Government of Bihar
Department of Art, Culture and Youth

Syllabus for Recruitment of District Sport Officer in Bihar

Paper-I
Part-A (General Knowledge) Total Marks -25

1. **General Science-** Questions on General Science covering general appreciation and understanding of Science including matters of day to day observations and experience.
2. **Current Affairs and History** -
   Freedom Fighters and Important personalities Regarding Bihar.
3. Sports History of Bihar
4. **Basic Numeric**
5. Knowledge of Hindi and English language, Geography , Location and Boundary, Land and People, Districts, Important Places, Civilization, Traditions, Archeological and Tourist centers of Bihar.
6. Schemes of Government of India Youth Affairs and Sports department.
7. **Olympic, Commonwealth & Asian Games**
   (1) Historical Background & Significance
   (a) Ancient/ Modern Olympic Games
   (b) Commonwealth & Asian Games
   (2) Functions of IOC
   (3) Organization & Conduct of Games
   (4) Brief Introduction about winter and Para Olympic.
   (5) Venue of summer Olympic Games.
8. **Sports Association/Federation/Awards In India.**
   (i) Introduction to sports governing bodies at National and International level.
   (ii) Indian Olympic Association- Objective& Functions.
   (iii) Sports Schemes (Central and state)
   (iv) National and State Sports award
9. **Women and Sports**

Paper-I
Part-B Marks- 75

I **General/Scientific Principles, Conditioning and Methods o: Sports Training.**

1. **Scientific Sports Training**
   - (i) Meaning and Definition of Sports Training, Physical Fitness, health related fitness and performance related fitness.
   - (ii) Aim, Characteristics Principles of Sports Training.
   - (iii) Definition of Load and Overload, Symptoms of Overload. Remedial Measures.
   - (iv) Super Compensation-Altitude Training , Cross Training
   - (v) Classification of Physical Exercise (General and Specific)
   - (vi) Warm up, definition types, importance of worm up and Method of conditioning.
   - (vii) Strength Training modalities and strength training for different population(children, females and senior citizens)
   - (viii) Exercise techniques for alternative modes and non-traditional implement training.
2. **Sports Performance**
   - (i) Nature and definition of sports performance
   - (ii) Exercise prescription, steps and Pariodization of strength training
   - (iii) Model of sports Perforce & performance factor
   - (iv) Programme design for resistance training.
   - (v) Inter relationship among performance, capacity and training Sstructure
   - (vi) Methods of fitness development:- Aerobic and Anaerobic Exercises.
   - (vii) Progremme design for aerobic endurance training.
3. **Motor abilities**
   - (i) Introduction to Motor abilities & their Classification.
   - (ii) Structure of fitness/condition
   - (iii) Strength- Means and Methods of Strength Development:- Weight Training, Isometric, Isotonic, Circuit Training etc.
   - (iv) Speed - Means and Methods of Speed Development:- Repetition Method, Downhill Run, Parachute Running, Wind Sprints.
   - (v) Endurance- Means and Methods of Endurance Development:- Continuous Method, Interval Method, Repetition Method, Cross Country, Fartlek Training.
   - (vi) Flexibility:- Means and Methods of Flexibility Development:- Stretch and Hold Method, Ballistic Method, Special Type training- Plyometric Training.

(vii) Coordinative ability:- Means and Methods of Coordinative ability Development- Sensory Method, Variation in External Condition Method, Combination of Movement Method, Type of Stretching Exercises.

4 **Training Process**

(i) Concept of Training Load- Definition of and Types of Training Load, Factor of Load, Function of Load, Load monitoring, recovery.
(ii) Principles of Intensity and Volume of stimulus
(iii) Technical Training- Meaning and Methods of Technique Training
(iv) Tactical Training- Meaning and Methods of Tactical Training.
(v) Training Principals (Overload, individualization.)

