Paper 1 revision list

Paper 1 – Revision List

Skeletal System

Learners must:

- know the name and location of the following bones in the human body:
  - cranium
  - vertebrae
  - ribs
  - sternum
  - clavicle
  - scapula
  - pelvis
  - humerus
  - ulna
  - radius
  - carpals
  - metacarpals
  - phalanges
  - femur
  - patella
  - tibia
  - fibula
  - tarsals
  - metatarsals.

- understand and be able to apply examples of how the skeleton provides or allows:
  - support
  - posture
  - protection
  - movement
  - blood cell production
  - storage of minerals.

- know the definition of a synovial joint
- know the following hinge joints:
  - knee – articulating bones – femur, tibia
  - elbow – articulating bones – humerus, radius, ulna
- know the following ball and socket joints:
  - shoulder – articulating bones – humerus, scapula
  - hip – articulating bones – pelvis, femur.

Learners must:

- know the types of movement at hinge joints and be able to apply them to examples from physical activity/sport:
  - flexion
  - extension
- know the types of movement at ball and socket joints and be able to apply them to examples from physical activity/sport:
  - flexion
  - extension
  - rotation
  - abduction
  - adduction
  - circumduction.

- know the roles of:
  - ligament
  - cartilage
  - tendons.

Muscular System

Learners must:

- know the name and location of the following muscle groups in the human body and be able to apply their use to examples from physical activity/sport:
  - deltoid
  - trapezius
  - latissimus dorsi
  - pectorals
  - biceps
  - triceps
  - abdominals
  - quadriceps
  - hamstrings
  - gluteals
  - gastrocnemius.
- know the definitions and roles of the following and be able to apply them to examples from physical activity/sport:
  - agonist
  - antagonist
  - fixator
    - antagonistic muscle action.

Movement Analysis

Learners must:

- know the three classes of lever and their use in physical activity and sport:
  - 1st class
    - neck
  - 2nd class
    - ankle
  - 3rd class
    - elbow
- know the definition of mechanical advantage.
- know the location of the planes of movement in the body and their application to physical activity and sport:
  - frontal
  - transverse
  - sagittal
- know the location of the axes of rotation in the body and their application to physical activity and sport:
  - frontal
  - transverse
  - longitudinal.

Cardiovascular and Respiratory System:

- know the double-circulatory system (systemic and pulmonary)
- know the different types of blood vessel:
  - arteries
  - capillaries
  - veins
- understand the pathway of blood through the heart:
  - atria
  - ventricles
  - bicuspid, tricuspid and semilunar valves
  - septum and major blood vessels:
    - aorta
    - pulmonary artery
    - vena cava
    - pulmonary vein
- know the definitions of:
  - heart rate
  - stroke volume
  - cardiac output
- know the role of red blood cells.

- understand the pathway of air through the respiratory system:
  - mouth
  - nose
  - trachea
  - bronchi
  - bronchiole
  - alveoli
- know the role of respiratory muscles in breathing:
  - diaphragm
  - intercostals
- know the definitions of:
  - breathing rate
  - tidal volume
  - minute ventilation
- understand about alveoli as the site of gas exchange.

- know the definitions of:
  - aerobic exercise
  - anaerobic exercise
- be able to apply practical examples of aerobic and anaerobic activities in relation to intensity and duration.

Effects of exercise on the body

- understand the short-term effects of exercise on:
  - muscle temperature
  - heart rate, stroke volume, cardiac output
  - redistribution of blood flow during exercise
  - respiratory rate, tidal volume, minute ventilation
  - oxygen to the working muscles
  - lactic acid production
- be able to apply the effects to examples from physical activity/ sport
- be able to collect and use data relating to short-term effects of exercise.

- understand the long-term effects of exercise on:
  - bone density
  - hypertrophy of muscle
  - muscular strength
  - muscular endurance
  - resistance to fatigue
  - hypertrophy of the heart
  - resting heart rate and resting stroke volume
  - cardiac output
  - rate of recovery
  - aerobic capacity
  - respiratory muscles
  - tidal volume and minute volume during exercise
  - capilliarisation
- be able to apply the effects to examples from physical activity/ sport
- be able to collect and use data relating to long-term effects of exercise.

Components of Fitness

Know the following components of fitness:

- cardiovascular endurance/stamina
  - know the definition of cardiovascular endurance/stamina
  - be able to apply practical examples where this component is particularly important in physical activity and sport
  - know suitable tests for this component, including:
    - Cooper 12 minute run/walk test
    - multi-stage fitness test
- muscular endurance
  - know the definition of muscular endurance
  - be able to apply practical examples where this component is particularly important in physical activity and sport
  - know suitable tests for this component, including:
    - press-up test
    - sit-up test
- speed
  - know the definition of speed
  - be able to apply practical examples where this component is particularly important in physical activity and sport
  - know suitable tests for this component, including:
    - 30m sprint test
- strength
  - know the definition of strength
  - be able to apply practical examples of where this component is particularly important in physical activity and sport
  - know suitable tests for this component, including:
    - grip strength dynamometer test
    - 1 Repetition Maximum (RM)
- power
  - know the definition of power
  - be able to apply practical examples of where this component is particularly important in physical activity and sport
  - know suitable tests for this component, including:
    - 'standing jump' or 'vertical jump' tests
- flexibility
  - know the definition of flexibility
  - be able to apply practical examples of where this component is particularly important in physical activity and sport
  - know suitable tests for this component, including:
    - 'sit and reach' test
- agility
  - know the definition of agility
  - be able to apply practical examples of where this component is particularly important in physical activity and sport
  - know suitable tests for this component, including:
    - Illinois agility test
- balance
  - know the definition of balance
  - be able to apply practical examples of where this component is particularly important in physical activity and sport
  - know suitable tests for this component, including:
    - 'stork stand' test
- co-ordination
  - know the definition of co-ordination
  - be able to apply practical examples of where this component is particularly important in physical activity and sport
  - know suitable tests for this component, including:
    - 'wall throw' test
- reaction time
  - know the definition of reaction time
  - be able to apply practical examples of where this component is particularly important in physical activity and sport
  - know suitable tests for this component, including:
    - reaction time ruler test
- be able to collect and use data relating to the components of fitness.