## 27. Physical Education (Code No. 048)

It covers the following aspects:

Eligibility Conditions for Admission to the course, Conditions for Granting Affiliation to Schools for offering Physical Education as an Elective subjects, Norms for Physical Fitness Test (For use at the time of Admission), Theory Syllabus (Class XIIth), Theory Syllabus (Class XIIth), Pratical Activity Syllabus (Class XI and XII th) - Part-A, Part-B, Part-C, Part-D, Design of the Question Paper -I, Marketing Scheme Question Paper-I, Blue Print, Simple Question Paper-I, Marking Scheme Question Paper-II, Blue Print, Sample Question Paper-II.

## ELIGIBILITY CONDITIONS FOR ADMISSION TO THE COURSE

The following category of Students will be permitted to join the course:

- 1- Those who have represented the school in Inter-school Tournaments in any game/sport.
- 2- Those who do not represent the school but are keen to join the course should undergo a physical fitness test and secure a minimun of 40 % marks. The norms of the test to be used for ascertaining eligibility is given on page 2.
- 3- Those granted permission to join the course should be medically fit to follow a prescribed programme of physical education.
- 4- The unit of a class in physical education and health education should not exceed 40 students.
- 5- Instructional hours and duration of the period should be strictly as per the norms of the Board.

## CONDITIONS FOR GRANTING AFFILIATION TO SCHOOLS FOR OFFERING PHYSICAL EDUCATION AS AN ELECTIVE SUBJECT

Only those schools satisfying the following conditions will be permitted to offer physical education as a course of study at +2 stage as an elective subject :

- 1- The schools should have adequate open space to accommodate at least 200 mts. Track and play fields for minimum three games/sports.
- 2- The teacher handling the elective programme of physical education should hold a Master Degree in Physical Education.
- 3- The school should provide adequate funds for physical education and health education for the purchase of equipments, books on physical education and also for the maintenance of sports facilities.

## PHYSICAL FITNESS TEST (For admission) NORMS FOR PHYSICAL FITNESS TEST

(Boys)

Points Marks	100 mts.	12 min. Run/Wal	Long k Jump	Cricket Ball throw	Shuttle Run (4X10 Mts.)
	(Sec.)	(Mts.)	(Mts.)	(Mts.)	(Sec.)
10	12.0	2000	5.50	70	8.5
09	12.5	1900	5.25	65	9.0
08	13.0	1800	5.00	60	9.4
07	13.5	1700	4.80	55	9.7
06	13.8	1650	4.65	50	10.0
05	14.0	1600	4.50	45	10.3
04	14.5	1550	4.35	40	10.6
03	14.8	1450	4.10	35	11.0
02	15.3	1350	3.85	30	11.5
01	15.8	1250	3.60	25	12.0

## NORMS FOR PHYSICAL FITNESS TEST (Girls)

Points Marks	100 mts.	12 min. Run/Wal	Long lk Jump	Cricket Ball throw	Shuttle Run (4X10 mts.)
	(Sec.)	(Mts.)	(Mts.)	(Mts.)	(Sec.)
10	14.0	1700	5.0	50	9.5
09	14.5	1600	4.75	46	10.0
08	15.0	1500	4.50	42	10.5
07	15.5	1400	4.25	38	11.0
06	16.0	1300	4.00	34	11.5
05	16.5	1200	3.75	30	12.0
04	17.0	1100	3.50	26	12.5
03	17.5	1000	3.25	22	13.0
02	18.0	900	3.00	18	13.5
01	18.5	800	2.75	14	14.0

## **Physical Education**

## Class XII

## PART - A

#### **THEORY**

#### 1- PHYSICAL FITNESS AND WELLNESS

- 1.1 Meaning and Importance of Physical Fitness and Wellness
- 1.2 Components of Phycical Fitness and Wellness
- 1.3 Factors affecting Physical Fitness and Wellness
- 1.4 Principles of Physical Fitness development
- 1.5 Means of fitness development
- 1.5.1 Aerobic Activities-Jogging, Cycling Calisthenics and Rhythmic exercises.
- 1.5.2 Participation in Games and sports.
- 1.5.3 Circuit Training.

## 2- TRAINING METHODS

- 2.1 Meaning and Concept of Training
- 2.2 Warming up, Limbering down and their importance
- 2.3 Methods of Training
- 2.3.1 Methods of Strength Development-Isometric, and Isokinetic Exercises.
- 2.3.2 Methods of Endurance Development-Continuous Method, Interval Training and Fartlek.
- 2.3.3 Methods of Speed Development-Acceleration Runs and Pace Race.

## 3- SOCIOLOGICAL ASPECTS OF PHYSICAL EDUCATION

- 3.1 Meaning of Sociology and its importance in Physical Education and Sports.
- 3.2 Games and Sports as man's cultural heritage.
- 3.3 Development of leadership qualities and group dynamics.

#### PART-B

- 1 History of the game/sport (Any one game/sport of student's choice)
- 2 Latest general rules of the game/sport (Any one game/sport of student's choice)
- 3 Measurement of play fields and specifications of sports equipment
- 4 Fundamental skills of the game/sport
- 5 Related sports terminologies
- 6 Important tournaments and venues
- 7 Sports personalities
- 8 Sports Awards

## PART - C

## 1- HEALTH FUL LIVING

- 1.1 Concept of environment
- 1.2 Scope of environment-living environment, work place environment and environment for leisure activities.
- 1.3 Essential elements of healthful environment- safe water, low levels of noise, clean air, sanitary surrounding, low levels of radio active radiations and absence of hazards responsible for accidents in (i) home and neighbourhood in rural and urban areas (ii) school and work place (iii) during leisure time activities-recreation and sports.
- 1.4 Role of individual in improvement of environment for health promotion and prevention of accidents related to transportation swimming and water sports.
- 1.5 Disaster preparedness and health care during disasters.

## 2- FAMILY HEALTH EDUCATION -

- 2.1 Meaning and functions of family and its importance as a social institution
- 2.2 Needs and problems of adolescents and their management
- 2.3 Human reproduction-menstruation, conceptional and prenatal care
- 2.4 Problems associated with pre-marital sex and teenage pregnancies
- 2.5 Preparation of marriage.
- 2.6 Role of parents in child care.

