

THE UNIVERSITY OF BURDWAN



**Syllabus for 3-Year Degree / 4-Year Honours
in
PHYSICAL EDUCATION AND SPORTS**

**Under Curriculum and Credit Framework for Under-
Graduate Programmes (CCFUP) as per NEP-2020
*w.e.f. 2023-2024***

Gopa Saha Roy.

Semester wise and Course wise Distribution of Credit & Marks under CCFUP as per NEP- 2020

Semester	Course Type	Code	Name of the Course	Credit	L-T-P	Marks	Marks Dist. Th.-Pr.-IA
I	Major/ Core Course	PEDS 1011	Foundation and History of Physical Education and Sports Science	4	3-0-1	75	40-20-15
	Minor Course	---	(Course of any allied subject for the students with Major Physical Education and Sports)	4		75	
		PEDS 1021	Introduction of Physical Education and Sports (For the students without Physical Education and Sports as Major)	4	3-1-0	75	60-0-15
	Multi/ Interdisciplinary	PEDS 1031	Fitness and Wellness (For the students other than Physical Education and Sports as Major or Minor)	3	2-1-0	50	40-0-10
	Ability Enhancement Course (AEC)	---	Arabic/ Bengali/ Hindi/ Sanskrit/ Santali/ Urdu or EquvInt. Course from SWAYAM or UGC recognized other Platform	2	2-0-0	50	40-0-10
	Skill Enhancement Course (SEC)	PEDS 1051	Exercise and Sports for Elementary Students	3	0-0-3	50	0-40-10
	Value Added Course	CAV 1061	Environmental Science/ Education	4	3-0-1	100	60-20-20
Total				20		400	
II	Major/ Core Course	PEDS 2011	Health and Wellness Education	4	3-0-1	75	40-20-15
	Minor Course	---	(Course of any allied subject for the students with Major Physical Education and Sports)	4		75	
		PEDS 2021	Health and Life Style Management (For the students without Physical Education and Sports as Major)	4	3-1-0	75	60-0-15
	Multi/ Interdisciplinary	PEDS 2031	Yoga Vyayama (For the students other than Physical Education and Sports as Major or Minor)	3	0-0-3	50	0-40-10
	Ability Enhancement Course (AEC)	ENGL 2041	Functional English or EquvInt. Course from SWAYAM or UGC recognized other Platform	2	2-0-0	50	40-0-10
	Skill Enhancement Course (SEC)	PEDS 2051	Sports Massage	3	0-0-3	50	0-40-10
	Value Added Course	CAV 2061	Understanding India	4	4-0-0	50	80-0-20
Digital and Technological Solution			50				
Health and Wellness, Yoga Education, Sports and Fitness			3-0-1		100	60-20-20	
Total				20		400	
Grand total (Semester I - II)				40		800	
Students exiting the programme after securing 40 credits will be awarded UG Certificate in the relevant Discipline / Subject provided they secure additional 4 credits in skill based vocational courses offered during summer term of second semester.							



Semester	Course Type	Code	Name of the Course	Credit	L-T-P	Marks	Marks Dist. Th.-Pr.-IA
III	Major/ Core Course	PEDS 3011	Exercise and Sports Management	5	4-1-0	75	60-0-15
	Major/ Core Course	PEDS 3012	Fitness and Gym Exercise	5	0-0-5	75	0-60-15
	Minor Course (Vocational Education & Training)	MSR 3021	Medical Sales representative	4	3-1-0	75	60-0-15
		HRM 3021	Human Resource Management				
		RSA 3021	Retail Sales Associate				
	Multi/ Interdisciplinary	PEDS 3031	Musical Exercise	3	0-0-3	50	0-40-10
	Ability Enhancement Course (AEC)	--- 3041	Arabic/ Bengali/ Hindi/ Sanskrit/ Santali/ Urdu or EquvInt. Course from SWAYAM or UGC recognized other Platform	2	2-0-0	50	40-0-10
Skill Enhancement Course (SEC)	PEDS 3051	Gymnastics	3	0-0-3	50	0-40-10	
Total				22		375	
IV	Major/ Core Course	PEDS 4011	Yoga Education	5	4-1-0	75	60-0-15
	Major/ Core Course	PEDS 4012	Yoga and Naturopathy	5	0-0-5	75	0-60-15
	Major/ Core Course	PEDS 4013	Self Defense	5	0-0-5	75	0-60-15
	Minor Course	PEDS 4021	Trends in Yoga and Sports Science	4	3-0-1	75	40-20-15
		--- 4021	(Other than Physical Education and Sports)	4		75	
	Ability Enhancement Course (AEC)	ENGL 4041	Language & Creativity or EquvInt. Course from SWAYAM or UGC recognized other Platform	2	2-0-0	50	40-0-10
Total				25		425	
Grand total (Semester I - IV)				87		1600	
Students exiting the programme after securing 40 credits will be awarded UG Certificate in the relevant Discipline / Subject provided they secure additional 4 credits in skill based vocational courses offered during summer term of fourth semester.							

Semester	Course Type	Code	Name of the Course	Credit	L-T-P	Marks	Marks Dist. Th.-Pr.-IA
V	Major/ Core Course	PEDS 5011	Exercise and Sports Physiology	5	4-1-0	75	60-0-15
	Major/ Core Course	PEDS 5012	Ball Games- I	5	0-0-5	75	0-60-15
	Major/ Core Course	PEDS 5013	Track and Field	5	0-0-5	75	0-60-15
	Minor Course (Vocational Education & Training)	MSR 5021	Medical Sales Representative	4	3-1-0	75	60-0-15
		HRM 5021	Human Resource Management				
		RSA 5021	Retail Sales Associate				
Internship	INT 5081		2		50	00-50 -00 (Project/ Field Diary: 30 + Viva- voce: 20)	
Total				21		350	
VI	Major/ Core Course	PEDS 6011	Kinesiology and Sports Biomechanics	4	4-0-0	75	60-0-15
	Major/ Core Course	PEDS 6012	Science of Sports Training	4	4-0-0	75	60-0-15
	Major/ Core Course	PEDS 6013	Indian Games and Racket Sports	4	0-0-4	75	0-60-15
	Major/ Core Course	PEDS 6014	Ball Game- II	4	0-0-4	75	0-60-15
	Minor Course (Vocational Education & Training)	MSR 6021	Medical Sales Representative	4	3-1-0	75	60-0-15
		HRM 6021	Human Resource Management				
RSA 6021		Retail Sales Associate					
Total				20		375	
Grand total (Semester I - VI)				128		2325	

SEMESTER- I**Course Title: Foundation and History of Physical Education and Sports Science****Course Type: Major** (Code: PEDS1011)**Credit: 4** (Lect.- 3 & Pract.- 1)**Full Marks- 75** (Theory: 40, Practical: 20 & Internal Assessment: 15)**Objectives:**

- i. Students may understand the historical development and the concept of Physical Education, Exercise and Sports Science
- ii. Students may learn the Philosophical, Biological, Psychological and Sociological foundation of this subject

Outcomes:

- i. Students may know the strong background of Physical Education, Exercise and Sports Science
- ii. This subject may generate vibration for further development of Physical Education, Exercise and Sports Science

UNIT- 1: Concept of Physical Education and Sports Science **L- 5H**

- 1.1 Meaning, Definition and Scope of Physical Education and Sports Science
- 1.2 Concept of Play, Games and Sports
- 1.3 Aim, Objectives and Importance of Physical Education and Sports Science
- 1.4 Modern concept of Physical Education and Sports Science

UNIT- 2: Historical Development of Physical Education and Sports Science **L- 10H**

- 2.1 Ayurveda: Concept of human, Yoga, Vyayama (exercise) and Krida (Sports)
- 2.2 Historical development of Physical Education and Sports in India of Pre-Independence period
- 2.3 Historical development of Physical Education and Sports in India of Post-Independence period
- 2.4 National Sports Awards: Major Dhyan Chand Khel Ratna Award, Arjuna Award, Dronacharya Award

