
| Fixed practice | Repeatedly practising a whole skill within a training session |
| Frontal axis | Imaginary line passing horizontally through the body from left to right, allows flexion and extension |
| Frontal plane | Imaginary line dividing the body vertically from front to back. Movement occurs in the frontal plane about the sagittal axis, e.g. when performing a star jump |
| Gamesmanship | Bending the rules/laws of a sport without actually breaking them |
| Guidance | Information to aid the learning of a skill. This information can be given visually, e.g. through demonstrations; verbally, e.g. by the coach explaining how to perform the technique; manually, e.g. by physically moving a performer into the correct position; and mechanically, e.g. using a harness in trampolining |
| Health | A state of complete emotional, physical and social well-being, and not merely the absence of disease and infirmity |
| High organisation skill | A skill that cannot be broken down easily and practised separately because the phases of the skill are closely linked, e.g. cartwheel, golf swing |
| Hydration | Being hydrated means the body has the correct amount of water in cells, tissues and organs to function correctly. The average recommended daily intake is 2.5 litres of water for men and 2 litres for women |
| Lactic acid | A by-product of energy production. Formed when the body is  exercising anaerobically at high intensity |
| Lactate  accumulation | When lactate levels in the blood/muscle rise due to increased work intensity, e.g. moving from aerobic to anaerobic exercise |
| Lifestyle choice | The choices we make about how we live and behave that impact on our health |
| Low organisation skill | A basic skill that can be broken down easily into different phases so each part can be practised separately, e.g. tennis serve, front crawl swimming stroke |
| Macronutrient | A type of food required in relatively large amounts in the diet, e.g. carbohydrates and fats |
| Massed practice | Practice that occurs without rest between trials |
| Micronutrient | A type of food required in relatively small quantities in the diet, vitamins and minerals |
| Mechanical advantage | 2nd class levers allow a large load to be moved with a relatively small amount of muscular effort |
| Mechanical  disadvantage | 3rd class levers cannot lift as heavy loads, with the same amount of effort, as 2nd class levers due to the position of the effort and load from the fulcrum |
| Muscle fibre types | Muscle fibres make up the skeletal muscle. The different fibre types are type I, type IIa and type IIx |
| Open skill | Skills performed in an unpredictable environment where the performer has to react and adjust due to the changing nature of the situation, for example a player trying to pass the ball to a team mate who is trying to get free from the opposition |
| Optimum weight | Refers to the weight someone should be, on average, based on their sex, height, bone structure, and muscle girth |
| Sagittal axis | Imaginary line passing horizontally through the body from front to back, allows abduction and adduction |
| Sagittal plane | Imaginary line dividing the body vertically into left and right sides |
| Sedentary lifestyle | Where there is little, irregular or no physical activity |
| Sportsmanship | Qualities of fairness, following the rules, being gracious in defeat or victory |
| Transverse plane | Imaginary line dividing the body horizontally from front to back |
| Type I | Also known as slow twitch muscle fibres, they are suited to low intensity aerobic work, for example marathon running, as they can be used for a long period of time without fatiguing |
| Type IIa | These are fast twitch muscle fibres, they are used in anaerobic work, but can be improved through endurance training to increase their resistance to fatigue |
| Type IIx  (previously  type IIb) | These are fast twitch muscle fibres that are used in anaerobic work and can generate much greater force than the other fibre types but fatigue quickly. They would be beneficial to 100 m sprinters |
| Variable practice | A training session that includes frequent changes of task so that the skill can be repeated in different situations |
| Vascular shunting | Process that increases blood flow to active areas during exercise by diverting blood away from inactive areas. This is achieved by vasoconstriction and vasodilation |
| Vasoconstriction | Narrowing of the internal diameter (lumen) of the blood vessel to decrease blood flow |
| Vasodilation | Widening of the internal diameter (lumen) of the blood vessel to allow increased blood flow |
| Vertical axis | Imaginary line passing vertically through the body, allows rotation of the body in an upright position |

Command Words

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| Command word | Definition |
| Assess | Requires reasoned argument of factors to reach a judgement regarding their importance/relevance to the question context. For example ‘Assess the relative importance of….’ |
| Analyse | Break something down into its component parts, this could be in relation to movement analysis |
| Calculate | Requires computation in relation to fitness data |
| Classify | Required to group or place on a scale based on characteristics/analysis of characteristics |
| Complete | Required to add information based on a stimulus/resource. This could be to complete a table, graph, chart or missing word/phrase from a sentence/statement |
| Define | Required to give the meaning or definition of a word/term |
| Describe | Account of something without reasons. Statements in the response need to be linked, for example ‘Describe the lever system operating at the elbow….’ |
| Discuss | Required to explore the issue/situation/problem that is being assessed in the question context, articulating different or contrasting viewpoints, for example advantages, disadvantages |
| Examine | Requires a justification/exemplification of a point based on some analysis or evaluation within the response. For example, ‘Examine the role of the first class lever system….’ |
| Explain | Requires a justification/exemplification of a point. The answer must contain some linked reasoning. For example, the format of the response may be ‘fact… because… therefore….’ |
| Evaluate | Review/analyse information, bringing it together to form a conclusion/judgement based on strengths/weaknesses, alternatives, relevant data or information. Come to a supported judgement of a  subject’s qualities and relation to its context |
| Give | Generally involves the recall of a fact, or an example based on the given stimulus. For example, ‘Give an example of a specific sporting movement….’ Can be synonymous with identify/state |
| Identify | Can require a selection from a given stimulus or resource, for example an option from a multiple-choice question or analysis of data from source material such as a graph, or can be synonymous with  give/state |
| Justify | Give reasons for answers. This could be a single response to extended writing answers depending on question context. For example, ‘Justify the use of interval training to improve….’ |
| Label | Requires addition of named structures or features to a diagram |
| Predict | Often used in data related questions, for example where it requires a prediction of what is likely to happen in future, based on given data |
| Select | Requires a choice based on an evaluation of information from a given stimulus/resource |
| State | Generally involves the recall of a fact, for example ‘State one benefit of exercise….’ but can, when used in relation to a context, be used to determine a student’s grasp of information presented, for example a data analysis question. Can be synonymous with give/identify |
| Using an example | Often used with explain or describe where it requires an example to exemplify the point(s) being made |
| Which | Mainly used in multiple-choice questions where a selection from a set of options is required, for example ‘Which one of the following….’ |