## 3- PREVENTION AND FIRST AID FOR COMMON SPORTS INJURIES

- 3.1 Soft Tissue Injuries- sprain and strain
- 3.2 Bone Injuries
- 3.3 Joint Injuries

## PRACTICAL (FOR Class XI & XII)

The activity syllabus has been divided into following three parts. The marks of each part are as follows

Part-A	Physical Fitness Test (Compulsory)	-	10 Marks
Part-B	Track and Field (Two events)	-	10 Marks
Part-C	<b>Games and Sports (One Game)</b>	-	10 Marks

# PHYSICAL FITNESS NORMS FOR PHYSICAL FITNESS TEST (Boys)

Points Marks	100 mts.	12 min. Run/Wal	Long k Jump	Cricket Ball throw	Shuttle Run (4X10 mts.)
	(Sec.)	(Mts.)	(Mts.)	(Mts.)	(Sec.)
10	12.0	2000	5.50	70	8.5
09	12.5	1900	5.25	65	9.0
08	13.0	1800	5.00	60	9.4
07	13.5	1700	4.80	55	9.7
06	13.8	1650	4.65	50	10.0
05	14.0	1600	4.50	45	10.3
04	14.5	1550	4.35	40	10.6
03	14.8	1450	4.10	35	11.0
02	15.3	1350	3.85	30	11.5
01	15.8	1250	3.60	25	12.0

## NORMS FOR PHYSICAL FITNESS TEST (Girls)

Points Marks	100 mts.	12 min. Run/Wal	Long lk Jump	Cricket Ball throw	Shuttle Run (4X10 mts.)	
	(Sec.)	(Mts.)	(Mts.)	(Mts.)	(Sec.)	
10	14.0	1700	5.0	50	9.5	
09	14.5	1600	4.75	46	10.0	
08	15.0	1500	4.50	42	10.5	
07	15.5	1400	4.25	38	11.0	
06	16.0	1300	4.00	34	11.5	
05	16.5	1200	3.75	30	12.0	
04	17.0	1100	3.50	26	12.5	
03	17.5	1000	3.25	22	13.0	
02	18.0	900	3.00	18	13.5	
01	18.5	800	2.75	14	14.0	

## PART-B TRACK AND FIELD

## (Any two from the following in each year)

10 Marks

The events to be selected each year must be different (10 marks for each event)

## 1- SPRINTS AND RELAYS

- (i) Practice of starts with blocks using proper command.
- (ii) Time action period Reaction time, block clearance time, acceleration time, velocity maintenance time, finish time.

## Scheme of grading:

## (a) 100m Run

Boys	Girls
11.5 Sec. and below = $A1$	13.7  Sec to  14.4  Sec = A1
11.6 Sec. to $12.3 \text{ Sec} = A2$	14.5  Sec to  15.2  Sec = A2
12.4  Sec. to  13.1  Sec = B1	15.3  Sec to  16.0  Sec = B1
13.2  Sec. to  13.9  Sec = B2	16.1  Sec to  16.8  Sec = B2
14.0  Sec. to  14.7  Sec = C1	16.9  Sec to  17.7  Sec = C1
14.8  Sec. to  15.5  Sec = C2	17.8  Sec to  18.5  Sec = C2
15.6 Sec. to $16.3 \text{ Sec} = D1$	18.6  Sec to  19.3  Sec = D1
16.4  Sec. to  17.1  Sec = D2	19.4  Sec to  20.1  Sec = D2
17.2 and above = E	20.2  Sec and above = E

## (b) 200m Run

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Boys	Girls
25.0  Sec. and below = A1	24.0  Sec and $below = A1$
25.1  Sec. to  26.0  Sec = A2	24.1  Sec to  27.0  Sec = A2
26.1  Sec. to  27.0  Sec = B1	27.1  Sec to  30.0  Sec = B1
27.1  Sec. to  28.0  Sec = B2	30.1  Sec to  33.0  Sec = B2
28.1  Sec. to  29.0  Sec = C1	33.1  Sec to  36.0  Sec = C1
29.1 Sec. to $31.0 \text{ Sec} = \text{C2}$	36.1  Sec to  39.0  Sec = C2
30.0  Sec. to  31.0  Sec = D1	39.1  Sec to  42.0  Sec = D1
31.1  Sec. to  32.0  Sec = D2	42.1  Sec to  45.0  Sec = D2
32.1 and above = E	45.1  Sec and above = E

## (c) 400m Run

Boys	Girls
56.0  Sec. and $below = A1$	68.0  Sec and $below = A1$
56.1  Sec. to  58.0  Sec = A2	68.1  Sec to  71.0  Sec = A2
58.1  Sec. to  60.0  Sec = B1	71.1  Sec to  74.0  Sec = B1
60.1  Sec. to  62.0  Sec = B2	74.1  Sec to  77.0  Sec = B2
62.1  Sec. to  64.0  Sec = C1	77.1  Sec to  80.0  Sec = C1
64.1  Sec. to  66.0  Sec = C2	80.1  Sec to  83.0  Sec = C2
66.1  Sec. to  68.0  Sec = D1	83.1  Sec to  86.0  Sec = D1
68.1  Sec. to  70.0  Sec = D2	86.1  Sec to  89.0  Sec = D2
70.1 and above = E	89.1  Sec and above = E

## 2- MIDDLE AND LONG DISTANCE RACES

- (i) Practice of standing start using proper command.
- (ii) Technique of endurance running

## **Scheme of Grading**

## (d) 800m Run

Boys	Girls
2.10.0 Sec. and below = A1	2.45.0 Sec
2.10.1  Sec. to  2.20.0  Sec = A2	2.45.1 Sec
2.20.1  Sec. to  2.30.0  Sec = B1	2.55.1 Sec
2.30.1  Sec. to  2.40.0  Sec = B2	3.05.1 Sec
2.40.1  Sec. to  2.50.0  Sec = C1	3.15.1 Sec
2.50.1  Sec. to  3.00.0  Sec = C2	3.25.1 Sec
3.00.1  Sec. to  3.10.0  Sec = D1	3.35.1 Sec
3.10.1  Sec. to  3.20.0  Sec = D2	3.45.1 Sec
3.20.1 and above = E	3.55.1 Sec

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and below = A1 to 2.55.0 Sec = A2 to 3.05.0 Sec = B1 to 3.15.0 Sec = B2 to 3.25.0 Sec = C1 to 3.35.0 Sec = C1 to 3.45.0 Sec = D1 to 3.55.0 Sec = D2 and above = E

