Applied Anatomy & Physiology

- Functions of the skeleton - Support, protection, movement, shape, blood cell production.
- Types of bone - Long bones and flat bones.
- Role of ligaments - Connect bone to bone and stabilise joints.
- Role of tendons - Connect muscle to bone.
- Define synovial joint - Freely movable joint with synovial fluid.
- Movements at knee - Flexion and extension.
- Agonist in bicep curl - Biceps.
- Antagonist in bicep curl - Triceps.
- Define aerobic exercise - With oxygen, low–moderate intensity.
- Define anaerobic exercise - Without oxygen, high intensity.
- Tidal volume - Air in/out per breath.
- Stroke volume - Blood pumped per heartbeat.
- Cardiac output - HR × SV.
- Components of blood - RBCs, WBCs, platelets, plasma.
- Red blood cell role - Carry oxygen.
- Vasoconstriction - Narrowing blood vessels.
- Vasodilation - Widening blood vessels.
- Oxygen debt - Extra oxygen required after exercise.
- Lactic acid - Fatigue-causing anaerobic byproduct.
- DOMS - Delayed onset muscle soreness.

Physical Training

- Define fitness - Ability to meet demands.
- Define health - Physical, mental, social well-being.
- Agility - Change direction quickly.
- Balance - Maintain centre of mass.
- Coordination - Smooth use of body parts.
- Power - Strength × speed.
- Reaction time - Time to respond to stimulus.
- Muscular endurance - Muscles work repeatedly.
- CV endurance - Heart and lungs working efficiently.
- Progressive overload - Gradual training increases.
- FITT - Frequency, Intensity, Time, Type.
- Aerobic training method - Continuous training.
- Strength method - Weight training.
- HIIT - High-intensity intervals with rest.
- Plyometrics - Builds power.
- Circuit training - Stations training components.
- SPORT - Specificity, Progression, Overload, Reversibility, Tedium.
- Warm-up - Prepares body for exercise.
- Cool-down benefit - Removes lactic acid.
- PAR-Q - Readiness questionnaire.

Movement Analysis

- Planes of movement - Sagittal, frontal, transverse.
- Axes of rotation - Longitudinal, transverse, frontal.
- Sagittal plane example - Running.
- Transverse plane example - Golf swing.
- Frontal plane example - Side stepping.
- Flexion - Decreasing angle at joint.
- Extension - Increasing joint angle.
- Abduction - Away from midline.
- Adduction - Toward midline.
- Rotation - Turning around axis.
- Lever - Rigid bar turning about fulcrum.
- Fulcrum - Pivot point.
- Load - Resistance moved.
- Effort - Force from muscles.
- Common lever type - 3rd class.
- 1st class lever - Fulcrum in middle.
- 2nd class lever - Load in middle.
- 3rd class lever - Effort in middle.
- Mechanical advantage - Small effort moves large load.
- Lever with advantage - 2nd class.