KISS

KALINGA INSTITUTE OF SOCIAL SCIENCES

CURRICULUM AND CREDIT FRAMEWORK FOR UNDERGRADUATE PROGRAMME

BACHELOR OF ARTS IN PHYSICAL EDUCATION

(As per NEP-2020, NCrF, NHEQF)

Academic Session 2025-2026



DEPARTMENT OF PHYSICAL EDUCATION

SCHOOL OF TRIBAL CULTURE, PHILOSOPHY AND ECO-SPIRITUALISM

KALINGA INSTITUTE OF SOCIAL SCIENCES (KISS)

DEEMED TO BE UNIVERSITY

Higher Education Campus, KISS Campus-3, Bhubaneswar, Odisha, 751024

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PROGRAMME OVERVIEW

The National Education Policy of India 2020(NEP-2020) has stressed upon a learning outcome based curriculum framework for a Bachelor of Arts in Physical Education which is intended to provide a broad frame-work within which the physical education program responds to the needs of students requirements. The NEP 2020 aims to transform the education system by integrating local, national, and international standards. It aims to gradually reduce dropouts and maximize attendance. According to the NEP 2020, students who complete one, two, or three years of UG programmes can use their acquired knowledge to obtain suitable opportunity of employment. To achieve the objectives outlined in the NEP 2020, the BOS of the School of Sports and Yogic Sciences -KIIT DU has prepared the current Four-year Undergraduate Degree Programme (FYUP) structure.

MISSION

Bachelor of Arts in Physical Education is a 4 years degree program which prepares students for the emerging field of sports science and physical education, Bachelor of Arts in Physical Education programme is designed for students to gain specialized knowledge in the areas of physical education and sports. The programme helps the students to chalk out their pathway to become an innovator in the exciting world of physical education and sports. This course also prepares students for the emerging field of sports science and physical education, and equips the students to start careers as health, yoga and fitness instructors, fitness counselors, sports facility planners.

OBJECTIVES

Physical education is not only concerned with the physical outcome that accrue from participation in physical activities but also the development of knowledge and attitude conducive to lifelong learning and participation in motor activities. The overall aim of bachelor's degree programme in Physical Education and Sports is;

- To the acquire and refine motor skills.
- To equip the students with the scientific knowledge of body response to various types of exercise.
- •To maintain fitness for optimal health and wellbeing,
- To attain knowledge and the growth of positive attitude towards physical activity
- and sports.
- To attain wholesome development through physical education and sports
- To attain knowledge of the rules, regulation and their interpretation for “officiating” in sports and games.
- To inculcate the ability to organize sports and games in a professional manner.
- To enhance knowledge on scientific principles from allied subjects in Physical Education & Sports.
- To understand the concepts and role of different methods of sports training
- To develop desirable health habits and social integration of sportspersons

PROGRAMME OBJECTIVES

- The course is so designed that it meets all the demands of the society in disseminating the knowledge of physical education.
- The programme will enable the students to propagate the importance of physical education at various levels and its requirement for every individual in the society in order to keep oneself healthy and live a stress free and positive life style.
- To build the capacity of students for dissemination of information and documentation on physical education and sports on the results of research and evaluation and studies concerning programmes, experiments and activities related to diverse fields i.e. Society and individual in particular.
- To train the students to meet the challenges faced by the sports persons with respect to doping which is injurious to both health and country to sporting ethics and to protect the physical and mental health of athletes, the virtues of fair play and competition, the integrity of sporting community and the rights of people participating in it at any level whatsoever.
- Through research elements of the programme the students can develop innovative methods of teaching and increase the standard of performance in sport.
- The students graduating with this programme are expected to contribute to the maintenance and improvement of health, provide a wholesome leisure time occupation and enable man to overcome the drawbacks of modern living.
- The students will develop the abilities like will-power and self discipline to become a fully integrated member of the society through physical education and sports at the individual and community level.
- The students are expected to cater to the development of a scientific programme for achieving good health and fitness for corporate sector after acquiring knowledge from various allied sciences and foundation courses.

CAREER OUTCOME (CO)

This undergraduate programme in Physical Education and Sports will prepare one for a career in sports and fitness-related professions as well as in the field of education. This degree will help one teach valuable skills people need to learn to stay physically fit. Graduates in these disciplines can aspire to work in sports administration, fitness health clubs, law enforcement, hospitality industry, educational institutions, etc.

PROGRAM OUTCOMES (PO):

After successful completion of Bachelor of Arts in Physical Education, the students will be able to:

PO No.	Attribute	Competency
PO 1	Professional knowledge	Possess and acquire scientific knowledge to work as a professional, optimizing human function
PO 2	Clinical/ Technical skills	Demonstrate and possess technical skills to provide quality care for athletes and teams
PO 3	Teamwork	Demonstrate ability to be a team player and support shared goals within an interdisciplinary environment
PO 4	Ethical value & professionalism	Possess and demonstrate ethical values and professionalism within the legal framework of the society
PO 5	Communication	Communicate effectively and appropriately within an interdisciplinary environment and the. society
PO 6	Evidence based practice	Devise assessment and programs that are evidence informed and aligns with professional excellence
PO 7	Life-long learning	Continues to exhibit interest in enhancing knowledge and skills, which evolve over a period of time
PO 8	Entrepreneurship, leadership and mentorship	Display entrepreneurial inclination, leadership and mentorship skills

PROGRAMME SPECIFIC OUTCOMES (PSO)

- PSO-1 - : Analyze and identify the psychological, anatomical, physiological and sociological factors associated with diverse physical activities
- PSO-2: Organizing, training and officiating for sports and games using appropriate rules, skills, and tactics
- PSO-3 : Design and application of pedagogy using IT and field work for sports education
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ADMISSION CRITERIA

Duration: 4 years

Semester: 8 Semesters

Eligibility Criteria (Qualifying Exam)

Pass in 10+2 or equivalent, **Physical** Efficiency Test will be conducted to determine the general level of Physical Efficiency. Weightage will be given to those Sports persons who have represented State, National and International Level respectively..

Note:

Medical Fitness Certificate (as per university prescribed format) is Compulsory . Merit list will be prepared with weightage to qualifying exam and sports achievement, subject to eligibility criteria.

STRUCTURE OF ACADEMIC PROGRAMME

The Bachelor of Arts in Physical Education Programme offered under NEP shall be denoted in terms of credits. Each course/subject in a given Programme of study shall carry certain number of credits which will be awarded on completion of the said course.

BREAK UP OF CREDITS AND COURSES

The Undergraduate Bachelor of Arts in Physical Education programmes conform to the structure specified by the UGC Framework, 2023. The student of 1-year certificate programme is mandated to complete a minimum of 40 credits, The student of 2- year diploma programme shall complete 80 credits, The student of 3-year degree programme is mandated to complete a minimum of 120 credits and the student of 4 - year Honors degree programme shall complete 160 credits. NEP Framework has specified the number of credits that a Bachelor student has to earn every year. Table - I specify the number of credits and number of courses that a student is expected to complete in 1st to 4th year duration respectively.

DEFINITIONS OF COURSE CATEGORIES AS PER NEP - 2020

Major: The major discipline is the primary focus of study, and the degree will be conferred in that specific discipline. Students are required to attain the designated number of credits by completing core courses within the major discipline.

Minor: Minor Courses enable students to develop a more comprehensive understanding beyond their major discipline.

CBCS: The Choice-Based Credit System (CBCS) permits students to select courses from a variety of options and earn credits upon successful completion of those courses. This system is structured to offer flexibility, allowing students to pursue their interests and leverage their strengths.

Credit: A unit by which the course work is measured .One credit is equivalent to one hour of lecture or tutorials or two hours of practical work/field work per week in a semester.

L-T-P: This refers to the distribution of credits: Lecture (L), Tutorial (T) and Practical (P).

Skill Enhancement Courses: These Courses aimed at fostering practical skills, hands-on training, soft skills that aim to increase the employability of the students.

Ability Enhancement Courses: These courses are designed to empower students in gaining and showcasing fundamental linguistic abilities, such as critical reading, expository writing, and academic writing skills. These skills assist students in expressing their arguments and communicating their thoughts with clarity.

Multidisciplinary Courses: The Courses those students can choose from different disciplines to enhance their intellectual experience and broaden their knowledge.

Value Added Courses: Value Added Courses impart students with valuable knowledge and skills that complement their core studies

Internship/ Vocational Courses/ Projects: These immersive learning experiences offer students the opportunity to apply their academic knowledge and skills in practical field

AWARDING UG CERTIFICATE, UG DIPLOMA, AND DEGREES

UG CERTIFICATE

Students who opt to exit after completion of the first year and have secured 40 credits will be awarded a UG certificate if, in addition, they complete one vocational course of 4 credits during the summer vacation of the first year. These students are allowed to re-enter the degree programme within three years and complete the degree programme within the stipulated maximum period of seven years.

UG DIPLOMA

Students who opt to exit after completion of the second year and have secured 80 credits will be awarded the UG diploma if, in addition, they complete one vocational course of 4 credits during the summer vacation of the second year. These students are allowed to re-enter (Placeholder1) within a period of three years and complete the degree programme within the maximum period of seven years.

3 YEAR UG DEGREE

Students who wish to undergo a 3-year UG programme will be awarded UG Degree in the Major discipline after successful completion of three years, securing 120 credits and satisfying the minimum credit requirement as given in table 1

4 YEAR UG DEGREE (HONOURS)

A four-year UG Honors degree in the major discipline will be awarded to those who complete a four-year degree programme with 160 credits and have satisfied the credit requirements.

4-YEAR UG DEGREE (HONOURS WITH RESEARCH)

Students who secure 75% marks and above in the first six semesters and wish to undertake research at the undergraduate level can choose a research stream in the fourth year. They should do a research project or dissertation under the guidance of a faculty member of the University/College. The research project/dissertation will be in the major discipline. The students, who secure 160 credits, including 12 credits from a research project/dissertation, are awarded UG Degree (Honours with Research).

SEMESTER –I

Course Category	Course Code	COURSE TITLE	CREDIT HOURS WEEKLY			CREDIT
			L	T	P	
Major Disciplinary courses	PE-10001 PE-10091	History and Foundation of Physical Education Major Games – 1 (Basketball, Badminton, Kabaddi & Kho-Kho)	**2** **0**	**0** **0**	**0** **2**	**4**
Minor Disciplinary courses	PE-12001	Political Science	**0**	**0**	**3**	**3**
Multi Disciplinary courses	PE-13001	Basic and Systemic Anatomy & Physiology	**2**	**1**	**0**	**3**
Ability Enhancement course	AE-14001 AE-14003 AE-14005 AE-14007 AE-14009	AECC-I (Choose anyone) Modern Indian Language (Odia) Modern Indian Language (Hindi) Modern Indian Language (Sanskrit) Modern Indian Language (Santali) Modern Indian Language MIL/English	**2**	**1**	**0**	**3**
Skill Enhancement Course	CS-15001	Information Technology & Communication	**2**	**0**	**1**	**3**
Value added courses	VA-16201	Environment Education and Disaster Mitigation	**3**	**0**	**1**	**4**
						TOTAL 20

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SEMESTER-II

Course Category	Course Code	COURSE TITLE	CREDIT HOURS WEEKLY			CREDITS
			L	T	P	
Major Disciplinary courses	PE-10002	Exercise Physiology	**2**	**0**	**0**	**2**
	PE-10092	Major Games – II (Hockey, Table Tennis, Volley Ball)	**2**	**0**	**0**	**2**
Minor Disciplinary courses	HI-12002	Making of Contemporary India	**3**	**1**	**0**	**4**
Multi Disciplinary courses	PE-13002	Computer Applications in Physical Education	**2**	**1**	**0**	**3**
Ability Enhancement course		AECC-I	**2**	**0**	**0**	**2**
	AE-14002	Translation Studies (Odia)				
	AE-14004	Translation Studies (Hindi)				
	AE-14006	Translation Studies (Sanskrit)				
	AE-14008	Translation Studies (Santali)				
Skill Enhancement Course	PE-15091	(A): Indigenous Activities - II (Light Apparatus, Lezium, Dumbells)	**0**	**0**	**3**	**3**
Value Added Courses- I	VA-16482	Self help and Happiness	**2**	**0**	**0**	**2**
Value added courses- II	VA-16488	Sports and Yoga	**0**	**0**	**2**	**2**
						TOTAL-20

SEMESTER – III

Course Category	Course Code	COURSE TITLE	CREDIT HOURS WEEKLY			CREDITS
			L	T	P	
Major Disciplinary courses	PE-20001	Kinesiology & Sports Biomechanics	**3**	**1**	**0**	**4**
	PE-20003	Methods of Physical Education	**3**	**1**	**0**	**2**
	PE-20091	Major Games III (Cricket, Football, Handball & Tennis) (Practical)	**0**	**0**	**4**	**2**
Minor Disciplinary courses	PO-22001	Political Science	**3**	**1**	**0**	**4**
Multi-Disciplinary courses (compulsory)	PA22001 (M-3)	Food Security Challenges	**2**	**0**	**1**	**3**
Ability Enhancement courses	AE-24001	Communicative English	**1**	**1**	**0**	**2**
Skill Enhancement Course	PE-25092	Indigenous Activity (Lezium, General Fitness & Aerobic Dance) (Practical)	**0**	**0**	**3**	**3**
						TOTAL-20