## (e) 1500m Runs (boys only)

- 4.40.0 Sec. and below = A1 4.40.1 Sec. to 4.50.0 Sec = A2 4.50.1 Sec. to 4.50.0 Sec = B1 5.00.1 Sec. to 5.10.0 Sec = B2 5.10.1 Sec. to 5.20.0 Sec = C1 5.21.1 Sec. to 5.30.0 Sec = C2 5.31.1 Sec. to 5.40.0 Sec = D1 5.40.1 Sec. to 5.50.0 Sec = D2 5.50.1 and above = E
- (f) 300m Runs (For boys only)
  - 10.30.0 Sec. and below = A1 10.30.1 Sec. to 10.00.0 Sec = A2 11.00.1 Sec. to 11.30.0 Sec = B1 11.30.1 Sec. to 12.00.0 Sec = B2 12.00.1 Sec. to 12.30.0 Sec = C1 12.30.1 Sec. to 13.00.0 Sec = C2 13.00.1 Sec. to 13.30.0 Sec = D1 13.30.1 Sec. to 14.00.0 Sec = D2 14.00.1 and above = E

#### **HURDLES**

- (i) Swinging leg action.
- (ii) Trailing leg action.
- (iii) Position of the body while clearing the hurdle.
- (iv) Arm action
- (v) Developing rhythm from start to first hurdle and in between the hurdles

## Scheme of Grading

eme of Grading	
Boys (110 m)	Girls (100 m)
20.0  Sec. and below = A1	20.0  Sec and $below = A1$
20.1  Sec. to  21.0  Sec = A2	20.1  Sec to  21.0  Sec = A2
21.1  Sec. to  22.0  Sec = B1	21.1  Sec to  22.0  Sec = B1
22.1  Sec. to  23.0  Sec = B2	22.1  Sec to  23.0  Sec = B2
23.1  Sec. to  24.0  Sec = C1	23.1  Sec to  24.0  Sec = C1
24.1  Sec. to  25.0  Sec = C2	24.1  Sec to  25.0  Sec = C2
25.0  Sec. to  26.0  Sec = D1	25.1  Sec to  26.0  Sec = D1
26.1  Sec. to  27.0  Sec = D2	26.1  Sec to  27.0  Sec = D2
27.1 and above = E	27.1  Sec and above = E

#### (c) 400m Hurdles (for boys)

- 65.0 Sec. and below = A1 65.1 Sec. to 68.0 Sec = A2
- 68.1 Sec. to 71.0 Sec = B1
- 71.1 Sec. to 74.0 Sec = B2
- 74.1 Sec. to 77.0 Sec = C1
- 77.1 Sec. to 80.0 Sec = C2
- 80.1 Sec. to 83.0 Sec = D1
- 83.1 Sec. to 86.0 Sec = D2
- 86.1 and above = E

## **Broad Jump**

- Approach run
- Take off
- Flying phase (running in the air style)
- Landing

## **Scheme of Grading:**

Boys	Girls
5.50  mts. and above $= A1$	5.00  mts. and above = A1
5.00  mts. to  5.49  mts. = A2	4.50  mts. to $4.99  mts. = A2$
4.50  mts. to  4.99  mts. = B1	4.00  mts. to  4.49  mts. = B1
4.00  mts. to  4.49  mts. = B2	3.50  mts. to $3.99  mts. = B2$
3.50  mts. to  3.99  mts. = C1	3.00  mts. to  3.49  mts. = C1
3.00  mts. to  3.49  mts. = C2	2.50  mts. to $2.99  mts. = C2$
2.50  mts. to  2.99  mts. = D1	2.00  mts. to  2.49  mts. = D1
2.00  mts. to  2.49  mts. = D2	1.50  mts. to  1.99  mts. = D2
2.00 and below = E	1.49 and below = E

## TRIPLE JUMP (Boys Only)

- Approach run
- Take off
- Performance of hop, step and jump
  - Landing

## **Scheme of Grading:**

- 12 mts. and above = A1
- 11.50 mts. to 11.99 mts. = A2
- 11.00 mts. to 11.49 mts. = B1
- 10.50 mts. to 10.99 mts. = B2
- 10.00 mts. to 10.49 mts. = C1
- 9.50 mts. to 9.99 mts. = C2
- 9.00 mts. to 9.49 mts. = D1
- 8.50 mts. to 8.99 mts. = D2
- 8.49 and below = E

## **HIGH JUMP**

- Approach run
- Take off
- Flying phase (straddle roll)
- Landing

## **Scheme of Grading:**

Boys	Girls
1.79 mts. and above $= A1$	1.50  mts. and above = A1
1.60  mts. to $1.69  mts. = A2$	1.45  mts. to  1.49  mts. = A2
1.50  mts. to $1.59  mts. = B1$	1.40  mts. to  1.44  mts. = B1
1.40  mts. to  1.49  mts. = B2	1.30  mts. to $1.39  mts. = B2$
1.30  mts. to $1.39  mts. = C1$	1.20  mts. to  1.29  mts. = C1
1.20 mts. to 1.29 mts. $=$ C2	1.10  mts. to  1.19  mts. = C2
1.10  mts. to $1.19  mts. = D1$	1.00  mts. to  1.09  mts. = D1
1.00  mts. to  1.09  mts. = D2	0.90  mts. to $0.99  mts. = D2$
0.99  mts. and below = E	0.89  mts. and below = E

## **SHOT PUT**

- Stance
- Glide
- Release
- Reverse

## **Scheme of Grading:**

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Boys	Girls
10 mts. and above $= A1$	8.50  mts. and above = A1
9 mts. to $9.99$ mts. = A2	7.50  mts. to  8.49  mts. = A2
8 mts. to $8.99$ mts. = $B1$	6.50  mts. to  7.49  mts. = B1
7 mts. to $7.99$ mts. = B2	5.50  mts. to $6.49  mts. = B2$
6 mts. to 6.99 mts. = C1	4.50  mts. to $5.49  mts. = C1$
5 mts. to $5.99$ mts. = $C2$	3.50  mts. to  4.49  mts. = C2
4 mts. to 4.99 mts. = D1	3.00  mts. to  3.49  mts. = D1
3 mts. to $3.99$ mts. = D2	2.50  mts. to $2.99  mts. = D2$
2.00  mts. and below = E	2.49  mts. and below = E

## **DISCUS THROW**

- Stance
- Preliminary Swings
- Throws with one and one and a half turn
- Reverse

