

## 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

##### 1. The Body and how it works

- (a) Basic organisation - Cells, tissues, organs, organ systems (cell details only as far as can be seen through a school microscope).
- (b) Movement and support - Function of skeleton, structure related to function of bodies (including bone-marrow), cartilage, ligaments, tendons, muscle types (cardiac smooth and skeletal) and their properties, joints, part played by nerves and blood in maintaining muscular action (voluntary and involuntary).
- (c) Respiration - Structure and function of the respiratory system. Mechanism of breathing, including artificial maintenance. Tissue respiration -- energy release, ADP/ATP, aerobic, and anaerobic, lactic acid and oxygen debt.
- (d) Circulation - Main features of heart and its circulatory system, arteries, veins, capillaries, lymphatics (only names required of the blood vessels of the liver and kidneys and those entering and leaving the heart). Composition and functions of blood. Blood groups A, B, AB, O and Rh factor. Outline only in the change and composition of blood as it passes through the wall of the small intestine, liver, lungs, muscles, kidneys and skin.
- (e) Nutrition - Food constituents - carbohydrates, fats, proteins, mineral salts, roughage, and water. Source of food constituents - the sun as a source of man's energy, simple food chains. Principles of food handling, storage and preservation. Digestion, including dentition and tooth structure. Absorption and utilisation of food, including storage. Dietary requirements in man. Metabolism, energy content of food. Vitamins and deficiency diseases.
- (f) Excretion - The excretion of waste material by the lungs, the skin. Control of heat loss: area/volume ratio. Hair and nails as outgrowths of skin. The general structure of the urinary system. The liver as an excretory organ.
- (g) Sensitivity and co-ordination - Outline of nervous system - brain, spinal cord, sense organs. The sense of sight, hearing, smell, taste, touch and balance. Detailed structure of the eye and ear and simple experiments of taste and touch. The reflex arc, conditional reflex.

#### PART 2: INTERNAL ASSESSMENT - 100 marks

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

## CLASS X

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. Health and Hygiene

- (a) Personal health - *Personal cleanliness. Oral hygiene. Principles of diet with reference to teeth, slimming and obesity. Correct posture. Exercise. Recreation: Foot care. Sleep requirements. Dangers of misuse of drugs, including alcohol and smoking.*
- (b) Diseases, defects and injury - *Causes of disease, bacteria, viruses, fungi, protozoa. Vaccination and antibiotics, disinfectants and antiseptics. Spread of bronchitis, pneumonia, TB, VD, malaria, ringworm, athlete's foot through contact, droplet infection, flies and other insects. Arthritis, rheumatism and heart disease.*
- (c) Community health - *Dangers from gas, electricity, fire, poisoning and accident.*

##### 2. First Aid

- (a) Treatment of cuts and abrasions. Application of splints.
- (b) Treatment of sprains, cramps and cases of drowning.

#### SECTION B

Candidates will be required to answer questions on the rules, skills and methods of fitness training of any **two** of the following team games.

Cricket, football, handball, hockey, basketball, volleyball, softball.

### PART 2: INTERNAL ASSESSMENT (100 marks)

Practical work will be assessed in two parts as follows:

- (i) Assessment by the Teacher(s).
- (ii) Assessment by an External Examiner.

#### 1. Work to be assessed by Teacher (s) - 50 marks.

The skill and performance of the candidates will be assessed by the teacher(s), responsible for preparing the candidates for the examination, in two of the following games and activities of their choice:

Athletics, cricket, hockey, football, handball, volleyball, softball, basketball, tennis, badminton, swimming, dancing, gymnastics, yoga, boxing, wrestling, judo and karate, table tennis, kho-kho and kabaddi.

#### 2. Work to be assessed by the External Examiner - 50 marks

The assessment of the work of the candidates by the External Examiner will be in two parts:

- (i) Physical efficiency tests.
- (ii) Specialisation tests.