SEMESTER – IV

Course Category	Course Code	COURSE TITLE	CREDIT HOURS WEEKLY			CREDITS
			L	T	P	
Major Disciplinary courses (compulsory)	PE-20002	Sports Training	**3**	**1**	**0**	**4**
	PE-20004	Test & Measurement in Physical Education	**3**	**1**	**0**	**4**
	PE-20092	Athletics (Track & Field Events) Theory	**0**	**0**	**4**	**4**
	PE-20082	Major Games – I (Basketball, Badminton, Kabaddi & Kho-Kho) (Practical)	**0**	**0**	**2**	**2**
Minor Disciplinary courses	HI-22002	Indian Historiography	**3**	**1**	**0**	**4**
Ability Enhancement courses	AE-24002	Professional Communication	**2**	**0**	**0**	**2**
						TOTAL-20

SEMESTER – V
(Single Major)

Course Category	Course Code	COURSE TITLE	CREDIT HOURS WEEKLY			CREDITS
			L	T	P	
Major Disciplinary courses	PE-30001	Sports Psychology	**3**	**1**	**0**	**4**
	PE-30003	Talent Identification in Sports	**3**	**1**	**0**	**4**
	PE-30005	Sports Injuries and Rehabilitation	**3**	**1**	**0**	**4**
	PE-20091	Major Games – IV (Gymnastics, Swimming & Taekwondo) Practical	**0**	**0**	**6**	**4**
Minor Disciplinary courses	PO-22001	Political Science	**3**	**1**	**0**	**4**
	IP-37081	Internship				
						TOTAL-20

SEMESTER – V
(Double Major)

Course Category	Course Code	COURSE TITLE	CREDIT HOURS WEEKLY			CREDITS
			L	T	P	
Major Disciplinary courses	PE-30001	Sports Psychology	**3**	**1**	**0**	**4**
	PE-30003	Talent Identification in Sports	**3**	**1**	**0**	**4**
	PE-30005	Sports Injuries and Rehabilitation	**3**	**1**	**0**	**4**
	PE-20091	Major Games – IV (Gymnastics, Swimming & Taekwondo) Practical	**0**	**0**	**6**	**4**
Minor Disciplinary courses	PE20093	Officiating Practice	**3**	**1**	**0**	**4**
	PE20095	Coaching Practice	**3**	**1**	**0**	**4**
	PE20097	GYM Management	**3**	**1**	**0**	**4**
	PO-22001	Political Science	**3**	**1**	**0**	**4**
	REP-37081	Internship	**0**	**0**	**2**	**2**
						TOTAL-34

SEMESTER – VI
(Single Major)

Course Category	Course Code	COURSE TITLE	CREDIT HOURS WEEKLY			CREDITS
			L	T	P	
Major Disciplinary courses	PE-30002	Sports Nutrition & Health Education	**3**	**1**	**0**	**4**
	PE-30004	Sports Engineering	**3**	**1**	**0**	**4**
	PE-30006	Sports Journalism	**3**	**1**	**0**	**4**
	PE-20092	Athletics (Track & Field) Practical	**0**	**0**	**4**	**4**
Minor Disciplinary courses	HI-32008	Tribal Culture Heritage and Entrepreneurship	**3**	**1**	**0**	**4**
						TOTAL-20

SEMESTER – VI
(Double Major)

Course Category	Course Code	COURSE TITLE	CREDIT HOURS WEEKLY			CREDITS
			L	T	P	
Major Disciplinary courses	PE-30002	Sports Nutrition & Health Education	**3**	**1**	**0**	**4**
	PE-30004	Sports Engineering	**3**	**1**	**0**	**4**
	PE-30006	Sports Journalism	**3**	**1**	**0**	**4**
	PE-20092	Athletics (Track & Field) Practical	**0**	**0**	**4**	**4**
Minor Disciplinary courses	PE30008	Business laws and Marketing in Sports	**3**	**1**	**0**	**4**
	PE30010	Physical Growth and Development	**3**	**1**	**0**	**4**
	PE30012	Sports Management	**3**	**1**	**0**	**4**
	HI-32008	Tribal Culture Heritage and Entrepreneurship	**3**	**1**	**0**	**4**
						TOTAL-32

SEMESTER – VII
(Single Major)

Course Category	Course Code	COURSE TITLE	CREDIT HOURS WEEKLY			CREDITS
			L	T	P	
Major Disciplinary courses	PE-40001	Sports Medicine	**3**	**1**	**0**	**4**
	PE-40003	Sports Entrepreneurship	**3**	**1**	**0**	**4**
	PE-40005	Sports Technology	**3**	**1**	**0**	**4**
	PE-40007	Adapted Physical Education	**3**	**1**	**0**	**4**
Minor Disciplinary courses	PO-22001	Political Science	**3**	**1**	**0**	**4**
						TOTAL-20

SEMESTER – VII
(Double Major)

Course Category	Course Code	COURSE TITLE	CREDIT HOURS WEEKLY			CREDITS
			L	T	P	
Major Disciplinary courses	PE-40001	Sports Medicine	**3**	**1**	**0**	**4**
	PE-40003	Sports Entrepreneurship	**3**	**1**	**0**	**4**
	PE-40005	Sports Technology	**3**	**1**	**0**	**4**
	PE-40007	Adapted Physical Education	**3**	**1**	**0**	**4**
Minor Disciplinary courses		Political Science	**3**	**1**	**0**	**4**
	HI-40007	World History (1500 CE 1900 CE)	**3**	**1**	**0**	**4**
						TOTAL-24

SEMESTER – VIII
(Single Major without Research)

Course Category	Course Code	COURSE TITLE	CREDIT HOURS WEEKLY			CREDITS
			L	T	P	
Major Disciplinary courses	PE-40002	Research Methodology & Statistics in Physical Education	**3**	**1**	**0**	**4**
	PE-40004	Fitness Management	**3**	**1**	**0**	**4**
	PE-40006	Sports Sociology	**3**	**1**	**0**	**4**
	PE-40008	First Aid & Safety Education	**3**	**1**	**0**	**4**
Minor Disciplinary courses	PO-22001	Political Science	**3**	**1**	**0**	**4**
						TOTAL-20

SEMESTER – VIII
(Single Major with Research)

Course Category	Course Code	COURSE TITLE	CREDIT HOURS WEEKLY			CREDITS
			L	T	P	
Major Disciplinary courses	PE-40002	Research Methodology & Statistics in Physical Education	**3**	**1**	**0**	**4**
Minor Disciplinary courses	HI-42004	Political and Cultural History of Odisha	**3**	**1**	**0**	**4**
Research & Dissertation	RD-40082	Research & Dissertation	**0**	**0**	**12**	**12**
						TOTAL-20

SEMESTER – VIII
(Double Major without Research)

Course Category	Course Code	COURSE TITLE	CREDIT HOURS WEEKLY			CREDITS
			L	T	P	
Major Disciplinary courses	PE-40002	Research Methodology & Statistics in Physical Education	**3**	**1**	**0**	**4**
	PE-40004	Fitness Management	**3**	**1**	**0**	**4**
	PE-40006	Sports Sociology	**3**	**1**	**0**	**4**
	PE-40008	First Aid & Safety Education	**3**	**1**	**0**	**4**
Minor Disciplinary courses	PO-22001	Political Science	**3**	**1**	**0**	**4**
	HI-42004	Political and Cultural History of Odisha	**3**	**1**	**0**	**4**
						TOTAL-24

SEMESTER – VIII
(Double Major with Research)

Course Category	Course Code	COURSE TITLE	CREDIT HOURS WEEKLY			CREDITS
			L	T	P	
Major Disciplinary courses	PE-40002	Research Methodology & Statistics in Physical Education	**3**	**1**	**0**	**4**
Minor Disciplinary courses	PE20094	Major Games : Rugby , Boxing and Judo.	**3**	**1**	**0**	**4**
	HI-42004	Political and Cultural History of Odisha	**3**	**1**	**0**	**4**
Research & Dissertation	RD-40082	Research & Dissertation	**0**	**0**	**12**	**12**
						TOTAL-24

DETAILED SYLLABUS

SEMESTER – I

HISTORY AND FOUNDATION OF PHYSICAL EDUCATION

Course Type: Major Disciplinary Course
Course Code: PE-10001
Credit: 2
L-T-P: 2-0-2
Prerequisite: Nil

COURSE OBJECTIVES:

COURSE OBJECTIVES: In this course the students will learn about :
➢ **The meaning and scope of physical education along with aim & objectives of physical education.**
➢ **The history and background of physical education and sports.**
➢ **The philosophical bases of physical education, fitness and wellness movement through present perspectives of sports & physical education.**
➢ **The biological, sociological and psychological foundations of physical and sports.**

COURSE OUTCOMES:

At the end of the course, the students will be able to:
CO1 - Compare the relationship between general education and physical education.
CO2 - Identify and relate with the History of Physical Education.
CO3 - Comprehend the relationship between Philosophy, Education and Physical Education.
CO4 - Identify the works of Philosophers of Education and Physical Education.
CO5 - Express the recent developments and academic foundation of Physical Education.
CO6 - Explain Sports for all and its role in the maintenance and promotion of fitness.

COURSE CONTENT:

UNIT - I

Introduction to Physical Education
Meaning, Definition and Scope of Physical Education – Aims and Objective of Physical Education - Importance of Physical Education in present era. - Misconceptions about Physical Education.

UNIT - II

Historical Development of Physical Education in India. Vedic Period (2500 BC – 600 BC), Early Hindu Period (600 BC – 320 AD) and Later Hindu Period (320 AD – 1000 AD), Medieval period - Post Mughal British Period (Before 1947) Y.M.C.A. and its contributions. - Physical Education in India (After 1947) - The early history and significant stages in the revival and development of the modern Olympic movement - Educational and cultural values of Olympic movement

UNIT - III

Philosophical Foundation of Physical Education
Philosophical foundation: Idealism, Pragmatism, Naturalism, Realism. - Philosophy and Culture. - Fitness and wellness movement in the contemporary perspectives - Sports for all and its role in the maintenance and promotion of fitness.

UNIT - IV

Foundation of Physical Education
Biological (Growth and development, Age and gender characteristics, Body Types) - Psychological (Attitude, interest, Cognition, emotions and sentiments, Practical suggestion from psychology) - Sociological (Society and culture, Social acceptance and recognition, Leadership in physical education)

TEXTBOOKS:

1. Bucher, C. A. (n.d.) - Foundation of physical education. St. Louis: The C.V. Mosby Co.
2. Deshpande, S. H. (2014) - Physical Education in Ancient India. Amravati: Degree college of Physical education.

REFERENCE BOOKS:

1. Dash, B.N. (2003.) – Principles of Education, Neelkamal publication, Hyderabad.
2. Kamlesh, M.L. (2002) – Sociological Foundation of Physical Education, Metropolitan Book Co. Pvt. Ltd., Delhi.
3. Pandey, R.S. (1991) – Philosophical & Sociological Foundation of Education, Vinod Pustak Mandir, Agra.
4. Bhatia, K.K. & Narang, C.L. (1984.) – Philosophical & Sociological Bases of Education, Prakash Bros., Ludhiana.
5. Adams, William C. (1991.) – Foundation of Physical Education Exercises and Sports Sciences, Lea and Febiger, Philadelphia.
6. Dr. Kamlesh M.L. (2004) – Principles and History of Physical Education and Sports, Friends Publication (India), New Delhi.
7. Dr. B.C. Kapri – Fundamentals of Physical Education, Friends Publication, Delhi (India).

MAJOR GAMES – I

(BASKETBALL, BADMINTON, KABADDI & KHO-KHO)

Course Type: Major Disciplinary Course
Course Code: PE-100091
Credit: 2
L-T-P: 0-0-2
Prerequisite: Nil

COURSE OBJECTIVES:

In this course students will know about:
The history and development of the prescribed games.
The basic field areas and their measurement in these games.
The fundamental skill and techniques of the game and their tests.
Organization of tournaments, competitions at local, national and international standards.
The rules, regulations and officiating of the games.

COURSE OUTCOMES:

At the end of the course, the students will be able to:
CO1:- Explain the history and development of the games.
CO2: Mark the field measurements of the given games.
CO3: Demonstrate different skills of the game and coach the students.
CO4: Interpret the rules and regulations of the game while officiating.
CO5: Organise competitions from lower to higher levels.
CO6: Employ themselves as referee, umpire, scorer, curator and selector.

COURSE CONTENT:

Course Title: Major Games – I (Basketball, Badminton, Kabaddi & Kho-Kho) Practical

1. History and development of the game at international and national level
2. Dimensions and marking of playing area
3. Basic requirements of the playing area
4. Fundamental skills of the game
5. Skill tests, scoring and arrangement of the skill tests
6. National and international organizations/federations of the game
7. Rules of the game with their interpretations
8. Team selection and coaching in that game
9. Officiating: referee, umpire, scorer and curatorship for self-employment

Basketball:
Fundamental skills include dribbling for ball control, passing (chest, bounce, overhead), shooting (set shot, lay-up, jump shot), rebounding to gain possession, defensive stance and blocking, and proper footwork for balance and movement during offense and defense.

Badminton:
Basic skills include forehand and backhand grip, short and long serve, clear, drop, smash and net shots, along with quick footwork for court coverage and maintaining rally control.

Kabaddi:
Skills include raiding techniques, cant, hand and toe touch, bonus line, blocking, chain defense, and escape techniques for scoring and defense.

Kho-Kho:
Skills include sitting posture, giving kho, chasing, dodging, direction change, chain movement, and tagging techniques for effective gameplay.

