

**DEPARTMENT OF  
PHYSICAL EDUCATION  
VINAYA-BHAVANA**



**VISVA-BHARATI**

**COURSE OF STUDY**

**B.A./B.Sc. (HONOURS) IN  
PHYSICAL EDUCATION**

**On**

**Choice Based Credit System  
(CBCS)**

**NAME OF THE COURSE** : **B.A./B.Sc. (HONOURS) in PHYSICAL EDUCATION**  
**HONOURS SUBJECT** : **PHYSICAL EDUCATION**  
**DURATION** : **THREE-YEAR (SIX-SEMESTER)**

## Objectives of the Course

1. To produce Physical Education graduates with holistic understanding of Physical, Mental, Emotional & Spiritual benefits of human movements.
2. To produce graduates with personal excellence in academics in Physical Education and Sports as well
3. To grow true professionalism in Physical Education in our system by producing competent graduates in Physical Education with strong foundation.
4. To ascertain the nature of Physical Education as an established academic discipline pre-requisite to develop professionals in India.
5. To come out of only conventional teacher education course in Physical Education offered by Indian universities for higher education
6. To broaden more avenues for career opportunities in Physical Education.

## ORDINANCE

### **Name of the Course: B.A/B.Sc. (Honours) in Physical Education**

1. Name of the Course: B.A/B.Sc. (Honours) in Physical Education
2. There will be a course of studies for the Bachelor Degree Honours in Physical Education [B.A/B.Sc. (Honours)] in the Department of Physical Education under Vinaya-Bhavana (Institute of Education), Visva-Bharati. The duration of the course will be three years consisting of six semesters.
3. The nature of the course will be three year Bachelor of Arts/Science with Honours in Physical Education at par with other undergraduate courses. Nomenclature of the basic degree i.e. B.A (Honours)/B.Sc. (Honours) would be related to the option for subsidiary subjects
4. The eligibility criteria for admission to B.A/B.Sc. (Honours) course shall be Higher Secondary Certificate of 12 years schooling or its equivalent with at least 45% marks in aggregate or at par with the rules of the UGC and Visva-Bharati from time to time. The age of the candidates shall be between 17 to 22 years and it may be relaxed up to 24 years in case of National/International sports persons and in case of SC/ST candidates maximum of 5 years relaxation shall be given.
5. The system called the 'Course Credit and Semester' accommodates the undergraduate course having six semesters in three years. Usually, the 1<sup>st</sup>, 3<sup>rd</sup> & 5<sup>th</sup> semesters shall run in the first half of the academic year and 2<sup>nd</sup>, 4<sup>th</sup> & 6<sup>th</sup> shall run in the second half of the same academic year.
6. The course of study will be comprised of the following:
  - i. Core courses
  - ii. Ability Enhancement compulsory courses
  - iii. Skill Enhancement Courses
  - iv. Discipline Specific Elective Courses
  - v. Generic Elective Courses
7. There shall be total of 140 Credits distributed in the six semesters as following:

Semester	I	II	III	IV	V	VI
Credit	20	20	26	26	24	24

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8. The medium of instruction shall be English. However the medium of examination may be English/Bengali.
9. Candidates for the B.A/B.Sc. (Hons) degree shall have to pass all the courses of studies.
10. Semester terminal examinations for Semester-I, III & V will ordinarily be held in the month of December while that for Semester- II , IV & VI will ordinarily be held in the month of April-May in every academic year.
11. The duration for semester terminal examinations of different courses will be as follows:
  - i. Theory Core Courses of 75 marks will be of 3 hours duration.
  - ii. Practical Core Courses of 75 marks will be of 6 hours duration
  - iii. Theory of Ability Enhancement Compulsory Courses of 25 marks will be of 2 hours duration.

- iv. Practical of Skill Enhancement Courses of 75 marks will be of 6 hours duration.
  - v. Theory of Discipline Specific Elective Courses of 75 marks will be of 3 hours duration.
  - vi. Practical of Discipline Specific Elective Courses of 75 marks will be of 6 hours duration.
  - vi. Theory of Generic Elective Courses of 50 marks will be of 3 hours duration
  - vii. Practical of Generic Elective Courses of 25 marks will be 3 hours duration.
12. One credit indicates One hour lecture or Two hours practical per week.
  13. The pass marks for both Theory and Practical papers/courses in honours and subsidiary will be 40% of the total marks of each paper/course. However the pass marks for language and foundation courses (non credit) will be 33%. Candidates who fail to secure pass marks in any course/paper of any even/odd Semester will be declared as failed in that particular paper/course. A candidate may appear as Back candidate in that course/paper and he/she shall have two consecutive chances to clear a course/paper of any Semester Examination including the first chance and they will be allowed to avail these chances only with the odd and even Semesters as the case may be. Ordinarily there will be no special chance. Chances will be counted from the year of admission at the B.A/B.Sc (Honours) course.
  14. In each theory and practical course/paper, 20% of the total marks will be earmarked for Continuous Evaluation.
  15. For continuous evaluation there should be a minimum of two tests and a combination of at least two forms of tests per paper/course from among the following:
    - (a)Tutorials (b) Short Class Tests (Objective and /or Essay type)
    - (c)Assignment (d) Term Papers (e) Viva-voce (f) Seminars (g) Seminar Readings
  16. The tests should be spread throughout the Semester. At least 50% of the weightage should be given to the written forms of tests.
  17. In case of a candidate who fails to appear in the terminal examination of a given Semester but appears in continuous evaluation of the courses/papers, his/ her marks of continuous evaluation will remain valid during his/ her next chances. But if a candidate remains absent or scores low or nil marks he/ she, even in continuous evaluation, will not be permitted to reappear for continuous evaluation after the Semester is over.

18. In the Choice Based Credit System (CBCS), the Grade and Grade Points (P) earned by a candidate on the basis of his/her performance in the Semester Examination shall be as follows:

Marks obtained %	Grade	Point (P)	Remarks
96 to 100	O	10:00	Out Standing
90 to 95	S	9:00	Excellent
80 to 89	A++	8.00	Distinction
70 to 79	A+	7.00	Very Good
60 to 69	A	6.00	Good
55 to 59	B+	5.50	Satisfactory
50 to 54	B	5.00	Average
40 to 49	C	4.00	Below Average
Below 40	F	0.00	Failed

19. The results of a candidate will indicate the Grade Point Average (GPA) earned by a candidate in a Semester Examination and the Cumulative Grade Point Average (CGPA) of all subsequent Semesters on a 10-point scale in which

$$\text{Grade Point} = \text{Credit} \times \text{Point} = C \times P$$

$$\sum C \times P$$

$$\text{GPA} = \frac{\sum C \times P}{\sum C} = (\text{Sum of Grade Points}) \div (\text{Total Credit})$$

The CGPA of Semester Examinations is computed as follows:  
 $\sum \text{Grade Points}$

$$\text{CGPA} = \frac{\sum \text{Grade Points of Semesters}}{\sum \text{Credits}} = \frac{\sum (\text{Grade Points of Semesters})}{\sum (\text{Credit Points of Semesters})}$$

On the basis of CGPA, Final Grade in the Semester Examination shall be as follows:

Grade Point	Letter Grade
10	O
9	S
8	A++
7	A+
6	A
5.5	B+
5	B
4	C
0	F

20. If a candidate drops a semester for exigencies beyond his/her control or, otherwise, will be allowed to repeat the semester in the next available semesters.
21. The mark sheet of a candidate should reflect the title of each course/paper, marks obtained in the course/paper and equivalent grade point.
22. Paper setting in all courses shall be done both by Internal and External Examiners on the recommendations of the Board of Studies (B.O.S) in Physical Education and Sport Science.
23. A Board of Moderators consisting of Internal Teachers and External Experts as recommended by B.O.S in Physical Education will moderate the question papers in honours, subsidiary and language courses for the semester terminal theory examinations.
24. Ordinarily 50% of the Question Papers of theory courses/papers in each semester will be set by the External examiners.
25. The evaluation of Answer Scripts (Theory papers) will be done internally. Continuous internal assessment is to be made on 20% marks in each course/paper.
26. All practical courses including practical experiments of theory papers /courses will be assessed internally except the Specialization: Sports: Skill Lesson course/paper (Course No. BABSCH364) in the VI semester, which will be assessed by external examiner.
27. There will be provision for Review System and the evaluation will be done internally. The BOS will recommend the names of three members consisting the HOD and other two members (excluding the first examiner) for evaluation of Review Examinations. There will be no scrutiny system.
28. If an examiner fails to turn up for practical examination, Head, Department of Physical Education, or his nominee may act as an examiner with intimation to the Deputy Registrar (Examinations), Visva-Bharati.
29. The other relevant clauses mentioned in **“The Ordinance for the Semester System of Undergraduate Courses of the Visva-Bharati under Choice Based Credit System”** that are not covered in this ordinance, shall be applicable.

