

Component 01: Physical Factors Affecting Performance – Paper 1

Section 1: Applied Anatomy and Physiology






<p>1.1 The structure and function of the skeletal system</p>	<p>Location of major bones Cranium, vertebrae, ribs, sternum, scapula, pelvis, humerus, ulna, radius, carpals, metacarpals, phalanges, femur, patella, tibia, fibula, tarsals, metatarsals.</p>				
	<p>Functions of the skeleton Understand and apply examples of how the skeleton provides support, posture, protection, movement, blood cell production and storage of minerals.</p>				
	<p>Types of synovial joint Know the definition of a synovial joint, the 2 main hinge joints (knee, elbow) and 2 main ball and socket joints (shoulder, hip) and the articulating bones for all these joints.</p>				
	<p>Types of movement at hinge joints and ball and socket joints Know the types of movement at hinge joints and ball and socket joints and be able to provide practical examples from sport for both types of joint.</p>				
	<p>Other components of joints Know the roles of ligaments, tendons and cartilage.</p>				
<p>1.2 The structure and function of the muscular system</p>	<p>Location of major muscle groups Know the name and location of the deltoid, trapezius, latissimus dorsi, pectorals, biceps, triceps, abdominals, quadriceps, hamstrings, gluteals, gastrocnemius, and be able to provide practical examples of when they are used in sport.</p>				
	<p>The roles of muscle in movement Know the definitions and roles of the agonist, antagonist and fixator and be able to apply them to examples from sport. To understand the process of antagonistic muscle action.</p>				

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1.3 Movement analysis	Lever systems Know the three classes of lever (1 st , 2 nd , 3 rd class) and their use in physical activity and sport. To know the definition of mechanical advantage.				
	Planes of movement and axes of rotation Know the location of the planes of movement in the body (frontal, transverse, sagittal) and their application to physical activity and sport. To know the location of the axes of rotation in the body (frontal, transverse, longitudinal) and their application to physical activity and sport.				
1.4 The cardiovascular and respiratory systems	Structure and function of the cardiovascular system Know the double-circulatory system (systemic and pulmonary). Know the structure and function of the different types of blood vessel (arteries, veins, capillaries). Understand the pathway of blood through the heart and the role of red blood cells. Know the definitions of heart rate, stroke volume and cardiac output.				
	Structure and function of the respiratory system Understand the pathway of air through the respiratory system (mouth/nose – trachea – bronchi – bronchiole – alveoli). Know the role of the respiratory muscles (diaphragm, intercostal muscles) during breathing. Know the definitions of breathing rate, tidal volume and minute ventilation. Understand how gaseous exchange takes place in the alveoli.				
	Aerobic and anaerobic exercise Know the definitions of aerobic and anaerobic exercise. Be able to apply practical examples of aerobic and anaerobic activities in relation to intensity and duration.				
1.5 Effects of exercise on body systems	Short-term effects of exercise Understand the short-term effects of exercise on muscle temperature, heart rate, stroke volume, cardiac output, redistribution of blood flow, respiratory rate, tidal volume, minute ventilation, oxygen to working muscles and lactic acid production. To be able to apply these effects to physical activity/sport and be able to collect and use data in relation to these effects of exercise.				
	Long-term (training) effects of exercise Understand the long-term effects of exercise on bone density, hypertrophy of muscle, muscular strength, muscular endurance, resistance to fatigue, cardiac hypertrophy, resting heart rate, resting stroke volume, cardiac output, rate of recovery, aerobic capacity, respiratory muscles, tidal volume and minute volume during exercise, Capillarisation. To be able to apply these effects to physical activity/sport and be able to collect and use data in relation to these effects of exercise.				

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Section 2: Physical Training				
<u>2.1</u> Components of fitness	<p style="text-align: center;">Components of fitness</p> <p>Know the definitions, practical examples, suitable tests and be able to collect data for each of the following components of fitness: Cardiovascular endurance, muscular endurance, speed, strength, power, flexibility, agility, balance, co-ordination, and reaction time.</p>			
<u>2.2</u> Applying the principles of training	<p style="text-align: center;">Principles of training</p> <p>Know the definitions for each of the principles of training (specificity, overload, progression, reversibility) and be able to apply them to personal exercise/training programmes.</p>			
	<p style="text-align: center;">Optimising training</p> <p>Know the definition of the elements of FITT (frequency, intensity, time, type) and be able to apply these elements to personal exercise/training programmes. Know definitions and practical examples for each type of training (continuous, fartlek, interval, circuit, weight, plyometrics, HIIT). To know the key components of a warm up and a cool down, providing examples for each and to understand their physical benefits.</p>			
<u>2.3</u> Preventing injury in physical activity and training	<p style="text-align: center;">Prevention of injury</p> <p>Understand how the risk of injury in physical activity/sport can be minimised and be able to apply examples, including: personal protective equipment, correct clothing/footwear, appropriate level of competition, lifting and carrying equipment safely, use of warm up and cool down. To know potential hazards in a range of physical activity/sport settings and be able to apply examples.</p>			

Component 02: Socio-cultural Issues and Sports Psychology – Paper 2

Section 3: Socio-cultural Influences



Physical activity and sports in the UK

Be familiar with current trends in participation in physical activity and sport (using different sources, e.g. Sport England, National Governing Bodies (NGBs) and Department of Culture, Media and Sport (DCMS)) of different social groups and in different physical activities/sports.