UNIT- 3: Olympic Movement, Commonwealth and Asian Games **L- 15H**

- 3.1 Ancient Olympic Games
- 3.2 Modern Olympic Games: History, Objectives, Motto, Flag, Emblem, Torch, Oath, Olympic Village, Opening, Victory and Closing Ceremony
- 3.3 Historical background of Commonwealth and Asian Games
- 3.4 Analysis of Indian Sports performance: Olympic, Commonwealth and Asian Games

UNIT- 4: Foundation & Principles of Physical Education and Sports Science **L- 15H**

- 4.1 Philosophical Foundation in Physical Education and Sports: Idealism, Realism, Pragmatism and Naturalism
- 4.2 Biological Principles: Meaning and definition of growth and development. Factors affecting growth and development. Differences of growth and development. Principles of growth and development. Age: Chronological age, Anatomical age, Physiological age and Mental age
- 4.3 Psychological Foundation- Meaning and definition of Psychology and Sports Psychology. Importance of Psychology and Sports Psychology in Physical Education and Sports Science
- 4.4 Sociological Foundation: Meaning and definition of Sociology, Society and Socialization. Role of games and sports in National and International integration

FIELD PRACTICAL (Preparation of Record Book is Compulsory) **P-30H**

1. Physical Fitness Test through AAHPERD (10 Marks)
2. Preparation of record book of Indian Sports performance: Olympic, Commonwealth and Asian Games (10 Marks)



SEMESTER- I**Course Title: Introduction of Physical Education and Sports****Course Type: Minor** (Code: PEDS1021)**Credit: 4** (Lect.- 3 & Tuto.- 1)**Full Marks- 75** (Theory: 60 & Internal Assessment: 15)**Objectives:**

- i. To educate the students about Physical Education and sports
- ii. To improve the students understanding about the benefit Physical Education and sports

Outcomes:

- i. Students may be interested for participating in Physical Education and sports
- ii. Students may convince others for exercise and sports participation

UNIT- 1: Concept of Physical Education and Sports Science **L- 15H**

- 1.1 Meaning, Definition and Scope of Physical Education and Sports Science
- 1.2 Concept of Play, Games and Sports
- 1.3 Aim, Objectives and Importance of Physical Education and Sports Science
- 1.4 Modern concept of Physical Education and Sports Science

UNIT- 2: Historical Development of Physical Education and Sports Science **L- 15H**

- 2.1 Historical development of Physical Education and Sports in India of Pre-Independence period
- 2.2 Historical development of Physical Education and Sports in India of Post-Independence period
- 2.3 National Sports Awards: Major Dhyan Chand Khel Ratna Award, Arjuna Award, Dronacharya Award
- 2.4 Sports schemes in India

UNIT- 3: Olympic Movement, Commonwealth and Asian Games **L- 15H**

- 3.1 Ancient Olympic Games
- 3.2 Modern Olympic Games: History, Objectives, Motto, Flag, Emblem, Torch, Oath, Olympic Village, Opening, Victory and Closing Ceremony
- 3.3 Historical background of Commonwealth and Asian Games
- 3.4 Indian Sports performance: Olympic, Commonwealth and Asian Games

UNIT- 4: Foundation & Principles of Physical Education and Sports Science **L- 15H**

- 4.1 Biological Principles: Meaning and definition of growth and development. Factors affecting growth and development. Differences of growth and development. Principles of growth and development.
- 4.2 Age: Chronological age, Anatomical age, Physiological age and Mental age
- 4.3 Psychological Foundation- Meaning and definition of Psychology and Sports Psychology. Importance of Psychology and Sports Psychology in Physical Education and Sports Science
- 4.4 Sociological Foundation: Meaning and definition of Sociology, Society and Socialization. Role of games and sports in National and International integration



SEMESTER- I**Course Title: Fitness and Wellness****Course Type: Multi/Interdisciplinary** (Code: PEDS1031)**Credit: 3** (Lect.- 2 & Tuto.- 1)**Full Marks- 50** (Theory: 40 & Internal Assessment: 10)**Objectives:**

- i. To educate students about physical fitness, mental fitness and wellness
- ii. To motivate students for maintaining own fitness and wellness

Outcomes:

- i. Students may accept fitness and wellness programme in daily life
- ii. They may lead healthy lifestyle and convince others

UNIT- 1: Health Related Physical Fitness**L- 15H**

- 1.1 Concept of Fitness and Physical Fitness
- 1.2 Concept of Health Related Physical Fitness
- 1.3 Components of Health related Physical Fitness
- 1.4 Assessment Techniques of Health related Physical Fitness

UNIT- 2: Performance Related Physical Fitness**L- 15H**

- 2.1 Modern concept of Physical Fitness
- 2.2 Concept of Performance Related Physical Fitness
- 2.3 Components of Performance related Physical Fitness
- 2.4 Assessment Techniques of Performance related Physical Fitness

UNIT- 3: Wellness**L- 15H**

- 3.1 Concept of Wellness
- 3.2 Aim and Objectives of Wellness
- 3.3 Components of Wellness
- 3.4 Importance of Wellness in the Modern Society



SEMESTER- I**Course Title: Exercise and Sports for Elementary Students****Course Type: Skill Enhancement Course** (Code: PEDS1051)**Credit: 3** (Practical: 3)**Full Marks- 50** (Practical: 40 & Internal Assessment: 10)**Objectives:**

- i. Prepare the students to organise exercise & sports for elementary school children
- ii. Students may develop self-confidence about nurturing elementary students

Outcomes:

- i. Students may gate jobs in nursery, kindergarten, play school and elementary school
- ii. Students may start their own play school in their area

Unit- 1: Exercise for Elementary Students**P- 30H**

- 1.1 Rhymes Exercise
- 1.2 Mimicking Exercise
- 1.3 Partner Exercise

Unit- 2: Recreational Games for Elementary Students**P- 30H**

- 2.1 Recreational Games- Individual
- 2.2 Recreational Games- Group
- 2.3 Recreational Games- with Teacher / Parents

Unit- 3: Sports for Elementary Students**P- 30H**

- 3.1 Fundamental Movement Sports
- 3.2 Low Level Individual Sports
- 3.3 Low Level Group Sports



SEMESTER- II**Course Title: Health and Wellness Education****Course Type: Major** (Code: PEDS2011)**Credit: 4** (Lect.- 3 & Pract.- 1)**Full Marks- 75** (Theory: 40, Practical: 20 & Internal Assessment: 15)**Objectives:**

- i. To educate students about good and bad health habits
- ii. To prepare students about wellbeing and wellness culture

Outcomes:

- i. Mental set up would be ready for maintaining good health habits
- ii. Students may follow wellness guidelines

Unit- 1: Health and Health Education**L- 9H**

- 1.1 Concept, Definition, Spectrum and Dimension of Health
- 1.2 Definition, aim, objectives, Importance and principles of Health Education
- 1.3 Health Agencies: World Health Organization (WHO), United Nations Educational Scientific and Cultural Organization (UNESCO)
- 1.4 School Health Program: Health Service, Health Instruction, Health Supervision, Health appraisal and Health Record

Unit- 2: Health Problems in India- Prevention and Control**L- 12H**

- 2.1 Communicable Diseases: Malaria, Dengue and COVID-19
- 2.2 Life style Diseases (Hypokinetic): Obesity and Diabetes
- 2.3 Life style Diseases (Hyperkinetic): Hypertension and Psychological Disorder- Stress
- 2.4 Postural Disorders- Spine: Kyphosis, Lordosis, Scoliosis; Leg: Bow leg, Knock knee, Flat foot

Unit- 3: Diet and Nutrition**L- 12H**

- 3.1 Concept of diet; Meaning, definition and role of Nutrition
- 3.2 Macro nutrients and micro nutrients
- 3.3 Role of macro and micro nutrients for exercise
- 3.4 Concept of Balance Diet: Factors and Importance

Unit- 4: Physical Fitness and Wellness**L- 12H**

- 4.1 Concept of Physical Fitness
- 4.2 Components of Health related and Performance related Physical Fitness
- 4.3 Concept of Wellness
- 4.4 Components of Wellness