**B.A/B.Sc.(Honours) in Physical Education: CBCS Syllabus****SEMESTER-WISE DISTRIBUTION OF COURSES AND CREDIT STRUCTURE****SEMESTER-I**

COURSE CODE	COURSE TITLE	MARKS		CREDIT		TOTAL CREDIT	NO OF LECTURES/ WEEK
		THEORY	PRACTICAL/ TUTORIAL	THEORY	PRACTICAL/ TUTORIAL		
CC-1	FOUNDATION OF PHYSICAL EDUCATION AND SPORTS SCIENCE	75 (60+15)		4	2	6	6
CC-2	FUNDAMENTAL EXERCISE, MARCHING & RHYTHMIC		75 (60+15)		4+2	6	12
AECC-I	ENGLISH/MODERN INDIAN LANGUAGES	25		2		2	2
TS	TAGORE STUDIES	50 (40+10)		4		4	6
GE-I	HIROZON OF EXERCISE AND SPORTS SCIENCE	75 (60+15)		4	2	6	8
					TOTAL=	20	28

**SEMESTER-II**

COURSE CODE	COURSE TITLE	MARKS		CREDIT		TOTAL CREDIT	NO OF LECTURES/ WEEK
		THEORY	PRACTICAL/ TUTORIAL	THEORY	PRACTICAL/ TUTORIAL		
CC-3	HEALTH EDUCATION	75 (60+15)		4	2	6	6
CC-4	GYMNASTICS AND WEIGHT TRAINING		75 (60+15)		4+2	6	12
AECC-II	ENVIRONMENTAL STUDIES	25		2		2	2
TS	TAGORE STUDIES	50 (40+10)		4		4	6
GE-II	HEALTH FITNESS AND WELLNESS	75 (60+15)		4	2	6	8
					TOTAL=	20	28

### SEMESTER-III

COURSE CODE	COURSE TITLE	MARKS		CREDIT		TOTAL CREDIT	NO OF LECTURES/ WEEK
		THEORY	PRACTICAL/ TUTORIAL	THEORY	PRACTICAL/ TUTORIAL		
CC-5	ANATOMY & EXERCISE PHYSIOLOGY	75 (60+15)		4	2	6	6
CC-6	PSYCHO-SOCIAL ASPECT OF SPORTS	75 (60+15)		4	2	6	6
CC-7	AQUATICS		75 (60+15)		4+2	6	12
SEC-I	OFFICIATING IN GAMES AND SPORTS/ MEASUREMENT & EVALUATION IN SPORTS	25		2		2	2
GE-III	LIFESTYLE MANAGEMENT	75 (60+15)		4	2	6	8
					TOTAL=	26	34

### SEMESTER-IV

COURSE CODE	COURSE TITLE	MARKS		CREDIT		TOTAL CREDIT	NO OF LECTURES/ WEEK
		THEORY	PRACTICAL/ TUTORIAL	THEORY	PRACTICAL/ TUTORIAL		
CC-8	FITNESS & WELLNESS	75 (60+15)		4	2	6	6
CC-9	TRACK & FIELD		75 (60+15)		4+2	6	6
CC-10	INDEGINIOUS SPORTS		75 (60+15)		4+2	6	12
SEC-II	APPLICATION OF IT IN SPORTS / SPORTS TECHNOLOGY	25		2		2	2
GE-IV	EXERCISE AND SPORTS THERAPY	75 (60+15)		4	2	6	8
					TOTAL=	26	34



### SEMESTER-V

COURSE CODE	COURSE TITLE	MARKS		CREDIT		TOTAL CREDIT	NO OF LECTURES/ WEEK
		THEORY	PRACTICAL/ TUTORIAL	THEORY	PRACTICAL/ TUTORIAL		
CC-11	KINESIOLOGY	75 (60+15)		4	2	6	6
CC-12	BALL GAMES-I: Basketball & Football		75 (60+15)		4+2	6	12
DSE-I	YOGA EDUCATION / ATHLETIC CARE & REHABILITATION	75 (60+15)		4	2	6	6
DSE-II	RACKET SPORTS- BM/TT/LT (ANY TWO)		75 (60+15)		4+2	6	12
					TOTAL=	24	36

### SEMESTER-VI

COURSE CODE	COURSE TITLE	MARKS		CREDIT		TOTAL CREDIT	NO OF LECTURES/ WEEK
		THEORY	PRACTICAL/ TUTORIAL	THEORY	PRACTICAL/ TUTORIAL		
CC-13	SPORTS TRAINING	75 (60+15)		4	2	6	6
CC-14	BALL GAMES-II: Cricket & Volleyball		75 (60+15)		4+2	6	12
DSE-III	SPORTS MANAGEMENT / SPORTS NUTRITION	75 (60+15)		4	2	6	6
DSE-IV	COMBATIVE SPORTS: Judo/Karate/ Taekwondo (ANY TWO)		75 (60+15)		4+2	6	12
					TOTAL=	24	36
					<b>TOTAL CREDIT =140</b>		

1 Credit = 12.5 Marks

Credit = 1 hour theory per week

= 2 hours practical per week

C = Core Course

AECC = Ability Enhancement Compulsory Course

SEC = Skill Enhancement Course

DSE = Discipline Specific Elective

GE = Generic Elective

## **DETAILED SYLLABUS SEMESTER-I**

**CC-1: FOUNDATION OF PHYSICAL EDUCATION AND SPORTS SCIENCE**

### **Theory**

**Total Credit: 6      Total Marks: 75 (60+15)      Total Lectures: 6/Week**

#### **UNIT – I**

##### **1. Introduction and Historical Foundation**

- 1.1. Aim, Objectives and Definition of Physical Education and Sports Science.
- 1.2. History of Physical Education and Sports Science in India- with special reference to Ayurveda and Yoga Vayayama.
- 1.3. World History of Physical Education and Sports Science- with special reference to Olympic.
- 1.4. Gurudeva Rabindranath Tagore's Concept of Physical Education and Sports Science.

#### **UNIT – II**

##### **2. Physiological Foundation**

- 2.1. Biological basis of life.
- 2.2. Growth and Development: Stages, Factors and Principles.
- 2.3. Age: Chronological, Anatomical, Physiological, and Mental age.
- 2.4. Modern concept of Inactive to Active life style.

#### **UNIT – III**

##### **3. Psychological Foundation**

- 3.1. Brain and Human Psychology
- 3.2. Learning and Motor Learning
- 3.3. Play and Play Theory
- 3.4. Human Personality factors

#### **UNIT – IV**

##### **4. Biomechanical Foundation**

- 4.1. Movement and Locomotion
- 4.2. Concept of Bio-energy
- 4.3. Kinetic and Kinematic: over view
- 4.4. Biomechanics in Daily life and Sports

#### **UNIT – V**

##### **5. Sociological Foundation**

- 5.1. Society and Socialization
- 5.2. Impact of Sports in Society
- 5.3. Traditional and Recreational Game
- 5.4. Cooperation and Competition in Sports: National and International level

#### **REFERENCES**

1. Graham, G. (2001) Teaching Children Physical Education: Becoming a Master Teacher. Human Kinetics, Champaign, Illinois, USA.
2. Kamlesh, M.L. & Singh, M.K. (2006) Physical Education (Naveen Publication).
3. Lau, S.K. (1999) Great Indian Players, New Delhi, Sports.

4. Lumpkin, A. (2007) Introduction to Physical Education, Exercise Science and Sports Studies, McGraw Hill, New York, USA.
5. Siedentop, D. (2004) Introduction to Physical Education, Fitness and Sport, McGraw Hill Companies Inc., New York, USA.
6. Shaffer, D.R. (2002) Development Psychology: Childhood and Adolescence. Thomson, Sydney, Australia.
7. Shukla, (2000) Mother on Education, National Council of Teacher Education, New Delhi.
8. Singh, A. et al. (2000) Essential of Physical Education, Kalyani Publishers, Ludhiana, Punjab.
9. Wuest, D.A. & C.A. Bucher (2006) Foundation of Physical Education, Exercise Science, and Sports. McGraw Hill Companies Inc.; New York, USA.
10. Fahey, T.D., M.P. Insel and W.T. Rath (2006) Fit & Well: Core Concepts and Labs in Physical Fitness, McGraw Hill, New York.
11. Kansal, D.K. (2012) A Practical Approach to Test Measurement and Evaluation Sports and Spiritual Science Publication, New Delhi.

## **CC-2: FUNDAMENTAL EXERCISE, MARCHING AND RHYTHMIC**

### **Practical**

**Total Credit: 6            Total Marks: 75 (60+15)    Total Lecture: 12/Week**

#### **Unit-I: Fundamental Exercise**

1. Head, Neck and Facial Exercises
2. Shoulder and Chest Exercises
3. Abdominal, Hip and Trunk Exercises
4. Upper arm, lower Arm, Wrist and Finger Exercises
5. Thigh, Knee, Calf, Ankle and Finger Exercises

#### **Unit-II: Marching**

1. Fall in, Attention, Stand at Ease, Eyes right – Eyes front (Dressing), Turning right, left, about
2. Marching: Arm-Leg coordination, Marching, Mark Time, Quick march, Halt, about turn while marching and marching with Salute.
3. Dismissal

#### **Unit-III: Lazim**

1. Lazim skandha or Lapet, Lazim Arm, Lazim Ready or Hosiar
2. Ghati Lazim- Char Thoka, Ath Thoka, Kadamtal, Aga Pan, Pabitra
3. Hindi Lazim- Char Thoka, Ath Thoka, Ari Lagao, Do Ruk, Aga Phalang, Picha Phalang

#### **Unit-IV: Free hand Exercise (CALLISTHENICS & AEROBICS)**

1. Callisthenics – Two count, four count, eight count, sixteen count, thirty two count
2. Aerobics- Basic turns, jumps, leaps with Music

#### **Unit-V: Apparatus Exercise**

1. Exercise with wands, dumbbell, hoops,
2. Exercise with flags, clubs, bamboos

**AECC-I: ENGLISH / MODERN INDIAN LANGUAGES**

**Theory**

**Total Credit: 2**

**Total Marks: 25**

**Total Lecture: 4/Week**

Detailed syllabus will be provided by the concerned department

**TAGORE STUDIES**

**Total Credit: Total Marks: 50 (40+10) Total Lecture:**

Detailed syllabus will be provided by the concerned department

**GE-I: HORIZON OF EXERCISE AND SPORT SCIENCE**

**Theory & Practical**

**Total Credit: 6 (4+2) Total Marks: 75 (60+15) Total Lecture: 8/Week**

**Theory**

**Unit 1:** Introduction and objectives of Physical Education and Sport Science

**Unit 2:** Exercise and Sport for All': Children, Youth, Adults and Aged Population

**Unit 3:** Importance of Traditional and Recreational Sport; Sport for Otherly Abled Population

**Unit 4:** Branches of Sports Science: Exercise and Sport Physiology; Exercise & Sport Biomechanics; Exercise & Sport Psychology.

