There will be one written paper of two hours duration carrying 100 marks and Internal Assessment of 100 marks.

The written paper will be divided into two Sections, A and B.

Section A: will consist of compulsory short answer questions on Section A of the syllabus.

Section B: Candidates will be required to answer questions on the rules, skills required and the methods of training of any two of the given team games.

PART 1: THEORY – 100 Marks

Section A

1. The Human Anatomy and Physiology
   (i) Skeletal System: Bones
       Identification of the following bones within the body:
   (ii) Functions of the skeletal system.
       Framework and Support, Movement, Protection of vital organs, Mineral storage, Blood cell production.
   (iii) Classification of different types of joints:
       Fixed joints / fibrous joints (skull), Slightly movable joints / cartilaginous joints (knee, elbow), Freely movable joints / Synovial joints (wrist, ankle, shoulder, neck).
       A brief explanation of the above types of joints with examples.
   (iv) Types of joint movements in physical activities
       Hinge joint - Flexion and Extension, Pivot join Rotation, Ball and Socket joint - Flexion, Extension, Adduction, Abduction, Internal and External rotation, Saddle joint - Flexion, Extension, Adduction, Abduction and Circumduction.
       Meaning and examples of each of the above.
   (v) Benefits of exercise on the Skeletal System
       Increases flexibility, makes bones stronger, strengthens joints, Good posture, Brings about a healthy lifestyle.

2. Muscular System
   (i) Types of muscles
       Voluntary/ skeletal, Involuntary/ Smooth/ Cardiac Muscles, Isometric and isotonic
       Meaning of the above along with and difference.
   (ii) Identification of Muscles
       Identification of the following muscles within the body: Latissimus dorsi, Deltoid, Rotator cuffs, Pectorals, Biceps, Triceps, Abdominals, Hip flexors, Gluteals, Hamstring group, Quadriceps group, Gastrocnemius, Tibialis anterior.
(iii) Benefits of exercise on the muscular system.

*Increases strength, endurance and power, better neuromuscular coordination, improves posture, enhances flexibility, decreases chances of injury.*

3. **Respiratory System**

(i) Pathway of Air into the body.

*The mouth/nose, Pharynx, Larynx, Trachea, Bronchi, Bronchioles, Diaphragm, Lungs, Alveoli.*

*A brief understanding of the above with the help of diagrams.*

(ii) Mechanics of Breathing

*External respiration - breathing in oxygen and breathing out carbon dioxide, Diffusion of respiratory gasses in the alveoli, Internal respiration - cellular respiration*

(iii) Oxygen Debt and lactic acid accumulation.

*Meaning only.*

(iv) Second Wind.

*Meaning only.*

(v) Vital capacity and Tidal volume.

*Meaning and difference.*

(vi) Benefits of exercise on the respiratory system.

*Increase in tidal volume, Respiratory muscles become stronger, increase in aerobic endurance, Faster rate of recovery to perform a physical activity.*

4. **Circulatory System**

(i) Structure of the Heart.

*Meaning and functions of: Atria (left and right atria), Ventricles (left and right ventricles), Arteries, Veins, Capillaries.*

(ii) Heart rate, Stroke Volume, Cardiac output.

*Meaning and difference.*

(iii) Mechanism of blood circulation.

*A brief understanding of the process of blood circulation.*

(iv) Blood

(a) Composition of Blood (Plasma, Red blood cells, White blood cells, Platelets).

*Meaning and functions.*

(b) Blood groups - A, B, AB, O and Rh factor; Hemoglobin; Blood pressure

*Brief understanding of the Blood groups; donors and recipients. Hemoglobin: function only; Systolic and diastolic blood pressure (meaning and difference).*

(v) Benefits of exercise on the Circulatory system

*Increase in the size of heart, resting pulse increases, Reduction in heart related problems, Improvement of the cardio – vascular system, Increase in hemoglobin, Faster recovery to normal pulse after physical activity.*

### Section B

Any **two** of the following **games** are to be studied:

Cricket, Football, Hockey, Basketball, Volleyball, Badminton.

The details for each game are given below:

**CRICKET**

1. **Knowledge of the game**

2. **Rules of the game**

   The Field of play: Diagram of the cricket field and pitch with measurements and specifications; The Ball (Shape, Material, Circumference, Weight); The Bat (Length, Width, Material); Stumps and bails (Height, Width); The Players (Number of players (playing eleven and substitutes); Substitutions; The Players’ Equipment; Compulsory equipment; Types of matches (One day, Five days, Four days and T20); Officials and their duties (2 field umpires, 1 third umpire, 1 match referee and 2 scorers); The Ball in and out of Play; Ways of a batsman getting out.