## **Scheme of Grading:**

Boys	Girls
25 mts. and above $= A1$	20 mts. and above $= A1$
22 mts. to 24.99 mts. $=$ A2	17 mts. to $19.99$ mts. = A2
19 mts. to $21.99$ mts. = $B1$	14 mts. to $16.99$ mts. = B1
16 mts. to $18.99$ mts. = $B2$	11 mts. to $13.99$ mts. = B2
13 mts. to $15.99$ mts. = C1	8 mts. to $10.99$ mts. = C1
10 mts. to $12.99$ mts. = $C2$	5 mts. to $7.99$ mts. = C2
7 mts. to $9.99 \text{ mts.} = D1$	4 mts. to $4.99$ mts. = D1
4 mts. to 6.99 mts. = D2	3 mts. to $3.99$ mts. = D2
3.99  mts. and below = E	2.99  mts. and below = E

## **JEVELIN THROW**

- Grip
- Javelin Carrying
- Transition from approach to five stride rhythm
- Release
- Reverse

## **Scheme of Grading:**

Boys	Girls
35 mts. and above $= A1$	22 mts. and above $= A1$
32 mts. to $34.99$ mts. = A2	19 mts. to $21.99$ mts. = A2
29 mts. to $31.99$ mts. = B1	16 mts. to $18.99$ mts. = $B1$
26  mts. to  28.99  mts. = B2	13 mts. to $15.99$ mts. = B2
23 mts. to 25.99 mts. $=$ C1	11 mts. to $12.99$ mts. = C1
20 mts. to 22.99 mts. $=$ C2	9 mts. to $10.99$ mts. = $C2$
17 mts. to 19.99 mts. = D1	7 mts. to $8.99$ mts. = D1
14 mts. to $16.99$ mts. = D2	5 mts. to $6.99$ mts. = D2
13.99 mts. and below $=$ E	4.99 mts. and below $=$ E

#### PART - C

Team **Games** 

**(10 Marks)** 

(Any two from the following in each year. Different games or sports to be taken each year)

#### 1. HOCKEY

#### **Skills**

## I. Straight Hitting Stopping

- (a) Reverse hitting and stopping
- (b) Hitting on the wrong foot

## II. Straight push and Stopping

- (a) Reverse push and stopping
- (b) Pushing on the wrong foot

## III. Scooping

- (a) Push scoop
- (b) Shoveling

## IV. Flick

- (a) Straight Flick
- (b) Reverse Flick
- (c) Flick on the wrong foot

## V. Dribbling and Carrying the Ball'

## VI. Passing

- (a) Through pass
- (b) Return pass
- (c) Deflection pass
- (d) Interchanging position

## VII. Dodging

- (a) Dodging to the opponents left
- (b) Dodging to the opponents right
- (c) Double dodging

#### VIII. Different Techniques of

- (a) Penalty Corner
- (b) Corner
- (c) Penalty Stroke
- (d) Push in
- (e) Goal Keeping

## IX. Tacking

- (a) Lunging
- (b) Feinting

## X. Positional Play in Attack

- **XI.** Positional Play in Defence
- XII. Simple strategies and tactics in attack and defence
- XIII. Lead up games, drills, minor games and relays for the improvements of techniques of all the fundamental skills.

## **Scheme of Grading**

50% marks will be awarded on the basis of Students performance on objective test and 50% on the basis of rating in actual play and preferably by panel of three professional teachers in Physical Education.

- 1- Dribbling and Dodging:
  - 5 flags are placed in a line 5 feet from each other. Players dribble the ball zig

zag and dodge-in-between the flages to the end of the line and back again 2 chances.

## 2- Pushing:

Pushing from a distance of 30 yards for boys and 20 yards for girls. Nine attempts. One point for each successful try.

## **3-** Hitting for distance :

From goal line towards goal (better of the two trials)

Dove	Grils
Boys	Griis
Distance	Distance
Above $80 \text{ mts.} = A1$	Above 50 mts. $=$ A1
70 to 79 mts. = $A2$	45  to  49  mts. = A2
60  to  69  mts. = B1	40  to  44  mts. = B1
50  to  59  mts. = B2	35  to  39  mts. = B2
40  to  49  mts. = C1	30  to  34  mts. = C1
30  to  39  mts. = C2	25  to  29  mts. = C2
20 to 29 mts.= D1	20  to  24  mts. = D1
10 to 19 mts. $=$ D2	10  to  19  mts. = D2
10 mts. and below = $E$	10 mts. and below = $E$

4- Test for Tackling

Marks will be awarded on the basis of performance.

2. Table Tennis

#### Skills

## 1- Service

- (a) Chopped service
- (b) Side spin service
- 2- Strokes
  - (a) Defensive strokes:
    - (1) Block return
    - (2) Balloon return
    - (3) Chopping the top spin drives(forehand and backhand)
    - (4) Flat return
  - (b) Attacking strokes:
    - (1) Stop ball
    - (2) Loop top spin ball
    - (3) Side spin ball
    - (4) Flat hit (forehand and backhand)
    - (5) Chop attack (forehand and backhand)
- 3- Receiving:
  - (a) Receiving side spin service
    - (1) Forehand side spin service
    - (2) Forehand shoulder level, side spin service
    - (3) Backhand side pull service
  - (b) Reciving different types of storkes:
    - (1) From all the attacking strokes taught so far
    - (2) From all the defensive strokes taught so far
- 4- Tactics
  - (a) Mid-distance (All rounders) tactics
  - (b) Variation tactics
  - (c) Anticipation

- (d) Playing position
- (e) Foot work

## **Scheme of Grading**

50% marks will be awarded on the basis of students performance on objective test and 50% on the basis of rating in actual play situation preferably by panel of three professional teachers in Physical Education.

- 1- A nine point scale should be used in grading various techniques of Table Tennis. For objective marking more than one person should grade the students. Different types of services strokes and ability to receive different services and strokes are to be graded as follows:
  - A1 = 9 points
  - A2 = 8 points
  - B1 = 7 points
  - B2 = 6 points
  - C1 = 5 points
  - C2 = 4 pointsD1 = 3 points
  - D1 = 3 points D2 = 2 points
  - E = 1 points and below
- 2- Besides testing students in various techniques, he should be separately graded in game situation. Grading should be done by more than one person. The following points should be observed in grading students.
  - (a) Defence
  - (b) Attack
  - (c) Footwork
  - (d) Positioning
  - (e) Anticipation

## 3. KABADDI

## Skill

- 1. Offensive skills Aero kick, Curve kick, Role kick, Mule kick.
- 2. Defensive skills Trunk catch, Shoulder catch, Chain formation, No crossplay.
- 3. Escapes Escaping from chain formation and various other holds.
- 4. Lead up games Langdi Kabaddi, Release the prisoner, Circle Kabaddi

## Pattern of Play

- (1) Offensive
- (2) Defensive
- (3) Chain
- (4) Playing in small court.
- (5) Playing with less number of players

#### Scheme of Grading:

50% Marks will be awarded on the basis of students performance on objective test and 50% on the basis of rating in actual play and preferably by pannel of three professional teachers in physical education.