POLITICAL SCIENCE

Course Type: Minor-Disciplinary Course
Course Code: PE-12001
Credit: 3
L-T-P: 0-0-3
Prerequisite: Nil KISS Subject

BASIC AND SYSTEMIC ANATOMY & PHYSIOLOGY

Course Type: Multi-Disciplinary Course
Course Code: PE-13001
Credit: 3
L-T-P: 2-1-0
Prerequisite: Nil

COURSE OBJECTIVES:

In this course the students will acquire knowledge on:
The basic anatomy and physiology of human body
The skeletal systems, bones and joints in relation to human movements
The structure, function and classification of muscular system and their contractions and relaxation during physical activity
Structural and functional aspects of circulatory and respiratory systems while performing physical activity
Structural and functional mechanism of digestive system, nervous system and excretory system

COURSE OUTCOMES:

At the end of the course, the students will be able to:
CO1 – Explain the basic structure and function of human body by identifying, comparing and relating different systems, organs and their functional and structural units.
CO2 – Relate and interpret the role of exercise on body systems and its relation to well-being through literature reviews and physical conditioning exercises.
CO3 – Apply knowledge of anatomy and physiology in physical activity classes at school level.
CO4 – Construct anatomy and physiology related pedagogical materials using creativity and technology.
CO5 – Analyse the metabolic relationship between organic systems of the body.
CO6 – Guide students regarding physiological changes in the body during physical activities and sports.

COURSE CONTENT:

UNIT – I

Introduction to Anatomy and Physiology in Physical Education - Structural and functional demonstration of human cell - Skeletal system: classification and functions - Anatomical terms related to body movements - Structure and types of bones and joints in human body.

UNIT – II

Structure and function of muscles - Major classifications of muscles - Types of muscular contractions (Isotonic, Isometric, Isokinetic) and their roles in physical activity - Agonist and antagonist muscles - Muscle imbalance.

UNIT – III

Circulatory system: structure and function - Stroke volume, cardiac output and cardiac index - Respiratory system: structure and organization - External and internal respiration.

UNIT – IV

Digestive system and excretory system: structure and function - Nervous system classification based on structure and function.

TEXTBOOKS:

1. Foss, M. L., Keteyian, S. J. & Fox, E. L. (1998) – Fox's Physiological Basis for Exercise and Sport, McGraw-Hill.
2. Davidson, D.S. & Morgan, B. (2002) – Human Body Revealed, Dorling Kindersley.

REFERENCE BOOKS:

1. APPUSERIES (2012) – Human Body Works (Video Series)
2. Bannister, L.H. et al. (2000) – Gray's Anatomy, Churchill Livingstone
3. Boone, T. (2014) – Exercise Physiology, Jones & Bartlett Learning
4. e-learning for kids – Body Parts (Online Resource)
5. Get Body Smart (2016) – Human Anatomy & Physiology Resource
6. Jam Campus (2018) – Cell Structure Educational Video

SEMESTER – II

EXERCISE PHYSIOLOGY

Course Type: Major Disciplinary Course
Course Code: PE-10002
Credit: 2
L-T-P: 2-0-2
Prerequisite: Nil

COURSE OBJECTIVES

Course Objectives:

1. Understanding Physiological Responses: To provide students with knowledge of how the human body responds and adapts to physical activity and exercise.
2. Energy Systems: To develop an understanding of the metabolic pathways that supply energy during exercise, including aerobic and anaerobic systems.
3. Cardiovascular and Respiratory Systems: To study the acute and chronic effects of exercise on the cardiovascular and respiratory systems.
4. Muscle Function: To explore the structure, function, and adaptations of skeletal muscles during physical activity.
5. Thermoregulation and Environment: To examine the mechanisms of body temperature regulation and the effects of environmental factors on exercise performance.
6. Exercise and Health: To understand the role of physical activity in promoting health and preventing diseases.
7. Performance Enhancement: To discuss methods to improve athletic performance, including training principles, nutrition, and recovery strategies.

COURSE OUTCOMES :

At the end of the course, the students will be able to:
CO1 – Explain Physiological Mechanisms: Demonstrate an understanding of the physiological mechanisms underlying exercise and physical activity.
CO2 – Analyze Energy Systems: Analyze and differentiate between various energy systems and their application during different intensities and durations of exercise.
CO3 – Assess Body Adaptations: Evaluate the short-term and long-term adaptations of the cardiovascular, respiratory, and musculoskeletal systems to exercise.
CO4 – Apply Knowledge in Training: Utilize physiological principles to design effective training programs tailored to different fitness goals and populations.
CO5 – Integrate Health and Exercise: Explain the role of exercise in preventing and managing lifestyle diseases such as obesity, diabetes, and cardiovascular diseases.
CO6 – Conduct Fitness Assessments: Perform and interpret fitness assessments and exercise testing protocols.
CO7 – Adapt to Environmental Factors: Demonstrate knowledge of how factors like altitude, temperature, and humidity influence exercise performance and recovery.
CO8 – Research and Critical Thinking: Apply critical thinking skills to interpret scientific literature and emerging research in exercise physiology.

COURSE CONTENT:

Unit–I: Functional Adaptations to Exercise
Hormonal control during exercise, exercise and neuromuscular system, metabolic adaptations to exercise, cardio-respiratory changes, and effects of exercise and training on health and fitness.

Unit–II: Energy Continuum and Recovery Process
Metabolism and exercise, recovery from exercise, replenishment of energy stores during recovery process, removal of excess lactic acid produced during exercise, and restoration of myoglobin oxygen stores.

Unit–III: Exercise in Hot and Cold Environment
Body temperature regulation, physiological responses to exercise in heat, acclimatization to heat, physiological responses to exercise in cold, and health risks during exercise in cold conditions.

Unit–IV: Altitude, Aging and Ergogenic Aids
Exercise performance at altitude, physiological responses to acute altitude exposure, chronic altitude exposure and acclimatization, age-related changes and exercise, and ergogenic aids in physical activity.

Textbooks:

1. Robert A. Robergs, Scott O. Roberts (2000), Fundamental Principles of Exercise Physiology for Fitness, Performance, and Health.
2. Dr. Sandhya Tiwari (2006), Exercise Physiology.

Reference Books:

1. W. Larry Kenney, Jack H. Wilmore, David L. Costill (2012), Physiology of Sports and Exercise.
2. Larry G. Shaver (1982), Essentials of Exercise Physiology.
3. M. Dena Gardiner (1985), The Principles of Exercise Therapy.
4. Edward L. Fox, Richard W. Bowers, Merle L. Foss (1981), The Physiological Basis of Physical Education and Athletics.
5. Michael S. Bahrke, Charles E. Yesalis (2002), Performance-Enhancing Substances in Sport and Exercise.

MAJOR GAMES – II

(HOCKEY, TABLE TENNIS & VOLLEYBALL)

Course Type: Major Disciplinary Course
Course Code: PE-100092
Credit: 2
L-T-P: 0-0-2
Prerequisite: Nil

COURSE OBJECTIVES:

In this course students will know about the history and development of the prescribed games, the basic field areas and their measurements, the fundamental skills and techniques of the games and their testing methods, the organization of tournaments and competitions at local, national and international levels, and the rules, regulations, and officiating of the games.

COURSE OUTCOMES:

At the end of the course, the students will be able to explain the history and development of the games, mark and understand the field measurements, demonstrate different skills and coach students, interpret rules and regulations during officiating, organize competitions from lower to higher levels, and work as referees, umpires, scorers, curators, and selectors.

COURSE CONTENT (WITH BASIC SKILLS):

Hockey, Table Tennis, and Volleyball at national and international levels, along with dimensions and marking of playing areas and basic requirements of each game. Students will learn fundamental skills of each game along with practical training and evaluation.

Hockey, fundamental skills include dribbling, passing, trapping, shooting, tackling, and goalkeeping.

Table Tennis, skills include grip, service, push, drive, chop, smash, and footwork. In

Volleyball, basic skills include underhand and overhand service, passing, setting, spiking, blocking, and digging.

MAKING OF CONTEMPORARY INDIA

Course Type: Minor Disciplinary Course
Course Code: HI 12002
Credit: 4
L-T-P: 3-1-0
Prerequisite: Ni

COMPUTER APPLICATIONS IN PHYSICAL EDUCATION

Course Type: Multi Disciplinary Course
Course Code: PE-13002
Credit: 3
L-T-P: 2-0-1
Prerequisite: Nil

COURSE OBJECTIVES:

In this course the students will be able to learn about:

1. Use of computers in the field of physical education and sports.
2. The word processing and its accessory areas.
3. The spreadsheet programme i.e. Microsoft Excel, creating formulas and format and editing features for charting data and alike.
4. The presentation software i.e. Microsoft PowerPoint, PPT files, slide shows and alike.
5. The enhancement of pictures, graphs, and tables for finalizing a presentation.

COURSE OUTCOMES:

At the end of the course, the students will be able to:

CO1: Be oriented with the basic knowledge of computer applications to be applied in physical education.
CO2: Apply software systems used in physical education and sports.
CO3: Get started with Microsoft Excel including creating, saving, and opening spreadsheets.
CO4: Utilize PowerPoint for creating and opening PPT files.
CO5: Format and edit slide shows, design presentations, and insert slide numbers while organizing sports information.
CO6: Gather, store, and process large information related to inputs, outputs, and feedback of sports training programmes.

COURSE CONTENT:

Unit-I: Introduction to Computer
This unit covers Information and Communication Technology (ICT), application of computers in physical education and sports, components of computer systems including input and output devices, and commonly used application software in the field of sports and physical education.

Unit-II: Word Processing
This unit includes introduction to Microsoft Word, creating, saving and opening documents, formatting and editing features, drawing tables, page setup, paragraph alignment, spelling and grammar check, printing options, and insertion of page numbers, graphs and footnotes.

Unit-III: Spreadsheet Program
This unit focuses on Microsoft Excel including creating, saving and opening spreadsheets, using formulas, and applying formatting and editing tools for organizing and charting sports-related data.

Unit-IV: Presentation Software
This unit includes Microsoft PowerPoint, creating, saving and opening PPT files, slide design and formatting, inserting slide numbers, enhancing pictures, graphs and tables, and preparing final presentations for academic and sports-related use.

BASIC KNOWLEDGE

The basic knowledge of Computer Applications in Physical Education includes understanding the role of **computers in sports and physical education** and the concept of **Information and Communication Technology (ICT)**. Students learn about the **basic components of a computer system** such as input and output devices and the use of **application software in sports management**. It also covers fundamentals of **Microsoft Word (word processing)**, **Microsoft Excel (spreadsheets)**, and **Microsoft PowerPoint (presentations)**. This knowledge helps in **storing, organizing, analyzing, and presenting sports-related information** effectively in teaching, training, and administration.

INDIGENOUS ACTIVITIES – I

(LIGHT APPARATUS, LEZIUM, DUMBBELLS)

Course Type: Skill Enhancement Course
Course Code: PE-15091
Credit: 3
L-T-P: 0-0-3
Prerequisite: Nil

COURSE OBJECTIVES:

The course aims to:

1. Introduce students to traditional Indian fitness activities using light apparatus.
2. Develop physical fitness, coordination, and rhythmic movement skills.
3. Enhance knowledge of indigenous exercise techniques and their historical significance.
4. Improve students' strength, endurance, and flexibility through structured training.
5. Promote teamwork, discipline, and cultural awareness through indigenous activities.

COURSE OUTCOMES:

Upon successful completion of the course, the students will be able to:

CO1: Demonstrate proficiency in performing exercises using Lezium, dumbbells, and other light apparatus.
CO2: Understand the principles, techniques, and benefits of indigenous fitness activities.
CO3: Develop improved physical fitness including strength, agility, endurance, and flexibility.
CO4: Apply indigenous exercises for personal fitness development and basic coaching practice.
CO5: Recognize the cultural and historical relevance of traditional Indian physical training methods.
CO6: Demonstrate leadership, coordination, and communication skills in group activities.

DETAILED PRACTICAL SYLLABUS:

Introduction and Basic Techniques:
Warming-up exercises before indigenous activities. Importance of correct posture, grip, stance, and breathing techniques in all exercises.

Lezium Practical Training:
Basic movements include Aavartan, Kadam Taal, Char Aavartan, and Bethak Chaal. Advanced movements include single-hand and double-hand swings, circular and rotational movements. Group formations such as circle, line, and square with rhythmic coordination using music beats.

Dumbbells Practical Training:
Basic drills include shoulder press, biceps curl, lateral raise, and overhead press. Traditional movements include single and double-hand swings, arm rotations, and dumbbell jumps. Circuit training methods are used for strength and muscular endurance development.

Light Apparatus Training (Wands & Indian Clubs):
Arm swings, circular movements, figure-eight drills, and coordination exercises. Synchronization of movements with rhythm and music to improve timing and control.

SEMESTER - III

KINESIOLOGY & SPORTS BIOMECHANICS

Course Type: Major Disciplinary Course
Course Code: PE20001
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Human Anatomy & Physiology

Course Objectives

1. To understand the fundamental principles of kinesiology and human movement.
2. To develop knowledge of biomechanical concepts applied in sports performance.
3. To analyze human motion using mechanical principles.
4. To study forces and their effects on the human body during physical activity.
5. To improve skill performance through biomechanical analysis.
6. To apply biomechanical principles in injury prevention and rehabilitation.

Course Outcomes

- **CO1:** Explain basic concepts of kinesiology and biomechanics.
- **CO2:** Analyze human movement using mechanical laws and principles.
- **CO3:** Evaluate sports techniques using biomechanical tools.
- **CO4:** Apply knowledge of force, motion, and equilibrium in sports activities.
- **CO5:** Identify biomechanical causes of sports injuries and suggest preventive measures.
- **CO6:** Demonstrate improved performance through biomechanical corrections.

Course Content

Unit I:
Introduction to kinesiology and sports biomechanics including definition, importance, and scope. Study of planes and axes of human movement, types of joints, and muscle actions. Understanding of fundamental movements such as flexion, extension, abduction, and rotation in sports activities.

