Topic Lists for Revision

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| **Subject: GCSE PE** |
| **Topic or component:**  |
| **Applied anatomy and physiology (Paper 1)****The structure and function of the Musculo-skeletal system*** Classifications of joints
* The role of ligaments and tendons in sport
* Classification and characteristics of muscle types: voluntary muscles of the skeletal system, involuntary muscles in blood vessels, cardiac muscle
* Location and role of the voluntary muscular system, specific functions of muscles
* Antagonistic pairs of muscles (agonist and antagonist) to create opposing movement at joints to allow physical activities (e.g., gastrocnemius and tibialis anterior acting at the ankle – planter flexion to dorsi flexion)

**The structure and function of the cardio -respiratory system*** Functions of the cardiovascular system applied to performance in physical activities
* Transport of oxygen, carbon dioxide and nutrients
* Clotting of open wounds
* Regulation of body temperature

**Anaerobic and aerobic exercise*** Energy: the use of glucose and oxygen to release energy aerobically with the production of carbon dioxide and water
* The impact of insufficient oxygen on energy release
* The by product of anaerobic respiration (lactic acid)

**The short and long-term effects of exercise*** Short - term effects of physical activity and sport on lactate accumulation, muscle fatigue and relevance to performer
* Short – term effects of physical activity and sport on heart rate, stroke volume and cardiac output and importance to performer
* Short – term effects of physical activity and sport on depth rate of breathing and importance to performer
* How the respiratory and cardiovascular systems work together to allow participation in and recovery from physical activity and sport: oxygen intake into lungs, transfer to blood and transport to muscles, and removal of carbon dioxide
* Long – term effects of exercise on the body systems
* Fast and slow twitch muscle fibres
* Structure of the skeletal system
* Arteries, capillaries and veins
* Vascular shunting
* Components of blood and their significance for physical activity
* Structure and function of alveoli

**Movement Analysis – Paper 1*** Lever systems
* Planes and Axis
* Joint classification and impact on movement
* Lever systems, examples of their use in activity and mechanical advantage they pride in movement
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| **Physical Training (Paper 1)*** Definitions of fitness, health, exercise and performance and the relationship between them
* Components of fitness
* Fitness tests: the value of fitness testing, the test protocols, selection of the appropriate fitness test for component of fitness
* Collection and interpretation of data from fitness results and analysis and evaluation of these against normative data tables
* Fitness tests for specific components of fitness: Cardiovascular fitness – Cooper 12 min run/swim test, Harvard Step test; agility – Illinois agility run; strength – grip dynamometer; muscular endurance – one min sit up, one min press up; speed – 30m sprint; power – vertical jump; flexibility – sit and reach
* How fitness is improved
* PARQ’s; warm ups and cool downs

**The Principles of Training and their application to PEP*** Factors to consider when deciding most appropriate training methods and training intensities
* Use of different training methods for specific components of fitness, physical activity and sport (continuous, fartlek, circuit, interval, plyometrics, weight/resistance
* The advantages and disadvantages of different training methods

**The long-term effects of exercise*** Long – term training effects and benefits: for performance of the cardio – respiratory system: e.g. decreased resting heart rate, faster recovery, increased stroke volume and maximum cardiac output, increased size / strength of heart

**How to optimise and prevent injury*** Performance enhancing drugs (PED’s) and their positive and negative effects of sporting performance

**Use of data*** Interpret data correctly
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| **Health, fitness and wellbeing (Paper 2)*** Physical Health: how increasing physical ability, through improving components of fitness can improve health/reduce risks and how these benefits are achieved.
* Emotional health: how participating in physical activity and sport can improve emotional/psychological health and how these benefits are achieved
* The consequences of a sedentary lifestyle: overweight, overfat, obese, increased risk of long-term health, e.g., depression, diabetes, osteoporosis

**Energy use, diet, nutrition and hydration*** The nutritional requirements and ratio of nutrients for a balanced diet to maintain a healthy lifestyle and optimise specific performances in physical activity and sport.
* The role and importance of macronutrients (carbohydrates, proteins and fats) for performers/players in physical activity and sport, carbohydrate loading for endurance athletes and timing of protein intake for power athletes.
* The role and importance of micronutrients (vitamins and minerals), water and fibre for performers/players in physical activity and sport
* Optimum weight

**Sport Psychology (Paper 2)*** Classification of a range of sports skills using the open-closed, basic (simple) - complex and low-organisation high organisation continua.
* Principals of SMART targets (specific, measurable, achievable, realistic, time-bound) and the value of each principal in improving and/or optimising performance
* Types of feedback to optimise performance: intrinsic, extrinsic, concurrent and terminal.
* Types of guidance

**Socio-cultural influences (Paper 2)*** Participation rates in physical activity and sports and the impact on participation rates considering the following personal factors: gender, age, socio-economic group, ethnicity, disability.
* The advantages and disadvantages of commercialisation and the media for: the sponsor, the sport, the player/performer, the spectator
* The different types of sporting behaviour: sportsmanship, gamesmanship, and the reasons for, and consequences of, deviant behaviour.
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| **Strategies and Resources for Revision:** |
| * Use your revision resources in your folders
* Revision guide
* Revision flash cards given out for paper 1 and paper 2
* Power point presentations on teams
* Exam questions on teams / class charts
* [www.youtube.com](http://www.youtube.com)
* Everlearn you tube videos
* PE4Learning
* BBC Bitesize PE
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