FIELD PRACTICAL (Preparation of Record Book is Compulsory)**P- 30H**

1. Physical Fitness Test through AAHPERD (10 Marks)
2. Measurement of Health related physical fitness (10 Marks)



SEMESTER- II**Course Title: Health and Life Style Management****Course Type: Minor** (Code: PEDS2021)**Credit: 4** (Lect.- 3 & Tuto.- 1)**Full Marks- 75** (Theory: 60 & Internal Assessment: 15)**Objectives:**

- i. Students may understand the modern life and its positive management skill
- ii. Students will be educated about lifestyle diseases

Outcomes:

- i. Students may repair flaws in lifestyle and advice others
- ii. Students may start practicing positive lifestyle skills

Unit- 1: Health and Health Education**L- 15H**

- 1.1 Concept, Definition, Spectrum and Dimension of Health
- 1.2 Definition, aim, objectives, Importance and principles of Health Education
- 1.3 Health Agencies: World Health Organization (WHO), United Nations Educational Scientific and Cultural Organization (UNESCO)
- 1.4 School Health Program: Health Service, Health Instruction, Health Supervision, Health appraisal and Health Record

Unit- 2: Metabolic Disorders and Lifestyle Management**L- 15H**

- 2.1 Life style Diseases (Hypokinetic): Obesity and Diabetes
- 2.2 Life style Diseases (Hyperkinetic): Hypertension and Psychological Disorder- Stress
- 2.3 Postural Disorders- Spine: Kyphosis, Lordosis, Scoliosis; Leg: Bow leg, Knock knee, Flat foot
- 2.4 Hygiene: Personal and Community hygiene, Hygienic practices for all seasons and in climate weather

Unit- 3: Diet and Nutrition**L- 15H**

- 3.1 Concept, meaning, definition, Nutrition and health for all ages
- 3.2 Macro nutrients and micro nutrients
- 3.3 Role of macro and micro nutrients for exercise
- 3.4 Balance Diet: Factors and Importance

Unit- 4: Physical Fitness and Wellness**L- 15H**

- 4.1 Concept of Physical Fitness
- 4.2 Components of Health related and Performance related Physical Fitness
- 4.3 Concept of Wellness
- 4.4 Components of Wellness



SEMESTER- II**Course Title: Yoga Vyayama****Course Type: Multi/Interdisciplinary (Code: PEDS2031)****Credit: 3 (Practical: 3)****Full Marks- 50 (Practical: 40 & Internal Assessment: 10)****Objectives:**

- i. To know the benefit of yoga in daily life
- ii. To understand the utility of regular scheduled vyayama

Outcomes:

- i. After practicing Yoga vyayama students may feel its flavour
- ii. They may include it in their daily routine

Unit- 1: Vyayama**P- 30H**

1. Suksma Vyayama: Netra-Sakthi Vikasaka (Eye), Kapola-Sakthi Vikasaka (Cheek), Karna-Sakthi Vikasaka (Ear), Griva-Sakthi Vikasaka (Neck)
2. Sthula Vyayama: Rekha-Gati, Hrd-Gati, Utkurdana, Urdhva-Gati, Sarvanga-Pusti

Unit- 2: Asanas**P- 30H**

1. Vishramasana (Relaxative Posture): Shavasana, Makarasana
2. Dhyanasana (Meditative Posture): Sukhasana, Padmasana, Vajrasana, Sastikasana
3. Swasthyasana (Cutural Posture):

Standing Posture: Ardachandrasana, Brikshasana, PadahastasanaSitting Posture: Ardhakurmasana, Paschimottanasana, GomukhasanaSupine Posture: Setubandhasana, Halasana, MatsyasanaProne Posture: Bhujangasana, Salvasana, Dhanurasana**Unit- 3: Pranayama and Meditation****P- 30H**

1. Pranayama
 - a. Anulom-Vilom
 - b. Bhastrika
 - c. Bhramari
2. Meditation
 - a. Sakshi-Bhava
 - b. Maitri-Bhava
 - c. OM-Meditation



SEMESTER- II**Course Title: Sports Massage****Course Type: Skill Enhancement Course (Code: PEDS2051)****Credit: 3 (Practical: 3)****Full Marks- 50 (Practical: 40 & Internal Assessment: 10)****Objectives:**

- i. To prepare the students about basic and advance massage in Indian style (Mardana) and western style
- ii. To educate the students about the special types of sports massage

Outcomes:

- i. Students may join in the massage parlor, spa centre and health club
- ii. Students may be self employed as a masseur

Unit- 1: Historical and Scientific Background of Massage (Record Book Preparation) P- 30H

- 1.1 Massage in Ancient time in India and abroad
- 1.2 Relationship of Anatomy and Physiology to massage and body work
- 1.3 Physiological changes during massage- muscular, circulatory, lymph-vascular system
- 1.4 Roll of Therapeutic massage in stress and pain

Unit- 2: Techniques of Massage P- 30H

- 2.1 Superficial Massage- Rubbing, Scrubbing, Wringing, Stroking
- 2.2 Deep Tissue Massage- Rolling, Stretching, Gripping, Kneading
- 2.3 Massage with different oil and aroma
- 2.4 Ayurvedic Massage

Unit- 3: Techniques Sports Massage P- 30H

- 3.1 Compression and Broadening
- 3.2 Friction
- 3.3 Effleurage
- 3.4 Petrissage



SEMESTER- III**Course Title: Exercise and Sports Management****Course Type: Major** (Code: PEDS3011)**Credit: 5** (Lecture- 4, Tutorial- 1 & Practical- 0)**Full Marks- 75** (Theory: 60 & Internal Assessment: 15)**Objectives:**

- i. Students may understand the sports management in educational institutions.
- ii. To educate students about necessity and importance of modern technologies used in sports and fitness.

Outcomes:

- i. Students may enable to efficiently organise games and sports.
- ii. Mental setup would be ready for further higher study of Sports Management.

UNIT- 1: Exercise Management**L- 10 H**

- 1.1 Concept of exercise & types of exercise
- 1.2 Description of various exercises
- 1.3 Necessity of exercise in modern society
- 1.4 Importance of exercise in games and sports

UNIT- 2: Management of Exercise Facilities and Equipment**L- 15 H**

- 2.1 Indoor facilities (gymnasium): Importance, care and maintenance. Characteristics of standard Gymnasium.
- 2.2 Outdoor facilities (Play field): Importance, care and maintenance. Characteristics of standard Play field.
- 2.3 Exercise and sports Equipment: Importance, care and maintenance
- 2.4 Lay-out of Play-fields: Badminton, Football, Kabaddi, Kho-Kho, Track and Field.

UNIT- 3: Concept of Sports Management**L- 15 H**

- 3.1 Meaning and Definition of Management and Sports Management.
- 3.2 Important and Principles of Sports Management.
- 3.3 Management of Sports and Games in School, College and University.
- 3.4 Leadership in Sports: Meaning, Definition, Type, Qualities and Qualification of good leader

UNIT- 4: Management of Sports Competitions**L- 20 H**

- 4.1 Meaning of competition, match, game and tournament
- 4.2 Types of Tournament; Procedure of drawing fixture- Knock-out, League, Combination and Challenge tournament.
- 4.3 Method of organising Annual Athletic Meet, Play Day, Intramural and Extramural competition.
- 4.4 Method of calculation of Standard Athletic Track marking (Straight line, RDR, CDR, Total area requirement, Stagger Distance, Diagonal excess)

UNIT- 5: Technologies in Sports and Fitness**L- 15 H**

- 5.1 Technology in Sports: Concept, Different Technologies used in Sports and Fitness, Role of Technology in Sports and Fitness.
- 5.2 Technology used during Training: Wearable- Smart Watch, Glass, Goggles, Sensor-enabled Shoes, Full Body Suits, Helmets. Sensors- Heart Rate Monitors, Global Positioning System (GPS), Local Positioning System (LPS), Velocity Based Training (VBT), Sleep Trackers.
- 5.3 Technology used in Live Games: Bird's Eye View, Edge Detection, Decision Review System (DRS), Wind Gauges, Timing Equipment, Hawk Eye Technology, Goal Line Technology (GLT), Video Assistant Referee (VAR), Cognitive Training Technology.
- 5.4 AI and e-Sports: Concept, Application, Merits and Demerits. Data analytics and its applications in sports.