Unit II:
Mechanical concepts such as force, motion, inertia, acceleration, velocity, and momentum. Application of Newton's laws of motion in sports. Study of types of forces (internal and external) and their effects on human movement and performance.

Unit III:
Analysis of human movement including kinematics and kinetics. Concepts of balance, stability, center of gravity, and equilibrium. Application of biomechanical principles in walking, running, jumping, and throwing activities.

Unit IV:
Biomechanical analysis of sports skills and techniques. Role of biomechanics in injury prevention and rehabilitation. Use of modern tools and technology in motion analysis and performance enhancement in sports.

Text Books

1. Hall, S. J. – Basic Biomechanics
2. McGinnis, P. M. – Biomechanics of Sport and Exercise
3. Uppal, A. K. – Kinesiology and Biomechanics

Reference Books

1. Knudson, D. – Fundamentals of Biomechanics
2. Bartlett, R. – Introduction to Sports Biomechanics
3. Norkin, C. & Levangie, P. – Joint Structure and Function
4. Bunn, J. W. – Scientific Principles of Coaching
5. Dyson, G. – The Mechanics of Athletics
6. Wickstrom, R. – Fundamental Motor Patterns

METHODS OF PHYSICAL EDUCATION

Course Type: Major Disciplinary Course
Course Code: PE20003
Credits: 2
L-T-P: 2-0-0
Prerequisite: Basic understanding of Physical Education and Sports

Course Objectives

1. To understand the concept and importance of teaching methods in physical education.
2. To develop knowledge of various teaching techniques and styles.
3. To enhance lesson planning and class management skills.
4. To understand the role of demonstration and explanation in teaching.
5. To apply different methods for effective skill development.
6. To improve communication and instructional abilities in physical education.

Course Outcomes

- **CO1:** Explain the principles and methods of teaching physical education.
- **CO2:** Demonstrate effective teaching techniques in practical situations.
- **CO3:** Design structured lesson plans for physical education classes.
- **CO4:** Apply appropriate teaching methods for different age groups and skills.
- **CO5:** Evaluate teaching effectiveness and improve instructional strategies.
- **CO6:** Develop professional competencies in managing physical education classes.

Course Content

Unit I:
Introduction to methods of physical education including meaning, scope, and importance. Principles of teaching physical education and qualities of a good teacher. Types of teaching methods such as command method, demonstration method, and imitation method in physical education.

Unit II:
Lesson planning in physical education including types of lesson plans, aims, and objectives. Structure of a lesson plan with introduction, warming-up, main activity, and cooling down. Class organization, time management, and use of teaching aids.

Unit III:
Teaching techniques and class management strategies. Methods of instruction such as whole method, part method, and progressive method. Importance of demonstration, explanation, and feedback in skill learning. Role of motivation and discipline in physical education classes.

Unit IV:
Evaluation and supervision in physical education. Methods of assessment and testing. Modern teaching aids and technology in physical education. Role of a teacher in inclusive education and adapting methods for different learners and abilities.

Text Books

1. Bucher, C. A. – Foundations of Physical Education
2. Wuest, D. & Bucher, C. – Foundations of Physical Education and Sport
3. Sharma, O. P. – Teaching Methods in Physical Education

Reference Books

1. Zeigler, E. F. – History and Principles of Physical Education
2. Bucher, C. A. – Administration of Physical Education
3. Lumpkin, A. – Introduction to Physical Education, Exercise Science and Sport Studies
4. Rink, J. E. – Teaching Physical Education for Learning
5. Mosston, M. & Ashworth, S. – Teaching Physical Education
6. Siedentop, D. – Introduction to Physical Education, Fitness and Sport
7. Pangrazi, R. P. – Dynamic Physical Education
8. Uppal, A. K. – Physical Education and Sports

MAJOR GAMES – III
(CRICKET, FOOTBALL, HANDBALL & TENNIS)

Course Type: Major Disciplinary Course (Practical)
Course Code: PE20003
Credits: 2
L-T-P: 0-0-4
Prerequisite: Basic knowledge of physical fitness and fundamental motor skill

Major Games – III (Cricket, Football, Handball & Tennis)

Course Objectives

1. To develop fundamental skills of major games.
2. To understand rules and techniques of different sports.
3. To improve coordination, agility, and teamwork.
4. To enhance physical fitness through game participation.
5. To develop game strategies and decision-making skills.
6. To promote sportsmanship and fair play.

Course Outcomes

- **CO1:** Demonstrate basic skills in cricket, football, handball, and tennis.
- **CO2:** Apply rules and regulations during gameplay.
- **CO3:** Perform game-specific techniques with proper coordination.
- **CO4:** Develop teamwork and communication skills.
- **CO5:** Improve physical fitness through regular practice.
- **CO6:** Exhibit sportsmanship and ethical behavior in games.

Basic Skills of All Games

C**ricket**, the fundamental skills include batting, bowling, and fielding. Batting requires proper grip, stance, footwork, and timing to execute shots like straight drive, cover drive, pull, and cut. Bowling involves correct run-up, body alignment, and release techniques for pace, swing, and spin bowling. Fielding skills such as catching (high catch, slip catch), ground fielding, and accurate throwing are essential for saving runs and taking wickets. Wicket-keeping also includes specialized skills like stumping and quick reflex catching.

F**ootball**, players develop skills such as dribbling, passing, receiving, shooting, and heading. Dribbling helps maintain ball control while moving past opponents. Passing includes short, long, and through passes to maintain possession. Shooting techniques focus on accuracy, placement, and power. Defensive skills like tackling, intercepting, and marking are also important. Goalkeeping involves catching, diving, and positioning. Team coordination and tactical awareness play a crucial role in performance.

H**andball**, key skills include passing, catching, dribbling, shooting, and defending. Players practice different passes like chest pass, bounce pass, and overhead pass. Dribbling helps in advancing the ball while avoiding defenders. Shooting techniques include jump shot, underarm shot, and sidearm shot. Defensive skills such as blocking, marking, and interception are essential. Quick decision-making and coordination are important for effective game play.

T**ennis**, basic skills involve grip (eastern, western), stance, and strokes like forehand, backhand, serve, and volley. Players learn proper footwork for balance and positioning. Serving includes toss, swing, and follow-through for accuracy and power. Rallying helps improve consistency and control. Additional skills include smash, drop shot, and lob. Understanding court positioning and basic strategies enhances performance.

Overall, these games improve agility, coordination, strength, endurance, and teamwork, while also developing discipline, concentration, and sportsmanship among players.

POLITICAL SCIENCE

Course Type: Minor Disciplinary Course
Course Code: PO22001
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic understanding of Social Science / Civics

Course Objectives

1. To introduce the basic concepts and theories of political science.
2. To develop understanding of political systems and governance.
3. To study the structure and functions of government institutions.
4. To analyze the role of constitution and law in society.
5. To understand political ideologies and their impact.
6. To promote awareness of rights, duties, and democratic values.

Course Outcomes

- **CO1:** Explain key concepts and theories of political science.
- **CO2:** Describe the structure and functions of political institutions.
- **CO3:** Analyze the Indian Constitution and governance system.
- **CO4:** Evaluate different political ideologies and systems.
- **CO5:** Understand citizen rights, duties, and democratic participation.
- **CO6:** Develop critical thinking on political issues and policies.

Course Content

Unit I:
Introduction to Political Science including meaning, nature, scope, and importance. Study of basic concepts such as state, nation, sovereignty, power, authority, and legitimacy. Understanding the evolution of political thought and the role of political science in modern society.

Unit II:
The Constitution of India including its features, preamble, fundamental rights, and duties. Structure and functions of the Union Government including Legislature, Executive, and Judiciary. Concept of federalism and center-state relations.

Unit III:
Political ideologies such as liberalism, socialism, democracy, and secularism. Study of political parties, pressure groups, and electoral process in India. Role of media and public opinion in shaping political behavior.

Unit IV:
Contemporary issues in political science including globalization, human rights, and governance. Public administration and policy-making process. Role of citizens in democracy and challenges faced by modern political systems.

Text Books

1. Laxmikanth, M. – Indian Polity
2. O. P. Gauba – An Introduction to Political Theory
3. V. D. Mahajan – Political Theory

Reference Books

1. D. D. Basu – Introduction to the Constitution of India
2. B. L. Fadia – Indian Government and Politics
3. Andrew Heywood – Politics
4. Andrew Heywood – Political Theory
5. Rajni Kothari – Politics in India
6. Subhash Kashyap – Our Constitution
7. Granville Austin – The Indian Constitution
8. Amal Ray & Mohit Bhattacharya – Political Theory
9. A. C. Kapur – Principles of Political Science

FOOD SECURITY CHALLENGE

Course Type: Multi Disciplinary Course (M3)
Course Code: PA22001
Credits: 3
L-T-P: 3-0-0
Prerequisite: Basic understanding of Environment, Agriculture, and Society

Course Objectives

1. To understand the concept and dimensions of food security.
2. To analyze causes of food insecurity at global and national levels.
3. To study agricultural systems and food production challenges.
4. To explore policies and programs related to food security.
5. To examine the role of technology and sustainability in food production.
6. To develop awareness about nutrition, hunger, and food distribution systems.

Course Outcomes

- **CO1:** Explain the concept and components of food security.
- **CO2:** Identify major causes of hunger and malnutrition.
- **CO3:** Analyze agricultural and environmental challenges affecting food supply.
- **CO4:** Evaluate government policies and food security programs.
- **CO5:** Understand sustainable practices for improving food production.
- **CO6:** Develop critical awareness of global and national food issues.

Course Content

Unit I:
Introduction to food security including meaning, importance, and dimensions such as availability, accessibility, utilization, and stability. Overview of global and Indian food security scenario. Causes of hunger, poverty, and malnutrition affecting different populations.

Unit II:
Agricultural systems and food production including traditional and modern farming methods. Role of irrigation, fertilizers, and technology in increasing productivity. Challenges such as climate change, soil degradation, and water scarcity affecting agriculture.

Unit III:
Food distribution systems and policies including Public Distribution System (PDS), food subsidy, and government schemes. Role of national and international organizations in ensuring food security. Issues related to food storage, transportation, and wastage.

Unit IV:
Sustainable food security practices including organic farming, sustainable agriculture, and food management. Role of nutrition and balanced diet in health. Emerging challenges such as population growth, globalization, and environmental sustainability.

Text Books

1. Swaminathan, M. S. – Food Security and Sustainable Development
2. Dreze, J. & Sen, A. – Hunger and Public Action
3. Sinha, S. – Food Security in India
4. Gupta, R. – Food and Nutrition Security

Reference Books

1. Amartya Sen – Poverty and Famines
2. FAO – State of Food Security and Nutrition in the World
3. World Bank – Food Security Reports
4. IFPRI – Global Food Policy Report
5. Pinstrup-Andersen, P. – Food Policy for Developing Countries
6. Government of India – Economic Survey (Food Security Chapter)
7. UNDP – Human Development Report
8. World Food Programme – Hunger and Food Security Reports.

COMMUNICATIVE ENGLISH

Course Type: Ability Enhancement Course
Course Code: PE24001
Credits: 2
L-T-P: 2-0-0
Prerequisite: Basic knowledge of English language

Course Objectives

1. To develop basic communication skills in English.
2. To improve listening, speaking, reading, and writing abilities.
3. To enhance vocabulary and grammar usage in daily communication.
4. To build confidence in public speaking and presentations.
5. To develop professional communication skills for academic and workplace contexts.
6. To improve overall personality and interpersonal communication skills.

Course Outcomes

- **CO1:** Demonstrate effective communication skills in English.
- **CO2:** Apply appropriate grammar and vocabulary in communication.
- **CO3:** Improve listening and comprehension abilities.
- **CO4:** Develop confidence in speaking and presentation skills.
- **CO5:** Write clear and structured paragraphs, letters, and reports.
- **CO6:** Exhibit professional communication in academic and social contexts.

Course Content

Unit I:
Basics of communication including meaning, process, types, and barriers. Introduction to English language skills such as listening, speaking, reading, and writing (LSRW). Importance of effective communication in personal and professional life.

Unit II:
Grammar and vocabulary development including parts of speech, tenses, sentence formation, and common errors. Building vocabulary through word formation, synonyms, antonyms, and usage in daily communication.

Unit III:
Speaking and listening skills including pronunciation, fluency, and confidence building. Group discussion, public speaking, presentations, and interview skills. Listening comprehension through audio-visual materials.

Unit IV:
Writing skills including paragraph writing, letter writing, report writing, and email writing. Professional communication and etiquette. Use of modern communication tools and digital communication skills.

Text Books

1. Wren & Martin – High School English Grammar and Composition
2. Raymond Murphy – Essential English Grammar in Use
3. Sanjay Kumar & Pushp Lata – Communication Skills
4. Krishna Mohan & Meera Banerji – Developing Communication Skills

Reference Books

1. Bansal, R. K. & Harrison, J. B. – Spoken English
2. Daniel Jones – English Pronouncing Dictionary
3. Dale Carnegie – The Art of Public Speaking
4. Leech & Svartvik – A Communicative Grammar of English
5. John Seely – Oxford Guide to Effective Writing and Speaking
6. Michael Swan – Practical English Usage
7. Geoffrey Leech – Meaning and the English Verb
8. Hornby, A. S. – Oxford Advanced Learner's Dictionary
9. David Crystal – The Cambridge Encyclopedia of the English Language
10. Gerson, S. J. & Gerson, S. M. – Technical Writing: Process and Product

INDIGENOUS ACTIVITY
(LEZIUM, GENERAL FITNESS & AEROBIC DANCE)

Course Type: Skill Enhancement Course (Practical)
Course Code: PE25091
Credits: 3
L-T-P: 0-0-6
Prerequisite: Basic physical fitness and interest in physical activities.
Indigenous Activity (Lezium, General Fitness & Aerobic Dance)

Course Objectives

1. To develop physical fitness through indigenous and modern activities.
2. To understand the techniques of Lezium, aerobic dance, and fitness exercises.
3. To improve coordination, rhythm, and body balance.
4. To promote cultural awareness through traditional activities like Lezium.
5. To enhance endurance, flexibility, and strength.
6. To develop interest in recreational and fitness activities.

