

PHYSICAL EDUCATION (72)

Aims:

1. To create an awareness of the necessity for vigour and efficiency through physical fitness.
2. To develop knowledge and understanding of the requirements for healthy living, nutrition, exercise and relaxation.
3. To create awareness of the necessity to develop good posture and physical poise.
4. To develop knowledge and understanding of skills relating to leisure time activities and of a recreational nature.
5. To create opportunities to develop 'esprit de corps', courtesy, sportsmanship, social skills, democratic conduct and ideals.
6. To develop appreciation of the aesthetic and cultural aspects of movement.

CLASS IX

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

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:

Neck – Cranium and Vertebrae, Shoulder – Scapula and Clavicle, Thorax – Ribs and Sternum, Fore limb – Humerus, radius, Ulna, Carpals, Metacarpals and Phalanges, Spine – Vertebrae, Hip – Pelvis, Hind limb – Femur, Patella, Fibula, Tibia, Tarsals, Metatarsals and Phalanges.

(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 joint 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.

5. Games and Sports

Games and sports and their psychological and social benefits.

Meaning and difference between Games and sports;

Psychological and social benefits: build confidence, bring about emotional control, lead to spirit of competitiveness, development of positive attitude, right attitude towards winning and losing, camaraderie, respecting authority, self-esteem, patience, resilience, cooperation, team work, sportsmanship, fair play, leadership, time management.

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 in a match, Substitution procedure

The Players' Equipment, Compulsory Equipment

The Referee: Powers and Duties, Compulsory Equipment, Referee signals

Other match officials: Assistant Referees: Duties and Signals; Fourth official: Duties; Additional assistant referee: Duties; Reserve assistant referee: Duties

The Duration of the Match: Periods of play, Half-time interval, Allowance for time lost, Penalty kick, Abandoned match

The Start and Restart of Play: Kick-off and its Procedure (start, both halves, both halves of extra time and restarts play after a goal), Free kicks and its Procedure (Direct and Indirect), Penalty Kicks and its Procedure, Throw-in and its Procedure, Goal kicks and its Procedure, Corner Kicks and its Procedure

The Ball in and out of Play

Determining the outcome of a match: Goal scored, Winning team, Kicks from the penalty mark

Offside: Offside position, Offside offence, No offence

Fouls and Misconduct: Direct free kick, Indirect free kick, Disciplinary action (Yellow card and Red card), Restart of play after fouls and misconduct.

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,	Playing Distance,	Tackle,
Back Stick,	Dangerous Play,	Field Goal,
Obstruction,	Raised Ball,	High Stick,
Hooking,	Reverse stick,	Push,
Scoop, Advantage	Flick,	High ball,
Shooting circle,	Under cutting,	Jab,
Foot,	Give-and-go,	Carry the
ball,	Centre pass,	Back pass,
Reverse hit,	Rebound,	Rusher,
Long corner,	Through pass,	Stroke,
Cross,	16-yard hit,	

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

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.