3. **Fundamental skills and technique**

   Batting (On drive, off drive, Square cut and Leg glance); Fielding (Close catching, catching 'In the outfield', Long barrier and Throwing); Bowling (In swing, Out swing, Yorker and Full toss); wicket-
keeping (Footwork, Catching the ball, and Diving).

4. Terminology:

Maiden over, Hat trick, Extra,
Dead rubber, Seam bowling, Over,
No ball, Bouncer, Sight screen,
Bump ball, Danger area, Power play,
Overthrow, Declaration, Appeal,
Bodyline Bowling, Dot ball, Substitute,
Dead ball, Ball-tampering, Century,
Follow-on, Golden duck, Nick,
Nightwatchman, Tail ender, pull shot,
Innings defeat, Cover drive, Innings,
Straight drive, sweep shot, Hook shot,
Reverse sweep, Upper cut, Late cut,
Leg glance, pull shot, Flick shot,
Beamer, Off cutter, Leg cutter,
Short pitch, Full length delivery,
Reverse swing,

5. National and International governing bodies of Cricket

BCCI - Board of Control for Cricket in India
ICC - International Cricket Council.

6. National and International tournaments

National Tournament: Ranji Trophy, Duleep Trophy, Vijay Hazare Trophy, Deodhar Trophy, Irani Trophy, Indian Premier League
International Tournaments: ICC Cricket World Cup, ICC champions Trophy, ICC World T20, World Cricket League.

FOOTBALL

1. Knowledge of the game

2. Laws of the game

The Field of play: Diagram of the Field with Measurements and Specifications, Height and Width of Goalpost, Height of Corner flags
The Ball: Shape, Material, Circumference, weight, Air pressure
The Players: Number of players (playing eleven and substitutes), Number of substitutions allowed

3. Fundamental Skills and Technique

Passing (Short pass and Long pass); Trapping (Step trap, inside trap, Thigh trap, Chest trap and Head trap); Shooting (Instep, Swerve shot, Chip and toe punt); Dribbling; Receiving; Heading; Tackle; Goalkeeping.

4. Terminology

Advantage, Zonal marking, Sliding Tackle, Through pass, Quarter Circle, Man-to-Man Marking, Additional time, Extra time, Nutmeg, One-on-one, Step over,
Technical area, Volley, Half Volley, Attacker, Defender, Chip, Cross, Overlap, Lob,
Banana Kick, Bicycle Kick, Wall Pass, Goal line technology (GLT).
5. National and International Governing Bodies
   AIFF - All India Football Federation
   FIFA - Federation Internationale de Football Association
   IFAB - International Football Association Board

6. National and International Tournaments
   National Tournament: Santosh Trophy, Subroto Cup, Federation Cup, Durand Cup, I – League
   International Tournament: FIFA World Cup, UEFA European Championship, AFC Cup

**HOCKEY**

1. Knowledge of the game

2. Rules of the game
   Field of play: Diagram of the Field with Measurements and Specifications
   Composition of teams: Number of Players, Substitution rule for Field players and Goalkeepers
   Captains: Identity and Responsibility
   Players’ clothing and equipment: Uniform and equipment of field players, Goalkeepers
   Match and result: Duration of the match and half time, Result of match
   Start and re-start of the match: Procedure of Start (centre pass) and Re-start (Bully, Free hit, Second half)
   Ball outside the field: Procedure to re-start from different areas, side line, back line, after every goal
   Method of scoring:
   Conduct of play: Players, Goalkeepers and Players with Goalkeeping Privileges; Umpires (Responsibilities of Umpires).
   Penalties and procedures for taking penalties: Awarding: Free Hit, Penalty Corner and Penalty Stroke; Procedures: Free hit, Penalty corner, Penalty stroke
   Personal Penalties: Cautions (Verbal warning); Temporary suspension: Green Card - 2 minutes suspension, Yellow Card- 5 minutes suspension; Permanent suspension (Red Card)

3. Equipment Specifications
   Field Equipment: Goal-post: (side board, back board and net); Flag post
   Hockey Stick (Specification and Properties)
   Ball: Shape, Material, Circumference, Weight, Colour

4. Fundamental Skills and Technique
   Passing (Push, Drive and Sweep)
   Trap (Upright stop & Flat stop)
   Dribbling (Straight dribble, Loose dribble, Indian dribble, Dribbling pull back, One hand dribble: right hand and reverse side) Shooting, Goalkeeping

5. Terminology
   Forehand, Stick, Dangerous Play, Tackle, Back
   Obstruction, Raised Ball, Field Goal, High Stick
   Hooking, Reverse stick, Push, Scoop
   Advantage, Flick, High ball
   Shooting circle, Under cutting, Jab
   Foot, Give-and-go, Centre pass
   Revers, Centre pass, Back pass
   Reverse hit, Rebound, Rusher, Long
   Corner, Through pass, Stroke

6. National and International Governing Bodies
   FIH - Fédération Internationale de Hockey (French)
   IHF - Indian Hockey Federation

7. National and International Tournaments
   National Tournaments: All India Gurmeet Memorial Hockey Tournament. Chandigarh, All India Chhatrapati Shivaji Hockey Tournament. Delhi, All India Indira Gold Cup Hockey Tournament, Jammu.
   International Tournaments: Sultan Azlan Shah Hockey Tournament, World Hockey Cup, Champions Trophy.