**Unit 5:** Olympic and Major International Competition.

**Practical**

1. Fundamental Exercise and Recreational Sports
2. Track and Field
3. Football

## SEMESTER-II

**CC-3:**

**HEALTH EDUCATION**

**Total Credit: 6  
6/Week**

**Total Marks: 75 (60+15)**

**Total Lectures:**

### **Unit- I: Health and Health Education**

- 1.1. Health- Concept, definition and dimension.
- 1.2. Health Education- Definition, aim, objectives.
- 1.3. Principles of Health Education.
- 1.4. Health Agencies- World Health Organization (WHO), United Nations Educational Scientific and Cultural Organization (UNESCO).

### **Unit- II: Health Problems, Prevention and Control**

- 2.1. Communicable Diseases- Malaria, Dengue and Chicken Pox.
- 2.2. Non-communicable Diseases- Obesity, Diabetes and Hypertension.
- 2.3. Occupational Health- Occupational Health Hazards and Diseases.
- 2.4. Postural Deformities- Causes and corrective exercise of Kyphosis, Lordosis, Scoliosis, Knock Knees and Flat Foot.

### **Unit- III: Physical Fitness and Wellness**

- 3.1 Physical Fitness- Meaning, definition and Importance of Physical Fitness.
- 3.2 Components of Physical Fitness- Health and Performance related Physical Fitness.
- 3.3 Concept of Wellness. Relationship between Physical activities and Wellness.
- 3.4 Ageing- Physical activities and its importance.

### **Unit- IV: First-aid and Sports Injuries**

- 4.1 First aid- Meaning, definition and importance
- 4.2 Golden rules of First-aid.
- 4.3 Sports Injuries- Types and Causes.
- 4.4 Definition, Types, Symptoms and Treatment of common sports injuries- Sprain, Strain, Fracture and Dislocation.

### **Unit- V: Disability and Rehabilitation**

- 5.1 Disability- Meaning, definition and Types.
- 5.2 Causes of Disability.
- 5.3 Rehabilitation of Disability.
- 5.4 Physical activity for Disability.

## REFERENCES

1. Bucher, Charles A. "Administration of Health and Physical Education Programme".
2. Delbert, Oberteuffer, et. al." The School Health Education".
3. Ghosh, B.N. "Treaties of Hygiene and Public Health".

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7. Nemir A. 'The School Health Education" (Harber and Brothers, New York).
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9. Boyd-Eaton S. et al (1989) The Stone Age Health Programme: Diet and Exercise as Nature Intended. Angus and Robertson.
10. Terras S. (1994) Stress, How Your Diet can Help: The Practical Guide to Positive Health Using Diet, Vitamins, Minerals, Herbs and Amino Acids, Thorons.

**CC-4:**

**GYMNASTICS AND WEIGHT TRAINING**

**Practical**

**Total Credit: 6 Total Marks: 75 (60+15)**

**Total Lectures: 12/Week**

**GYMNASTICS (BOYS)**

**Unit-I**

1. Introduction of the game and historical development with special reference to India.

Important tournaments held at National and International levels and distinguished personalities related to the game.

Fundamental skills

Floor Exercise

- 1.1.1. Forward Role
- 1.1.2. Backward Role
- 1.1.3. Sideward Role
- 1.1.4. Cart Wheel
- 1.1.5. Hand stand and forward role
- 1.1.6. Backward role to hand stand
- 1.1.7. Diving forward role
- 1.1.8. Side split
- 1.1.9. Hand Stand
- 1.1.10. Different kinds of scale
- 1.1.11. Dive role from beat board
- 1.1.12. Round off

**Unit-II**

2. Parallel Bars

- 2.1.1. Mount from one bar
- 2.1.2. Straddle walking on parallel bars
- 2.1.3. Single and double step walk
- 2.1.4. Perfect swing
- 2.1.5. Shoulder stand on one bar and roll forward
- 2.1.6. Roll side
- 2.1.7. Shoulder Stand
- 2.1.8. Front on back vault to the side (dismount)

**Unit-III**

3. Vaulting Horse

- 3.1.1. Approach run and jump from the best board
- 3.1.2. Cat vault

- 3.1.3. Squat vault
- 3.1.4. Straddle vault

Rules of gymnastic and their interpretations and duties of officials.

#### **Unit-IV**

#### **WEIGHT TRAINING**

- 4.i Introduction of the game and historical development with special reference to India.
- 4.ii Difference between weight training, weight lifting and power lifting. Safety principle of weight training and introduction of the muscular system of the body.
- 4.iii Orientation of students to weight lifting, Power lifting and best physique

#### **Unit-V**

5. Fundamental skills: The following exercise covering the major groups of muscles are to be

taught and performed using different types of muscle contraction, i.e. isometric and isotonic.

- i. Two arms curls
- ii. Front press
- iii. Press behind the neck
- iv. Dead lift
- v. Quarter squat, Half squat and full squat
- vi. Rise on toes (Heel Raise)
- vii. Straight arm pullover
- viii. Bent over, rowing
- ix. Bench press
- x. Leg press
- xi. Wrist rolling
- xii. Pronation and supination
- xiii. Trunk twisting
- xiv. Good morning exercise
- xv. Sit ups with weight
- xvi. Alternate press
- xvii. Sport running with weight
- xviii. Stepping on bench
- xix. Jack knife
- xx. Lateral rise
- xxi. Iron shoe exercise

#### **GYMNASTICS (GIRLS)**

#### **Unit-I**

- 1. Introduction of the game and historical development with special reference to India.

Important tournaments held at National and International levels and distinguished personalities related to the game.

Fundamental skills

- i. Floor Exercise
  - 1.i.1. Forward Role
  - 1.i.2. Backward Role
  - 1.i.3. Sideward Role
  - 1.i.4. Different kinds of scales
  - 1.i.5. Leg Split

- 1.i.6. Bridge
- 1.i.7. Dancing Steps
- 1.i.8. Hand Stand
- 1.i.9. Jumps Leap, Scissors Leap
- 1.i.10.

### **Unit-II**

- 2. Balancing Beam
  - 2.i.1. Walking and running on the beam
  - 2.i.2. Turning movement on the beam
  - 2.i.3. Cat Jump
  - 2.i.4. Dancing steps and movements
  - 2.i.5. Different kinds of scales
  - 2.i.6. Mount (1 / 4 turn to cross sitting)
  - 2.i.7. Dismount (jump from the end of the beam with legs straddle in the air)
  - 2.i.8. Straddle mount
  - 2.i.9. Forward role on the bench and beam
  - 2.i.10. Dismount (from front support leg, swing upward dismount sideways)

### **Unit-III**

- 3. Vaulting Horse
  - 3.i.1. Approach run
  - 3.i.2. Take from the beat board
  - 3.i.3. Cat vault
  - 3.i.4. Squat vault

Rules of gymnastic and their interpretations and duties of officials.

### **Unit-IV**

#### **WEIGHT TRAINING**

- 4.i Introduction of the game and historical development with special reference to India.
- 4.ii Difference between weight training, weight lifting and power lifting. Safety principle of weight training and introduction of the muscular system of the body.
- 4.iii Orientation of students to weight lifting, Power lifting and best physique

### **Unit-V**

- 5. Fundamental skills: The following exercise covering the major groups of muscles are to be taught and performed using different types of muscle contraction, i.e. isometric and isotonic.
  - ii. Two arms curls
  - iii. Front press
  - iv. Pres behind the neck
  - v. Dead lift
  - vi. Quarter squat, Half squat and full squat
  - vii. Rise on toes (Heel Raise)
  - viii. Straight arm pullover
  - ix. Bent over, rowing
  - x. Bench press
  - xi. Leg press
  - xii. Wrist rolling
  - xiii. Pronation and supination



- xiv. Trunk twisting
- xv. Good morning exercise
- xvi. Sit ups with weight
- xvii. Alternate press
- xviii. Sport running with weight
- xix. Stepping on bench
- xx. Jack knife
- xxi. Lateral rise
- xxii. Iron shoe exercise

**AECC-II:**

**ENVIRONMENTAL STUDIES**

**Theory**

**Total Credit: 2  
2/Week**

**Total Marks: 25**

**Total**

**Lectures:**

Detailed syllabus will be provided by the concerned department

**GE-II:**

**HEALTH, FITNESS AND WELLNESS**

**Theory & Practical**

**Total Credit: 6 (4+2) Total Marks: 75 (60+15) Total Lectures: 8/Week**

**Theory**

**Unit 1:** Health and its' dimension – Physical, Mental, Social and Spiritual.

**Unit 2:** Health related fitness – Body Composition, Cardiovascular Endurance, Muscular Strength, Muscular Endurance, Flexibility.