## Ability in cant 5 points.

A1 = 60 Sec.

A2 =55 Sec.

B1 = 50 Sec.

B2 =45 Sec.

C1 = 40 Sec.

C2 = 35 Sec.

D1 = 30 Sec.

D2 =25 Sec.

Ε = Below 25 Sec.

A. Testing in Offensive skill = 9 points

B. Testing in Defensive skill = 9 points

C. General playing ability and combination = 9 points

#### **4. KHO-KHO**

#### Skills

- 1-Chasing skills - Trapping, Diving - stationary dive, running dive. Touching at the foot with either hand. Dragging along the cross line and along the post.
- 2-Skills in running - Escape from trapping. Avoiding, Trap, Tempting the Chasers to exhaustion.
- 3-Method of running - Ring play, Front ring, Back ring, Initial and subsequent positioning. Use of various skills changing repeatedly.
- 4-Lead up games.
  - (1) Atya patya
  - (2) Three Deep
  - (3) Sanjeevani (Giving life or Vish Amrit)

#### Scheme of Grading:

50% marks will be awarded on the basis of students performance on objective test and 50% on the basis of rating in actual play and preferably by panel of three professional teachers in physical education.

1.	Endurance and Speed Running	9 points
2.	Testing in chasing skills	9 points
3.	Testing in Running skills	9 points
4.	Testing in methods Running	9 points
5	General playing ability and combination	9 points

#### General playing ability and combination

## 9 points

## Note:

- In case of items 2,3 and 4 above, the candidate may be asked to 1. demonstrate any two skills, for each hand specified and marks may be awarded on the basis of accuracy of from and effectiveness of moves.
- 2. The candidate will be rated in the actual game situation for display of the skills appropriately.

## **5. FOOTBALL (Only for Boys)**

## Skills:

- 1. **Kicking** 
  - (a) Kicking fundamentals
    - (1) Instep kick
    - (2) Kicking with inside of the foot
    - (3) Kicking with outside of the foot
  - (b) Lofted kicks with either foot

- (c) Practice of in-swing and out-swing
- (d) Practice of Corner kicks Lobbing Clip shots, and penalty kicks with special emphasis according to new amendments.

## 2. Passing and Inter-passing:

- (a) Inter-passing between two players
- (b) Inter-passing among three players
- (c)Three man weave
- (d) Inter-passing among 4 players in different zones
- (e) Related practices

## 3. Tackling

- (a) Interception and hasty tackles
- (b) Sliding tackles
- (c) Relating practices

## 4. Heading

- (a) Related practices of heading and
- (b) Lead up drills

## 5. Dribbling

Practice of dribbling skills suited to functional training

## 6. Goal keeping

- (a) Collecting balls from basic positions, challenged position, advancing and coming out and anticipation of free ball situation and challenged situation.
- (b) Punching and fisting of high ball.
- (c) Difending and saving panalty kicks

## 7. Lead up and mirror games

- (a) Heading volley-ball
- (b) Two ball Soccer
- (c) Five a side football

## 8. Games situation and practice for positional play

## 9. Tactics and Coaching and the Game

## General orientation about the importance of strategies in game

- (a) Positional play and elementary tactics of play
- (b) Conditioned games and group practice
- (c) Starts and restarts
- (d) Elements of defence and attack
- (e) Two back system and three back system
- (f) Principle of zonal defence and man to man defence
- (g) W. and M. Formation of attack
- (h) Defence and attack from free-kicks, penalty-kicks and corner-kicks
- (i) Tactics of defence and attack for adverse conditions

## **Scheme of Grading**

50% Marks will be awarded on the basis of students performance on objective test and 50% on the basis of rating in actual play and preferably by panel of three professional teachers in physical education.

2. Stationary ball kicking (Lofted kick) right or left foot (Best foot)

```
Above 45 mts.
                          A1
40 mts. to 44 mts.
                          A2
35 mts. to 39 mts.
                          B1
30 mts. to 34 mts.
                          B2
                     =
25 mts. to 29 mts.
                          C1
20 mts. to 24 mts.
                          C2
                     =
15 mts. to 19 mts.
                     =
                          D1
                     =
10 mts. to 14 mts.
                          D2
And below 10 mts.
                          E
```

## Drop-Shot (Half Volley)

```
Above 60 mts.
                           A1
50 mts. to 59 mts.
                           A2
                     =
40 mts. to 49 mts.
                           B1
30 mts. to 39 mts.
                           B2
20 mts. to 29 mts.
                           C1
                     =
15 mts. to 19 mts.
                           C2
10 mts. to 14 mts.
                          D1
                     =
4 mts. to 9 mts.
                     =
                          D2
below 4 mts.
                           E
```

4. Trapping - Trapping a falling ball from 20 ft. height, 9 chances - one point for every one successful attempt.

## 5. Heading for distance

```
21 mts.
                    A1
                    A2
18 mts.
15 mts.
                   B1
              =
12 mts.
                   B2
9 mts.
                   C1
              =
6 mts.
              =
                   C2
              =
3 mts.
                   D1
1 mts.
                   D2
below 1 mts.
                   E
```

6. Running with the ball (Dribbling) with a controlled ball and shooting running from the centre circle and shooting from the penalty area.

Norms may be worked out according to the means and standard of performance for speed and accuracy and accurate shot in goal.

Highly skillful dribbles Accurate and powerful shot A2 Fast and accurate shot B1 Sufficiently fast and accurate shot = B2 Slow but accurate shot C1 Very slow but accurate shot C2Slow but near miss shot D1 Slow and uncontrolled shot = D2E Aimless shot

## 6. CRICKET (Only for Boys)

#### **Skills**

## 1. Batting

Forward Defence, Backward Defence, Forward Stroke, Backward Stroke, Cover Drive, Pull Cut, Hook, Glance, Stepping out to drive the flighted ball.