Course Outcomes

- **CO1:** Demonstrate basic skills of Lezium, aerobic dance, and fitness exercises.
- **CO2:** Perform rhythmic movements with coordination and balance.
- **CO3:** Apply proper techniques in general fitness activities.
- **CO4:** Improve physical fitness components such as strength and endurance.
- **CO5:** Exhibit synchronization and group performance skills.
- **CO6:** Develop a positive attitude towards health and fitness activities.

Basic Skills

Lezium, basic skills include handling the lezium instrument, maintaining rhythm, and performing coordinated movements with music. Students learn fundamental steps such as marching, swinging, bending, and synchronized group formations. Emphasis is given on timing, body posture, and coordination with beats, which enhances rhythmic sense and cultural expression.

General fitness activities, basic skills involve exercises that improve strength, endurance, flexibility, and agility. These include warm-up exercises, stretching, free-hand exercises, and conditioning drills such as push-ups, sit-ups, squats, and running. Proper body alignment, breathing techniques, and regular practice are important for achieving overall fitness and preventing injuries.

Aerobic dance, fundamental skills include basic dance steps, rhythm, coordination, and continuous body movement to music. Students practice steps like marching, grapevine, step-touch, and jumping movements combined with arm actions. Aerobic dance improves cardiovascular endurance, flexibility, and coordination. It also emphasizes timing, flow of movement, and group synchronization.

Overall, these activities help in developing physical fitness, coordination, rhythm, and teamwork while promoting an active and healthy lifestyle.

SEMESTER - IV

SPORTS TRAINING

Course Type: Major Disciplinary Course (Compulsory)
Course Code: PE20002
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Physical Education and Fitness

Course Objectives

1. To understand the principles and concepts of sports training.
2. To develop knowledge of training methods and techniques.
3. To improve physical fitness components through scientific training.
4. To study planning and periodization in sports training.
5. To analyze the role of psychology and nutrition in training.
6. To enhance performance through systematic training programs.

Course Outcomes

- **CO1:** Explain the basic principles and concepts of sports training.
- **CO2:** Apply different training methods for performance improvement.
- **CO3:** Design training programs based on scientific principles.
- **CO4:** Analyze physical fitness components in sports training.
- **CO5:** Understand the role of nutrition and psychology in training.
- **CO6:** Evaluate and monitor athlete performance effectively.

Course Content

Unit I:
Introduction to sports training including meaning, aims, and principles. Components of physical fitness such as strength, endurance, speed, flexibility, and coordination. Basic concepts of load, adaptation, recovery, and overtraining in sports training.

Unit II:
Methods of training including continuous training, interval training, circuit training, and fartlek training. Development of strength, endurance, speed, and flexibility through different exercises. Importance of warm-up and cool-down in training sessions.

Unit III:
Training planning and periodization including micro, meso, and macro cycles. Principles of training load, intensity, volume, and frequency. Monitoring and evaluation of training programs and performance.

Unit IV:
Role of psychology and nutrition in sports training. Mental preparation, motivation, and stress management. Importance of balanced diet, hydration, and recovery techniques. Prevention of injuries and rehabilitation in sports.

Text Books

1. Dick, F. W. – Sports Training Principles
2. Bompa, T. O. – Theory and Methodology of Training
3. Uppal, A. K. – Principles of Sports Training

Reference Books

1. Matveyev, L. P. – Fundamentals of Sports Training.
2. Harre, D. – Principles of Sports Training.
3. Fox, E. L. – Physiological Basis of Physical Education.
4. Wilmore, J. H. & Costill, D. L. – Physiology of Sport and Exercise.
5. Baechle, T. R. & Earle, R. W. – Essentials of Strength Training and Conditioning.
6. Tudor Bompa – Periodization Training for Sports.
7. Brooks, G. A. – Exercise Physiology.
8. Astrand, P. O. – Textbook of Work Physiology.
9. Pyke, F. S. – Better Coaching.
10. Bompa, T. & Haff, G. – Periodization: Theory and Methodology of Training.

TEST & MEASUREMENT IN PHYSICAL EDUCATION

Course Type: Major Disciplinary Course (Compulsory)
Course Code: PE20003
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Physical Education and Statistics

Course Objectives

1. To understand the concept and importance of test and measurement.
2. To develop knowledge of various physical fitness and skill tests.
3. To learn methods of data collection and evaluation.
4. To understand reliability, validity, and objectivity of tests.
5. To apply measurement techniques in sports performance.
6. To interpret test results for performance improvement.

Course Outcomes

- **CO1:** Explain the concepts of test, measurement, and evaluation.
- **CO2:** Conduct physical fitness and skill tests effectively.
- **CO3:** Apply principles of reliability, validity, and objectivity.
- **CO4:** Analyze and interpret test data accurately.
- **CO5:** Use appropriate measurement tools in physical education.
- **CO6:** Evaluate performance and suggest improvements.

Course Content

Unit I:
Introduction to test, measurement, and evaluation including meaning, need, and importance. Principles of measurement such as validity, reliability, and objectivity. Types of tests and criteria for selecting appropriate tests in physical education.

Unit II:
Physical fitness tests including strength, endurance, speed, flexibility, and agility tests. Administration of standard tests such as AAHPER and Cooper test. Procedure, scoring, and interpretation of results.

Unit III:
Skill tests in various sports and games. Anthropometric measurements such as height, weight, and body composition. Collection of data, tabulation, and graphical representation of results.

Unit IV:
Statistical techniques in physical education including mean, median, mode, and standard deviation. Interpretation of data and evaluation of performance. Use of test results in improving training and performance.

Text Books

1. Barrow, H. M. & McGee, R. – A Practical Approach to Measurement in Physical Education
2. Mathews, D. K. – Measurement in Physical Education

Reference Books

1. Clarke, H. H. – Application of Measurement in Physical Education
2. Safrit, M. J. – Evaluation in Physical Education
3. Baumgartner, T. A. – Measurement for Evaluation in Physical Education
4. Miller, D. K. – Measurement by the Physical Educator
5. Cooper, K. H. – Aerobics Program for Total Well-Being
6. Verma, J. P. – Statistics in Physical Education
7. Garrett, H. E. – Statistics in Psychology and Education
8. Best, J. W. – Research in Education
9. Singh, H. – Science of Sports Training
10. Fox, E. L. – Physiological Basis of Physical Education
11. Uppal, A. K. – Physical Fitness and Wellness.

ATHLETICS

(TRACK & FIELD EVENTS)

Course Type: Major Disciplinary Course (Practical)
Course Code: PE20092
Credits: 4
L-T-P: 0-0-8
Prerequisite: Basic knowledge of Physical Fitness and Athletics

Course Objectives

1. To develop fundamental skills in track and field events.
2. To understand rules and techniques of athletics events.
3. To learn proper field and track markings.
4. To improve physical fitness components like speed, strength, and endurance.
5. To develop officiating and event management skills.
6. To enhance performance through regular practice.

Course Outcomes

- **CO1:** Demonstrate basic techniques of track and field events.
- **CO2:** Apply rules and regulations of athletics competitions.
- **CO3:** Perform proper field and track markings.
- **CO4:** Develop physical fitness through athletics training.
- **CO5:** Organize and officiate athletics events.
- **CO6:** Improve individual performance through practice.

Course Content

2. Athletic Field Markings (Track & Field Events)

Athletic track marking includes standard 400-meter tracks with 6–8 lanes, each lane typically 1.22 meters wide.

3. Field Marking of Team Games

Field marking in team games varies according to the game and follows standard dimensions. In **Football**, the field is rectangular with touchlines, goal lines, center circle, penalty area, and goal area clearly marked. In **Volleyball**, the court is divided by a center line and net, with attack lines and service zones marked. In **Basketball**, the court includes key areas like the center circle, free-throw line, three-point arc, and boundary lines. In **Handball**, markings include goal area, free-throw line, and center line. Proper marking ensures smooth gameplay, correct rule implementation, and fair competition.

Introduction to Field Markings
Understanding the importance of field markings in athletics and games.
Tools and equipment required for field markings (chalk, paint, strings, measuring tapes, etc.).
Safety guidelines while performing field marking activities.
Athletics Field Markings
Track Events:
Standard track dimensions (200m, 400m tracks).
Marking straight tracks (100m, 200m) and staggered starts for curved tracks. Lanes, finish lines, starting blocks, and relay exchange zones.
Field Events:
Long jump and triple jump runways and landing areas.
Shot put circle and sector markings.
Discuss and javelin throw runway and sector areas.
High jump and pole vault areas (runway, landing zones, and standards).

MAJOR GAMES – I
(BASKETBALL, BADMINTON, KABADDI & KHO-KHO)

Course Type: Practical Course
Course Code: PE100091
Credits: 2
L-T-P: 0-0-4
Prerequisite: Basic physical fitness and interest in games

Course Objectives

1. To develop fundamental skills of major games.
2. To understand rules and techniques of different sports.
3. To improve coordination, agility, and teamwork.
4. To enhance physical fitness through participation.
5. To develop game sense and decision-making ability.
6. To promote sportsmanship and discipline.

Course Outcomes

- **CO1:** Demonstrate basic skills in basketball, badminton, kabaddi, and kho-kho.
- **CO2:** Apply rules and regulations during gameplay.
- **CO3:** Perform techniques with coordination and control.
- **CO4:** Develop teamwork and communication skills.
- **CO5:** Improve physical fitness components.
- **CO6:** Exhibit sportsmanship and fair play.

Basic Skills of All Games

Basketball, basic skills include dribbling, passing, shooting, and rebounding. Dribbling helps in ball control while moving, passing includes chest pass and bounce pass, and shooting techniques such as lay-up and set shot are important. Defensive skills like guarding and positioning are also essential.

Badminton, fundamental skills include grip, stance, and strokes such as forehand, backhand, serve, smash, and drop shot. Footwork plays a key role in reaching the shuttle quickly and maintaining balance. Players also learn rallying and basic game strategies.

Kabaddi, essential skills include raiding, cant (chant), holding breath, and defensive techniques like ankle hold, thigh hold, and blocking. Raiders use speed and agility to score points, while defenders focus on coordination and teamwork to stop the raider.

Kho-kho, basic skills include chasing, dodging, giving kho, and sitting posture. Players develop quick reflexes, direction change, and speed. Proper timing and teamwork are very important for successful gameplay.

Overall, these games help in improving agility, coordination, speed, endurance, and teamwork while promoting discipline and sportsmanship.

INDIAN HISTORIOGRAPHY

Course Type: Minor Disciplinary Course
Course Code: HI22002
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic understanding of History

Course Objectives

1. To introduce the concept and scope of historiography.
2. To understand different approaches to writing Indian history.
3. To analyze ancient, medieval, and modern historical traditions.
4. To study major historians and their contributions.
5. To develop critical thinking in interpreting historical sources.
6. To understand the evolution of historical writing in India.

Course Outcomes

- **CO1:** Explain the concept and development of historiography.
- **CO2:** Identify different schools of historical writing in India.
- **CO3:** Analyze works of major Indian historians.
- **CO4:** Evaluate sources and methods used in writing history.
- **CO5:** Understand changes in historical interpretation over time.
- **CO6:** Develop critical and analytical perspectives in history.

Course Content

Unit I:
Introduction to historiography including meaning, nature, scope, and importance. Study of sources of Indian history such as literary, archaeological, and foreign accounts. Understanding the methods and approaches of writing history in ancient India.

Unit II:
Ancient and medieval historiography in India. Study of works like Puranas, epics, and chronicles. Contributions of historians such as Kalhana and court historians. Features of medieval historical writing including religious and regional influences.

Unit III:
Modern historiography in India including colonial, nationalist, and Marxist approaches. Study of British historians and their interpretation of Indian history. Contributions of Indian historians in shaping national identity and historical perspective.

Unit IV:
Recent trends in Indian historiography including subaltern studies, feminist history, and postmodern approaches. Critical analysis of historical narratives and reinterpretation of history. Role of historiography in contemporary society.

Text Books

1. E. H. Carr – What is History?
2. Romila Thapar – Ancient Indian Social History
3. R. S. Sharma – Indian Feudalism
4. B. Sheik Ali – History: Its Theory and Method

Reference Books

1. Ranajit Guha – Subaltern Studies
2. Irfan Habib – Essays in Indian History
3. Sumit Sarkar – Modern India
4. Satish Chandra – Medieval India
5. D. D. Kosambi – An Introduction to the Study of Indian History
6. Marc Bloch – The Historian's Craft
7. Fernand Braudel – On History
8. Peter Burke – History and Social Theory
9. Geoffrey Barraclough – History in a Changing World

PROFESSIONAL COMMUNICATION

Course Type: Ability Enhancement Course
Course Code: AE24002
Credits: 2
L-T-P: 2-0-0
Prerequisite: Basic knowledge of English communication

Course Objectives

1. To develop effective professional communication skills.
2. To enhance verbal and non-verbal communication abilities.
3. To improve writing skills for workplace communication.
4. To build confidence in presentations and public speaking.
5. To understand communication etiquette in professional settings.
6. To develop interpersonal and teamwork communication skills.