**Unit 3:** Performance related fitness – Speed, Power, Balance, Agility, Coordination and Reaction Time.

**Unit 4:** Concept and Components of Wellness.

**Unit 5:** Nutrition and Balanced Diet.

**Practical**

1. Fundamental Exercises and Traditional Sport
2. Gym Exercises
3. Volleyball

## SEMESTER-III

### CC-5: ANATOMY AND EXERCISE PHYSIOLOGY

#### Theory

Total Credit: 6 Total Marks: 75 (60+15)

Total Lectures: 6/Week

#### Unit-I

### 1 Basic of Anatomy Physiology and Exercise Physiology

(i) Meaning and definition (ii) Brief history (iii) Importance (iv) Meaning and Concept of cell, tissue, organ and system (v) Microscopic structure and function of cell (vi) Types structure and function of tissues

#### UNIT-II

### 2 The Musculo-Skeletal System

A. (i) Skeletal system-Meaning, different parts of human skeleton and their functions (ii) Types of Bones (iii) Structure and function of Bones (iv) Skeletal deformities (v) Types Structure and function of joints (iv) Effect of exercise and training on skeletal system

B. (i) Muscle- Meaning, Types, Structure and functions (ii) Types and Mechanism of muscular contraction (iii) Muscle fibre types (iv) Effect of exercise and training on muscular system

#### UNIT-III

### 3 Cardio-respiratory system

A. Basic anatomy of cardiovascular system (ii) Structure and function of heart (ii) Blood vessels – types and functions (iii) Blood composition and functions (iv) Blood circulation and cardiac cycle (v) Heart rate, Stroke volume, Cardiac output etc (vi) Effect of exercise and training on Cardiovascular system

B. Basic anatomy of respiratory system. (ii) External respiration and cellular respiration (iii) Respiratory muscles (iv) Mechanics of breathing (v) Vital capacity, Oxygen debt, Second wind, stitch, Lung capacity, tidal volume, Dead space etc. (vi) Effect of Exercise and training on respiratory system

#### UNIT-IV

### 4. Nervous system and Endocrine system

A. (i) Division- structural -CNS and PNS, functional- SNS and ANS (ii) NMJ, Synapse (iii) Neural control over muscular contraction (iv) Concept of Neuropsychology (v) Effect of exercise and training on Nervous system

B. (i) Concept of endocrinology, Hormone (ii) Structure and function of various endocrine glands- Pituitary, Thyroid, Adrenal, Pancreas, sex gland etc (iii) Concept of Immune system (iv) Effect of exercise and training on endocrine system

#### UNIT-V

### 5. Energy Environment and Training

Energy for muscular work, (ii) Physiological concepts of Physical fitness and its components (iii) Warming up, cooling down etc (iv) Fatigue (v) Acclimatisation to heat and cold (vi) Altitude training

#### Practical

1. Identification of major bones
2. Identification of major muscles

3. Measurement of Blood Pressure
4. Measurement of VO<sub>2</sub>max
5. Measurement of Vital capacity
6. Estimation of Physical Fitness Index

### **Recommended Books**

1. Pearce Evelyn (1973) Anatomy and Physiology for Nurses, Oxford University Press, Kolkata
2. CC Chatterjee Human Physiology, CBS Publishers & Distributers Pvt Ltd
3. McArdle WD, Katch FI, Katch VL. Essentials of Exercise Physiology 2<sup>nd</sup> ed Philadelphia: Lippincott Williams and Wikins:2000
4. Fax EL. Sports Physiology. Tokyo: Holt Saunders; 1984.
5. Hill AV. Muscular Movement in man. New York: Mc Graw Hill Book Co;1927

**CC-6:**

## **PSYCHO-SOCIAL ASPECT OF SPORTS Theory**

**Total Credit: 6**

**Total Marks: 75 (60+15)**

**Total Lectures: 6/Week**

### **UNIT – I**

#### **1. Introduction to Psycho-Social aspects of Sports**

- 1.1 Meaning and definition of Psychology, Educational Psychology, Sociology. Meaning, nature and scope of Sports Psychology and Sports Sociology.
- 1.2 Psychological factors effecting sports performance.
- 1.3 Need and importance of physical activities and sports in the modern society.
- 1.4 Games and sports as man's cultural heritage.

### **UNIT – II**

#### **2. Development Psychology**

- 2.1 Individual Difference:
  - 2.1.1 Meaning, definition and nature.
  - 2.1.2 Meaning and definition of Heredity and Environment and their influence on Individual Difference.
- 2.2 Growth and Development:
  - 2.2.1 Meaning and definition.
  - 2.2.2 Psycho-Sociological characteristics of different stages of growth and development.

### **UNIT – III**

#### **3. Learning Process**

- 3.1 Meaning, definition, nature, Theories and Principles/Laws of learning.
- 3.2 Principles of motor skill learning.
- 3.3 Learning Curve and it's implication in sports.
- 3.4 Transfer of learning:
  - 3.4.1 Meaning and types.
  - 3.4.2 Factors effecting transfer of learning.

### **UNIT – IV**

#### **4. Personality, Motivation and Emotion:**

- 4.1 Personality:
  - 4.1.1 Meaning, definition and nature.
  - 4.1.2 Role of Physical activities and games and sports in the development of personality.

- 4.2 Motivation:
  - 4.2.1 Meaning, definition, types and importance.
  - 4.2.2 Meaning of motive, need, drive, incentive and achievement.
- 4.3 Meaning, definition, nature and types of Emotion.
- 4.4 Meaning of Anxiety and its effect on sports performance.

### **UNIT – V**

#### **5. Sports and Society:**

- 5.1 Socialization through games and sports.
- 5.2 Sports as a social occurrence.
- 5.3 Social stratification in sports.
- 5.4 Relationship with Sports and Women, Politics, National/International Integration.

#### **Recommended Books:**

1. Buchar Charles A, "Foundations of Physical Education", 8<sup>th</sup> Ed., C. V. Mosby Co., St. Luis, 1978.
2. Cox, "Sports Psychology", Human Kinetics Publishers, Champaign, Illinois.
3. Kamlesh M. L, "Psychology in Physical Education and Sports", Metropolitan Book Co., New Delhi 1998.
4. Sharma S. R., "Sociological Foundation in Physical Education and Sports", Friends Publication, New Delhi.
5. Singh Kanwaljeet, "Sociology of Sports", Friends Publication, New Delhi.
6. Singh Bhupinder, "Sports Sociology – An Indian Perspective", Friends Publication, New Delhi.
7. Silva John M and Roberts, "Psychological Foundation of Sports", Human Kinetics Publishers, Champaign, Illinois.
8. Singh A, Gill J S, Bais J, Brar R S. and Rathee N K, "Essentials of Physical Education", Kalyani Publishers, Jalandhar, 2003.
9. Skinner Charles E., "Essetials of Educational Psychology", Asia Publishing House, New Delhi, 1961.
10. Talamini J. T. and Page C. H., "Sports and Society – an Anthology", Little Brown & Co., Boston, 1973.

#### **CC-7:**

#### **AQUATICS**

#### **Practical**

**Total Credit: 6 Total Marks: 75 (60+15)**

**Total Lectures: 12/Week**

#### **Unit I**

1. Fundamental exercises of swimming
2. Basic and Advance techniques of Free Style

#### **Unit II**

3. Basic and Advance techniques of Back Stroke

#### **Unit III**

4. Basic and Advance techniques of Breast Stroke

#### **Unit IV**

5. Basic and Advance techniques of Butter Fly

#### **Unit V**

6. Water Polo and Diving

## **Swimming syllabus**

### **Unit 1**

History development and organizations, Rules and their interpretations, Submerging, Jumping, Floating, Locomotion, Breathing.

#### **The front crawl/Free style**

Body position, Horizontal and lateral body alignment, Breathing, Body roll.

The arm stroke, the flutter kick, Coordination, Starts, Turns, Finishes of front crawl events.

### **Unit 2**

#### **Backstroke**

Introduction, Body position, Body roll.

The arm action, Recovery, Breathing. Leg action, Co ordination.

The Start, The turns, Finishing in back stroke event

### **Unit 3**

#### **Breast stroke**

Introduction, Arm action, Breathing, Recovery. Leg action (whip kick), Coordination, Breast stroke start, Breast stroke turn, The finishes of breast stroke events.

### **Unit 4**

**Butterfly stroke :** Introduction, Arm action, Leg action, Body position, Breathing, Dolphin kick, Coordination. The start, the turn, the finish of butterfly event.

### **Unit 5**

#### **Water polo**

Basic and Skills of Water polo – Throwing and passing the ball, Receiving – Throwing methods

Interpretation of Rules and regulations of the game, Dimension of pool.

#### **Diving**

**Basic skills of Diving:** Initial strokes – preparation – different types of diving.

**Life saving:** Methods of life saving, Approach factors causes of drove C.P.R.

**Facilities and Safety measures:** Maintenance of Pool and pool equipment, Chemical required for pool, Pool water test, Safety measures and hygiene rules, Common diseases and injures and their causes and prevention

**Warm up and basic training methods:** Means and methods of general and specific warm up and cool down, Effects of warm up and cool down means and methods for development of strength, flexibility, endurance, speed and coordinative abilities, Equipment used for development of various motor abilities of swimmer on land and water. Interpretation of FINA diving rules, Basic dives for novices.

# **SEC-I: OFFICIATING IN GAMES AND SPORTS/MEASUREMENT & EVALUATION IN SPORTS**

## **OFFICIATING IN GAMES AND SPORTS**

### **Theory**

**Total Credit: 2**

**Total Marks: 25**

**Total Lectures: 2/Week**

### **UNIT-I**

8. History: Historical Development of the Game/Sport at the National and International levels.

9. Organisation:

2.1 National Bodies controlling the sport and their affiliated units.

2.2 International bodies controlling the sport and their affiliated units.

2.3 Major National and International competitions / Tournaments.

2.4 National and International Awards

### **UNIT-II**

10. Rules, Officiating and Layout:

3.4 Rules & Games Procedures and their interpretations

3.5 Officiating Techniques

3.6 Layout and marking of play areas

### **UNIT-III**

11. Training

7.2 Introduction to Sports Training

7.1.1 Meaning, definition, aim and characteristics.

7.1.2 Basic Principles of Sports Training

7.4 Training methods and means for the development of motor abilities (strength, speed, endurance and flexibility)

7.5 Load dynamics (Principles of Training load, distribution of training load)

7.6 Basic concept of preparation of training schedules.

12. Planning

8.3 Short-term and long-term training plans

8.4 Periodisation-types, contents.

### **UNIT-IV**

13. Techniques / Skills

4.3 Classification of Techniques/Skills

4.4 Technical/Skill Training

4.4.1 Preparatory Exercise

4.4.2 Basic Exercise

4.4.3 Supplementary Exercise

14. Tactics and Strategy

6.3 Different tactical concepts applicable to the game/sport

6.4 Tactical Training

### **UNIT-V**

9. Competition

9.1 Meaning, type and merits of competition

9.2 Main and build up competitions

9.4 Preparation for competition.

10. Evaluation
  - 10.4 General Fitness Tests
  - 10.5 Specific Fitness Tests
  - 10.6 Performance & Skill Tests

#### RECOMMENDED BOOKS

5. Singh Hardayal - Science of Sports Training, DVS Publications, 1997.
6. Manilal K.P Planning in Sports, Sports Publication, 2008.
7. Bumpa Tudor O - Periodization : Theory and Methods of Training, Human Kinetics, 1999
8. A. K - Principles of Sports Training, Friends Publication (India), 2001.