## 2. Bowling

Out-swing, In-swing, Off Break, Leg Break and Googly.

## 3. Fielding

Catching - high and slip catches, throwing at the stumps from different angles.

## 4. Wicket Keeping

## 5. Lead up games

- (a) Bucket Cricket
- (b) soft ball game
- (c) Target hitting for fielding practice

## 6. Tactics

- (a) Field placing to different types of bowling and batting
- (b) Captaincy- Duties of the captain, responsibilities under different situations
- (c) Wicket keeping

## Scheme of Grading

50% Marks will be awarded on the basis of students performance on objective test and 50% on the basis of rating in actual play and preferably by panel of three professional teachers in physical education.

## **Batting**

The batting ability of the players be tested at the net according to the merit of the ball and the manner in which played by them should be judged and graded. The bowling should be done by different types of bowlers (fast, spin, etc.). Players to be graded out of 9 points.

#### **Bowling**

The bowlers should be asked to bowl their normal run-up using their own styles of bowling. Different marks be made on the pitch at a distance of 8 feet from the popping crease for medium fast bowlers and about 4 feet from the popping crease for slow bowlers. 9 chances be given to each player.

(a) Perfect with style, direction, length and accuracy	<b>A</b> 1	=	9 points
(b) Bowling with correct style on the stump	A2	=	8 points
(c) Bowling correctly within a distance of one foot on			-
either side of the wicket	B1	=	7 points
(d) Bowling within a distance of one foot rather on the			-
off-side	B2	=	6 points
(e) Bowling within a distance of one foot rather on the			-
leg-side	C1	=	5 points
(f) Bowling farther away on the off-side	C2	=	4 points
(g) Bowling farther away on the leg-side	D1	=	3 points
(h) Poor performance	D2	=	2 points
(i) Not able to bowl at all	E	=	1 points

#### **Fielding**

The players are made to stand at least 30 to 40 yds. away from the wicket.

- (a) The coach or a player hits high catches. Nine catches are hit to each player. Each successful attempt gives one points.
- (b) The coach hits the ball to the players in different angles. They have to run, pick-up

and throw the ball to the wicket. For every correct step and picking up the player gets one point. 9 chances to be given.

## 7. BADMINTON

#### Skills

- 1. Strokes
  - (a) Forehand and Backhand overhead strokes
  - (1) Lob
  - (2) Toss
  - (3) Clear (offensive and defensive)
  - (4) Drop
  - (5) Smash
- 2. Forehand and Backhand side arm storkes
  - (a) Drive
- 3. Forehand and Backhand under arm storkes
  - (a) Net strokes
- 4. Forehand and Backhand Cross Court Stokes
- 5. Tactics and Strategy
  - (a) Systems of play
  - (1) Singles Play
  - (2) Doubles pattern of play
    - Front and Back
    - Side by Side
    - Rotation
  - (3) Mixed Doubles Game

## Scheme of Grading

50% Marks will be awarded on the basis of students performance on objective test and 50% on the basis of rating in actual play and preferably by panel of three professional teachers in physical education.

- I. A nine point scale should be used in grading various skills of Badminton. Different types of services, strokes and ability to receive different types of services and strokes to be graded and scheme to devised by the teachers themselves.
  - Note: For service test, zones should be marked on the court.
- II. Besides testing in various skills, students should be separately graded in a game situation. The following points should be observed while grading the students.
  - 1. Defence
  - 2. Attack
  - 3. Footwork
  - 4. Positioning
  - 5. Anticipation

#### 8.VOLLEYBALL

## Skills

- The serve
  - (a) Overhead service (Tennis)
  - (b) Round arm service
  - (c) Floating service (overhead and side arm)
- 2. The Pass
  - (a) Over-headpass: Two handed pass with back rolling
  - (b) Two handed pass with side rolling
  - (c) Jump and pass

- (d) Under arm pass
- (e) Forward dive and pass
- (f) One arm pass with side rolling
- 3. The Set-up
  - (a) Setting up for quick smash
  - (b) Move and set-up (from back zones)
  - (c) Setting up in different zones at varying trajectories
- 4. The Net Recovery
  - (a) Two handed overhead pass with and without rolling
  - (b) One hand underarm pass with and without rolling
- 5. The Attack
  - (a) Smash with turn of body
  - (b) Smash with wrist
  - (c) Round arm smash
  - (d) Smash on short pass(ascending balls)
  - (e) Simple attack combinations
- 6. The Block
  - (a) Double block against different types of attack
  - (b) Double block in assigned Zones
  - (c) Double block against quick attack
  - (d) Double block against attack combinations
  - (e) Triple block against attack from zone 3
- 7. Lead up Games
  - (a) Bounce Volleyball
  - (b) Shover ball
  - (c) Double (two against two)
  - (d) Three against three
- 8. Patterns of Play
  - 4-2 system
  - 5-1 system

## **Scheme**

50% Marks will be awarded on the basis of students performance on objective test and 50% on the basis of rating in actual play and preferably by panel of three professional teachers in physical education.

#### **Service**

Nine attempts allowed. One points for each successful attempt. The successful attempt would mean the ball crossing the net within the side markers and falling in to the opponent's court.

#### **Under Hand Pass**

Nine attempt allowed. One point for each successful attempt is awarded. Underhand pass is to be executed from a service, served sidearm or roundarm from the other side of the court. The successuful attempt will constitute the receiving of the correct ball raised higher than the upper band of the net. The ball crossing the net will constitute a fault and hence will not be given credit. Similarly the ball slipping from hand going away outside the court will be

given no grade.

## **Booting**

N ine attempts allowed. One point for each successful attempt. The candidate stands in No. 3 zone and is given a ball to be boosted to zone No. 4. The ball must rise higher than upper band of the net. No point will be awarded in the following situations:

- (a) The ball crossing into opponent's own court
- (b) The ball landing outside one's own court
- (c) The ball passed but away from the attack area
- (d) Mispass
- (e) Other faults in testing double touch etc.

## Spiking

Nine attempts allowed. One point for each successful attempt. Smash is to be executed from No.2 zone. The ball is supplied from No.6 zone that is the centre of court and pass is raised from No. 3 zone(facing the smasher).

## **Blocking**

Nine attempts allowed. One point for each successful attempt. Block is to be executed in No.2 and 4 zones alternatively. Reasonably good smash is made from the opponents zones Nos. 4 and 2 and the candidate adjust the block.