SEMESTER- III**Course Title: Fitness and Gym Exercise (Practical)****Course Type: Major** (Code: PEDS3012)**Credit: 5** (Lecture- 0, Tutorial- 0 & Practical- 5)**Full Marks- 75** (Practical: 60 & Internal Assessment: 15)**Objectives:**

- i. To introduce and educate students about gym exercise.
- ii. To motivate students for maintaining their personal fitness.

Outcomes:

- i. Students may start their individual gym center.
- ii. Employability as assistant to Gym Instructor, Fitness & Wellness coach in corporate sector.

UNIT- I: Warm-up and Cool down Exercise (compulsory) L- 10 H

- **Warm-up:** i. Jogging/ Spot jogging ii. Jumping jacks (forward & side to side) iii. Alternative toe touches iv. Leg swings (forward) v. Leg swings (side to side) vi. Hops on the spot vii. High knees/ Knee lifts viii. Heel kick to the butt ix. Neck stretch with hand resistance (forward-backwards & sidewise) x. Neck semi-circles xi. Knee to chest (stretch) xii. Heel to butt (stretch) xiii. Lunges (forward and side)
- **Cool down:** i. Slow jogging or walking ii. Chest expansion iii. Shoulder stretch iv. Triceps stretch v. Overhead stretch vi. Chest stretch vii. Standing bend (forward, backward & sidewise) viii. Hip flexor stretch ix. Thigh hug x. Quadriceps stretch xi. Lunges (forward and side) xii. Heel press xiii. Toe touch/ ankle hold/ hamstring stretch xiv. Butterfly stretch xv. Abs stretch

UNIT- II: Gym Exercise for Leg Muscle and Joints (any 4 exercises) L- 25 H

- **Freehand:** i. Squat ii. Lunges (front/ rear) iii. Sumo squat iv. Bridge v. Calf raises
- **With Weight:** i. Barbell squat ii. Dumbbell lunges (front/ rear) iii. Barbell sumo squat iv. Barbell hip thrust v. Dumbbell Calf raises
- **With Gym Apparatus:** i. Leg press/ hack squat ii. Leg extension iii. Leg curl iv. Cable hip extension v. Good morning/ deadlift
- **With Resistance Band:** i. Resistance band squat ii. Lateral band walk iii. Side squat iv. Alternating leg raise v. Glute kickbacks

UNIT- III: Gym Exercise for Hand Muscle and Joints (any 4 exercises) L- 25 H

- **Freehand:** i. Push-ups ii. Close grip push-up iii. Diamond push-up iv. Wall push-up v. Table push-up
- **With Weight:** i. Overhead barbell triceps extension ii. Overhead dumbbell triceps extension iii. Weighted bench dip iv. Biceps curl/ seated biceps curl v. Hammer curl
- **With Gym Apparatus:** i. Cable triceps extension ii. Cable/ rope up-down iii. Cable crossover iv. Seated cable rows v. Preacher curl
- **With Resistance Band:** i. Resistance band push ups ii. Resistance band biceps curl iii. Resistance band shoulder front raises iv. Resistance band triceps overhead v. Resistance band bent over rows

UNIT- IV: Gym Exercise for abdominal and Back Muscle (any 4 exercises) L- 25 H

- **Freehand:** i. Mountain climbers ii. Laying leg raises iii. Laying leg flutters iv. Sit up v. Plank hold
- **With Weight:** i. Weighted sit-up ii. Dumbbell Russian twist iii. Dumbbell side bend iv. Weighted plank up & down v. Barbell rollout
- **With Gym Apparatus:** i. Hanging leg raises ii. Knee raises iii. Cable crunches iv. Cable machine oblique twist v. Decline bench crunches
- **With Resistance Band:** i. Band bicycles ii. Seated band leg flutters iii. Seated band crunches iv. Band side bending v. Band twist

UNIT- 5: Fitness Test (compulsory) L- 25 H

Physical Fitness Test through Harvard Step Test



SEMESTER- III**Course Title: Musical Exercise (Practical)****Course Type: Multi/Interdisciplinary (Code: PEDS3031)****Credit: 3 (Lecture- 0, Tutorial- 0 & Practical- 3)****Full Marks- 50 (Practical: 40 & Internal Assessment: 10)****Objectives:**

- i. To introduce Indian and overseas popular music.
- ii. To feel free from regular heavy monotonous daily routine.

Outcomes:

- i. After participating several musical exercises students may texture its essence.
- ii. They may include it in their regular life style.

UNIT- 1: Exercise with Traditional / Folk Indian Music**L- 22 H**

- 1.1 Regional folk music in Bengal and exercise
- 1.2 Punjabi folk music and exercise
- 1.3 Gujarati folk music and exercise
- 1.4 Manipuri folk music and exercise

UNIT- 2: Exercise with other Global Popular Music**L- 22 H**

- 2.1 American popular music and exercise
- 2.2 African popular music and exercise
- 2.3 Asian popular music and exercise
- 2.4 Oceania popular music and exercise

UNIT- 3: Exercise with Apparatus and Group Performance with Music**L- 22 H**

- 3.1 Ribbons / Lazium drill with music
- 3.2 Wands / Hoops drill with music
- 3.3 Dumbbell / Umbrella drill with music
- 3.4 Group performance accompanied with music



SEMESTER- III**Course Title: Gymnastics (Practical)****Course Type: Skill Enhancement Course** (Code: PEDS3051)**Credit: 3** (Lecture- 0, Tutorial- 0 & Practical- 3)**Full Marks- 50** (Practical: 40 & Internal Assessment: 10)**Objectives:**

- i. To get an inclusive practical skill on floor exercise of gymnastics.
- ii. To motivate students for maintaining own fitness.

Outcomes:

- i. Students will be able to perform different floor exercises of gymnastics.
- ii. Students will be able to understand the concept of co-ordination, balance, center of gravity etc.

UNIT- 1: Floor Exercise (Compulsory)**L- 20 H**

Forward Roll, T-Balance, Forward Roll with Split Leg, Backward Roll, Cart-Wheel

(Note: Perform the above exercises continuously in the same sequence)

UNIT- 2: Floor Exercise (any three)**L- 25 H**

Hand stand and forward roll, Backward roll to hand stand, Diving forward roll, Hand stand, Hand spring, Head spring, Neck Spring, Summersault

UNIT- 3: Stunts and Pyramid**L- 20 H**

Demonstrate individual or group stunts and group pyramid



SEMESTER- IV**Course Title: Yoga Education****Course Type: Major** (Code: PEDS4011)**Credit: 5** (Lecture- 4, Tutorial- 1 & Practical- 0)**Full Marks- 75** (Theory: 60 & Internal Assessment: 15)**Objectives:**

- i. To enable the students to get a thorough knowledge on Yoga.
- ii. To get an understanding of different branches of yoga and their applications and benefits in human life and health.

Outcomes:

- i. Provide them with comprehensive understanding of Yoga with reference to traditional texts like Patanjali Yoga sutras, Hatha Yoga Pradipika.
- ii. Employability as assistant to Yoga Instructor, Fitness & Wellness coach in corporate sector and Alternative medicine professional in AYUSH.

UNIT- 1: Introduction to Yoga Education**L- 10 H**

- 1.1 Meaning of Yoga, Traditional definition
- 1.2 Types of yoga- Bhakti Yoga, Jnana Yoga, Karma Yoga and Raja Yoga
- 1.3 Importance of yoga
- 1.4 Yoga as Indian Heritage

UNIT - 2: Concept of Astanga Yoga**L- 20 H**

- 2.1 Yama and Niyama
- 2.2 Asana and Pranayama
- 2.3 Pratyahara and Dharana
- 2.4 Dhyana and Samadhi

UNIT - 3: Concept of Hatha Yoga**L- 15H**

- 3.1 Shatkarma: Neti, Dhauti, Nauli, Basti, Kapalbhathi and Trataka - its method and benefits.
- 3.2 Bandha: Jalandhara bandha, Moola bandha, Uddiyana bandha and Maha bandha – its method and benefits.
- 3.3 Mudra: Hand mudras (Jnana mudra, Chin mudra, Yoni mudra, Bhairava mudra and Hridaya mudra) method and benefits.
- 3.4 Chakra and Nadi: Chakra- Mooladhara, Swadhisthana, Manipura, Anahata, Vishuddhi, Ajna and Sahasrara. Nadi: Ida, Pingala and Sushumna.