### **MEASUREMENT & EVALUATION IN SPORTS**

#### **Unit- I: Introduction**

- 1.1. Concept of Test, Measurement & Evaluation.
- 1.2. Classification of Test.
- 1.3. Principles of Evaluation.
- 1.4. Importance of Test, Measurement and Evaluation in Physical Education and Sports.

#### **Unit- II: Criteria of selecting Good Test**

- 2.1. Scientific Authenticity
- 2.2. Administrative Feasibility
- 2.3. Educational Application
- 2.4. Norms

#### **Unit- III: Measurements of Body Compositions and Somatotype Assessment**

- 3.1 Body Mass Index (BMI)- Concept and method of measurement.
- 3.2 Body Fat- Concept and method of measurement.
- 3.3 Lean Body Mass (LBM)- Concept and method of measurement.
- 3.4 Somatotype- Concept and method of measurement.

#### **Unit- IV: Fitness Test**

- 4.1 Kraus-Weber Muscular Strength Test
- 4.2 AAHPER Youth Fitness Test
- 4.3 Queens College Step Test
- 4.4 Harvard Step Test

#### **Unit- V: Sports Skill Test**

- 5.1 Lockhart and McPherson Badminton Skill Test
- 5.2 Johnson Basketball Test Battery
- 5.3 McDonald Soccer Test
- 5.4 Brady Volleyball Test

### **REFERENCES**

1. Authors Guide (2013) ACSM's Health Related Physical Fitness Assessment Manual, USA: ACSM Publications.
2. Collins, R.D., & Hodges P.B. (2001) A Comprehensive Guide to Sports Skills Tests and Measurement (2<sup>nd</sup> edition) Lanham: Scarecrow Press.
3. Cureton T.K. (1947) Physical Fitness Appraisal and Guidance, St. Louis: The C. Mosby Company.
4. Getchell B (1979) Physical Fitness A Way of Life, 2<sup>nd</sup> Edition New York.
5. John Wiley and Sons, Inc Jenson, Clayne R and Cynt ha, C. Hirst (1980) Measurement in Physical Education and Athletics, New York, Macmillan Publishing Co. Inc.
6. Kansal D.K. (1996), "Test and Measurement in Sports and Physical Education,

New Delhi: DVS Publications.

7. Krishnamurthy (2007) Evaluation in Physical Education and Sports, New Delhi; Ajay Verma Publication.
8. Vivian H. Heyward (2005) Advance Fitness Assessment and Exercise Prescription, 3<sup>rd</sup> Edition, Dallas TX: The Cooper Institute for Aerobics Research.
9. Wilmore JH and Costill DL. (2005) Physiology of Sport and Exercise: 3<sup>rd</sup> Edition. Champaign IL: Human Kinetics.
10. Yobu, A (2010), Test, Measurement and Evaluation in Physical Education in Physical Education and Sports. New Delhi; Friends Publications

### **GE-III:**

### **LIFESTYLE MANAGEMENT**

#### **Theory & Practical**

**Total Credit: 6 (4+2) Total Marks: 75(60+15) Total Lectures: 8/Week**

#### **Theory**

**Unit 1:** Use of Modern Gadgets: Musculoskeletal Problem and Exercise benefits

**Unit 2:** Sedentary Life Style: Cardiorespiratory Weakness and Active Life Style

**Unit 3:** Junk and Fast Food: Digestive and Excretory Dysfunction and Sport Habit

**Unit 4:** Neuroendocrinological Problem and Regular Sport

**Unit 5:** Exercise and Immune Function.

#### **Practical**

1. Aerobics
2. Swimming/Badminton
3. Basketball

### **SEMESTER-IV**

### **CC-8:**

### **FITNESS AND WELLNESS**

#### **Theory**

**Total Credit: 6 Total Marks: 75 (60+15)**

**Total Lectures: 6/Week**

#### **Unit-I: Concept of Fitness and Wellness**

- Meaning, Definition of Fitness and Wellness
- Aim and Objectives of Fitness and Wellness
- Importance and scope of fitness and wellness
- Modern concept of fitness and wellness

#### **Unit-II: Fitness components**

- Fitness-Types of fitness and components of fitness
- Health related fitness components
- Skill related fitness components
- Physical Activity and Health benefit

#### **Unit-III: Standard Test to measure fitness components**

- CR Endurance- Queens college step test, Havard step test, Beep test, 12min Run & Walk test etc
- Muscular strength-
- Muscular endurance- 1min sit up test,
- Flexibility- sit & reach test
- Body composition
- Speed- 50meter dash test, 100 meter sprint, 20meter dash test
- Agility - 4X10meter shuttle run test, Illinois agility test
- Power – Vertical jump test, Standing broad jump test
- Kinesthetics ability
- Reaction ability -



- Coordinative ability

#### **Unit-IV: Fitness Wellness and Exercise**

- Means and methods of developing fitness and wellness
- aerobic exercises – meaning, means and methods of developing aerobic fitness
- Anaerobic exercises - meaning, means and methods of developing anaerobic fitness
- Fitness in relation to weight training- free weight and additional weight
- Concept of designing different fitness training program for different category people

#### **Unit-V: Fitness Wellness and Hypokinetic diseases**

- Hypokinetic disease-
- Obesity, Hypertension, High Blood pressure, Diabetes, Heart disease etc causes, sign & symptoms, prevention and management
- BMI and fitness
- Modern Life Style and Physical activity in relation to hypokinetic diseases

#### **Practical**

1. Measurement of Height & Weight
2. Measurement of BMI
3. Measurement of Body composition
4. Measurement of Health related fitness components
5. Measurement of Performance related fitness components

#### **Recommended Books**

1. SJ Brian(1997) Fitness and Health, 4<sup>th</sup> ed, Human Kinetics
2. Thygerson AL and Thygerson SM (2009), Fit to be Well, 2<sup>nd</sup> ed, Jones and Bartlett Publishers, Massachusetts
3. E Gordon and Golanty E (2004), Health and Fitness, 8<sup>th</sup> ed, Jones and Bartlett Publishers, Massachusetts
4. Health and Fitness for Life (2010), Human Kinetics
5. Kansal DK(2012), A Practical Approach to Test Measurement and Evaluation, SSS Publication, New Delhi

#### **CC-9:**

#### **TRACK & FIELD**

#### **Practical**

**Total Credit: 6 Total Marks: 75 (60+15)**

**Total Lectures: 12/Week**

1. Introduction of the sport and historical development with special reference to India.
2. Important tournaments held at National and International levels.
3. Fundamental Skills
  - 3.1. Track events
    - 3.1.1.Starting techniques: Standing Start, Crouch Start and its variations, proper use of Blocks.
    - 3.1.2.Finishing techniques: Run, Through, Forward Lunging, Shoulder Shrug
    - 3.1.3.Relays: Various patterns of Baton exchange and understanding of relay zones.
    - 3.1.4.Middle and long distance Running
    - 3.1.5.Hurdles: Approach, Clearance and Recovery
  - 3.2. Field Events
    - 3.2.1.Long Jump: Approach run, take off, flight in the air

- |        |                               |   |
|--------|-------------------------------|---|
|        | (Hang Style)                  | and landing   |
| 3.2.2. | High Jump:<br>(Straddle Role) | Approach run, take off, clearance over the Bar and landing                  |
| 3.2.3. | Pole Vault:                   | Hand Grip and Pole carry, Run, Pole Plant, Take off, Clearance and landing. |
| 3.2.4. | Shot Put:                     | Grip, Stance, Glide, Release and Reverse.<br>(O'Brien techniques)           |
| 3.2.5. | Discus throw:                 | Grip, Stance, Release and Reverse.  |
| 3.2.6. | Javelin Throw:                | Grip, Carry, Release and Reverse  |
4. Rules of Track and Field events.

**CC-10:**

**INDIGENOUS SPORTS**

**Practical**

**Total Credit: 6      Total Marks: 75 (60+15)      Total Lectures: 12/Week**

**KABADDI**

1. Introduction of the game and historical development with special reference to India.
2. Important tournaments held at National and International levels and distinguished personalities related to the game.
3. Fundamental skills
  - 3.1. Skill in raiding –
    - 3.1.1.Touching with hand
    - 3.1.2.Various kicks
    - 3.1.3.Crossing of Baulk line
    - 3.1.4.Crossing of Bonus line
    - 3.1.5.Luring the opponent to Catch
    - 3.1.6.Pursuing
  - 3.2. Skill of Holding the raider –
    - 3.2.1.Various formations
    - 3.2.2.Catching from particular position
    - 3.2.3.Different catches
    - 3.2.4.Luring the raider to take particular position so as to facilitate catching
    - 3.2.5.Chain formation and techniques
  - 3.3. Additional skill in raiding
    - 3.3.1.Bringing the Antis into particular position
    - 3.3.2.Escaping from various holds
    - 3.3.3.Techniques escaping from various chain formation
    - 3.3.4.Combined formations in offence
    - 3.3.5.Combined formations in defence
  - 3.4. Various lead up games
4. The Game
5. Rules and their interpretations and duties of officials

**KHO-KHO**

1. Introduction of the game and historical development with special reference to India.
2. Important tournaments held at National and International levels and distinguished personalities related to the game.
3. Fundamental skills: General skills of the game running, chasing dodging, faking etc.
  - 3.1. Skills in chasing correct Kho-Kho, moving on the lanes, pursuing the runner, trapping the inactive runner, trapping the runner on heels, trapping on the pole, diving judgement in giving kho, rectification of foul.