Participation in physical activity and sport

Understand how different factors can affect participation, including: age, gender, ethnicity, religion/culture, family, education, time/work commitments, cost/disposable income, disability, opportunity/access, discrimination, environment/climate, media coverage, role models. Understand strategies which can be used to improve participation: promotion, provision, access. Be able to apply examples from physical activity/sport to participation issues.

Commercialisation of sport

Understand the influence of the media on the commercialisation of physical activity and sport (social, internet, TV/visual, newspapers/magazines). Know the meaning of commercialisation, including sport, sponsorship and the media (the golden triangle): positive and negative effects of the media on commercialisation and be able to apply practical examples to these issues. Understand the positive and negative effects of sponsorship on the commercialisation of physical activity and sport and be able to apply practical examples to these.

Ethics in sport

Know and understand the value of sportsmanship and the reasons for gamesmanship and deviance in sport. Be able to apply practical examples to these concepts.

Drugs in sport




Know and understand the reasons why sports performers use drugs. Know the types of drugs (anabolic steroids, beta blockers, and stimulants), their effect on performance and practical examples of the use of these drugs in sport. To know and understand the impact of drug use in sport on

3.1
Engagement patterns of different social groups in physical activities and sports




3.2
Commercialisation of physical activity and sport

3.3
Ethical and socio-cultural issues in physical activity and sport

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	performers and on the sport itself.			
	<p style="text-align: center;">Violence in sport</p> <p>Know and understand the reasons for player violence. Give practical examples of violence in sport.</p>			
Section 4: Sports Psychology				
4.1 Characteristics of skilful movement and classification of skills	<p style="text-align: center;">Characteristics of skilful movement</p> <p>Know the definition of motor skills. Understand and be able to apply examples of the characteristics of skilful movement (efficiency, pre-determined, co-ordinated, fluent, and aesthetic).</p>			
	<p style="text-align: center;">Classification of skills</p> <p>Know continua used in the classification of skills, including simple to complex skills (difficulty continuum) and open to closed skills (environmental continuum). Be able to apply practical examples of skills for each continuum along with justifications of their placement on both continua.</p>			
4.2 Goal Setting	<p style="text-align: center;">Goal setting</p> <p>Understand and be able to apply examples of the use of goal setting for exercise/training adherence, to motivate performers, and to improve and/or optimise performance. Understand the SMART principle of goal setting along with practical examples and be able to apply this SMART principle to improve and/or optimise performance.</p>			
4.3 Mental Preparation	<p style="text-align: center;">Mental preparation</p> <p>Know mental preparation techniques and be able to apply practical examples to their use: imagery, mental rehearsal, selective attention, and positive thinking.</p>			
4.2 Types of guidance and feedback	<p style="text-align: center;">Types of guidance</p> <p>Understand types of guidance, their advantages and disadvantages, and be able to apply practical examples to their use: visual, verbal, manual, mechanical.</p>			
	<p style="text-align: center;">Types of feedback</p> <p>Understand types of feedback and be able to provide practical examples to their use: intrinsic, extrinsic, knowledge of performance, knowledge of results, positive, negative.</p>			

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Section 5: Health, Fitness and Well-being				
5.1 Health, fitness and well-being	<p style="text-align: center;">Health, fitness and well-being</p> <p>Know what is meant by health, fitness and well-being. Understand the different health benefits of physical activity and consequences of a sedentary lifestyle. Physical: injury, coronary heart disease, blood pressure, bone density, obesity, type 2 diabetes, posture, fitness. Emotional: self-esteem/confidence, stress management, image. Social: friendship, belonging to a group, loneliness. Be able to apply all the above to different age groups and respond to data about health, fitness and well-being.</p>			
5.2 Diet and nutrition	<p style="text-align: center;">Diet and nutrition</p> <p>Know the definition and components of a balanced diet (carbohydrates, proteins, fats, minerals, vitamins, fibre, water and hydration). Understand the effect of diet and hydration on energy use in physical activity. Be able to apply practical examples from physical activity/sport to diet and hydration.</p>			