UNIT - 4: Concept of Health and Disease according to Yoga**L- 15 H**

- 4.1 Pancha Kosa: Annamaya, Pranamaya, Manomaya, Vijnamaya and Anandamaya
- 4.2 Triguna: Sattva, Raja and Tama
- 4.3 Tridosha: Vata, Pitta and Kapha
- 4.4 Yogic concept of Illness

UNIT - 5: Effect of Yoga**L- 15 H**

- 5.1 Effect of regular yoga practice on physical fitness
- 5.2 Effect of regular yoga practice on physiological health
- 5.3 Effect of regular yoga practice on Psycho-social aspect
- 5.4 Effect of regular yoga practice on Spiritual aspect



SEMESTER- IV**Course Title: Yoga and Naturopathy (Practical)****Course Type: Major** (Code: PEDS4012)**Credit: 5** (Lecture- 0, Tutorial- 0 & Practical- 5)**Full Marks- 75** (Practical: 60 & Internal Assessment: 15)**Objectives:**

- i. To get an inclusive practical skill on yogic practices like asanas, pranayama, relaxation and meditation.
- ii. It offers practices that enhance physical fitness, mental clarity and emotional balance.
- iii. To enable the students to get in-depth knowledge in practical skill on yogic practices and naturopathy therapies.

Outcomes:

- i. Covering physical, mental and spiritual dimensions of well-being.
- ii. Employability as assistant to Yoga Instructor, Fitness & Wellness coach in corporate sector and Alternative medicine professional in AYUSH.

UNIT- 1: Yogasana**L- 50H**

- Surya Namaskara
- Meditative Posture: Siddhasana, Swastikasana, Padmasana, Vajrasana, Sukhasana
- Relaxative Posture: Shavasana, Makarasana
- Cultural Posture: **(One asana is compulsory from each pose)**
Standing Pose: Ardhashandrasana, Tadasana, Padahasthasana
Sitting Pose: Ardhakurmasana, Paschimottanasana, Gomukhasana
Supine Pose: Setubandhasana, Halasana, Matsyasana
Prone Pose: Bhujangasana, Dhanurasana, Salvasana
Inverted Pose: Sarvangasana, Sirshasana, Bhagrasana

UNIT- 2: Pranayama (any three)**L- 15H**

Anulom-Vilom Pranayama, Surya Bheda Pranayama, Chandra Bheda Pranayama, Ujjayi Pranayama, Sitkari Pranayama, Sheetal Pranayama

UNIT- 3: Yogic Kriya (any three)**L- 10H**

Kapalbhati, Trataka, Uddiyana, Nauli

UNIT- 4: Naturopathy (any three)**L- 10H**

Mud Therapy, Hydrotherapy, Sun bath, Moon bath, Forest / Green field walking

UNIT- 5: Fitness Test (compulsory)**L- 25H**

Physical Fitness Test through Harvard Step Test



SEMESTER- IV**Course Title: Self Defence (Practical)****Course Type: Major** (Code: PEDS4013)**Credit: 5** (Lecture- 0, Tutorial- 0 & Practical- 5)**Full Marks- 75** (Practical: 60 & Internal Assessment: 15)**Objectives:**

- i. To measure oneself against other fighters, and to make progress towards competition.
- ii. To motivate students for maintaining own fitness.

Outcomes:

- i. To increase self-confidence, self-control and discipline.
- ii. Equips students with essential skills such as self-defence, physical fitness, mental resilience, leadership and crisis management abilities.

Any two**MARTIAL ARTS / KARATE****UNIT- 1: Warming-up: General and Specific** **L- 5 H****UNIT- 2: Fundamental Skills** **L- 30 H**

- Player Stances: Walking, hand position, front-leaning, side-fighting.
- Hand Techniques: Punches (straight punch, reverse punch), Blocks (eight basic)
- Leg Techniques: Snap kicks, stretching straight leg, thrust kick, sidekicks, round house.
- Forms: The first cause katas.
- Self Defense: Against punches, grabs and strikes, against basic weapons (knife, club sticks).
- Sparring: One step for middle punch, high punch and groin punch.

UNIT- 3: Game Practice **L- 10 H****UNIT- 4: Rules and their Interpretations** **L- 5 H****UNIT- 5: Duties of Officials** **L- 5 H****TAEKWONDO****UNIT- 1: Warming-up: General and Specific** **L- 5 H****UNIT- 2: Fundamental Skills** **L- 30 H**

- Player stance: Walking, extending walking, L stance, cat stance.
- Punches: Sitting stance punch, single punch, double punch, triple punch, front-fist punch, rear- fist punch.
- Foot techniques (Balgisul): Standing kick (soseo chagi), front kick (AP chagi), arc kick (Bandal Chagi), side kick (Yeop Chagi), Turning kick (Dollyo Chagi) Back kick (Twit Chagi), Reverse turning kick (Bandae Dollyo Chagi), Jump kick (Twimyo Chagi).
- Poomsae (Forms): Jang, Yi Jang, Sam Jang, Sa Jang, o Jang, Yook Jang, Chil Jang.
- Sparring (Kyorugi): One step sparring (hand techniques, foot techniques, self-defense technique, combination kicks), free sparring.
- Board Breaking (Kyokpa): Eye control, balance, power control, speed, point of attack.

UNIT- 3: Game Practice **L- 10 H**


UNIT- 4: Rules and their Interpretations **L- 5 H**

UNIT- 5: Duties of Officials **L- 5 H**

JUDO

UNIT- 1: Warming-up: General and Specific **L- 5 H**

UNIT- 2: Fundamental Skills **L- 30 H**

- Rei (Salutation): Ritsure (salutation in standing position), Zarai (salutation in sitting position).
- Kumi Kata: Method of holding judo costume.
- Shisei: Position in judo.
- Kuzushi: Act of disturbing the opponent posture.
- Tuskuri and kake: preparatory action for attack.
- Ukemi (Break Fall): Urhiro Ukemi (rear break fall), Yoko Ukemi (side break fall), Mae Ukemi (front break fall), Mae mawari Ukemi (front break fall).
- Tai Sabaki: Management of the body.
- Nage Waza (throwing techniques): Hiza Guruma (knee wheel), Sesae Twurikomi-ashi (drawing ankle throw).
- Katamawaze (Grappling techniques): Kesagatame (Scaff hold), Kata gatame (Shoulder hold).

UNIT- 3: Game Practice **L- 10 H**

UNIT- 4: Rules and their Interpretations **L- 5 H**

UNIT- 5: Duties of Officials **L- 5 H**

BOXING

UNIT- 1: Warming-up: General and Specific **L- 5 H**

UNIT- 2: Fundamental Skills **L- 30 H**

- Player stance
- Stance: Right hand stance, left hand stance
- Footwork: Attack, defense
- Punches: Jab, cross, hook, upper cut, combinations
- Defense slip: Bob and weave, parry/block, cover up, clinch, and counter attack.

UNIT- 3: Game Practice **L- 10 H**

UNIT- 4: Rules and their Interpretations **L- 5 H**

UNIT- 5: Duties of Officials **L- 5 H**



SEMESTER- IV**Course Title: Trends in Yoga and Sports Science****Course Type: Minor** (Code: PEDS4021)**Credit: 4** (Lecture- 3, Tutorial- 0 & Practical- 1)**Full Marks- 75** (Theory: 40; Practical: 20 & Internal Assessment: 15)**Objectives:**

- i. To enable the students to get a thorough knowledge on Yoga and modern technologies used in sports and fitness.
- ii. To get an inclusive practical skill on yogasana.