- 3.2. Skills in running zig zag , single and double chain, ring play, rolling in the sides, dodging while facing and on the back fakes on the pole fake legs, body arm etc. combination of different skills.
4. The Game
5. Rules and their interpretations and duties of officials

**SEC-II:                    Application of IT in Sports/Sports Technology  
Theory**

**Total Credit: 2                    Total Marks: 25                    Total Lectures: 2/Week**

**Application of IT in Sports**

**Unit-I: Introduction to Information Technology**

- Meaning and importance of information and communication technology (ICT).
- Application of computer in Sports Technology
- Fundamental components of computers (input, memory, output device etc.)
- Definition of hardware, software
- Concept of Internet
- Uses of internet in sports science
- Concept of e-mail and Google search engine

**Unit-II: Application of MS Word**

- Introduction to MS Word
- Creating file-folder, saving and opening new and old documents
- Introduce Page layout, Insert and home menu bar
- Concept of Page set up, paragraph alignment, inserting page number, graph footnote and notes, spelling and grammar check, printing option, Formatting, Editing features
- Understanding table & graph
- Application of Excel Programme in Sport Science

**Unit-III: Application of MS Excel**

- Introduction to MS Excel
- Creating, saving and opening spreadsheet
- Fundamental formulas and function
- Understanding graph and Chart
- Application of Excel Programme in Sports Science

**Unit-IV: Application of MS Power Point**

- Introduction to MS Power point
- Application of Power Point in Sport Science
- Creating, saving and opening a ppt. file
- Understanding design, formatting editing, inserting, and slide show features
- Concept of graph, Table and Pictures

**Unit-V: Computer Language**

- Introduction on Computer languages – machine, high level language, compiler/interpreter, classification of programming language.
- Number system: Binary number, Decimal to Binary, Binary to Decimal, Decimal to Octal, Binary Addition/Substraction/Multiplication
- Flowchart, Symbol of flowchart, Some flowchart of simple programme
- Codes: ASCII, EBCDIC, BCD,
- Full form of MICR, CMC7, OCR, Bar Code Recognition (Bar coding)

## **SPORTS TECHNOLOGY**

### **Unit I – Introduction to Sports Technology**

A History of Technology in Sports and its advancement, meaning, definition, advantages and principles of Sports Technology, purpose and applications of sports technology in different sports.

### **Unit II – Instrumentation technology**

Definition and Principles of Instrumentation, Types of instrumentation in Sports, Sensor selection and application, Placement of sensors. Hawk eye Technology in Sports.

### **Unit III – Sports Surfaces and Facilities**

Characteristics of Sports Surfaces, Specific Sports Surfaces for playfields, construction and installation of sports surfaces. Types of materials – synthetic, wood, polyurethane. Use of computer and software in human motion detection, Match Analysis and Coaching.

### **Unit IV – Apparel, Protection Equipment and Sports Implements**

Design and Mechanics of Sports Apparel, Running Shoes, Helmets and Mountaineering Equipment, Playing Equipment: Balls: Types, Materials and Advantages, Bat/Stick/ Racquets: Types, Materials and Advantages. Sports equipment with Nano technology, Advantages.

### **Unit V – Training Gadgets**

Mechanism and Advantages of Cricket Bowling Machine, Basketball ball Feeder, Tennis Serving Machine and Volleyball Serving Machine Video Coverage: Types, Size, Capacity, Place and Position of Camera in Live coverage of sporting events.

**Note: Students should be encouraged to design and manufacture improvised sports**

**Testing equipment in the laboratory/workshop and visit sports technology factory/**

**sports goods manufacturers.**

#### **REFERENCE:**

Franz K. F. et. al., Editor, Routledge Handbook of Sports Technology and Engineering (Routledge, 2013)

Steve Hake, Editor, The Engineering of Sport (CRC Press, 1996)

Dixon, Sharon. The science and engineering of sport surfaces. Routledge, 2015.

Franz K. F. et. al., Editor The Impact of Technology on Sports II (CRC Press, 2007)

John Mongilo, (2001), "Nano Technology 101 "New York: Green wood publishing group.

Magdalinski, Tara. Sport, technology and the body: The nature of performance. Routledge, 2009.

**GE-IV: EXERCISE AND SPORTS THERAPY**

**Theory & Practical**

**Total Credit: 6 (4+2) Total Marks: 75 (60+15) Total Lectures: 8/Week**

**Theory**

**Unit 1:** Exercise, Sport and Quality of Sleep.

**Unit 2:** Exercise, Sport and Stress Relief: Anxiety, Depression, Conflicts, Frustration etc.

**Unit 3:** Exercise, Sport and Life Style Diseases: Obesity, Diabetes, Hyper Tension etc.

**Unit 4:** Sports as a Socializing Force.

**Unit 5:** Basic Concept of Sport Management: Budget, Tournament etc.

**Practical**

1. Gymnastics
2. Handball
3. Cricket

**SEMESTER-V**

**KINSIOLOGY**

**CC-11:**

**Theory**

**Total Credit: 6 Total Marks: 75 (60+15)**

**Total Lectures: 6/Week**

**UNIT – I**

**1. Introduction to Kinesiology**

1.1 Definition and meaning of Kinesiology

1.2 Aims and Objective of Kinesiology

1.3 Need and importance of Kinesiology in Physical Education and

Sports

1.4 Kinesiological terminologies used in the human body

**UNIT – II**

**2. Human body Movement**

2.1 Fundamental Movements, Axes and Planes, Classification of joints of the human body

2.2 Center of gravity and line of gravity and its application in sports

2.3 Classification of voluntary muscles according to their shapes,

Properties

of voluntary muscles

2.4 Types of muscular contraction

**UNIT – III**

**3. Kinesiology of joints and Location and action of major muscles at joints**

3.1. Two-joint muscles

3.2. Roles in which muscles may act

3.3. Angle of Pull, All or none law, Reciprocal innervations

3.4 Location and action of major muscles at joints

Ankle, Knee, Hip, Wrist, Elbow, Shoulder

**UNIT – IV**

**4. Application of mechanical concepts**

4.1 CGS, FPS, MKS system, units of measurements and their fundamental concepts

- 4.2 Definition and types of motion, Newton's Laws of Motion, Analogues of Newton's Laws of Motion, Application of Laws to sports activities
- 4.3 Definition of Force, Magnitude of force, Direction of application of force, Application of force to sports activities
- 4.4 Definition of Stability and Equilibrium, Types of equilibrium, Factors affecting stability, principles of dynamic stability

#### **UNIT – V**

#### **5. Application of mechanical principles**

- 5.1. Definition of lever, Types of lever, Function of Lever, Application of lever functions to human body
- 5.2 Work, Power, Energy
- 5.2. Mechanical analysis of Walking, Running, Jumping, Throwing, Pulling, Pushing
- 5.3. Application of Kinesiological principles in daily living activities

#### **Practical**

- 1. Demonstration of fundamental movements of major joints of upper and lower extremities.
- 2. Demonstration of common fundamental movements with reference to various axes and planes.
- 3. Location and action of major muscles of upper extremity
- 4. Location and action of major muscles of lower extremity.
- 5. Measurement of distance, displacement, speed, velocity, acceleration, momentum
- 5. Demonstration of lever system applied to human body.

#### **RECOMMENDED BOOKS**

- 1. Rasch Philip J and Burke Roger K, Kinesiology and Applied Anatomy, Lea Febiger, Philadelphia
- 2. Frost Robert, Applied Kinesiology, North Atlantic Books, Berkely, California
- 3. Goswami, Gogiswar, Basic Kinesiology: Essential Tips, Friends Publication, New Delhi
- 4. Scott, Text Book in Kinesiology, Friends Publication, New Delhi.
- 5. Rai, Ramesh, Biomechanics Mechanical Aspects of Human Motion, AgrimPublication, Mohali, Punjab
- 6. Hay, James G, The Biomechanics of Sports Techniques, PrenticeHall, Inc, Englewood Cliffs, New Jersey.

**CC-12:**

**BALL GAMES-I: BASKETBALL AND FOOTBALL  
Practical**

**Total Credit: 6 Total Marks: 75 (60+15)**

**Total Lectures: 12/Week**

**BASKETBALL**

**Unit-I**

1. Introduction and historical development of the Game.  
Basketball Terminologies and various organizations of the game.

**Unit-II**

2. Fundamental techniques – Offensive: Players stance and ball handling, Passing and receiving, Dribbling, Pivoting, Shooting, Rebounding, Cutting, Screening etc.  
Defensive: Individual defence- Guarding the man with the ball, Guarding the man without the ball etc

**Unit-III**

3. Fundamental Tactics – Offensive: Individual, Group and Team tactics.  
Defensive: Individual, Group and Team tactics.

**Unit-IV**

4. Rules and regulation of the game

**Unit-V**

5. Various basketball tournaments and team positions. Position of Indian Basketball team in various tournaments.  
Awards and winners of basketball game in the world and in India.

