उपक्रीड़ा अधिकारी/सहायक खेल प्रशिक्षक एवं सहायक खेल अध्यापक की प्रतियोगी परीक्षा के लिए पाठ्यक्रम

उप क्रीड़ा अधिकारी :–

1. 60% प्रश्न स्पोर्ट्स साइंस, खण्ड के होंगे। स्पोर्ट्स साइंस खंड के प्रश्नों को एन0आई0एस0 पटियाला में संचालित डिप्लोमा पाठ्यक्रमों तथा एल0एन0आई0पी0ई0 ग्वालियर में संचालित पी0जी0 डिप्लोमा पाठ्यक्रमों के स्पोर्ट्स सांइस के कॉमन पाठ्यक्रम से लिया जायगा जो अलग से वेबसाइट पर प्रकाशित किया जा रहा है।
2. 40% प्रश्न विभिन्न खेलों से संबंधित सामान्य ज्ञान व सामान्य जागरूकता से पूछे जायेंगे।

सहायक प्रशिक्षक एवं सहायक खेल अध्यापक :–

1. 60% प्रश्न स्पोर्ट्स साइंस, खण्ड के होंगे। स्पोर्ट्स साइंस खंड के प्रश्नों को एन0आई0एस0 पटियाला में संचालित डिप्लोमा पाठ्यक्रमों तथा एल0एन0आई0पी0ई0 ग्वालियर में संचालित पी0जी0 डिप्लोमा में पाठ्यक्रमों के स्पोर्ट्स सांइस के कॉमन पाठ्यक्रम से लिया जायगा जो अलग से वेबसाइट पर प्रकाशित किया जा रहा है।
2. 40% प्रश्न संबंधित खेल के होंगे।

Syllabus for Dy. Sports Officer, Astt. Sport Coach and Astt. Sports Teachers

For Dy. Sports Officer

(a) 60% Questions will be asked from Sports Science subjects and 40% from General Knowledge & General Awareness related to different games & sports.

(b) Above 60% Questions will be related from the approved common syllabus of N.I.S. Patiyala Diploma and L.N.I.P.E. Gwalior PG Diploma level. This Common syllabus is uploaded on website -**www.sssc.uk.gov.in**

For Astt. Sports Coach & Astt. Sports Teacher

(a) 60% questions will be asked from sport sciences and 40% from respective games.

(c) Above question will be related from approved common syllabus of N.I.S. Patiyala Diploma level & L.N.I.P.E. Gwalior PG Diploma level as uploaded on website - **www.sssc.uk.gov.in**

UKSSSC SPORTS SCIENCEC SYLLABUS FOR THE POST OF DSO, SO, ASTT. SPORT TEACHER

PAPER –I

GENERAL THEORY AND METHODS OF TRAINING

PAPER –II

KINESIOLOGY AND BIOMECHANICS

PAPER –III

SPORTS MEDICINE AND SPORTS ANTHROPOMETRY

PAPER – IV

SPORTS PHYSIOLOGY, SPORTS BIOCHEMISTRY & SPORTS NUTRITION

PAPER – V

SPORTS PSYCHOLOGY

GENERAL THEORY AND METHODS OF TRAINING SYLLABUS FOR UKSSSC

1. Introduction: Definition, aims and characteristics of sports training
Training means
Physical Exercises
Classification of Physical Exercises
Foundation of Training
Sports Specific combination of various type of training Muscle response to trainingEnergy systems training
Basic Laws of training
Sports performance: Definition of sports performance, Performance capacity and Training structure, Model of sports performance.

2. Training load, and recovery:

Definition and types of Training Load

Factors of Load

Classification of training loads

Load and adaptation, adaptation models, judgment of Lode

Over training, Causes and remedy of over training, definition of recovery, factors effecting recovery, means of recovery, Selection of recovery means.

3. Principles of sports training: Principles of overload, progression specificity, reversibility, individualization, variation, diminishing return, regulation and it's application in training.

4. Motor abilities:
Strength ability: Definition, Types and factors
Determining Strength, Programme designing
Methods of Strength training.
Speed Ability:
Definition, Types of speed abilities,Factors Determining Speed, Programme designing, Methods of Speed development.
Endurance Ability:
Definition, Types of Endurance and factors determining endurance, Programme designing, Methods for the development of endurance.
Flexibility:
Definition, Types and factors affecting flexibility, programme designing, methods of flexibility development.

Coordination:

Types of Coordinative abilities, importance and development of coordinative abilities.