- (a) The ball going direct to the opponent's court after block will be treated as a correct attempt and should get full credit.
- (b) The ball landing into one's own court as a good attempt should get full credit.

#### 9. BasketBall

- 1. **Ball handling** Holding position of fingers, body position, stance of player with ball.
- 2. **Catching the ball** (Receiving) skills involved.
- 3. **Passing skill** (Drills in pairs)
  - (a) Two handed chestpass
  - (b) Two handed bounce pass
  - (c) Two handed underhand pass(right/left side)
  - (d) Two handed overhead pass
- 4. **Dribbling** Dribbling high with speed, using alternate hands, low dribble
- 5. **Shooting** 
  - (a) Two handed set shot
  - (b) Two handed free throw
  - (c) Lay up shot following dribble using right hand (over the shoulder)
- 6. **Footwork** Player stance, position of feet, position of hand, elementary shuffling and sliding movement (drills).
- 7. **Pivoting**-Stationary pivot.
- 8. **Individual defense** Player stance, position of hands, position of feet, defender's position in between opponent and basket.
- 9. Team defence Man to Man defence
- 10. Team offence Fast break offence
- 11. Lead up games/relays -
  - (a) Captain ball
  - (b) Pin Basket Ball
  - (c) 5 passes (front court)
  - (d) Dribbling relay

- (e) Dribbling and passing relay
- (f) Lay up shooting relays
- 12. Full court and half court game situations using simple defence offence taught. **Scheme of Grading**

50% Marks will be awarded on the basis of students performance on objective test and 50% on the basis of rating in actual play and preferably by panel of three professional teachers in physical education.

## **Objective Assessment**

Set Shooting (10 chances)

1- (20' away from ring) One point for each chance converted.
(Best of two trials) Note: A student missing all chances will get point

2- Pivot shots (stationary) One point each chance converted
Note: A student not converting any basket - one point

3- Continuous layup shooting from each side of basket (left centre right) starting from behind center line and finishing the dribble at starting point.( Timing/shooting are important)

Boys	Marks to be awarded
22 seconds and below	10
22.1 to 22.5 sec.	9
22.6 to 23.0 sec.	8
23.1 to 23.5 sec.	7
23.6 to 24.0 sec.	6
24.1 to 24.5 sec.	5
24.6 to 25.0 sec.	4
25.1 to 25.5 sec.	3
25.6 to 26.0 sec.	2
26.1 to 26.5 sec.	1
Girls	
2 4 seconds and below	10
24.1 to 24.5 sec.	9
24.6 to 25.0 sec.	8
25.1 to 25.5 sec.	7
25.6 to 26.0 sec.	6
26.1 to 26.5 sec.	5
26.6 to 27.0 sec.	4
27.1 to 27.5 sec.	3

27.6 to 28.0 sec. 2 28.1 to 28.5 sec. 1

**Note**: Unless basket is converted on one side, the student should not go to shooting at other side.

4- Give and Go Lay Up Ten chances (one point for each chance from centre) converted

(Best of two Trials)

**Note:** A student who does not score even one gets 1 point.

Zig-Zag Dribble (Width of the Floor) **Marks to be awarded** 

	Girls	
10	11.0 seconds and below	10
9	11.1 sec. to 11.5 sec.	9
8	11.6 sec. to 12.0 sec.	8
7	12.1 sec. to 12.5 sec.	7
6	12.6 sec. to 13.0 sec.	6
5	13.1 sec. to 13.5 sec.	5
4	13.6 sec. to 14.5 sec.	4
3	14.1 sec. to 14.5 sec.	3
2	14.6 sec. to 15.0 sec.	2
1	15.1 sec. to 15.5 sec.	1
	9 8 7 6 5	10 11.0 seconds and below 9 11.1 sec. to 11.5 sec. 8 11.6 sec. to 12.0 sec. 7 12.1 sec. to 12.5 sec. 6 12.6 sec. to 13.0 sec. 5 13.1 sec. to 13.5 sec. 4 13.6 sec. to 14.5 sec. 3 14.1 sec. to 14.5 sec. 2 14.6 sec. to 15.0 sec.

## Note:

From one side line 5 Indian Clubs are arranged at 1.50 metre distance (in between each club) and the player starts dribbling from one side line in zig-zag manner and crosses the other side line to return without breaking the dribble in a zig-zag manner weaving in and around the clubs and finishes at the starting point,. Other hand may be used for dribbling.

The first Indian club is 4 metres away and the last Indian club is also 4 metres away from the two side lines concerned.

## 10 LAWN TENNIS

- 1. Revision of skills-taught in class IX and X.
- 2. Variations in service
  - 1. Chop or slice service (side spin)
  - 2. Top Spin Service
- **3** Variations in strokes
  - 1. Cross Court Drives-forehand and back hand
  - 2. Down the line-forehand and backhand
  - 3. Full Volley forehand/backhand from mid court
  - 4. Half Volley forehand/backhand
  - 5. Drop shots, Drop Volley
  - 6. Lob Strokes
  - 7. Running approach shots
- Besides techniques, students should be separately graded in game situation. Grading should be done by more than one person. The following points are to be borne in mind while grading students in game situation.
  - 1. Defence
  - 2. Attack

- Mastery of Fundamental Foot work 3.
- 4.
- Team work 5.
- 6.
- 7.
- Anticipation
  Positioning
  Tactics and Strategy 8.

## PART-D 11. YOGIC EXERCISES (One activity to be chosen)

10 Marks

**Note**:Only such exercise which will develop higher levels of proficiency in performance beyond the levels of normal individual are included. However, highly complicated and difficult exercises which may be necessary for a true devotee in YOGA are not included. **Asanas** 

- 1. Tadasana (heavenly strech pose)
- 2. Vrikshasana (tree pose)
- 3. Trikonasana (Triangle stretch pose)
- 4. Gomukhasana (cow face pose)
- 5. Padmasana (Lotus pose)
- 6. Vajarasana (thunderbolt pose)
- 7. Matsyasana (fish pose)
- 8. Bhujangasana (cobra pose)
- 9. Salabhasana (locust pose)
- 10. Chakrasana (Wheel pose)
- 11. Paschimottanasana (back stretch pose)
- 12. Ardh Matsyendrasana (half spinal twist pose)
- 13. Sarvangasana (shoulder stand pose)
- 14. Halasana (plough pose)
- 15. Shavasana (corpse pose)

## Pranayam

- 1. Sheetali Pranayama (the cooling breath)
- 2. Sheetkari Pranayama (the hissing breadth)
- 3. Kapalabhati pranayama (the frontal brain bellowing)
- 4. Ujjai Pranayaama (the psychic breath)

## Grading Plan -

The grading will be done using a nine point scale. A student should select any five Asanas and two Pranayama for demostraion. The grades will be awarded keeping in view the following criteris:

- (i) Smooth succession of movement from the initial to final position.
- (ii) Degree of perfection in the final from.
- (iii) Evidence of strain or tension (negative aspect).
- (iv) Holding final position for some time, more in balancing excercises.