5 **Periodisation**

(i) General concepts related to periodization and definition.
(ii) Types of Periodisation- Single, Double, and Multiple Periodisation,
(iii) Preparatory Period, Competition Period and Transition Period.
(iv) Periodisation models.
(v) Top form of Periodisation.

6. **Training Plan**

(i) Training Plan- Macro Cycle, Meso -Cycle, Short term Plan and Long Term Plans.
(ii) Planning – Training Session
(iii) Programme design and techniques for flexibility, quickness and balance training.
(iv) Evaluation of Physical fitness components(Test ,measurements & evaluation of motor ability)

7 **Talent Identification**

(i) Meaning & Definition of sports talent.
(ii) Principles of Talent Identification.
(iii) Physical Fitness Test-Health Related Fitness Battery Test. Health Related Physical Fitness Test
(iv) Anthropometric and Aerobic- Anaerobic Test- Physiological Testing- Aerobic Capacity Test . Anaerobic capacity Test. Anthropometric- Measurement: Method of Measuring Height, Standing Height, Sitting Height, Method of Measuring.
(v) Skill Test-Types Specific Sports Skill Test.

II Anatomy and Exercise Physiology

1. Introduction of Anatomy, systems of organization in the human body and Exercise Physiology
2. Skeletal Muscles and Exercise-
   (i) Function of Skeleton- Ribs and Vertebral Column, Joints of body and their Types. Structure of the Skeletal Muscle, Muscular Contraction, Type of Muscle fiber, Muscle Tone.
   (ii) Gender Differences in the Skeleton..
   (iii) Effect of exercises and Training on the Muscular system and Bone.
   (iv) Physiology of Strength training and performance and Physiological basis of fatigue and recovery
3. **Cardio Vascular System and Exercise**
   (i) Structure and function of heart, Blood Circulation and Cardiac cycle at rest and during exercise Cardiac Cycle & Stroke Volume- Cardiac Output.
   (ii) Cardiovascular control during exercise.- acute response and long-term adaptations in cardiovascular system Determination of target heart rate.
   (iii) Bioenergetics- aerobic and anaerobic energy metabolism during exercise, contributions of different energy systems to various sports and games Lactic acid and its relevance in sports.
   (iv) Physiology of training- effect of VO2 max performance homeostasis and strength.
4. **Respiratory System, High Altitude traning and Exercise.**
   (i) Basic anatomy of respiratory system. Internal & External respiration lung volumes and capacities. Respiration at rest and during exercise, second wind and stitch.
   (ii) Ventilation and The Anaerobic Threshold. Effect of exercises and training on the respiratory system.
   (iii) Environment, age gender and sports performance.
   (iv) High altitude training- Immediate Physiological changes in high altitude, long term adaptations, importance of high altitude training.
   (v) Body temperature regulation in hot and cold environments.

5. **Energy Metabolism**

(i) Metabolism-ATP-CP, Anaerobic Metabolism- Aerobic Metabolism- Aerobic and Anaerobic energy production during rest and Exercise.

(ii) Lactic acid and its relevance in sports.

(iii) Ingestion to energy metabolism (Carbohydrate, Protein and Fat), Glycogen Loading.

6. **Sports Biochemistry, Nutrition and Physical Performance**

(i) Sports Biochemistry, Definition, Aim and importance. Exercise Metabolism(Anabolism and catabolism).

(ii) Storage of fuels in the body, relevance of carbohydrates and lipic for sports and exercise.

(iii) Glycolysis (aerobic and anaerobic) glycogen and lactic acid metabolism, factor affecting fuel utilization during the exercise.

(iv) Biochemical basis of fatigue and recovery modes.

(v) Importance of Biochemical monitoring of athletes during Sports training.

(vi) Transportation of Proteins, store oxygen Hemoglobin and Myoglobin

(vii) Biochemical adaptations during sports training, overtrading and biochemical marks of overtraining.

(viii) Basic Components of food, sources & function, Balance Diet.