Course Outcomes

- **CO1:** Demonstrate effective professional communication skills.
- **CO2:** Apply appropriate verbal and non-verbal communication techniques.
- **CO3:** Write professional documents such as emails and reports.
- **CO4:** Deliver presentations with confidence and clarity.
- **CO5:** Exhibit proper communication etiquette in workplace situations.
- **CO6:** Develop teamwork and interpersonal communication abilities.

Course Content

Unit I:
Introduction to professional communication including meaning, process, types, and barriers. Importance of communication in workplace and professional life. Verbal and non-verbal communication skills including body language, tone, and gestures.

Unit II:
Written communication skills including business letters, emails, reports, and resumes. Structure, format, and style of professional writing. Common errors and techniques for effective writing in professional contexts.

Unit III:
Oral communication skills including presentations, group discussions, and interviews. Public speaking techniques, confidence building, and communication strategies. Listening skills and feedback in professional environments.

Unit IV:
Communication etiquette and soft skills including teamwork, leadership, and interpersonal communication. Use of digital communication tools and professional ethics. Managing conflicts and improving workplace communication.

Text Books

1. Krishna Mohan & Meera Banerji – Developing Communication Skills
2. Lesikar, R. V. – Business Communication
3. Meenakshi Raman & Sangeeta Sharma – Technical Communication

Reference Books

1. Bovee, C. L. & Thill, J. V. – Business Communication Today
2. Murphy, H. A. – Effective Business Communication
3. Locker, K. O. – Business and Administrative Communication
4. Guffey, M. E. – Business Communication: Process and Product
5. Dale Carnegie – How to Win Friends and Influence People
6. Jeremy Harmer – How to Teach English
7. Adrian Doff – Teach English
8. David Crystal – The Cambridge Encyclopedia of the English Language
9. Gerson, S. J. – Technical Writing: Process and Product

SEMESTER – V

SPORTS PSYCHOLOGY

Course Type: Major Disciplinary Course
Course Code: PE30001
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Human Anatomy and Physiology

COURSE OBJECTIVES

The course aims :

1. To understand the basic concepts and importance of sports psychology.
2. To study the psychological factors affecting sports performance.
3. To develop knowledge about motivation, personality, and emotions in sports.
4. To enhance mental skills like concentration, confidence, and stress management.
5. To understand group dynamics and leadership in sports situations.
6. To apply psychological principles in coaching and physical education.

COURSE OUTCOMES

At the end of the course, the students will be able :

CO1: Explain the basic concepts and importance of sports psychology.
CO2: Analyze psychological factors influencing sports performance.
CO3: Apply motivation and personality concepts in sports settings.
CO4: Demonstrate mental skills like concentration and stress control.

CO5: Understand group dynamics and leadership in sports.
CO6: Use psychological principles in coaching and training.

COURSE CONTENT

Unit–I:
Introduction to sports psychology, its meaning, definition, scope, and importance in physical education and sports. Relationship between psychology and sports performance, role of a sports psychologist, and understanding individual differences among athletes.

Unit–II:
Motivation and personality in sports, types of motivation, techniques to improve motivation, personality traits, theories of personality, and their impact on sports performance. Emotional control, anxiety, and stress management in competitive situations.

Unit–III:
Learning and skill acquisition, laws of learning, types of learning, and transfer of training. Mental training techniques such as concentration, visualization, goal setting, and confidence building for improving performance.

Unit–IV:
Group dynamics and leadership in sports, team cohesion, communication, and leadership styles. Psychological preparation for competition, role of audience, aggression in sports, and application of psychology in coaching and physical education.

TEXTBOOKS

1. Weinberg, R.S. & Gould, D. – Foundations of Sport and Exercise Psychology
2. Cox, R.H. – Sport Psychology: Concepts and Applications

REFERENCE BOOKS

1. Singh, A.K. – Sports Psychology
2. Kamlesh, M.L. – Psychology in Physical Education and Sports
3. Butt, D.S. – Psychology of Sports
4. Cratty, B.J. – Psychology in Contemporary Sports

Martens, R. – Coaches Guide to Sport Psychology

TALENT IDENTIFICATION IN SPORTS

Course Type: Major Disciplinary Course
Course Code: PE30003
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Physical Education, Sports Training & Physiology

Course Objectives

1. To understand the concept and importance of talent identification in sports.
2. To study factors influencing sports talent development.
3. To learn methods and models of talent identification.
4. To analyze physical, physiological, and psychological parameters of athletes.
5. To understand long-term athlete development programs.
6. To apply scientific approaches in selecting sports talent.

Course Outcomes

- **CO1:** Explain the concept and process of talent identification.
- **CO2:** Identify factors affecting sports talent selection.
- **CO3:** Apply different methods and models for talent identification.
- **CO4:** Evaluate physical and psychological characteristics of athletes.
- **CO5:** Understand long-term athlete development strategies.
- **CO6:** Develop scientific approaches for talent selection in sports.

Course Content

Unit I:
Introduction to talent identification including meaning, importance, and need in sports. Concepts of talent, performance, and potential. Role of genetics and environment in talent development. Importance of early identification and nurturing of talent.

Unit II:
Factors influencing talent identification such as physical, physiological, psychological, and sociological factors. Anthropometric measurements and fitness components. Role of coaches and experts in identifying talent.

Unit III:
Methods and models of talent identification including scientific testing, observation, and performance analysis. Talent detection programs and selection procedures. Long-term athlete development (LTAD) model and stages of development.

Unit IV:
Talent development and management including training, monitoring, and evaluation. Role of nutrition, psychology, and support systems. Ethical issues and challenges in talent identification. Government and organizational programs for talent development.

Text Books

1. Bompa, T. O. – Talent Identification and Development in Sport
2. Abbott, A. & Collins, D. – Talent Identification and Development
3. Baker, J. – Talent Identification in Sport
4. Singh, H. – Science of Sports Training

Reference Books

1. Balyi, I. – Long-Term Athlete Development Model
2. Ericsson, K. A. – The Cambridge Handbook of Expertise and Expert Performance
3. Bailey, R. – Physical Education and Sport in Schools
4. Vaeyens, R. – Talent Identification and Development Programmes
5. Starkes, J. L. – Expert Performance in Sports
6. Martindale, R. – Talent Development in Sport
7. Abbott, A. – Developing Sporting Talent
8. Collins, D. – Talent Development: A Practitioner Guide
9. Gulbin, J. – Patterns of Success in Elite Athletes

SPORTS INJURIES AND REHABILITATION

Course Type: Major Disciplinary Course
Course Code: PE30005
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Anatomy, Physiology & Sports Training

Course Objectives

1. To understand the types and causes of sports injuries.
2. To study prevention and management of injuries.
3. To develop knowledge of first aid and emergency care.
4. To understand principles of rehabilitation.
5. To learn therapeutic exercises and recovery techniques.
6. To apply scientific methods for injury prevention and care.

Course Outcomes

- **CO1:** Explain types and causes of sports injuries.
- **CO2:** Apply preventive measures to reduce injuries.
- **CO3:** Demonstrate basic first aid and emergency care.
- **CO4:** Understand rehabilitation principles and techniques.
- **CO5:** Design recovery and conditioning programs.
- **CO6:** Evaluate injury management and athlete recovery.

Course Content

Unit I:
Introduction to sports injuries including meaning, types, and causes. Classification of injuries such as soft tissue and hard tissue injuries. Common injuries in sports and their risk factors. Principles of injury prevention.

Unit II:
First aid and immediate care of injuries. Methods such as RICE (Rest, Ice, Compression, Elevation). Management of sprains, strains, fractures, and dislocations. Role of trainers and coaches in emergency situations.

Unit III:
Rehabilitation process including stages of healing and recovery. Therapeutic exercises such as stretching, strengthening, and mobility exercises. Role of physiotherapy and modern rehabilitation techniques.

Unit IV:
Injury prevention and return to play. Conditioning programs, warm-up, and cool-down exercises. Role of nutrition and psychology in recovery. Use of supportive devices and protective equipment.

Text Books

1. Peterson, L. & Renström, P. – Sports Injuries: Prevention and Treatment
2. Brukner, P. & Khan, K. – Clinical Sports Medicine
3. Prentice, W. E. – Principles of Athletic Training
4. Arnheim, D. D. – Modern Principles of Athletic Training

Reference Books

1. Andrews, J. R. – Physical Rehabilitation of the Injured Athlete
2. Starkey, C. – Injury Assessment
3. Kisner, C. & Colby, L. – Therapeutic Exercise
4. Magee, D. J. – Orthopedic Physical Assessment
5. Dutton, M. – Orthopaedic Examination, Evaluation, and Intervention
6. Hall, C. M. – Therapeutic Exercise: Moving Toward Function
7. McArdle, W. D. – Exercise Physiology
8. Powers, S. K. – Exercise Physiology
9. Tipton, C. M. – Exercise Physiology
10. Sharkey, B. J. – Fitness and Health
11. Baechle, T. R. – Strength Training and Conditioning.

MAJOR GAMES – IV
(GYMNASTICS, SWIMMING & TAEKWONDO)

Course Type: Major Disciplinary Course (Practical)
Course Code: PE20061
Credits: 4
L-T-P: 0-0-8
Prerequisite: Basic physical fitness and coordination

Course Objectives

1. To develop fundamental skills in gymnastics, swimming, and taekwondo.
2. To understand techniques and safety measures in each activity.
3. To improve flexibility, strength, balance, and coordination.
4. To enhance body control and physical fitness.
5. To develop discipline and confidence through practice.
6. To promote interest in individual sports and martial arts.

Course Outcomes

- **CO1:** Demonstrate basic skills in gymnastics, swimming, and taekwondo.
- **CO2:** Apply proper techniques with safety measures.
- **CO3:** Improve flexibility, balance, and coordination.
- **CO4:** Perform movements with control and precision.
- **CO5:** Develop physical fitness and self-discipline.
- **CO6:** Exhibit confidence and skill in individual activities.

Course Content

Gymnastics, basic skills include body control, balance, flexibility, and strength. Students learn fundamental movements such as forward roll, backward roll, cartwheel, handstand, and headstand. Apparatus-based skills like vaulting, parallel bars, and balance beam are introduced at a basic level. Emphasis is placed on posture, coordination, landing techniques, and safety measures. Flexibility exercises and conditioning drills are essential to improve performance and prevent injuries.

Swimming, basic skills include water adjustment, floating, breathing techniques, and basic strokes. Learners practice floating (front and back), kicking, and arm movements. Basic strokes such as freestyle, backstroke, and breaststroke are taught with proper breathing coordination. Skills like diving, turning, and water safety techniques are also included. Regular practice helps improve endurance, lung capacity, and overall fitness.

Taekwondo, basic skills include stances, kicks, punches, and blocking techniques. Students learn fundamental stances such as walking stance and horse stance. Basic kicks like front kick, roundhouse kick, and side kick are practiced with control and accuracy. Punching and blocking techniques are also emphasized for self-defense. Discipline, respect, and proper body coordination are key aspects. Training also includes basic forms (poomsae) and sparring techniques at an introductory level.

PRACTICAL

OFFICIATING PRACTICE

Course Type: Minor Disciplinary Course (Practical)
Course Code: SY42002
Credit: 3
L–T–P: 0–0–6
Prerequisite: Basic Physical Fitness

Course Objectives

The Course Aims:

1. To develop knowledge and skills of officiating in various sports and games.
2. To familiarize students with rules, regulations, and interpretations of selected games.
3. To provide practical experience in refereeing, umpiring, and judging.
4. To develop decision-making ability and fairness in sports situations.
5. To train students in proper use of officiating signals and techniques.
6. To prepare students for officiating at school, college, and district-level competitions.

COURSE OUTCOMES

After completion of the course, students will be able to:

CO1: Explain rules and regulations of selected sports and games.
CO2: Demonstrate officiating roles such as referee, umpire, and judge.
CO3: Apply correct signals and officiating techniques during matches.
CO4: Manage game situations with fairness and confidence.
CO5: Make accurate and unbiased decisions during competitions.
CO6: Organize and support officiating duties in sports events at different levels.

COURSE CONTENT (PRACTICAL – GAME BASED)

UNIT – I: Introduction to Officiating

- Meaning and importance of officiating
- Qualities and responsibilities of officials
- Ethics in officiating (fair play, impartiality)
- Duties of:
  - ✓ Referee
  - ✓ Umpire
  - ✓ Judge
  - ✓ Timekeeper
  - ✓ Scorer

UNIT – II: Rules & Signals (Major Games)
Study and practice of rules, signals, and duties in:

- Athletics (track & field officiating basics)
- Football
- Volleyball
- Basketball

- Kabaddi / Kho-Kho

(Students should learn official hand signals and interpretations)

UNIT – III: Practical Officiating Skills

- Conducting matches under supervision
- Use of whistle and signals
- Score sheet preparation
- Timekeeping and recording
- Handling fouls, violations, and disputes
- Decision-making in real game situations

UNIT – IV: Tournament Officiating

- Officiating in different tournaments:
  - ✓ Knock-out
  - ✓ League
- Fixture understanding
- Match management and coordination
- Role of officials before, during, and after the match
- Report writing after officiating

PRACTICAL

GYM MANAGMENT

Course Type: Minor Disciplinary Course (Practical)
Course Code: SY42002
Credit: 3
L–T–P: 0–0–6
Prerequisite: Basic Physical Fitness

COURSE OBJECTIVES

The course aims:

1. To develop knowledge of gym operations and fitness management.
2. To provide practical skills in using gym equipment safely and effectively.
3. To train students in planning and supervising fitness training programs.
4. To develop skills in client handling and communication in gym settings.
5. To impart knowledge of fitness assessment techniques and monitoring progress.
6. To promote professional ethics, discipline, and safety in gym environments.