**FOOTBALL**

**Unit-I**

1. Introduction of the game and historical development with special reference to India.
2. Important tournaments held at National and International levels and distinguished personalities related to the game.
3. Fundamental skills
  - 3.1. Kicks
    - 3.1.1. Kicking with the inside of the foot
    - 3.1.2. Kicking with the instep of the foot
    - 3.1.3. Kicking with the outer instep of the foot
    - 3.1.4. Lifted kick
  - 3.2. Trapping
    - 3.2.1. Trapping rolling ball – with the inside, sole and instep of the foot
    - 3.2.2. Trapping bouncing ball with the sole
  - 3.3. Dribbling
    - 3.3.1. With the instep of the foot
    - 3.3.2. With the inside of the foot
    - 3.3.3. With the outer instep of the foot
  - 3.4. Heading
    - 3.4.1. From standing
    - 3.4.2. From running
    - 3.4.3. From jumping

- 3.5. Throw-in
- 3.6. Feinting –
  - 3.6.1. With the lower limb
  - 3.6.2. With the upper part of the body
- 3.7. Tackling
  - 3.7.1. Simple tackling
  - 3.7.2. Slide tackling
- 3.8. Goal keeping
  - 3.8.1. Collection of balls
  - 3.8.2. Ball clearance – Kicking, throwing and deflecting
- 3.9. Receiving
  - 3.9.1. Receiving the bowing ball with the inside and outside of the foot and changing direction
  - 3.9.2. Receiving a flying ball with the inside, thy, chest and head.
4. Dribbling
  - 4.1. Controlled dribbling
  - 4.2. Fast dribbling
  - 4.3. Straight dribbling
  - 4.4. Zig-Zag dribbling
  - 4.5. Dribbling aribbling
5. Heading
  - 5.1. From running and jumping
  - 5.2. Heading for long clearance
  - 5.3. Downward heading
6. Rules and their interpretations and duties of officials

**DSE-I: YOGA EDUCATION / ATHLETIC CARE & REHABILITATION**  
**Theory & Practical**

**Total Credit: 6 Total Marks: 75 (60+15) Total Lectures: 6/Week**

**DSE-I: YOGA EDUCATION**

**UNIT -1: Introduction and Trends of Yoga**

- 1.1 Meaning and Definition of Yoga
- 1.2 History and Philosophical aspects of Yoga
- 1.3 Need and Importance of Yoga in Physical Education and Sports Science
- 1.4 Mission and vision of AYUSH System

**UNIT -2: Methods of Yoga**

- 2.1 Karma Yoga, Jnana Yoga, Bhakti Yoga and Raja Yoga
- 2.2 Steps of Hatha Yoga
- 2.3 Steps of AstangaYoga
- 2.4 Yoga Therapy

**UNIT –3: Means of Yogic Practices -I**

- 3.1 Introduction to Prayer and Its Importance
- 3.2 Concept of Sthula and Suksma Vyama
- 3.3 Concept and Practice of Surya Namaskar
- 3.4 Concept of Kriya, Types and Benefits of Kriya



## **UNIT-IV: Means of Yogic Practices -II**

- 4.1 Concept of Asana, Types and Benefits of Asana
- 4.2 Concept of Pranayama, types and benefits of Pranayama
- 4.3 Concept and types of Mudra and Bandha
- 4.4 Concept of Meditation and its benefits

## **UNIT-V: Application of Yoga**

- 5.1 Yoga for Health and Wellness
- 5.2 Yoga for Aged Population
- 5.3 Yoga for Otherly able population
- 5.4 Yoga for Elite Sports Persons

## **DSE-I:**

## **ATHLETIC CARE & REHABILITATION**

### **Theory**

**Total Credit: 6 Total Marks: 75 (60+15)**

**Total Lectures: 6/Week**

### **UNIT-I**

#### **1 Introduction of Athletic Care and Rehabilitation**

Meaning, history and Importance of athletic care and rehabilitation. Principle of Prevention of Sports Injuries. Role of the Trainer/Coach/Physical Education teacher in the prevention of Injury

### **UNIT-II**

#### **2 Types of Sports Injuries**

Introduction, Sign and Symptoms, Characteristics, Factors and Treatment of the following sports injuries: Contusion, Laceration, Abrasion, Corn, Strain, Sprain, Haematoma, Fracture, Dislocation etc. Importance of application of First aid. Concept of PRICER.

### **UNIT-III**

#### **3 Physiotherapy**

Meaning, Importance and Guiding principles of Physiotherapy. Therapeutic modalities and their application and effects. Cryotherapy, Hydrotherapy, Hot therapy, Electrotherapy.

### **UNIT-IV**

#### **4. Massage and Rehabilitation Exercise**

Meaning, Brief History and Importance of Massage, Contraindication of Massage, Classification of Massage.

Meaning and importance of Rehabilitation exercises. Classification of Rehabilitative/Therapeutic exercise.

### **UNIT-V**

#### **5. Posture & Corrective Physical Education**

Meaning and Objectives of Corrective physical education. Posture- Meaning, Types and values of Good Posture. Drawbacks & causes of Bad posture.

Posture test- Examination of Posture. Meaning, Causes and Treatment of postural deformities: Kyphosis, Lordosis, Scoliosis, Flat foot, Knock knee, Bow leg etc.

### **Recommended Books**

- 6. Singh A et al (2016). Essential of Physical Education. Kalyani Publisher, New Delhi

**DSE-II: RACKET SPORTS : BADMINTON/ TABLE TENNIS/ TENNIS  
(ANY TWO)**

**Practical**

**Total Credit: 6 Total Marks: 75 (60+15) Total Lectures: 12/Week**

**BADMINTON**

1. Introduction of the game and historical development with special reference to India.
2. Important tournaments held at National and International levels and distinguished personalities related to the game.
3. Fundamental skills
  - 3.1. Racket parts, racket grips, shuttle grips
  - 3.2. The basic stances
  - 3.3. The basic strokes
  - 3.4. Drills and lead up games
  - 3.5. Types of games – singles, doubles, including mixed doubles.
4. Rules and their interpretations and duties of the officials.
5. Games : Single and Doubles

**TENNIS**

1. Introduction of the game and historical development with special reference to India.
2. Important tournaments held at National and International levels and distinguished personalities related to the game.
3. Fundamental skills
  - 3.1. Grips –
    - 3.1.1. Eastern forehand grip
    - 3.1.2. Eastern backhand grip
    - 3.1.3. Western grip
    - 3.1.4. Continental grip
    - 3.1.5. Chopper grip
  - 3.2. Stance and footwork
  - 3.3. Basic ground strokes
    - 3.3.1. Forehand drive
    - 3.3.2. Backhand drive
  - 3.4. Basic service
  - 3.5. Basic volley
  - 3.6. Overhead volley
  - 3.7. Chop and Spin
4. The Game : Single and Doubles
5. Rules and their interpretations and duties of officials

**TABLE TENNIS (3)**

1. History of the game
  - 1.1. World history
  - 1.2. Indian history
2. General rules of Table Tennis
  - 2.1. Measurement
  - 2.2. Equipment
  - 2.3. Normal Playing Condition
  - 2.4. Point Scoring
  - 2.5. Fault (Example: Service Fault)
3. Basic skill
  - 3.1. Grip of the racket: Shake Hand Grip / Pen Hold Grip

- 3.2. Stance position: Square Stance/Parallel Stance
- 3.3. Backhand push and service
- 3.4. Forehand push and service
- 3.5. Backhand chop
- 3.6. Forehand chop
- 3.7. Receive of the service with the help of push and chop both from forehand and backhand side
- 3.8. Practice all the skill with proper stance and movement
- 4 Advance skill
  - 4.1. Backhand counter stroke with service
  - 4.2. Forehand counter stroke with service
  - 4.3. Fore hand top spin
  - 4.4. Back hand top spin
  - 4.5. Different types of spin service (Top Spin, Side Spin, Back Spin, etc.)
  - 4.6. Movement practice (known ball to unknown ball-with the help of different training drills/sequence practice)
5. Game practice: Single and Double

**SEMESTER-VI  
SPORTS TRAINING**

**CC-13:**

**Total Credit: 6 Total Marks: 75 (60+15)**

**Total Lectures: 6/Week**

**Unit-1**

- 1.I. Meaning, definition of sports training.
- 1.II. aim and objectives sports training.
- 1.III. Characteristics of sports training.
- 1.IV. Principles of sports training

**UNIT-2**

- 2.I. Meaning of Load, overload, adaptation and supercompensation.
- 2.II. Factors and judgement of load, Principles of load and adaptation.
- 2.III. Causes, symptoms, and remedial measures of over load.
- 2.IV. Meaning, factors and phases of Recovery.

**UNIT-3**

- 3.I. Meaning, and definition of strength, speed and endurance.
- 3.II. Need and types of strength, speed and endurance
- 3.III. Factors of determining of strength, speed and endurance.
- 3.IV. Means and methods of developing of strength, speed and endurance.

**UNIT-4**

- 4.I. Meaning, and definition of flexibility and coordinative abilities.
- 4.II. Need and types flexibility and coordinative abilities.
- 4.III. Factors of determining of flexibility and coordinative abilities.
- 4.IV. Means and methods of developing flexibility and coordinative abilities.

**UNIT-5**

- 5.I. Meaning and types of periodization.
- 5.II. aim and Contents of periodization.
- 5.III. Meaning, types and principles of planning
- 5.IV. Meaning, steps and principles of talent identification.

## **Practical**

1. Continuous method
2. Interval method
3. Plyometric method.

## **Recommended Books**

7. Bompa T. (1999). Periodization- Theory and Methodology of Training (4<sup>th</sup> ed). Champaign, Illinois: Human Kinetics.
8. Singh H (1999). Science of Sports Training. New Delhi. DVS Publication.
9. Uppal AK (1999). Sports Training. New Delhi. Friends Publication

**CC-14:**

## **BALL GAMES-II: CRICKET AND VOLLEYBALL**

### **Practical**

**Total Credit: 6 Total Marks: 75 (75+15)**

**Total Lectures: 12/Week**

### **CRICKET**

#### **1. Introduction**

- Introduction of the game and historical development with special reference to India.
- Important tournaments held at National and International levels and distinguished personalities related to the game.

#### **2. Generic topics**

The role of the coach, coaching philosophy, coaching styles and the process of teaching skills

- The Laws and Spirit of Cricket
- The relationship between the coach, player and his/her parents
- Safety and first aid for cricket-related injuries
- Introduction to fitness and the parameters of fitness
- Warm up, stretching and warm down procedures
- Goal setting in sport
- Effective management of a cricket practice session
- The process of learning sports skills - games versus traditional method

#### **3. Cricket-specific topics**

##### **Batting basics with Specific Drills:**

##### **Grip**

- Stance
- Back-lift
- Downswing
- Vertical and horizontal defensive and attacking shots
- Running between the wickets

##### **Bowling basics with Specific Drills:**

- Basic bowling action
- Pace bowling
- Spin bowling

##### **Fielding basics:**

- Catching

- Attacking and defensive fielding
  - Throwing
  - Wicket-keeping
6. **Captaincy and Leadership**  
 Responsibility of the captain  
 Players' conduct  
 Fair and unfair play
7. **The Practice Session and Game**
1. Effective conducting of Net session
  2. Rules, their interpretations and duties of officials.