(ix) Nutrients_- Role of Carbohydrate, Fat, Protein, minerals, vitamins and water during Exercise. Digestive System. Hydration. Weight management

(x) Pre competition. during competition and post competition diet.

(xi) Hygiene and Health- Meaning of Hygiene: Types of Hygiene and Management. of Sports Nutrition, Role of Nutrition in Sports. Nutritional supplements for performance enhancement.

III. **Sports Anthropometry**

(i) Nature and scope in sports. Body composition.

(ii) Concept of physique - Physique in different sports and Games Somato type- Different components, importance and scope in sports.

(iii) Human growth. Physical growth and development changes in relation to age. Adolescent growth spurt-Effect on training.

(iv) Adolescent growth spurt-its effect on training.

(v) Role of Anthropometry in Talent Identification for Sports

IV **Sports Psychology**

1. **Introduction to Sports Psychology-** Cpncept and importance of Sports Psychology. Cope of Sports Psychology Effect of personality on Sports performance.
2. **Emotional Processes and sports performance**
   - (i) Definition of Emotions , Stress, Fear anxiety and Aggression in Sports.
   - (ii) Role of Thinking and Sport performance
   - (iii) Emotional stability, regulation in sports.
   - (iv) Arousal- Performance relationship in Sports.
3. **Motivation of sports**
   - (i) Meaning of sports motivation, Type of Motivation, Techniques of Motivational enhancement. Achievement Motivation.
   - (ii) Psychological basis of sports motivation.
   - (iii) Interest, attitude, aptitude
   - (iv) Principles and Process of Goal Setting in Sports, Benefits of goal setting.
4. **Psychological Preparation in Sports**
   - (i) Meaning, Importance and concepts of Psychological Preparation
   - (ii) Pre Competition period (Long term and short term preparation)
   - (iii) Competition period.
   - (iv) Optimizing Team behavior and Performance- Difference between team and Group.
   - (v) Application of positive psychology for Excellence in Sports.
   - (vi) Mental Toughness Training -Ideal Performance State
5. **Sociological Issues for optimizing Behavior and Performance.**
   - (i) Social characteristics of sports performance.
   - (ii) Group and Team Work
   - (iii) Basic approaches of Leadership
   - (iv) Concept characteristics and application of Flow State in Sports.

V. **Sports Medicine**

(i) Meaning, definition and importance of Sports Medicine.

(ii) Basic Anatomy of Musculo skeletal system.

(iii) Sports Emergencies and First Aid.

(iv) Injuries in Sports. Management of Sports injuries and its Rehabilitation- Strapping/ Tapping, RICE Therapy.

(v) Major Sports Injuries- Classification of Injuries, skin, Ligament, Bone, Soft tissues and Muscular skeleton problems prevention, Treatment and Rehabilitation.

(vi) Risk factor, preventive measures and prevention of Illnesses in Sports.

(vii) Overuse Injuries, prevention, Treatment and Principal and Phases of Rehabilitation.

(viii) Recovery in Sports. Electrotherapy, manual therapy Exercise therapy.

VI. **Role of Bio Mechanics and its contribution in the field of sports.**

(i) Basic of Kinesiology and its importance in Coaching. Mechanical axis anatomical and standard standing position. Types of Plans and Axis.

(ii) Major muscles, joint and their actions, Types of joints, Types of muscles actions, Major muscles acting at important part of body. Posture Structure of motor action.

(iii) Form of Motion- Linear motion and Angular motion. Displacement speed velocity, Acceleration, Distance and Neutron's low and projectile motions.

(iv) Type of Force- Internal and External forces, Centripetal and Centrifuga force, Principles of force. Friction, Gravitational force.

(v) Leaver, Equilibrium and Stability-Definition, Types of levers Anatomical leaves of body, principles of leverage. Centre of gravity and its importance, Factor affecting stability and equilibrium and their implication.