5. Planning and Program design

The theory of planning and training

Types of planning (Short term planning, The annual plan & Long term planning)

Step in formulation of plan

Training session

Long term training process

Manipulation of training variables

6. Periodization :

Definition and Types of Periodization

Top form and periodization

Aims and contents of different periods

7. Monitoring of Sports Training

Objectives of training diary

Types of training diary

Training diary and its recording

Evaluation of training program and performance through training diary

Sports Competition:

Definition and importance of sports competitions

Competition system

KINESIOLOGY AND BIOMECHANICS SYLLABUS FOR UKSSSC

1. Introduction:
Definition of Kinesiology
Its importance in the field of sports coaching

Reference System for Movement Analysis
Concept of reference system and its significance.
Various references, CG, Mechanical axis, anatomical and standard standing position
Types of Planes and Axes.

Fundamental and auxiliary movements in Kinesiology:
Importance of description of movements
Definition and explanation of various fundamental and auxiliarymovements' flexion, hyper flexion, hyper extension, adduction, hyper adduction, abduction, hyper abduction, rotation, circumduction, dorsiflexion, planter flexion, supination, pronation, eversion, inversion

2. Major muscle of the body and their action:
Involvement of various muscles during different fundamental and auxiliary movements of hip, knee, shoulder, elbow joint, shoulder girdle and trunk region.

3. Posture:
Definition of posture
Importance of good posture
Characteristics of good posture
Factors affecting posture/ causes of poor posture

Structure of motor action
Definition of motor action
Classification and types of movement'si.e. acyclic and movement's combination.
Phases of movements and their importance's.
Functional relationship among various phases of movements
Structure of acyclic, cyclic and movement combination with examples and function of various phases.

4. Movement qualities:
Movement coupling
Movement rhythm
Movement amplitude
Movement precision
Movement flow

Kinesiological analysis of basic movements

Walking, Running (difference between walking and running) Jumping, Throwing and Catching

5. Introduction to Biomechanics:

Introduction and definition of Sports biomechanics

Role of sports Biomechanics and its contribution in the field of sports

Forms of Motion

Linear Motion

Rotatory or angular motion

General motion

Linear Motion

Definition unites and explanation of different values in linear motion viz. distance, displacement, speed, velocity, acceleration, acceleration due to gravity, inertia, mass, force, weight, momentum, impulse, pressure and relationship between pressure and area implication between their relationship.

Angular Motion

Definition unites and explanation of different values in angular motion viz. angular distance, angular displacement, angular velocity, angular acceleration, relationship between angular and linear motion, eccentric force, couple, torque and interrelationship between moment of inertia, angular momentum and velocity.

6. Newtons law of motion

Law of Inertia

Law of Acceleration

Law of Action and reaction

Principles related to

Law of Inertia

Law of Acceleration

Law of Action and reaction

Projectile motion and its implication in sports

Fundamental definition of projectile, trajectory, range, angle of release, point of release, velocity of release, point of landing, height of landing, relative height of release.

Various situations of projectile motion, and their characteristics and implications in sports

7. Lever

Types of Levers

Center of gravity and its importance
Factors affecting stability and Equilibrium and their implications

8. Concept of force

Definition and explanation
Effect of characteristics of force
Types of force, Internal and External force
Summation of forces
Centripetal and Centrifugal force
Friction: its cause, types and factors affecting
Gravitational force

SPORTS MEDICINE AND SPORTS ANTHROPOMETRY FOR UKSSSC

1. Introduction to Sports Medicine
Scope of Sports Medicine
Basic Anatomy of Musculo Skeletal System.
Definition of Bone, Cartilage, Tendons, Ligaments.
Type of Muscles and Joints

2. Prevention of Sports Injuries
Risk factors
Preventive Measures

3. Injuries in Sports
Classification of injuries
Skin injuries
Muscular injuries
Ligament injuries
Bone injuries
Common site specific injuries in sports

4. Sports emergencies and first aid
Sports Physiotherapy
General principle of Physiotherapy
Exercise therapy
Manual therapy
Electrotherapy

5. Sports Rehabilitation
Principles of Rehabilitation
Phases of Rehabilitation

6. Recovery in sports
Medico biological means of recovery
Ice bath
Massage
Sauna bath
Steam bath

IOC rules : role of Coach and Athlete
TUE (Therapeutic Use Exemption)