Outcomes:

- i. Provide them with comprehensive understanding of Yoga and modern technologies used in sports and fitness.
- ii. Students may understand the modern trends in yoga and sports science.

UNIT- 1: Introduction to Yoga**L- 10 H**

- 1.1 Meaning of Yoga, Traditional definition
- 1.2 Types of yoga- Bhakti Yoga, Jnana Yoga, Karma Yoga and Raja Yoga
- 1.3 Importance of yoga
- 1.4 Yoga as Indian Heritage

UNIT - 2: Concept of Astanga Yoga**L- 15 H**

- 2.1 Yama and Niyama
- 2.2 Asana and Pranayama
- 2.3 Pratyahara and Dharana
- 2.4 Dhyana and Samadhi

UNIT- 3: Technologies in Sports and Fitness**L- 20 H**

- 3.1 Technology in Sports: Concept, Different Technologies used in Sports and Fitness, Role of Technology in Sports and Fitness.
- 3.2 Technology used during Training: Wearable- Smart Watch, Glass, Goggles, Sensor-enabled Shoes, Full Body Suits, Helmets. Sensors- Heart Rate Monitors, Global Positioning System (GPS), Local Positioning System (LPS), Velocity Based Training (VBT), Sleep Trackers.
- 3.3 Technology used in Live Games: Bird's Eye View, Edge Detection, Decision Review System (DRS), Wind Gauges, Timing Equipment, Hawk Eye Technology, Goal Line Technology (GLT), Video Assistant Referee (VAR), Cognitive Training Technology.
- 3.4 AI and e-Sports: Concept, Application, Merits and Demerits. Data analytics and its applications in sports.

UNIT- 4: Yogasana (Practical)**L- 30 H**

- 4.1 Surya Namaskara
- 4.2 Meditative Posture: Siddhasana, Swastikasana, Padmasana, Vajrasana, Sukhasana
- 4.3 Cultural Posture:
 - Standing Pose: Tadasana
 - Sitting Pose: Paschimottanasana
 - Supine Pose: Setubandhasana
 - Prone Pose: Bhujangasana
 - Inverted Pose: Sarvangasana
- 4.4 Relaxative Posture: Shavasana, Makarasana



SEMESTER- V**Course Title: Exercise and Sports Physiology****Course Type: Major** (Code: PEDS5011)**Credit: 5** (Lecture- 4, Tutorial- 1 & Practical- 0)**Full Marks- 75** (Theory: 60 & Internal Assessment: 15)**Objectives:**

- i. To learn the changes in human body systems due to exercise and sporting activities in an integrated manner.
- ii. Learn how to study the effects of exercise on the body's muscular, cardiovascular and neurohormonal systems.

Outcomes:

- i. Students will be ready to study effect of exercise and sports in detail and in application perspective.
- ii. Students will also be able to measure the changes and interpret them in the context of sports.

UNIT- 1: Introduction**L- 10 H**

- 1.5 Meaning, Definition and Importance of Anatomy, Physiology, Exercise Physiology & Sports Physiology
- 1.6 Structure and Functions of Human Cells and Tissues.
- 1.7 Structure and Functions of Organs and Systems.
- 1.8 Concept and Types of Exercises.

Unit- II: Musculo-skeletal System and Exercise**L- 15 H**

- 2.1. Skeletal System- Structure of Skeletal System. Classification and location of bones and joints. Structure of Synovial Joint.
- 2.2. Muscular System- Type, function, properties and structure of muscle. Name and location of major muscles.
- 2.3. Molecular mechanism of muscle contraction- Sliding filament theory.
- 2.4. Effect of exercise and Sports on muscular system.

Unit- III: Circulatory System and Exercise**L- 17 H**

- 3.1 Blood- Composition and function. Blood vessels- Artery, Vein and Capillary.
- 3.2 Heart- Structure and functions. Valves of the Heart. Sino-atrial Node and Atrio-ventricular Node. Mechanism of blood circulation through heart.
- 3.3 Cardiac output, Blood Pressure, Athletic Heart, Bradycardia and Trachcardia.
- 3.4 Effect of exercise and Sports on circulatory system.

Unit- IV: Respiratory System and Exercise**L- 15 H**

- 4.1 Structure and function of Respiratory organs.
- 4.2 Mechanism of Respiration. Hypoxia, Asphyxia, Hyperpnoea, Orthopnoea and Artificial Respiration.
- 4.3 Vital Capacity, O₂ Debt (EPEOC), O₂ Deficit, Second Wind and VO₂ max.
- 4.4 Effect of exercise and Sports on respiratory system.

Unit- V: Digestive & Nuro-endocrine System and Exercise**L- 18 H**

- 5.1 Digestive System: Structure and Functions. Effect of Exercise and Sports on the Digestive System.
- 5.2 Nervous system: Central nervous system- Brain, spinal cord, Automatic nervous system. Reflex action, Neuromuscular junction, Proprioception, Muscle Spindles, Golgi Tendon Organ
- 5.3 Endocrine system: Location, secretion and functions of different endocrine glands.
- 5.4 Effect of exercise and Sports on nervous system and endocrine system.



SEMESTER- V**Course Title: Ball Games- I****Course Type: Major** (Code: PEDS5012)**Credit: 5** (Lecture- 0, Tutorial- 0 & Practical- 5)**Full Marks- 75** (Practical: 60 & Internal Assessment: 15)**Objectives:**

- i. To master basic skills & techniques and rules and regulations of each game.
- ii. Developing motor skills, social skills and cognitive skills.

Outcomes:

- i. Demonstrate the ability to perform individual offensive and defensive skills and strategies.
- ii. Understand basic rules, terminology, and scoring procedures.

ANY TWO GAME**(Preparation of Record Book is Compulsory)****BASKETBALL****Unit-I: Introduction of the Game****L- 5H**

Origin and History of the game, International Basketball Federation, Basketball Federation of India, West Bengal Basketball Association.

Unit-II: Fundamental Skills**P- 50 H**

Passing: Two-hand Chest Pass, Two-hand Bounce Pass, One-hand Baseball Pass, Side-arm Pass, Overhead Pass, Hook Pass.

Receiving: Two hand receiving, Receiving in stationary position, Receiving while Jumping and Receiving while Running.

Dribbling: How to start dribble, drop dribble, High Dribble, Reverse Dribble, Rolling Dribble.

Shooting: Lay-up shot and its variations, One-hand set shot, Two-hand jump shot, Hook shot, Free Throw.

Offensive play & Defensive play: Defensive rebound and offensive rebound, Guarding the player with the ball and without the ball, pivoting, Screening.

Unit-III: Rules, Regulations and Officiating**P- 15 H**

Rules and Regulations: Basketball court marking, game practice with applications of rules and regulations.

Officiating: Officials, identification of signals and whistle, detailed account of score sheet fill up, interpretation of rules and duties of the officials, pre - during and post-match duties of the officials.

Unit-IV: Records and Awards**L- 5 H**

National and International levels players

National and International levels records

National and International levels awards, trophy and tournaments

FOOTBALL**Unit-I: Introduction of the Game****L- 5 H**

Origin and History of the game, Federation International de Football Association (FIFA), All India Football Federation (AIFF), West Bengal Football Association.

Unit-II: Fundamental Skills**P- 50 H**

Kicking: Kicking the ball with inside of the foot, kicking the ball with full instep of the foot, kicking the ball with inner instep of the foot, kicking the ball with outer instep of the foot and lofted kick.

Receiving: Receiving the ball with chest, thigh foot and sole.

Dribbling: Dribbling the ball with instep of the foot, dribbling the ball with inner and outer instep of the foot.

Heading & Throw-in: Standing, running and jumping condition & standing throw-in and running throw-in.

Unit-III: Laws and Officiating**P- 15 H**

Laws: Football field marking, game practice with applications of rules and regulations.

Officiating: Officials, identification of signals and whistle, detailed account of score sheet fill up, interpretation of rules and duties of the officials, pre - during and post-match duties of the officials.