COURSE OUTCOMES

After completion of the course, students will be able to:

CO1: Demonstrate proper use of gym equipment and exercise techniques.
CO2: Design and implement basic fitness training programs.
CO3: Conduct fitness assessments and monitor client progress.
CO4: Manage gym facilities with proper safety standards.

CO5: Handle clients effectively with professional communication skills.
CO6: Apply ethical practices and safety protocols in gym management.

COURSE CONTENT

UNIT – I: Introduction to Gym & Fitness Management
Meaning and importance of gym and fitness management
Layout and organization of a gymnasium
Types of fitness centers (commercial, institutional)
Roles and responsibilities of gym instructor
Basic safety rules and precautions

UNIT – II: Gym Equipment & Exercise Techniques
Introduction to gym equipment:
- Free weights (dumbbells, barbells)
- Machines (multi-gym, leg press, lat pull-down)
- Cardio equipment (treadmill, cycle, cross trainer)

Demonstration of exercises:
- Strength training exercises
- Flexibility exercises
- Endurance training

Correct posture and technique
Spotting techniques and injury prevention

UNIT – III: Fitness Assessment & Training Programme
Components of physical fitness:
- Strength, endurance, flexibility, speed

Basic fitness tests:
- BMI, flexibility test, endurance test

Designing fitness programs:
- Beginner, intermediate level

Warm-up and cool-down techniques
Record keeping of client progress

UNIT – IV: Gym Management & Client Handling
Daily operation of gym
Maintenance of equipment
Hygiene and safety standards
Client interaction and communication
Motivation techniques
Basic knowledge of diet and nutrition for fitness
Introduction to fitness industry and career opportunities

REFERENCE BOOKS

1. ACSM's Guidelines for Exercise Testing and Prescription – American College of Sports Medicine
2. Essentials of Strength Training and Conditioning – National Strength and Conditioning Association
3. Fitness and Wellness
4. Sports Authority of India training manuals

POLITICAL SCIENCE

Course Type: Minor Disciplinary Course
Course Code: PE22001
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Social Science / Civics

Course Objectives

1. To understand the basic concepts of political science.
2. To study the structure and functions of government.
3. To develop awareness about constitution and governance.
4. To analyze political ideologies and systems.
5. To understand rights, duties, and democratic values.
6. To develop critical thinking on political issues.

Course Outcomes

- **CO1:** Explain basic concepts and theories of political science.
- **CO2:** Describe the structure and functions of political institutions.
- **CO3:** Analyze the Indian Constitution and governance.
- **CO4:** Evaluate political ideologies and systems.
- **CO5:** Understand citizen rights and duties.
- **CO6:** Develop awareness of democratic processes.

Course Content

Unit I:
Introduction to political science including meaning, nature, scope, and importance. Basic concepts such as state, nation, sovereignty, power, authority, and legitimacy. Role of political science in understanding society and governance.

Unit II:
Indian Constitution including its features, preamble, fundamental rights, and duties. Structure of government with legislature, executive, and judiciary. Federal system and center-state relations.

Unit III:
Political ideologies such as democracy, socialism, liberalism, and secularism. Political parties, electoral system, and role of media and public opinion in politics.

Unit IV:
Contemporary issues including globalization, human rights, and governance. Role of citizens in democracy, public administration, and policy-making process. Challenges faced by modern political systems.

Text Books

1. M. Laxmikanth – Indian Polity
2. O. P. Gauba – An Introduction to Political Theory
3. A. Appadorai – Substance of Politics

4. V. D. Mahajan – Political Theory

Reference Books

1. D. D. Basu – Introduction to the Constitution of India
2. B. L. Fadia – Indian Government and Politics
3. Andrew Heywood – Politics
4. Andrew Heywood – Political Theory
5. Rajni Kothari – Politics in India
6. Harold Lasswell – Politics: Who Gets What, When, How
7. Johari, J. C. – Principles of Modern Political Science
8. Iqbal Narain – Indian Government and Politics
9. R. C. Agarwal – Political Theory

SEMESTER - VI

SPORTS NUTRITION & HEALTH EDUCATION

Course Type: Major Disciplinary Course
Course Code: PE30002
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Physiology and Health Science

Course Objectives

1. To understand the importance of nutrition in sports performance.
2. To study basic concepts of health education.
3. To analyze nutrients and their role in the human body.
4. To develop knowledge of balanced diet and meal planning.
5. To understand health-related issues and preventive measures.
6. To promote healthy lifestyle and fitness awareness.

Course Outcomes

- **CO1:** Explain basic concepts of sports nutrition and health education.
- **CO2:** Identify nutrients and their functions in the body.
- **CO3:** Plan balanced diet for athletes and individuals.
- **CO4:** Analyze health issues and preventive strategies.
- **CO5:** Understand role of nutrition in performance and recovery.
- **CO6:** Promote healthy lifestyle and fitness habits.

Course Content

Unit I:
Introduction to sports nutrition and health education including meaning, scope, and importance. Basic concepts of nutrients such as carbohydrates, proteins, fats, vitamins, and minerals. Role of nutrition in maintaining health and improving sports performance.

Unit II:
Balanced diet and meal planning for athletes. Energy requirements for different sports activities. Role of hydration and electrolytes. Nutritional needs before, during, and after exercise.

Unit III:
Health education including personal hygiene, community health, and lifestyle diseases. Prevention and control of diseases. Importance of physical activity, rest, and mental health in maintaining overall well-being.

Unit IV:
Nutrition for special conditions such as weight management, obesity, and deficiency diseases. Role of supplements in sports. Doping and its harmful effects. Promotion of healthy lifestyle and fitness awareness.

Text Books

1. Williams, M. H. – Nutrition for Health, Fitness and Sport
2.
3. Anderson, J. J. – Nutrition and Health

Reference Books

1. Burke, L. M. & Deakin, V. – Clinical Sports Nutrition
2. Maughan, R. J. – Sports Nutrition
3. Jeukendrup, A. – Sports Nutrition: From Lab to Kitchen
4. Clark, N. – Sports Nutrition Guidebook
5. Insel, P. – Nutrition
6. Whitney, E. – Understanding Nutrition
7. Gropper, S. S. – Advanced Nutrition and Human Metabolism
8. Gibney, M. – Public Health Nutrition
9. Sizer, F. – Nutrition: Concepts and Controversies
10. Guyton, A. C. – Textbook of Medical Physiology
11. Sharkey, B. J. – Fitness and Health

SPORTS ENGINEERING

Course Type: Major Disciplinary Course
Course Code: PE30004
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Physics, Biomechanics & Sports Science

Course Objectives

1. To understand the application of engineering principles in sports.
2. To study sports equipment design and technology.
3. To analyze biomechanics and motion in sports activities.
4. To develop knowledge of materials used in sports equipment.
5. To understand modern technologies in sports performance.
6. To improve performance through scientific and technological methods.

Course Outcomes

- **CO1:** Explain basic concepts of sports engineering.
- **CO2:** Analyze design and functioning of sports equipment.
- **CO3:** Apply biomechanical principles in sports performance.
- **CO4:** Understand material properties used in sports goods.
- **CO5:** Evaluate the role of technology in sports.
- **CO6:** Develop innovative ideas for performance enhancement.

Course Content

Unit I:
Introduction to sports engineering including meaning, scope, and importance. Application of engineering principles in sports. Basic concepts of force, motion, and energy in sports activities.

Unit II:
Sports equipment and material science. Design, construction, and maintenance of equipment. Properties of materials such as strength, elasticity, and durability used in sports goods.

Unit III:
Biomechanics in sports including analysis of movement, posture, and techniques. Application of mechanical principles to improve performance and reduce injuries. Motion analysis and performance evaluation.

Unit IV:
Modern technology in sports including sensors, wearable devices, and performance analysis tools. Role of technology in training, officiating, and injury prevention. Future trends in sports engineering.

Text Books

1. Haake, S. J. – The Engineering of Sport
2. Hubbard, M. – Sports Engineering
3. Vaughan, C. L. – Biomechanics of Sport
4. Knudson, D. – Fundamentals of Biomechanics

Reference Books

1. Bartlett, R. – Introduction to Sports Biomechanics
2. McGinnis, P. – Biomechanics of Sport and Exercise
3. Lees, A. – Science and Racket Sports
4. Wilson, B. – Sport Equipment and Technology
5. Hall, S. J. – Basic Biomechanics
6. Nigg, B. M. – Biomechanics of Sport Shoes
7. Payne, V. G. – Human Motor Development
8. Zatsiorsky, V. – Kinetics of Human Motion
9. Winter, D. A. – Biomechanics and Motor Control of Human Movement
10. Kreighbaum, E. – Biomechanics: A Qualitative Approach
11. Chowdhury, S. – Sports Engineering and Technology

SPORTS JOURNALISM

Course Type: Major Disciplinary Course
Course Code: PE30006
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Communication and Sports

Course Objectives

1. To understand the basics of journalism in sports.
2. To develop skills in sports reporting and writing.
3. To learn media ethics and responsibilities.
4. To analyze different forms of sports media.
5. To enhance communication and interviewing skills.
6. To develop professional skills for sports journalism careers.

Course Outcomes

- **CO1:** Explain the concept and scope of sports journalism.
- **CO2:** Write effective sports news and reports.
- **CO3:** Apply media ethics in sports reporting.
- **CO4:** Analyze different sports media platforms.
- **CO5:** Conduct interviews and presentations effectively.
- **CO6:** Develop professional communication skills in journalism.

Course Content

Unit I:
Introduction to sports journalism including meaning, scope, and importance. History and development of sports media. Role of journalists in covering sports events and promoting sports culture.

Unit II:
Sports reporting and writing techniques including news writing, match reporting, and feature articles. Structure of sports news, headlines, and editing. Importance of accuracy, clarity, and objectivity.

Unit III:
Media ethics and laws in journalism. Responsibilities of sports journalists. Role of print, electronic, and digital media in sports coverage. Interviewing techniques and communication skills.

Unit IV:
Modern trends in sports journalism including online media, blogging, and social media platforms. Live reporting, commentary, and broadcasting techniques. Career opportunities and professional development in sports journalism.

Text Books

1. Phil Andrews – Sports Journalism: A Practical Introduction
2. Raymond Boyle – Sports Journalism: Context and Issues
3. Brian McNair – Journalism and Democracy
4. Steen, R. – Sports Journalism

Reference Books

1. Real, M. – Super Media: A Cultural Studies Approach
2. Hutchins, B. – Digital Media Sport
3. Pegoraro, A. – Social Media and Sports
4. O'Boyle, I. – Sports Journalism Ethics
5. Keeble, R. – Ethics for Journalists
6. Frost, C. – Journalism Ethics and Regulation
7. Harcup, T. – Journalism: Principles and Practice
8. Allan, S. – Online Journalism

ATHLETICS
(TRACK & FIELD)

Course Type: Major Disciplinary Course (Practical)
Course Code: PE20092
Credits: 4
L-T-P: 0-0-8
Prerequisite: Basic physical fitness and knowledge of athletics

Course Objectives

1. To develop fundamental skills in track and field events.
2. To understand techniques and rules of athletics.
3. To improve speed, strength, endurance, and coordination.
4. To develop knowledge of event execution and safety.
5. To enhance performance through regular practice.
6. To promote discipline and sportsmanship.

Course Outcomes

- **CO1:** Demonstrate basic skills in track and field events.
- **CO2:** Apply rules and techniques in athletics.
- **CO3:** Perform events with proper coordination and control.
- **CO4:** Improve physical fitness components.
- **CO5:** Understand safety and event management.
- **CO6:** Exhibit discipline and sportsmanship.

Course Content

Track events, basic skills include proper starting techniques such as crouch start and standing start, running posture, stride length, and finishing techniques. Sprinting focuses on speed and explosive power, while middle and long-distance running emphasize endurance and pacing. Relay races involve baton exchange techniques and team coordination.

Field events, basic skills include techniques for jumping and throwing events. In long jump and triple jump, skills involve run-up, take-off, flight, and landing. High jump focuses on approach, take-off, and bar clearance techniques. Throwing events like shot put, discus, and javelin require proper grip, stance, body rotation, and release techniques.

1. Running Skills:
Includes proper starting techniques (standing and crouch start), running posture, stride length, arm action, and finishing techniques. Focus is on speed, coordination, and balance during sprinting and middle-distance running.

2. Jumping Skills:
Includes basic techniques of long jump and high jump such as approach run, take-off, flight, and landing. Emphasis is on timing, body control, and coordination to achieve maximum distance or height.

3. Throwing Skills:
Includes shot put, discus, and javelin basic techniques such as grip, stance, release, and follow-through. Focus is on strength, balance, and proper body movement for effective throwing.

4. Relay & Coordination Skills:
Includes baton exchange techniques in relay races, timing, and teamwork. Emphasis on coordination, speed, and smooth exchange within the exchange zone.

Overall, athletics skills help in developing speed, strength, endurance, coordination, and body control. Proper technique, regular practice, and safety measures are essential for performance improvement.

BUSINESS LAW AND MARKETING IN SPORTS

Course Type: Minor Disciplinary Course
Course Code: SY41007
Credit: 3
L-T-P: 2-1-0
Prerequisite: Nil

COURSE OBJECTIVES

1. To provide fundamental knowledge of legal principles applicable to sports.
2. To understand the structure and governance of sports organizations and laws.
3. To develop an understanding of marketing concepts in the sports industry.
4. To familiarize students with sponsorship, branding, and promotion strategies in sports.
5. To enhance awareness of ethical, legal, and commercial aspects of sports management.
6. To analyse consumer behaviour in sports marketing.