## 12. SWIMMING & DIVING

#### **Skills**

- 1. Back stroke -
  - (a) The stationary leg action with the support of the ball or a parter.
  - (b) Leg action with the move, hands by the side of thighs or at a later stage stretch.
  - (c) Arm action with the support of the partner or the ladder, alternate movement of arms.
  - (d) Combination of leg and arm action. Since the face is above the water level there is not much problem of breathing.
  - (e) Once the movemnet are coordinated than the attempt should be for speed improovement.

## 2. Butterfly Stroke -

- (a) Arm action in standing position over the shallow water.
- (b) Arm action on the move in the horizontal position.
- (c) Priliminary hip movement in standing as well as horizontal position with the support of the wall. The hips have to be pushed up and down alternatively.
- (d) Dolphin kick with the arm on the side or in front.
- (e) Dolphin kick with the body on the side as well.
- (f) Full stroke with a slow attempt to coordinate arm leg movements and breathing.

## 3. Individual medly and medly and free style relays

## 4. Starts and turns

## **Starts**

- (i) Grab
- (ii) Conventional (circular armswing)
- (iii) Bunch start
- (iv) Track start

#### **Turns**

- (i) Lateral (pivot) turn
- (ii) Throw away turn
- (iii) Flip turn

## 5. **Diving**

- (a) Back dive
- (b) Inward dive

## **Scheme of Grading**

50% Marks will be awarded on the basis of students performance on objective test and 50% on the basis of rating in actual play and preferable by panel of three professional teachers in physical education.

Code	Breast Stroke	Freestyle Storke	Back Stroke	Butterfly Stroke
A1	0 M 40 Sec.	0 M 30 Sec.	0 M 35 Sec.	0 M 50 Sec.
A2	0 M 50 Sec.	0 M 40 Sec.	0 M 45 Sec.	1 M 00 Sec.
B1	1 M 00 Sec.	0 M 50 Sec.	0 M 45 Sec.	1 M 10 Sec.
B2	1 M 10 Sec.	1 M 00 Sec.	1 M 05 Sec.	1 M 20 Sec.
C1	1 M 20 Sec.	1 M 10 Sec.	1 M 15 Sec.	1 M 30 Sec.
C2	1 M 30 Sec.	1 M 20 Sec.	1 M 25 Sec.	1 M 40 Sec.
D1	1 M 40 Sec.	1 M 30 Sec.	1 M 35 Sec.	1 M 50 Sec.
D2	1 M 50 Sec.	1 M 40 Sec.	1 M 45 Sec.	2 M 00 Sec.
E	2 M 00 Sec.	1 M 45 Sec.	1 M 55 Sec.	2 M 10 Sec.

## 13. GYMNASTICS

## 1. Floor Exercises

- (a) Forward roll to hand stand.
- (b) Backward roll to hand stand.
- (c) Forward roll to head spring.
- (d) Hand spring to dive roll.
- (e) Round off to back rool to hand stand.
- (f) Round off Flick Flack

- (g) One leg hand spring.
- (h) One leg head spring.
- (i) Forward roll hand turns
- (j) Hand stand to forward roll with straight legs.

## 2. **Vaulting Box -**

- (a) Split vault
- (b) Through vault
- (c) Hand stand with cart wheel
- (d) Cart wheel
- (e) Hand spring

## 3. **Parallel Bars** -

- (a) Up start
- (b) Front uprise
- (c) Shoulder stand
- (d) Hand stand
- (e) Hand stand with 180 degree turn
- (f) Hand stand to front turn on the shoulder
- (g) Backward roll
- (h) Hand stand to cart wheel (dismount)

#### 4. **Horizontal Bar** -

- (a) Up start with over grip
- (b) Up start with under grip
- (c) Short circle
- (d) One leg circle with wheel foot
- (e) Heel foot
- (f) Front giant circle
- (g) Swing with through vault (dismount)

## For Girls

## 1. Floor Exercises

- (a) Forward roll to hand stand
- (b) Backward roll to hand stand
- (c) Round off
- (d) Slow back hand spring
- (e) Slow back hand spring
- (f) Split sitting
- (g) Slow hand spring
- (h) Hand spring
- (e) Head spring

## 2. Vaulting Box

- (a) Astride vault or split vault
- (b) Through vault
- (c) Hand spring

## 3. Beam

- (a) Gallop step with balance
- (b) Scissor jump
- (c) Forward roll
- (d) Backward roll
- (e) Cart wheel
- (f) Bridge
- (g) Balance
- (h) Jumping with split legs.

## 4. Scheme of Grading

50% Marks will be awarded on the basis of students performance on objective test and 50% on the basis of rating in actual play and preferable by panel of three professional teachers in physical education.

## Top Grade performance:

A1=9 points

Perfect performance:

A2=8 points

Satisfactory performance, except for bent kness or unpointed toes
Average performance knees and bent and toes are not pointed
No form but there is knowledge of how to perform the stunt B1=7 points B2=6 points C1=5 points

Some ability to perform the stunt with extremely poor form and knowledge

of the stunt C2=4 points
poor performance D1= 3points
Worst performance D2=2 points
Inability to perform the stunt E=1 point

## **RECOMMENDED BOOKS:**

#### Theory

Physical Education & health	Friends Publication New Delhi 2000
Physical and Health Education	Ashok Book Depot. Delhi 2000
Introduction of physical & Health education	Avichal Publishing Company,
	Himachal Pradesh, 2000
Physical Education & Health	B.R. Internation Publishers, Delhi
	2000
Physical Fitness - How to Develop	Friends Publication, New Delhi,
	1992
Foundation of Physical Education	Friends Publication, New Delhi,
	1994
Great Indian Players	Sports Publication, Delhi, 1999
•	अशोका बुक डिपो, दिल्ली — 2000
शारीरिक शिक्षा पद्धति	
शारीरिक शिक्षा सिद्धांत एंव तत्व ज्ञान	
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