**BASKETBALL**

1. Knowledge of the game

2. Rules and Regulations of the Game
   Court: Diagram of the court with Dimensions and
Specifications, Meaning of Court areas, lines, circle, semi-circle, position of the scorer's table and substitution chairs.
Equipment needed to conduct the game
Teams: Definition, Rules, Players uniform
Injured players
Captain and Coaches: Duties and powers
Duration of Play
Playing time, Tied score and Extra periods
Status of the ball: Ball Live, Ball Dead
Jump ball and Alternating possession: Jump ball: Definition, Procedure and Situations; Alternating possession: Definition and Procedure
How the ball is played: Definition and Rule
Control of Ball: Definition, Team Control: Continues and Ends
Goal: When made and its value, Definition, Rule of scoring
Throw-in, time-out, substitution: Definition, Rules and procedures.
Game Lost by Forfeit, default, violation: Rules and Penalty
Player out of bounce and Ball Out of Bounds: Definition and Rule
Dribbling: Definition, a dribble starts, a dribble ends, rule for dribbling
Travelling: Definition, Pivot
Closely Guarded Player: Definition and Rule
3 Seconds rule, 8 Seconds rule, 24 Seconds rule and procedure
Ball returned to backcourt: Definition, Rule and Penalty
Goaltending and Interference: Definition and rule; Meaning and penalty of Interference; Penalty for The Respective Violations.
Fouls – Definition; Personal Foul, Double Foul - Definition and Penalty; Technical Foul: Rules of conduct, Violence, Definition and Penalty; Unsportsmanlike Foul, Disqualifying foul - Definition and Penalty.
Fighting - Definition, Rule and Penalty; Penalty for the respective Fouls; Five fouls by a player; Team fouls: Definition and Rule.
Contact: General principles: Cylinder principle, Principle of verticality, Legal guarding position, guarding a player who controls the ball, Guarding a player who does not control the ball, A player who is in the air, Screening (Legal and Illegal), Charging, Blocking, No charge semi-circle areas, Contacting an opponent with the hand(s) or arm(s), Holding, Pushing
Free Throws - Definition, Rule and Penalty
Duties and Powers of: Officials, Table officials and Commissioner; Referee; Scorer and Assistant Scorer; Timer; Short clock operator.

3. **Fundamental Skills and Technique**
Dribbling (high dribble, change of pace, crossover, between the legs and behind the back)
Passing (chest pass, bounce pass, baseball pass, outlet pass and no-look pass)
Shooting (layup, jump shot, hook shot, free throw, bank shot and slam dunk)
Defence (man to man defence, zone defence and combination defence)
Offence (early offence, set offence, motion offence, zone offence and spread offence)
Rebounding (Offensive and Defensive)
Pivot

4. **Terminology**
Drive, Fake, Fast Break,
Blocking, Charge, Carry,
Screen, Double Dribble, Travel,
Triple Threat, Ball Handler, Dead Ball,
Front Court, Loose Ball, Held Ball,
Dunk, Field Goal, Alley-Oop,
Back Court, Press, Box out,
Double foul, Jump stop, Timeout
Air ball, Jump ball, Game clock,
Block, Possession arrow
5. National and International Governing Bodies of Basketball
   BFI - Basketball Federation of India
   FIBA - Federation Internationale De Basketball

6. National and International tournaments
   National Tournaments: Youth National Basketball Championships, Federation Cup Basketball Championship, UBA Pro Basketball League
   International Tournaments: FIBA World Championship, European Basketball Championship, FIBA Asia Championship