##### (i) Physical Efficiency Tests

The following tests to evaluate the physical fitness of candidates will be organised and conducted in the presence of the External Examiner. Tests 1 to 3 should be carried out on one day and 4 to 6 on the next.

##### (a) Test 1

50 metre run. Standing start. Timings to be taken to the nearest tenth of a second (weather should be relatively windless without extremes of temperature).

(b) Test 2

Standing long jump. A flat non-slip surface should be used. The candidates should stand with toes just behind the take-off line and jump when ready. After making a preliminary swing with the arms, the candidate swings them forward vigorously, springing with both feet simultaneously to land as far forward as possible. Distance jumped, to be measured in centimetres.

(c) Test 3

Distance run - 1000 meters run for boys, 600 meters run for girls. Time to be taken to the nearest second.

(d) Test 4

(i) Floor push-ups for boys -- The boys take a front-leaning position with body supported on hands and balls of feet; the arms are straight and at right angle to the body. He then dips or lowers the body so that the chest touches or nearly touches the floor, he then pushes back to the starting position by straightening the arms and repeats the procedures as many times as possible. Only the chest should touch the floor; the arms must be completely extended with each push-up; the body must be held straight throughout. Scoring consists of the number of correct push-ups.

(ii) Push-ups for girls -- This is executed from a stall bar bench or a stool 32cm high by 50 cm long and 35 cm wide. It should be placed on the floor about 15 cm from a wall so that the subjects will not take a position too far forward. The girl should grasp the outer edges of the bench, or stool, at the nearest corners and assume the front-leaning rest position, with the balls of her feet on the floor and with her body and arms forming a right angle. She should then lower her body so that the upper chest touches the near edge of the bench or stool, then raise it to a straight arm position as many times as possible. The girl's body should be held straight throughout. If the body sways or arches, or if the subject does not go completely down or does not push completely up, half credit is given up to 4 half credits.

(e) Test 5

Shuttle run. A flat course of 10 meters is required to be measured between two parallel base lines. Behind each base line, as a semicircle 50 cm radius with centre on the base line is required to be marked. Two wooden blocks (5x5x5 cm) are to be placed in the far semicircle. The candidate stands with feet behind the base line, and on a signal, runs to the far line, picks up one block which the candidate places in the starting semicircle when he/she returns. The candidate then repeats the procedure with the second block. The time to the nearest tenth of a second is to be taken till the second block is grounded in the starting semicircle.

(f) Test 6

30 - second sit-ups. The candidate lies with his/her back on a mat or flat surface, feet about 30 cm apart and knees flexed at right angles. The candidate's hands with fingers interlocked are placed behind the head. A partner holds the candidate's feet in contact with the mat or floor. On the signal "Go" the candidate sits up to touch the knees with his/her elbows. Without pause he/she returns to his/her starting position and immediately sits up again. The number of sit-ups completed in 30 seconds are to be counted.

**(ii) Specialisation Tests**

Candidates will be tested in the presence of an External Examiner, in **one** of the following activities listed below:

- (a) Athletics (b) Gymnastics (c) Swimming  
(d) Dancing (e) Yoga.

(a) **Athletics** - The candidates will choose any two of the following events in which they wish to be tested:

(i) *Track events*

Boys - 100 m, 200m, 400m, 800m and 1500m.

Girls - 50m, 100m, 200m and 800m.

(ii) *Fields events*

Boys - long jump, high jump, hop-step-and-jump, pole vault, shot puts, discus and javelin throw.

Girls - long jump, high jump, shot put (8 lbs.) and throwing the softball.

- (b) **Gymnastics** - The candidates will be tested in four exercises using any two of the following apparatus of their choice:

(i) Ground/mat work

Boys - Front roll, back roll, cartwheel, headspring, handspring, handstand, and somersault.