VII. World/National Anti Doping agency and Anti Doping rule(2010).

(i) Introduction of WADA and NADA.IOC Rules.

(ii) Role of WADA and NADA in Fair Play

(iii) Doping-Definition, Classification , Hazards of Doping. Short and long term, IOC rules & Role of Coach and athlete

(iv) Prohibited Substance.

(v) Testing Procedure.

PAPER –II

Full Marks- 100

PART –A

(Sports Management and Communication Technology)

Marks -25

1. Nature and significance of Management and Sports Management.
2. Function of sports Management.
3. Management of infrastructure & Equipments.
4. Maintenance and Security.
   - (i) Maintenance Schedule
   - (ii) Energy Conservation
   - (iii) Security Survey
   - (iv) Security Solution
   - (v) Play field security
5. Budget
   - (i) Meaning and guideline for budget planning.
   - (ii) Principles of effective budgeting.
6. Management of Sports Event and recreational progress of Health club.
   - (i) Management of sports event (Opening/ Closing ceremony etc.)
   - (ii) Management of Health Club/ Fitness Centre, Sports Tour etc.
   - (iii) Team Management of Coach.
   - (iv) Managers duties.
7. Quality Management
   - (i) Meaning and concept of quality Management
   - (ii) Principles of quality management
   - (iii) Factors affecting quality management
8. Concepts of Crisis management and evaluation plan.
9. Information and Communication technology
   - (i) Concepts, Elements process and Types of Communication technology.
   - (ii) Fundamentals of Computers
   - (iii) Application of Computers, components of Computers, input and output device.
   - (iv) Application software used in sports.
   - (v) Introduction, basic fundamentals and use of MS word. Ms Excel, MS Word, Power point In sports .
   - (vi) Concept Type and Functions of Computer Network, Internet and its Application.
10. Media and sports.

PAPER-II
PART-B

Marks -75

1. History of Development of Sports, Organization and Management of the games.
   - (i) Historical development of games (World, Asia, India)
   - (ii) Structure and functions of controlling bodies of the games.
   - (iii) Glossary of the terms used in games.
   - (i) Organization and Management of sports competition\Competition system including qualifying system followed in the games.
   - (ii) Drawing of fixture, formation of committees and their functions for technical conduct of the games.
   - (iii) Facilities & Equipments
     - (a) Development trends in facilities and equipments
     - (b) Construction and maintenance of track/play field/Court.
2. Rules of games and their interpretation
   - (i) Rules of different game and sports
   - (ii) Mechanics of officiating
   - (iii) Qualification of Umpires/ Referees/Officials (Physical and Mental)
3. Requirement of a Player for high performance
   - (i) Physique
   - (ii) Motor abilities and coordinative abilities.
   - (iii) Intellectual psychological & Psycho- Social abilities.
   - (iv) Technical and Tactical abilities.
   - (v) Knowledge of rule and regulation.
4. Selection of Player
   - (i) Method and procedure followed
   - (ii) Principles followed for first line up for competition.

5. Qualities of a successful Coach
   (i) Philosophy of Coaching
   (ii) Qualities & abilities of Coach
   (iii) Method of teaching and Coaching.
6. Technique/Skill/ Tactic.
   (i) Importance and classification of technique.
   (ii) Description of technical/ Skill of games.
   (iii) Means for evaluation of progress and learning and performance of technique (Skill test, Statistics and Observation).
7. Planning and training for elite sports persons.
   (i) Long term Plan.
   (ii) Yearly Plan (Periodisation)
   (iii) Training Plans n(schedule/Programmers)
   (iv) Meaning and need for evaluation techniques in physical fitness variable (speed, strength, Agility, Endurance and Flexibility etc.)
8. Inspection, Observation and Supervision of Sports Planning/ Coaching of Players.
   (i) Importance , Principle and technique of supervision and inspection of a Sports planning or Coaching of players.
   (ii) Qualities of good supervisor and inspector.