8. Kinanthropometry
Introduction and application of Kinanthropometry in sports

9. Human growth and development
Meaning, Application of growth and development in the field of sports
Stages of human growth
Difference between human growth and development
Concept of maturity
Determination of velocity and distance curve
Prediction of Adults Height, Growth Curve, Peak Height, Velocity, Canalization

10. Body Composition
Body composition and role Sports participation
Body composition: Various methods (Direct and Indirect techniques) to estimate of human body composition.
Determination of Body composition: Muscle, mass, bone mass and fat mass

11. Concept of Physique and Somatotype
Physique:
(A) Definition and role of physique in sports
(B) Physique in different Sports and Game
Somatotype:
(A) Different components, importance & scope in sports
(B) Classification of Somatotype
(C) Heath and Carter method of Somatotyping
(D) Somatochart

SPORTS PHYSIOLOGY, SPORTS BIOCHEMISTRY & SPORTS NUTRITION

1. INTRODUCATION

(i) Brief history and scope of exercise physiology
(ii) Concept of physiology & physiology of exercise, Need and importance of exercise
(iii) Current trends in exercise physiology
(iv) An overview of the system of organization in the human body
(v) Basic of Human cell and Tissue
(vi) Role of Exercise Physiology in high performance sports

2. MUSUCULAR SYSTEM

(i) Structure and function of skeletal muscle
(ii) Type of muscle contraction
(iii) Role of fast twitch and slow twitch fiber in sports performance
(iv) Adaptation in the musclo-skeletal system to training

3. BLOOD &CARDIOVASCULAR SYSTEM

(i) Structure and function of human heart
(ii) Cardiac cycle at rest and during exercise
(iii) Change in cardiovascular parameters to exercise
- Structur of heart
- Stroke volume
- Cardiac output
- Blood pressure

(iv) Blood circulation to skeletal muscle in rest and during exercise.

4. RESPIRATORY SYSTEM

(i) Functional anatomy of respiratory system
(ii) Respiratory muscle
(iii) Mechanism of breathing
(iv) Lung volumes and capacities
(v) Respiration at rest and during exercise, Second wind and stitch
(vi) Gaseous transportation (Oxygen and Carbon dioxide)
(vii) O_2 Dissociation curve in various circumstance
(viii) Ventilatory responses during rest and exercise
(ix) Regulation of respiratory system
(x) Factors controlling respiratory
(xi) Hypoxic response of respiratory system

5. **CARDIOVASCULAR SYSTEM**
   - (i) Structure and function of the heart
   - (ii) Blood circulation and cardiac cycle at rest and during exercise
   - (iii) Cardiovascular adaptation to training
   - (iv) Importance of heart rate monitoring and heart rate response

6. **NEURO MUSCULAR SYSTEM**
   - (i) Functional anatomy of muscle and motor unit
   - (ii) Types of skeletal muscle
   - (iii) Excitation contraction coupling
   - (iv) Metabolism of muscle in aerobic and anaerobic circumstances
   - (v) Adaptation in neuro-musclar system to long term training
   - (vi) Muscle fatigue and recovery

7. **ENVIRONMENT AND PHYSICAL PERFORMANCE**
   - (i) Body temperature regulation in hot and cold environment
   - (ii) Effect of hot and cold environment
   - (iii) Acclimatization to heat and cold
   - (iv) Training in hot, humid environment Altitude training
   - (v) General aspects of Homeostatic balance in different environmental conditions
   - (vi) Regulation of blood volume, osmolarity and pH during exercise
   - (vii) Short and long term systemic adaptations due to exercise

8. **ENERGY SYSTEM OF BODY**
   - (i) Metabolism
   - (ii) Source and production of energy (carbohydrate, protein and fat)
   - (iii) Short term energy supply, long term energy supply
   - (iv) Lactic acid & its role in sports

9. **AGE, HORMONES, GENDER AND PERFORMANCE**
   - (i) Change of physiological profile during growth and development
   - (ii) Exercise and hormones
   - (iii) Women and sports performance, Gender differences and athletic abilities.
   - (iv) Action and side effects of steroid in sports population

10. **NUTRIRION AND PHYSICAL PERFORMANCE**
   - (i) Components of food : Sources and function
   - (ii) Balance diet
   - (iii) Athlete's menu
   - (iv) Maintaining adequate hydration (Before, during and after exercise)

11.

(i) Introduction to Sports Biochemisty:Definition,Aim,Importance

(ii) Exercise Metabolism: Energy system, Energy Substrate and integration of exercise metabolism

(iii) Biochemical basis of fatigue & recovery.