Girls - Ballet, flexibility and agility movements -- the front split, the pirouette, the toe stand, the ballet touch, the body sweep, the arabesque, the single- leg balance, the balance; front roll, back roll, cartwheel.

(ii) The balance beam - (girls only)

Mounts - The straight arm support mount, the squat mount, the one knee mount, and the crotch seat mount. Poses and Movements, walking the beam, the pivot, the pirouette turn, jumping on the beam. Dismounts -- the side- seat dismount, the front vault dismount.

(iii) Parallel bars

Boys - The straight arm support, the straddle seat, the back roll to a straddle-seat, the shoulder balance, the single-let flank dismount, the double-leg flank dismount.

Girls - The straight arm support, swinging, the straddle seat, the forward roll.

(iv) Vaulting Horse

Boys - The side vault, the through vault, the straddle vault, the head spring vault. High horse - the side vault, the through vault, the straddle vault. Long horse -- the through vault, the straddle vault.

Girls - The side vault, the squat stand dismount, the straddle vault, the straddle stand, the head spring vault.

(v) Horizontal bar - (boys only)

Upward swing and dismount, swinging to mount and dismount, swinging and changing hands to face opposite direction.

- (c) **Swimming** - The candidates will be tested in any two of the following of their choice.

Boys - Freestyle - 50m, 100m, 200m and 400m;

Breast stroke - 50m, 100m;

Backstroke - 50m, 100m;

Butterfly stroke - 50m, 100m;

Diving - standing one-leg dive, standing semi-crouch dive, standing stationary dive, the front jump dive from the springboard.

Girls - Freestyle - 50m, 100m and 200m;

Breast stroke - 50m, 75m;

Backstroke - 50m, 75m;

Butterfly stroke - 50m, 75m;

Diving - standing one-leg dive, standing semi-crouch dive, standing stationary dive, the front jump dive from the springboard.

- (d) **Dancing** - The candidates will be required to give a performance of any *two* of the following dances/movements, of their choice, with suitable accompaniments:

(i) Combination of dance movements and ground-mat work.

(ii) Indian dancing -- Bharatanatyam, Kuchipudi, Kathakali, Kathak, Manipuri, Bhangra, any other folk dance.

(iii) Western dancing -- ballet; ballroom dancing - waltz, foxtrot, tango, samba, Charleston, square dancing; pop-dancing - jitterbug, twist, rock and roll.

- (e) **Yoga** - The candidates will be tested in any *four* of the following. asanas.

Ugrasam, dhamrekhasan, singhasan, ultanmandhukasan, kukutasans, naunli, kapala, bhathi, shavasan, shirashasan, shalabhasan, bakasan and mayurasan.

## METHOD OF ASSESSMENT BY TEACHERS

The teacher(s) will assess the candidates, skill and performance in the two games and activities of their choice. They will mark the candidates out of 50 marks as follows:

	<i>Marks</i>
(a) Achievement of skills and performance	30
(b) Attendance	05
(c) Participation in voluntary and intramural activities	10
(d) Representation of the School at different levels - Inter-School, District, State	05

### Achievement of skills and performances

In assessing the achievement of skills and performances, the following factors should be considered:

(a) <b>Team games</b> (See para 2, Section B)	<i>Marks</i>
(i) Ability in fundamental skills	15
(ii) Ability in a particular skill	05
(iii) Utilisation of fundamental skills during a game	05
(iv) Offensive and defensive skills	05

### (b) Athletics

The actual performance of the candidates should be tested in the events chosen by him/her and assessed according to the five-point grading system given below:

	<i>Marks</i>
A – Excellent	26-30
B - Very Good	21-25
C – Good	16-20
D – Average	11-15
E - Below Average	10 & less