VOLLEYBALL

1. Knowledge of the game

2. Rules of the game
   Playing Area: Diagram of the Play Area with Measurements and Specifications; Diagram of Net, Antenna and Posts with measurements and specifications
   Ball: Shape, Material, Weight, Circumference, Air Pressure
   Composition of teams
   Players equipment and forbidden objects
   Team Leaders: Responsibility of Captain, Coach and Assistant coach
   Playing Format: To score a point, To win a set, To win the match
   Structure of Play: The Toss, Official warm-up session, Team starting line-up, Positions and Positional fault, Rotation and Rotation fault
   States of Play: Ball in play, Ball out of play, Ball "IN", Ball "OUT"
   Playing the ball: Team Hits, Characteristics of the hit, Faults in playing the ball, Ball at the net, Ball crossing the net, Ball touching the net, Ball in the net
   Player at the net: Reaching beyond the net, Penetration under the net, Contact with the net, Player's faults at the net
   Service: First service in a set, Service order, Authorization of the service, Execution of the service, Screening, Faults made during service, Serving faults and Positional faults
   Attack hit: Characteristics, Restrictions, Faults
   Block: Blocking, Block contact, Blocking within the opponent's space, Block and team hits, Blocking the service, Blocking faults
   Interruptions, Delays and Intervals: Interruptions (meaning); Number of regular game interruptions; Sequence of regular game interruptions; Request for regular game interruptions;
   Time-outs and Technical time-outs
   Exceptional game interruptions: Injury/illness, External interference, Prolonged interruptions
   Substitution: Limitation, Exceptional, Expulsion/disqualification, Illegal, Procedure, Improper request
   Game delays: Types of delays, Delay sanctions
   Intervals and change of court
   Libero player: Designation of the Libero, Equipment, Actions involving the libero, Re-designation of a new libero
   Participants' conduct: Sportsmanlike conduct, Fair play
   Misconduct and its sanctions: Minor misconduct, Misconduct leading to sanction, Sanction scale, Cards used: Warning (Verbal and Yellow card); Penalty (Red card); Expulsion (Red plus Yellow card jointly); Disqualification (Red plus Yellow card separately)
   Referees: Composition, Procedures, Location, Authority and Responsibilities of: First referee, Second referee, Scorer, Assistant scorer, Line judges.
3. **Fundamental Skills and Techniques**

   **Service** (Underhand, Topspin, Float, Jump serve and Jump float)
   **Pass** (Underarm pass and Overhand pass)
   **Set** (Overhead and Bump)
   **Attack/spike** (Backcourt, Line and cross-court shot, Dip, Block-abuse, Off-speed hit, Quick hit, Slide and Double-quick hit)
   **Block** (Single block, Double block and Triple block)
   **Dig**

4. **Terminology**

   - Back row attack, Block assist, Side out,
   - Blocking error, Floater, Two set,
   - Extension roll, Free ball, Joust,
   - Overlapping, Back set, Carry,
   - Closing the block, Ball down, Quick set,
   - Serving zone, Defence zone, Attack zone,
   - Foot fault, Net violation, Trap set,
   - Reading an opponent,
   - Cross-court attack

5. **National and International Governing Bodies of Volleyball**

   - VFI - Volleyball Federation of India
   - FIVB - Federation International De Volleyball

6. **National and International tournaments**

   - National Tournaments: Indian Volleyball League, Federation Cup, Poornima Trophy
   - International Tournaments: World Championship, World Cup Volleyball, Super Challenge Cup

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**BADMINTON**

1. **Knowledge of the game**

2. **Rules of the game**

   - Court: Diagram of the court with Measurements and Specifications, Court equipment (Posts and Net)
   - Shuttle: Dimensions and Specifications, Testing a shuttle for speed
   - Racket: Diagram of the racket with Measurements and Specifications
   - Toss: Procedure
   - Scoring system
   - Change of ends
   - Service: Singles (serving and receiving courts); Doubles: Serving and receiving courts, Order of play and position on court, Scoring and serving, Sequence of serving
   - Service court errors
   - Lets
   - Shuttle not in play
   - Continuous play, Misconduct and Penalties
   - Officials duties and appeals: Referee, Umpire, Service judge, Line judges

3. **Fundamental Skills**

   - **Grip** (Forehand grip and Backhand grip)
   - **Footwork**
   - **Serve** (High serve, Low serve, Flick serve)
   - **Strokes** (Overhead forehand stroke, Overhead backhand stroke, Underarm forehand stroke and Underarm backhand stroke)
   - **Shots** (Clearing/lobbing, Drop shots and Smash)

4. **Terminology**

   - Short serve, Long serve, Wide serve
   - Service order, Love, All,
   - Deuce, Forecourt, Mid-court,
   - Rear court, Rally, Set,
   - Rubber, Lunge, Clear lob,
   - Half smash, Full smash, Carry,
   - Baseline smash, Drive, Push shot,
   - Tumbling net shot, Net kill, Net lift
   - Hairpin net shot, Alley, Back alley,
   - Follow through, Court, Wood shot
   - Flick, Bird,
   - Singles footwork base

5. **National and International Governing Bodies of Badminton**

   - BAI - Badminton Association of India
   - BWF - Badminton World Federation

6. **National and International tournaments**

   - National Tournaments: Indian Open Badminton Championship, Senior National Badminton
championship.

International Tournaments: World Championship, Thomas Cup.

PART 2: INTERNAL ASSESSMENT - 100 Marks

Please note the guidelines for internal assessment as given for Class X.