12.

(i) Factors Determining energy metabolism: volume, intensity, nutrition, heredity and hormones

(ii) Oxygen carriers: Hemoglobin and myoglobin

(iii) Biochemical monitoring of sports training: The blood, iron status, metabolites, enzymes and hormones

13.

(i) Components of food, their classification. Function and sources: Carbohydrates, Proteins, Fat, Vitamins and Minerals.

(ii) Nutritional requirements for various sports disciplines: power events, endurance event, team events, Events of light weight categories, Skill game.

14.

(i) Nutritional recommendation for pre competition, during competition and post competition phase

(ii) Hydration in sports: Importance of hydration, Symptoms of dehydration, Guidelines for fluid and Nutrient intake to maintain proper hydration.

(iii) Nutritional supplementation for performance enhancement Nutrition and body weight control.

SPORTS PSYCHOLOGY

1. **Introduction to Sports Psychology**
   - i. Meaning and importance of Sports Psychology
   - ii. Definition and Branches of Psychology
   - iii. Definition, History and Evolution of Sports Psychology
   - iv. History of Sports Psychology in India
   - v. Scope of Sports Psychology
   - vi. Research Methods in Sports Psychology
2. **Cognitive Processes**
   - i. Introduction to cognitive processes
   - ii. Sensation, Perception, Attention and Concentration
   - iii. Attentional Skills, Nideffer's Model of Attentional Focus, Attentional Problems, Attentional Control
   - iv. Role of cognitive processes in Sports
   - v. Strategies to improve cognitive function
   - vi. Concentration, Concentration and its Parts, Basic Principles of Concentration Training
3. **Emotional Processes and sports performance**
   - i. Definition and theorises of Emotion and their implication in sports
   - ii. Stress & the Stress Process
   - iii. Components of Emotion, Common Emotions and consequences of Emotion
   - iv. Arousal performance relationship in sports , Anxiety, Competitive Anxiety, Hans Selsy' General adaptaitoin Syndrome, Inverted- U Theory (Yerkes & Dodson), Martens' Model of Competitive Anxiety, IZOF Model
   - v. Stress management techniques
   - vi. Aggression in sports and control
4. **Personality and Sports performance**
   - i. Theorise of Performance
   - ii. Definition and Personality Traits
   - iii. Concept of Athletic Personality
   - iv. Personality and its conceptualizations
   - v. Personality assessment
   - vi. Meaning and concept of athletic personality
   - vii. Personality profile of athletes and the indicators of performance
   - viii. Traits of Athletes
5. **Motivation in sports**
   - i. Classification of Motives
   - ii. Meaning of Sports Motivation, Intrinsic and Extrinsic Motivation, Achievement Motivation
   - iii. Maslow's Theory of Motivation
   - iv. Types of Motivation and their implication in sports
   - v. Techniques of Motivation Enhancement

vi. Goal setting, Benefits of Goals setting, Principles of Goal setting, Goal setting Guidelines

6. **Psychological preparation in Sports**
   i. Meaning and importance of Psychological preparation
   ii. Concept of Psychological Preparation
   iii. Pre- Competition Period (Short term preparation & Long term preparation)
   iv. Competition Period
   v. Post-Competition Phase
   vi. Application in sports
7. **Sociological Issuse for Optimizing Behavior and Performance**
   i. Group processes, Group dynamic (Tuckman's 1965), Group Structure (Group Role and Group Norms)
   ii. Team Cohesiveness, Carron's Conceptual Model of Cohesiveness in Sport teams, Relation of Task Cohesion and the Sport, Barriers to Group Cohesion
8. **Optimizing team behaviour and performance**
   i. Difference between team group
   ii. Process of team formation
   iii. Building team cohesiveness
   iv. Leadership styles, Personality Characteristics of Effective Leadership, the Coaches Leadership Style Grid
   v. Communication System/ Process, Importance and Purpose of Communication, Types of Communication, Noise in Communication Process, Effective Communication in teams
9. **Athletic injuries and psychology**
   i. Psychological factors in athletic injuries
   ii. Role of sports psychology in injury prevention
   iii. Role of sports psychology in injury rehabilition
10. **Burn out and overtraining**
   i. Definition and meaning of burn out
   ii. Factors leading to burn out and symptoms of burn out
   iii. Conceptualization of overtraining
   iv. Treating and preventing burn out