(c) <b>Swimming</b>	<i>Marks</i>
(i) Ability in basic skills e.g. breathing, floating, arm movements, combined elementary movement, changing body positions and directions and treading water	15
(ii) Ability in stroke skills	05
(iii) Ability in diving skills	05
(iv) Speed and endurance	05
(d) <b>Dancing</b>	<i>Marks</i>
(i) Ability to keep rhythm	10
(ii) Expression and grace of movements	08
(iii) Ease of performance	08
(iv) Endurance	04
(e) <b>Gymnastics</b>	<i>Marks</i>
(i) Willingness to perform	05
(ii) Knowledge of sequence & performance of exercise	15
(iii) Form, grace and ease of performance	05
(iv) Landing or recovery technique	05
(f) <b>Boxing, Wrestling, Judo and Karate</b>	<i>Marks</i>
(i) Courage, confidence, self-reliance & endurance	10
(ii) Foot work/holds	04
(iii) Offensive techniques	08
(iv) Defensive techniques	08
(g) <b>Yoga</b>	<i>Marks</i>
(i) Ability to assume the posture/activity	10
(ii) Knowledge of sequence for final pose/activity	10
(iii) Perfection in posture/activity with grace & poise	05
(iv) Performing a post activity with ease & maintaining it for a length of time with relaxation	05

## METHOD OF ASSESSMENT BY THE EXTERNAL EXAMINER

### Physical Efficiency Tests

The External Examiner will assess the performance of the candidates in the physical efficiency test in accordance with the Performance Table at Appendix A attached. He/She will mark the candidates out of 30 marks based on his assessment.

### Specialisation Tests

The External Examiner will assess the performance of the candidates in the activity that they have chosen for specialisation (See (ii) Specialisation Tests) out of 20 marks. The basis of his/her assessment for each activity is given in the ensuing paragraphs.

#### (a) Athletics

The candidates will be assessed in their performance in any *two* of the events of their choice as given in the syllabus, in accordance with the table attached as Appendix B.

#### (b) Gymnastics

The candidates will be assessed in their performance in *four* exercises, to be nominated by the External Examiner, using any two apparatus of the candidates' choice. The External Examiner will give marks for each exercise as follows:

	<i>Marks</i>
(i) Perfect performance in form, grace and timing	05
(ii) Satisfactory performance but for minor fault in form & timing	04
(iii) Performance with poor form e.g. bent knees, toes not pointed	03

- |                                                                |    |
|----------------------------------------------------------------|----|
| (iv) No form or grace but knowledge of performance of exercise | 02 |
| (v) An attempt to perform                                      | 01 |

#### (c) Swimming

The candidates will be assessed in any two of the events of their choice in accordance with the table given at Appendix D attached.

#### (d) Dancing

The candidates will be assessed in two dance performances of their choice as given in the syllabus. The External Examiner will mark them on each performance as follows:

<i>Qualities</i>	<i>Marks</i>
(i) Knowledge of the steps/poses	04
(ii) Grace and poise	02
(iii) Rhythm and timing	02
(iv) Endurance	02

#### (e) Yoga

The candidates will be assessed in any four of the asanas given in the syllabus, to be nominated by the External Examiner. The External Examiner will mark the candidates in each asana as follows:

	<i>Marks</i>
(i) Perfect performance	05
(ii) Satisfactory performance with minor error in form	04
(iii) Performance with poor form	03
(iv) No form but knowledge of how to perform the asanas	02
(v) Poor form and knowledge of performance	01

**APPENDIX A**

**PERFORMANCE TABLE - PHYSICAL EDUCATION - PHYSICAL EFFICIENCY TESTS**

Marks	Test No.1 50 m dash (Timings in seconds and tenths)		Test No.2 Standing long jump (Distance in cm)		Test No.3 Distance run (Timings in min. and s)		Test No.4 Push-ups (Numbers)		Test No.5 Shuttle run (Timings in s and tenths)		Test No.6 30 sit-ups (Numbers)	
	Boys	Girls	Boys	Girls	Boys 1000m	Girls 600m	Boys	Girls	Boys	Girls	Boys	Girls
5	7.3	7.7	179	164	4min 10s	2min 30s	24	20	10.4	11.0	22	15
4	7.6	7.9	172	152	4min 35s	2min 50s	16	12	10.7	11.3	20	13
3	7.8	8.3	165	147	5min	3min 10s	10	6	11.0	11.6	18	11
2	8.0	8.5	158	140	5min 40s	3min 40s	6	3	11.3	11.9	16	9
1	8.3	9.0	150	130	6min 20s	4min 10s	3	1	11.7	12.2	13	6