## **VOLLEYBALL**

1. Introduction of the game and historical development with special reference to India.
2. Important tournaments held at National and International levels and distinguished personalities related to the game.
3. Fundamental skills
  - 3.1. Player's stance – Receiving the ball & passing to the team mates
    - 3.1.1. The volley (Over head pass)
    - 3.1.2. The Dig (Under hand pass)
  - 3.2. Service
    - 3.2.1. Under Arm service
    - 3.2.2. Side arm service
    - 3.2.3. Tennis service
    - 3.2.4. Round arm service
  - 3.3. Spike
    - 3.3.1. Straight arm spike
    - 3.3.2. Round arm spike
  - 3.4. Block
    - 3.4.1. Single block
4. Advanced Skills
  - 4.1. Pass
    - 4.1.1. Back pass
    - 4.1.2. Back roll volley
    - 4.1.3. Back roll dig
    - 4.1.4. Jump and pass
    - 4.1.5. Side roll dig
  - 4.2. Service
    - 4.2.1. Side arm floater
    - 4.2.2. Over head floater
  - 4.3. Spike
    - 4.3.1. Spiking cross court
    - 4.3.2. Spiking down the line
  - 4.4. Block
    - 4.4.1. Double block
    - 4.4.2. Triple block
  - 4.5. Dive
    - 4.5.1. Dive combined with dig (two handed)
    - 4.5.2. Dive combined with dig (one handed)
5. The Game
6. Rules and their interpretations and duties of officials.

## **DSE-III: SPORTS MANAGEMENT/SPORTS NUTRITION**

### **Theory**

**Total Credit: 6 Total Marks: 75 (60+15)**

**Total Lectures: 6/Week**

### **SPORTS MANAGEMENT**

#### **UNIT I: Concept**

- 1.1 Meaning, Definition, Nature and Scope of Management
- 1.2 Elements of Sports Management
- 1.3 Importance of sports Management.
- 1.4 School of management thoughts.

#### **UNIT II: Human Resource management**

- 2.1 Concepts and definition
- 2.2 Nature and Characteristics
- 2.3 Aim and Objectives
- 2.4 Scope, Importance and Principles.

#### **UNIT III: Facility and Equipment management**

- 3.1 Care and Maintenance of Outdoor facilities
- 3.2 Gymnasium and Swimming pool management.
- 3.3 Equipment: Types, Procedures and Principles of Purchase
- 3.4 Store Management

#### **UNIT IV: Intramural Extramural and Financial Management**

- 4.1 Intramural: Meaning, Objectives, Units & Rules
- 4.2 Extramural: Meaning, Objectives, Pros & Cons
- 4.3 Financial Management: Concept, Need, Purpose & Concept of different source of income.
- 4.4 Budget: Meaning, Purpose, Type & Basic Principles of Budget formulation.

#### **UNIT V: Sports sponsorship, Marketing and contemporary concept**

- 5.1 Sponsorship: Objectives and Process
- 5.2 Types of Sponsorship, preparation of sponsorship proposal
- 5.3 Sports Marketing – Consumer Behavior, Sports Management and Marketing Agencies;
- 5.4 Brand, professional league and related contemporary terminology.

# **SPORTS NUTRITION**

## **Theory**

**Total Credit: 6**

**Total Marks: 75 (60+15) Total Lectures: 6/Week**

### **Unit-1**

- 1.I. Meaning and definition of nutrition and sports nutrition.
- 1.II. Process and guidelines of nutrition.
- 1.III. Need and Importance of sports nutrition.
- 1.IV. Factors for developing nutritional plan

### **UNIT-2**

- 2.I. Meaning and types of nutrients
- 2.II. Carbohydrate- types, sources and functions
- 2.III. Protein- types, sources and functions
- 2.IV. Fat- types, sources and functions

### **UNIT-3**

- 3.I. Meaning macronutrients, micronutrients, trace elements
- 3.II. Vitamins- types, sources and functions
- 3.III. Minerals- types, sources and functions
- 3.IV. Water- sources and functions

### **UNIT-4**

- 4.I. Meaning, and importance of BMI
- 4.II. Calculation and range of BMI
- 4.III. Meaning types and factors of obesity
- 4.IV. Balance diet and sports performance

### **UNIT-5**

- 5.I. Nutritional plan for a sedentary and sports person.
- 5.II. Nutrition and weight management
- 5.III. Daily calorie intake and expenditure.
- 5.IV. Diet plan and exercise for sports performance

### **Recommended Books**

10. Singh A et al (2016). Essential of Physical Education. Kalyani Publisher, New Delhi
11. Fink HH (2009). Practical Application in Sports Nutrition 2<sup>nd</sup> ed. Jones & Bartlett Publishers. Sudbury, Massachusetts.

**DSE-IV: COMBATIVE SPORTS: JUDO and KARATE /TAEKWONDO**

**(ANY TWO)**

**Practical**

**Total Credit: 6 Total Marks: 75 (60+15) Total Lectures: 12/Week**  
**JUDO (1)**

1. Introduction of the game and historical development with special reference to India.
2. Important tournaments held at National and International levels and distinguished personalities related to the game.
3. Fundamental skills
  - 3.1. Rej (Salutation)
    - 3.1.1. Ritsurei (Salutation in standing position)
    - 3.1.2. Zarai (Salutation in the sitting position)
  - 3.2. How to wear Judo costume
  - 3.3. Kumi Kata (Methods of holding Judo costume)
  - 3.4. Shisei (Posture in Judo)
  - 3.5. Kuzushi (Act of disturbing the opponent posture)
  - 3.6. Tsukuri and kake(Preparatory action for attack)
  - 3.7. Ukemi (Break fall)
    - 3.7.1. Urhiro Ukemi (Rear break fall)
    - 3.7.2. Yoko Ukemi (Side break fall)
    - 3.7.3. Mae Ukemi (Front break fall)
    - 3.7.4. Mae mawari Ukemi (Front rolling break fall)
  - 3.8. Shin Tai (Advance or Retreat foot movement)
    - 3.8.1. Suri-ashi (Gliding foot)
    - 3.8.2. Tsugi-ashi (Following foot steps)
    - 3.8.3. Ayumi-ashi (Walking footsteps)
  - 3.9. Tai Sabaki (Management of the Body)
  - 3.10. Nage-waze (Throwing Techniques)
    - 3.10.1. Hiza Guruma (knee wheel)
    - 3.10.2. Sesae Tsurikomi-ashi (Drawing ankle throw)
    - 3.10.3. De-ashi-hari (Advance foot sweep)
    - 3.10.4. O Goshi (Major loin)
    - 3.10.5. Seoi-nage (Shoulder throw) – Ippon scionage and Morote Scionag.
  - 3.11. Katama waze (Grappling Techniques)
    - 3.11.1. Kesa gatame (Scaff hold)
    - 3.11.2. Kata-gatame (Shoulder hold)
    - 3.11.3. Kami-shiho gatama (Locking of upper four quarters).
    - 3.11.4. Method of escaping from each hold
  - 3.12. Lead up games
    - 3.12.1. Break fall relay (maximum number of falls from standing position in one minute duration)
    - 3.12.2. Mae – mawriukemi relay relay (maximum number of falls in one minute duration)
    - 3.12.3. Maximum number of shoulder throw in one minute.
    - 3.12.4. Maximum number of obstacles jumped while doing mae-mawri-ukemi.
4. Rules and their interpretations and duties of officials.



## KARATE

### 1. Meaning of Karate-do and Discipline in Karate:

Meaning of Karate-do \* Concept of Dojo \*Kyo-ske-Rei-Yoi (Feet together, bow and ready position) Body Positions: Jodan, Chudan and Gedan (Face level, Chest level and Lower level)

### 2.Rules:

Rules of Karate Training and rules of fighting.  
Orders of Belt in Karate

### 3.Basics in Karate:

- Basic Stance: Hachiji Dachi, Haisoku Dachi, Musubi Dachi, Zenkutsu Dachi Basic Punch: Standing Choku Tsuki – Three levels Jodan Tsuki, Chudan Tsuki, Gedan Tsuki Basic Block: Age Uke, Soto Uke, Gedan Uke Basic Kick: Mae Geri All Punch, Block in standing posture in Haichiji Dachi (Natural Stance)

### 4.Kata:

- Taikokyu Shodan, Basic Kata- Kata Taikyoku sono ichi, Kata Taikyoku sono ni, Kata Taikyoku sono San

### Kumite:

- Kihon Kumite - On spot One side Jodan and Chudan Other Side Block Age Uke and Soto Uke

### 5.Self-Défense Techniques

- 1 wrist release technique 1 body release from behind technique

## TAEKWONDO

### Meaning of Taekwondo and Discipline in Taekwondo:

- \*Meaning of Taekwondo \* Concept of Dojo \*Chariot, Kyong-Ye, Junbi (Attention, Bow and Ready) Body Positions: Nopunde (Neck and above), Kaunde (Shoulders to belt), Najunde (Below the belt)

### Basics in Taekwondo:

- Basic Stance: \* Junbi Sogi, \* Chariot Sogi, \* Narani Sogi, \* Annun Sogi, \* Gunnan Sogi Basic Punch: \* Annun So, Kaunde Jirugi \*Gunnan So, Kaunde Jirugi \*Gunnan So, Kaunde Makgi, Bandae Jirugi \*Saju Jirugi Basic Block: \* Gunnan So,Kaunde Makgi \*Kaunde An Palmok Makgi \*Najunde Bakat Palmok Makgi Basic Kick: \*Ap Cha Olligi \*Ap Chagi

### Poomsae:

- \*Poomsae 1

### Kyorugi / Matsogi:

- 3 Step Sparring (Sambo Matsogi)

### Self-Défense Techniques

- 1 wrist release technique 1 body release from behind