Unit-IV: Records and Awards**L- 5 H**

National and International levels players

National and International levels records

National and International levels awards, trophy and tournaments

VOLLEYBALL**Unit-I: Introduction of the Game****L- 5 H**

Origin and History of the game, Federation International de Volleyball (FIVB), Volleyball Federation of India (VFI), West Bengal Volleyball Association.

Unit-II: Fundamental Skills**P- 50 H**

Service: Under arm service, Side arm service, Tennis service, Floating service.

Pass: Under arm pass, Overhead pass

Spiking and Blocking

Unit-III: Rules, Regulations and Officiating**P- 15 H**

Rules and Regulations: Volleyball court marking, game practice with applications of rules and regulations.

Officiating: Officials, identification of signals and whistle, detailed account of score sheet fill up, interpretation of rules and duties of the officials, pre - during and post-match duties of the officials.

Unit-IV: Records and Awards**L- 5 H**

National and International levels players

National and International levels records

National and International levels awards, trophy and tournaments



SEMESTER- V**Course Title: Track and Field****Course Type: Major** (Code: PEDS5013)**Credit: 5** (Lecture- 0, Tutorial- 0 & Practical- 5)**Full Marks- 75** (Practical: 60 & Internal Assessment: 15)**Objectives:**

- iii. Master the proper form and technique for each track and field event.
- iv. Develop efficient movement patterns to maximize speed, power, and distance.

Outcomes:

- iii. The theoretical knowledge of track and field events helps the students to learn the various techniques along with the international rules of the events.
- iv. Students learn the rules, they can become qualified state, national and international officials.

Preparation of Record Book is Compulsory**Unit-I: Introduction of the Game****L- 5 H**

Origin and History of track and field, International Amateur Athletic Federation (IAAF), Athletic Federation of India (AFI), West Bengal Athletics Association.

Unit-II: Fundamental Skills**P- 50 H****Track Event**

Starting Techniques: Standing start and Crouch start (its variations) use of Starting Block.

Acceleration with proper running techniques.

Finishing Technique: Run Through, Forward Lunging and Shoulder Shrug.

Relay Race: Starting, Baton Holding/Carrying. Baton Exchange in between Zone and Finishing.

Hurdles: Clearing techniques- approach run, take off, the flight and landing.

Field Event

Long Jump: Approach run, take off, flight in the air (Hang Style) and landing.

High Jump: Approach run, take off, clearance over the Bar and landing.

Putting the Shot: Grip, Stance, Glide, Release and Reverse. (O'Brien techniques).

Discus throw: Grip, Stance, Release and Reverse.

Javelin Throw: Grip, Carry, Release and Reverse.

Unit-III: Rules, Regulations and Officiating**P- 10 H**

Rules and Regulations: Marking- Track, Discus, Javelin, Shot-put sectors, Long Jump. Practice with applications of rules and regulations.

Officiating: Officials, identification of signals and whistle, detailed account of score sheet fill up, interpretation of rules and duties of the officials, pre - during and post-match duties of the officials.

Unit-IV: Records and Awards**L- 5 H**

National and International levels players

National and International levels records

National and International levels awards, trophy and tournaments

Unit-V: Self Fitness Assessment**P- 5 H**

Physical Fitness Test through AAHPERD



SEMESTER- VI**Course Title: Kinesiology and Sports Biomechanics****Course Type: Major** (Code: PEDS6011)**Credit: 4** (Lecture- 4, Tutorial- 0 & Practical- 0)**Full Marks- 75** (Theory: 60 & Internal Assessment: 15)**Objectives:**

- i. Know the concept and purpose of Biomechanics.
- ii. Able to differentiate Kinematic and Kinetic Parameters.
- iii. Knowledge about basic mechanics applied in sports.

Outcomes:

- i. Students Applying biomechanical principles to analyze and improve techniques in various sports
- ii. Applying concepts like levers, torque, and forces to analyze human movement

UNIT- 1: Introduction to Kinesiology and Sports Biomechanics **L- 10 H**

- 1.1 Meaning and Definition of Kinesiology, Biomechanics and Sports Biomechanics.
- 1.2 Importance and Scope of Kinesiology and Sports Biomechanics in Physical Education and Sports Science.
- 1.3 Terminology of Fundamental Movements: Locomotion, Non-locomotion and Manipulative
- 1.4 Fundamental Concepts of Axes and Planes, Centre of Gravity, Line of Gravity, Scalars and Vectors Quantities, Equilibrium.

UNIT- 2: Kinesiological Aspects of Human Movement **L- 18 H**

- 2.1 Bones and Joints: Classification of Bones and Joints. Movements around the joints.
- 2.2 Muscles: Types of Muscle contraction, Role of muscles on bodily movements. Major muscles involved with the movements of Shoulder joint, Hip joint and Knee joint.
- 2.3 Origin, Insertion and action of muscles: • Pectoralis major and minor, • Deltoid, Biceps, Triceps (Anterior and Posterior), • Trapezius, Serratus, Sartorius, Rectus femoris, Abdominis, Quadriceps, • Hamstring, Gastrocnemius
- 2.4 Fundamental concept of following terms: Angle of Pull, All or None Law, Reciprocal Innervations- Agonist and Antagonist muscles.

UNIT-3: Kinematics and Kinetics of Human Movement **L- 17 H**

- 3.1 Linear Kinematics- Distance and Displacement, Speed and Velocity, Acceleration.
- 3.2 Angular Kinematics- Inertia, Mass, Momentum, Impulse, Friction.
- 3.3 Linear Kinetics- Inertia, Mass, Momentum, Impulse, Friction.
- 3.4 Angular Kinetics- Moment of Inertia and Couple.

UNIT- 4: Mechanical Concepts **L- 15 H**

- 4.1 Force- Meaning, Definition, Types, Units and its application to sports activities.
- 4.2 Lever- Meaning, Definition, Types and Body Lever. Wheel, Axel and Pulley.
- 4.3 Motion- Concept, Types and its Application to Sports Activities. Newton's Law of Motion.
- 4.4 Projectile Motion- Concept, Types, Principles and Factors Influencing Projectile Motion.



SEMESTER- VI**Course Title: Science of Sports Training****Course Type: Major** (Code: PEDS6012)**Credit: 4** (Lecture- 4, Tutorial- 0 & Practical- 0)**Full Marks- 75** (Theory: 60 & Internal Assessment: 15)**Objectives:**

- i. Know the concept and purpose of sports training.
- ii. Knowledge about basic methods and techniques applied in sport training.

Outcomes:

- i. Sstudents learn various sports training methodology which could be used to develop all the fitness components and sports performance.
- ii. Students also find this science to be very useful to prepare short, medium and long term training plans.

Unit- I: Introduction**L- 10 H**

- 1.1 Meaning and Definition of Sports Training
- 1.2 Aim and Characteristics of Sports Training
- 1.3 Principles of Sports Training
- 1.4 Need and Importance of Sports Training

Unit- II: Methods of Training and Conditioning in Sports**L-15 H**

- 2.1 Warming up and Cooling down-meaning, types and methods
- 2.2 Conditioning- concept of Conditioning and its principles
- 2.3 Training Methods- Circuit Training, Interval Training, Weight Training
- 2.4 Periodization- meaning, types, aim contents of different periods

Unit- III: Training Load and Adaptation**L- 17 H**

- 3.1 Training Load- meaning, definition, types and factors of training load
- 3.2 Components of training load
- 3.3 Over Load- meaning, causes, symptoms and tackling of overload
- 3.4 Adaptation- meaning and conditions of adaptation, super compensation

Unit- IV: Training Technique and Components**L- 18 H**

- 4.1 Strength- means and methods of strength development
- 4.2 Speed- means and methods of speed development
- 4.3 Endurance- means and methods of endurance development
- 4.4 Flexibility- means and methods of flexibility development



SEMESTER- VI**Course Title: Indian Games and Racket Sports****Course Type: Major** (Code: PEDS6013)**Credit: 4** (Lecture- 0, Tutorial- 0 & Practical- 4)**Full Marks- 75** (Practical: 60 & Internal Assessment: 15)**Objectives:**

- i. To master basic skills & techniques and rules and regulations of each game.
- ii. Developing motor skills, social skills and cognitive skills.