\* Note: For timings in between or higher than those indicated in the table the lower mark should be given.

For distances in between or lower than those indicated in the table the lower mark should be given.

**APPENDIX B**  
**PERFORMANCE TABLE - PHYSICAL EDUCATION -SPECIALISATION TESTS**  
**ATHLETICS - TRACK EVENTS**  
*( All Measurements in Metres and Centimetres)*

Marks	50 m (s and tenths)	100 m (s and tenths)		200 m (s and tenths)		400 m (s and tenths)	800 m (min and s)		1500 m (min and s)
	Girls	Boys	Girls	Boys	Girls	Boys	Boys	Girls	Boys
10	7.3	13.0	15.5	26.5	31.0	57.0	2:25	2:55	5:10
9	7.5	13.2	15.7	27.0	31.5	58.0	2:30	3:00	5:15
8	7.6	13.3	16.0	27.3	32.0	59.0	2:34	3:04	5:20
7	7.7	13.5	16.3	27.5	32.5	60.0	2:36	3:06	5:25
6	7.8	13.6	16.5	27.7	33.0	61.0	2:38	3:08	5:30
5	7.9	13.7	16.7	28.0	33.5	62.0	2:40	3:10	5:35
4	8.0	14.6	17.0	28.5	34.0	63.0	2:42	3:12	5:40
3	8.1	15.1	17.5	29.0	34.5	63.5	2:44	3:16	5:45
2	8.2	15.5	18.0	29.5	35.0	64.0	2:46	3:20	5:50
1	8.4	16.0	18.5	30.0	35.5	64.5	2:48	3:30	6:00

\*Note: For timings in between or higher than those indicated in the table the lower mark should be given.

**APPENDIX C**

**PERFORMANCE TABLE – PHYSICAL EDUCATION SPECIALIZATION TESTS  
ATHELETIC – FIELD EVENTS**

Marks	Long Jump (m & cm)		High Jump (m & cm)		Shot Put (m & cm)		Hops step & Jump (m & cm)	Pole Vault (m & cm)	Discuss (m & cm)	Javelin (m & cm)	Soft ball Throw (m & cm)
	Boys	Girls	Boys	Girls	Boys	Girls					
									12 lbs	8 lbs	
10	5.00	4.50	1.45	1.35	9.00	7.50	10.00	Boys	Boys	Boys	Girls
9	4.70	4.20	1.40	1.30	8.00	7.00	9.60	2.00	22.00	33.00	20.00
8	4.40	3.90	1.35	1.25	7.50	6.50	9.20	1.90	20.00	31.00	18.00
7	4.10	3.60	1.30	1.20	7.00	6.00	8.80	1.80	18.50	29.00	16.00
6	3.80	3.30	1.25	1.15	6.50	5.50	8.40	1.70	17.00	27.00	14.00
5	3.50	3.00	1.20	1.10	6.00	5.00	8.00	1.60	15.50	25.00	12.00
4	3.20	2.70	1.15	1.05	5.50	4.50	7.60	1.50	14.00	23.00	10.00
3	2.90	2.40	1.10	1.00	5.00	4.00	7.20	1.40	12.50	21.00	9.00
2	2.60	2.10	1.05	0.95	4.50	3.50	6.80	1.30	11.00	19.00	8.00
1	2.30	1.80	0.95	0.90	4.00	3.00	6.40	1.20	9.50	17.00	7.00
								1.10	8.00	15.00	6.00

**Note:** For distance in between or lower than those indicated in the table the lower marks should be given.

**APPENDIX D**

**PERFORMANCE TABLE - PHYSICAL EDUCATION - SPECIALISATION TESTS - SWIMMING**

Marks	50 m free style (s and tenths)		100 m free style (min and s)		200 m free style (min and s)		400 m free style (min and s)		50 m breast stroke (min and s)		75m breast stroke (min and s)		100m breast stroke (min and s)	
	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
10	45.0	55.0	1:30	1:50	3:00	3:40	6:00	1:05	1:20	2:00	2:15			
9	46.3	56.3	1:32.5	1:53	3:05	3:46	6:10	1:07.5	1:22.5	2:03.5	2:17.5			
8	47.5	57.5	1:35	1:55	3:10	3:50	6:20	1:10	1:25	2:07.5	2:20			
7	50.0	60.0	1:40	2:00	3:20	4:00	6:40	1:12.5	1:27.5	2:10.5	2:25			
6	52.5	62.5	1:45	2:05	3:30	4:10	7:00	1:15	1:30	2:15	2:30			
5	55.0	65.0	1:50	2:10	3:40	4:20	7:20	1:17.5	1:32.5	2:18.5	2:35			
4	57.05	67.5	1:55	2:15	3:50	4:30	7:40	1:20	1:35	2:22.5	2:40			
3	58.7	68.7	1:57.5	2:17.5	3:55	4:35	7:50	1:22	1:37	2:25.5	2:42.5			
2	60.0	70.0	2:00	2:20	4:00	4:40	8:00	1:24	1:39	2:28.5	2:45			
1	61.2	71.2	2:02.5	2:22.5	4:05	4:45	8:10	1:26	1:41	2:30.5	2:47			

\*Note : For timings in between or higher than those indicated in the table the lower mark should be given.

**APPENDIX E**

**PERFORMANCE TABLE - PHYSICAL EDUCATION - SPECIALISATION TESTS - SWIMMING (CONTINUED)**

Marks	50 m back stroke (min and s)		75 m back stroke (min and s)		100m back stroke (min and s)		50m butterfly stroke (min and s)		75 m butterfly stroke (min and s)		100 m butterfly stroke (min and s)		Diving	
	Boys	Girls	Girls	Boys	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls	Boys	Girls
10	0:55	1:10	1:45	2:00	2:00	1:45	0:55	1:05	1:37.5	1:50	Vertical, erect body, arms and legs together			
9	1:00	1:15	1:52	2:02.3	2:02.3	1:52	0:57	1:10	1:45	1:52.5				
8	1:02.5	1:17.5	1:56	2:05	2:05	1:56	1:00	1:12.5	1:49	1:55	Poor angle (either backward or forward)			
7	1:05	1:20	2:00	2:10	2:10	2:00	1:02.5	1:15	1:53	2:00				
6	1:07.5	1:22.5	2:05	2:15	2:15	2:05	1:05	1:17.5	1:58	2:05	Poor angle, opening of arms in front, side etc.			
5	1:10	1:25	2:07.5	2:20	2:20	2:07.5	1:07.5	1:20	2:01	2:10				
4	1:12.5	1:27.5	2:11	2:25	2:25	2:11	1:10	1:22.5	2:04	2:15	Poor angle, opening of arms and legs			
3	1:14	1:29	2:14	2:27.5	2:27.5	2:14	1:12.5	1:24	2:07	2:17.5				
2	1:15	1:30	2:16	2:30	2:30	2:16	1:14	1:25	2:09	2:20	Poor angle, opening of arms and legs and fight			
1	1:16	1:31	2:18	2:32.5	2:32.5	2:18	1:16	1:26	2:11	2:25				

\*Note: For timings in between or higher than those indicated in the table the lower mark should be given.