Outcomes:

- i. Demonstrate the ability to perform individual offensive and defensive skills and strategies.
- ii. Understand basic rules, terminology, and scoring procedures.

Preparation of Record Book is Compulsory**INDIAN GAMES (ANY ONE)****KHO-KHO****Unit-I: Introduction of the Game****L- 5 H**

Origin and History of the game, Asian Kho-Kho Federation, Kho-Kho Federation of India, West Bengal Kho-Kho Association

Unit-II: Fundamental Skills**P- 50 H**

Skills in Chasing: Sit on the box (Parallel & Bullet toe method), Get up from the box (Proximal & Distal foot method), Give Kho (Simple, Early, Late & Judgment), covering (moving on the lanes), Pole Turn, Pole Dive, Tapping, Hammering, Rectification of foul.
Skills in running: Chain Play, Ring play and Chain & Ring mixed play.

Unit-III: Rules, Regulations and Officiating**P- 15 H**

Rules and Regulations: Kho-Kho court marking, game practice with applications of rules and regulations.

Officiating: Officials, identification of signals and whistle, detailed account of score sheet fill up, interpretation of rules and duties of the officials, pre - during and post-match duties of the officials.

Unit-IV: Records and Awards**L- 5 H**

National and International levels players
National and International levels records
National and International levels awards, trophy and tournaments

KABADDI**Unit-I: Introduction of the Game****L- 5 H**

Origin and History of the game, International Kabaddi Federation, Amateur Kabaddi Federation of India

Unit-II: Fundamental Skills**P- 50 H**


Skills in Raiding: Cant, Touching with hands, Use of leg-toe touch, squat leg thrust, side kick, mule kick, arrow fly kick, crossing of baulk line. Crossing of Bonus line.

Skills of holding the raider: Various formations, catching from particular position, different catches, catching formation and techniques.

Additional skills in raiding: Escaping from various holds, techniques of escaping from chain formation, offense and defense.

Unit-III: Rules, Regulations and Officiating **P- 15 H**

Rules and Regulations: Kabaddi court marking, game practice with applications of rules and regulations.

Officiating: Officials, identification of signals and whistle, detailed account of score sheet fill up, interpretation of rules and duties of the officials, pre - during and post-match duties of the officials.

Unit-IV: Records and Awards **L- 5 H**

National and International levels players

National and International levels records

National and International levels awards, trophy and tournaments

RACKET SPORTS (ANY ONE)

BADMINTON

Unit-I: Introduction of the Game **L- 5 H**

Origin and History of the game, Badminton World Federation (BWF), *Badminton Association of India (BAI)*

Unit-II: Fundamental Skills **P- 50 H**

Basic Knowledge: Various parts of the Racket and Grip.

Service: Short service, Long service, Long-high service.

Shots: Over-head shot, Defensive clear shot, Attacking clear shot, Drop shot, Net shot, Smash.

Unit-III: Rules, Regulations and Officiating **P- 15 H**

Rules and Regulations: Badminton court marking, game practice with applications of rules and regulations.

Officiating: Officials, identification of signals and whistle, detailed account of score sheet fill up, interpretation of rules and duties of the officials, pre - during and post-match duties of the officials.

Unit-IV: Records and Awards **L- 5 H**

National and International levels players

National and International levels records

National and International levels awards, trophy and tournaments

TABLE TENNIS

Unit-I: Introduction of the Game **L- 5 H**

Origin and History of the game, *International Table Tennis Federation (ITTF)* Table Tennis



Federation of India (TTFI), West Bengal Table Tennis Association (WBTTA)

Unit-II: Fundamental Skills

P- 50 H

Basic Knowledge: Various parts of the Racket and Grip (Shake Hand & Pen Hold Grip).

Stance: Square & Parallel.

Push and Service: Backhand & Forehand.

Chop: Backhand & Forehand.

Receive: Push and Chop with both Backhand & Forehand.

Unit-III: Rules, Regulations and Officiating

P- 15 H

Rules and Regulations: Knowledge about TT Table, game practice with applications of rules and regulations.

Officiating: Officials, identification of signals and whistle, detailed account of score sheet fill up, interpretation of rules and duties of the officials, pre - during and post-match duties of the officials.

Unit-IV: Records and Awards

L- 5 H

National and International levels players

National and International levels records

National and International levels awards, trophy and tournaments



SEMESTER- VI**Course Title: Ball Game- II****Course Type: Major** (Code: PEDS6014)**Credit: 4** (Lecture- 0, Tutorial- 0 & Practical- 4)**Full Marks- 75** (Practical: 60 & Internal Assessment: 15)**Objectives:**

- i. To master basic skills & techniques and rules and regulations of each game.
- ii. Developing motor skills, social skills and cognitive skills.

Outcomes:

- i. Demonstrate the ability to perform individual offensive and defensive skills and strategies.
- ii. Understand basic rules, terminology, and scoring procedures.

ANY TWO GAME**(Preparation of Record Book is Compulsory)****CRICKET****Unit-I: Introduction of the Game****L- 5 H**

Origin and History of the game, International Cricket Council (ICC), Board of Control for Cricket in India (BCCI), Cricket Association of Bengal (CAB)

Unit-II: Fundamental Skills**P- 50 H**

Batting-Grip, Stance, Defensive Stroke-Forward Stroke & Backward Stroke, Attacking Stroke, Running between the wicket
 Balling-Grip, Smooth run up, Delivery, Types of balling-a) Swing- In-swing, Out-swing, b) Spin balling-Off-spin, Leg-spin, c) Googly
 Fielding- Stance near to wicket, defensive fielding, offensive fielding, Catching
 Wicket keeping

Unit-III: Rules, Regulations and Officiating**P- 15 H**

Rules and Regulations: Layout of cricket ground and positions of players & Types of pitches, game practice with applications of rules and regulations.

Officiating: Officials, identification of signals and whistle, detailed account of score sheet fill up, interpretation of rules and duties of the officials, pre - during and post-match duties of the officials.

Unit-IV: Records and Awards**L- 5 H**

National and International levels players
 National and International levels records
 National and International levels awards, trophy and tournaments

HANDBALL**Unit-I: Introduction of the Game****L- 5 H**

Origin and History of the game, International Handball Federation (IHF), Handball Association of India (HAI), West Bengal State Handball Association

Unit-II: Fundamental Skills**P- 50 H**

Grip & Dribbling: Including throwing the ball and ball control.
 Pass & Receive: Including Stance and Running.



Offensive Play: Attack and counter-attack, simple counter-attack, counter-attack from two wings and center.

Defensive Play: Blocking, Goalkeeping and Defensive skills.

Unit-III: Rules, Regulations and Officiating **P- 15 H**

Rules and Regulations: Layout of Handball ground, game practice with applications of rules and regulations.

Officiating: Officials, identification of signals and whistle, detailed account of score sheet fill up, interpretation of rules and duties of the officials, pre - during and post-match duties of the officials.

Unit-IV: Records and Awards **L- 5 H**

National and International levels players

National and International levels records

National and International levels awards, trophy and tournaments

THROWBALL

Unit-I: Introduction of the Game **L- 5 H**

Origin and History of the game, *International Throwball Federation, Throwball federation of India (TFI), West Bengal Throwball Association*

Unit-II: Fundamental Skills **P- 50 H**

Service: Overhand service, Side arm service.

Catching: Two hand catching.

Return: One hand overhead return, side arm return.

Unit-III: Rules, Regulations and Officiating **P- 10 H**

Rules and Regulations: Layout of Throwball court, game practice with applications of rules and regulations.

Officiating: Officials, identification of signals and whistle, detailed account of score sheet fill up, interpretation of rules and duties of the officials, pre - during and post-match duties of the officials.

Unit-IV: Records and Awards **L- 5 H**

National and International levels players

National and International levels records

National and International levels awards, trophy and tournaments

Compulsory Self Fitness Assessment **P- 5 H**

Physical Fitness Test through AAHPERD