COURSE OUTCOMES

After completion of the course, students will be able to:
CO1: Explain basic legal principles and their application in sports.
CO2: Understand governance, contracts, and dispute resolution in sports.
CO3: Apply marketing principles to sports events, teams, and organizations.
CO4: Analyze sponsorship, branding, and promotional strategies in sports.
CO5: Evaluate ethical and legal challenges in sports business and marketing.
CO6: Apply the knowledge of consumer behaviour in sports marketing.

COURSE CONTENT

UNIT – I: Introduction to Sports Law

- Meaning and concept of law in sports
- Nature and scope of sports law
- Sources of sports law
- Structure of sports governing bodies (national and international)
- Role of organizations like national federations and international bodies

UNIT – II: Legal Aspects in Sports

- Contracts in sports (player contracts, sponsorship agreements)
- Tort law in sports (negligence, liability, injury cases)
- Intellectual Property Rights (IPR) in sports:
  - ✓ Trademarks
  - ✓ Copyrights
  - ✓ Broadcasting rights
- Dispute resolution in sports (arbitration, mediation)

UNIT – III: Ethics and Doping in Sports

- Ethics in sports business
- Fair play and integrity
- Doping and anti-doping regulations
- Role of anti-doping agencies
- Legal consequences of doping

UNIT – IV: Introduction to Sports Marketing

- Meaning and concept of sports marketing
- Importance of marketing in sports industry
- Marketing mix (Product, Price, Place, Promotion) in sports
- Consumer behavior in sports

TEXT BOOK

1. Sports Law – Simon Gardiner et al.
2. Introduction to Sport Law – Gil Fried
3. Sport Marketing – Bernard J. Mullin, Stephen Hardy & William Sutton
4. Sports Marketing: A Strategic Perspective – Matthew D. Shank & Mark R. Lyberger
5. Principles and Practice of Sport Management – Lisa Pike Masteralexis, Carol A. Barr & Mary Hums

REFERENCE BOOKS

1. Gardiner, S. – Sports Law
2. Smith, A.C.T. – Introduction to Sport Marketing
3. Mullin, B.J. – Sport Marketing
4. Masteralexis, L.P. – Principles and Practice of Sport Management
5. Mitten, M.J. – Sports Law and Regulation

PHYSICAL GROWTH & DEVELOPMENT

Course Type: Minor Disciplinary courses
Course Code: SY41009
Credit: 3
L-T-P: 2-1-0
Prerequisite: Nil

COURSE OBJECTIVES

1. To understand the concept and principles of physical growth and development.
2. To study the stages of growth and development from childhood to adulthood.
3. To identify factors affecting growth and development such as heredity, environment and nutrition.
4. To understand motor development and its role in physical education and sports.
5. To develop knowledge about assessment and measurement of growth and development.
6. To apply the principles of growth and development in physical education programmes.

COURSE OUTCOMES

After completion of the course, students will be able to:

CO1: Explain the concept and principles of physical growth and development.
CO2: Identify different stages of growth and developmental characteristics.
CO3: Analyze the factors affecting growth and development.
CO4: Understand motor development and its importance in sports performance.
CO5: Apply methods of assessment and evaluation of growth and development.
CO6: Design age-appropriate physical activity programmes based on growth and development principles.

COURSE CONTENT:

Unit-I

1. Introduction-Meaning and definition of growth, development,
2. The difference between the growth and development,
3. Factors affecting growth and development.
4. Stages of growth & development: -pre-natal and post-natal growth and development.

Unit-II - Domains of Human Development

1-Physical Development (Organized as motor development and posture and large movements)
2-Cognitive (mental) Development Psycho-social Development
3-The relationship between Physical Development of the brain and intellectual ability.

Unit-III

1. Adolescent growth & development. Distance and Velocity Curves.
2. Tissues and Organ Growth Curves
3. Changes in Body Size and Structure
4. Secondary Sexual Characteristics
5. Wet Dreams

Unit-IV

1. Introduction to Motor Development and body physique.
2. How do you help with baby's motor skills?
3. Types of Motor Skills: - Gross and Finer Motor Skill
4. Textbooks:
5. Harrison GA, JS Weiner JM Tanner and NA Barnicot (1984) Human Biology Clarendon Press. Oxford. London.

Reference books

1. Day J AP (1986). Perspectives in Kianthropometry. The 1984 Olympic Scientific Congress
2. Proceedings. Volume I. Human Kinetics Publisher. Champaign. Illinois. USA.
3. Gallahue DL and JC Ozmun (1998).Understanding Motor Development- Infants, Children,
4. Adolescents and Adults McGraw Hill Company Boston.USA.

ICMR (1989). Growth and Physical Development of Indian Infants and Children. Indian Council of Medical Research. New Delhi.

SPORTS MANAGEMENT

Course Type: Ability Enhancement Course
Course Code: SY21007
Credit: 3
L-T-P: 2-1-0
Prerequisite: Nil

COURSE OBJECTIVES

In this course the students will acquire knowledge on:

1. The concept, principles and functions of sports management and their application in physical education and sports organizations.
2. The leadership styles, methods and qualities required for effective sports administration.
3. The planning and organization of sports programmes at schools, colleges and universities.
4. The management of sports events, intramural and extramural competitions in educational institutions.
5. The financial management, budgeting and resource management in sports organizations.
6. The acquisition of knowledge on leadership qualities while managing sports.

COURSE OUTCOMES

At the end of the course, the students will be able to:

CO1: Explain the basic concepts, principles and functions of sports management.

CO2: Demonstrate understanding of leadership styles and their role in sports administration and organizational performance.

CO3: Plan and organize sports programmes, tournaments and events at institutional levels.

CO4: Apply knowledge of management principles in the administration of sports organizations in schools, colleges and universities.

CO5: Prepare budgets and manage financial, infrastructural and human resources in sports programmes effectively.

CO6: Apply knowledge of planning and management in sports at institutional level.

COURSE CONTENT:

Unit-I The Management Process:

Definition, Principles, Nature and Concept of Sports Management - The purpose scope, limitations& Functions of Sports Management - Essential skills of Sports Management - Qualities and competencies required for the Sports Manager - Event Management in physical education and sports.

Unit-II Leadership in Sports Management Process:

Meaning and Definition of leadership - Leadership style and method - Elements of leadership - Forms of Leadership (Autocratic, Laissez-faire, Democratic & Benevolent Dictator) - Qualities of administrative leader - Preparation of administrative leader - Leadership and Organizational performance.

Unit-III Planning and Management of sports at Institutional level:

Sports Management in Schools, colleges and Universities - Factors affecting Sports planning in school or college sports programme – Need and Importance of Programme Development (Intramural & Extramural Tournaments) – Factors influencing Programme Development.

Unit-IV Financial Management in Sports

Financial management & Preparation of budgets in Physical Education & sports in schools, Colleges and Universities - Objectives and scope of financial planning - Management of Infrastructure, finance and personal - Mechanics of purchase and audit.

Textbooks:

1. Govindrajulu, .N. (2005). Management of Physical Education and Sports Programme. New Delhi : Friends Publication.
2. Kamlesh, M. L. (2000). Management Concepts in Physical Education and Sports. New Delhi B.V. Gupta Publication.

Reference books:

1. Bucher, C.A.(2002). Management of Physical Educational and Sports.(12th Ed.). USA
2. :McGarw Hill Co.
3. Chakrarborti, S.(2007). Sports Management. New Delhi: Friends Publication.

Frosdick, S., &Walley, L. (2003). Sports and Safety Management. USA: A division of

TRIBAL CULTURE, HERITAGE AND ENTREPRENEURSHIP

Course Type: Minor Disciplinary Course
Course Code: HI-32008
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of History / Society

Course Objectives

1. To understand tribal culture and heritage in India.
2. To study traditions, customs, and lifestyle of tribal communities.
3. To analyze socio-economic conditions of tribal groups.
4. To explore entrepreneurship opportunities among tribal communities.
5. To promote preservation of tribal heritage.
6. To develop awareness about tribal development programs.

Course Outcomes

- **CO1:** Explain tribal culture and heritage.
- **CO2:** Identify customs, traditions, and lifestyle of tribes.
- **CO3:** Analyze socio-economic conditions of tribal communities.
- **CO4:** Understand entrepreneurship opportunities in tribal areas.
- **CO5:** Evaluate government policies for tribal development.
- **CO6:** Develop awareness about preservation of tribal heritage.

Course Content

Unit I:
Introduction to tribal culture including meaning, characteristics, and distribution of tribes in India. Study of tribal lifestyle, traditions, language, art, and culture. Importance of preserving tribal heritage.

Unit II:
Socio-economic conditions of tribal communities. Issues such as poverty, education, health, and displacement. Role of government and NGOs in tribal welfare and development programs.

Unit III:
Concept of entrepreneurship in tribal areas. Traditional occupations such as handicrafts, agriculture, forest products, and small-scale industries. Opportunities and challenges in tribal entrepreneurship.

Unit IV:
Preservation and promotion of tribal heritage. Role of tourism, markets, and government schemes. Sustainable development and empowerment of tribal communities through entrepreneurship.

Text Books

1. Xaxa, V. – State, Society, and Tribes
2. Vidyarthi, L. P. – Tribal Culture of India
3. Hasnain, N. – Tribal India
4. Elwin, V. – The Tribal World of India

Reference Books

1. Ghurye, G. S. – The Scheduled Tribes
2. Beteille, A. – Society and Politics in India
3. Majumdar, D. N. – Races and Cultures of India
4. Government of India – Tribal Development Reports
5. UNDP – Human Development Reports
6. Planning Commission – Tribal Sub-Plan Reports
7. Das, V. – Handicrafts of India
8. Kurien, J. – Rural Development and Tribal Economy
9. Rath, G. C. – Tribal Development in India
10. Pati, B. – Tribal and Peasant Movements

SEMESTER - VII

SPORTS MEDICINE

Course Type: Major Disciplinary Course
Course Code: PE-40001
Standard: UG
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Anatomy, Physiology & Sports Science

Course Objectives

1. To understand the concept and scope of sports medicine.
2. To study causes and prevention of sports injuries.
3. To develop knowledge of first aid and emergency care.
4. To understand treatment and rehabilitation methods.
5. To study the role of nutrition and fitness in injury prevention.
6. To apply scientific principles for athlete care and performance.

Course Outcomes

- **CO1:** Explain the concept and importance of sports medicine.
- **CO2:** Identify causes and types of sports injuries.
- **CO3:** Apply first aid and emergency care techniques.
- **CO4:** Understand treatment and rehabilitation methods.
- **CO5:** Analyze preventive measures for injuries.
- **CO6:** Develop skills for athlete care and performance improvement.

Course Content

Unit I:
Introduction to sports medicine including meaning, scope, and importance. Role of sports medicine in athlete care and performance. Basic anatomy and physiology related to sports activities and health.

Unit II:
Sports injuries including types, causes, and prevention. Common injuries such as sprains, strains, fractures, and dislocations. Principles of injury prevention and safety measures in sports.

Unit III:
First aid and emergency care in sports. Techniques such as RICE (Rest, Ice, Compression, Elevation). Immediate management of injuries and role of coaches and trainers in emergency situations.

Unit IV:
Rehabilitation and recovery including physiotherapy, therapeutic exercises, and conditioning. Role of nutrition, rest, and psychology in recovery. Return-to-play guidelines and injury management.

Text Books

1. Brukner, P. & Khan, K. – Clinical Sports Medicine
2. Prentice, W. E. – Principles of Athletic Training
3. Peterson, L. & Renström, P. – Sports Injuries: Prevention and Treatment
4. Arnheim, D. D. – Modern Principles of Athletic Training

Reference Books

1. Andrews, J. R. – Physical Rehabilitation of the Injured Athlete
2. Starkey, C. – Injury Assessment
3. Magee, D. J. – Orthopedic Physical Assessment
4. Kisner, C. & Colby, L. – Therapeutic Exercise
5. Houglum, P. – Therapeutic Exercise for Musculoskeletal Injuries
6. Sharkey, B. J. – Fitness and Health
7. Baechle, T. R. – Strength Training and Conditioning
8. Hall, C. M. – Therapeutic Exercise

SPORTS ENTREPRENEURSHIP

Course Type: Major Disciplinary Course
Course Code: PE-40003
Standard: UG
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Sports Management / Physical Education

Course Objectives

1. To understand the concept of entrepreneurship in sports.
2. To develop knowledge of business opportunities in the sports industry.
3. To learn planning and management of sports enterprises.
4. To understand marketing and promotion in sports.
5. To develop entrepreneurial skills and leadership qualities.
6. To promote innovation and self-employment in sports sector.

Course Outcomes

- **CO1:** Explain the concept of sports entrepreneurship.
- **CO2:** Identify business opportunities in sports industry.
- **CO3:** Apply planning and management skills in sports enterprises.
- **CO4:** Analyze marketing and promotion strategies in sports.
- **CO5:** Develop entrepreneurial and leadership skills.
- **CO6:** Create business ideas in sports sector.

Course Content

Unit I:
Introduction to entrepreneurship including meaning, scope, and importance in sports. Characteristics of an entrepreneur and role of entrepreneurship in economic development. Overview of sports industry and emerging business opportunities.

Unit II:
Business planning in sports including idea generation, feasibility analysis, and preparation of business plans. Legal aspects, funding sources, and management of sports enterprises such as academies, fitness centers, and event management.

Unit III:
Sports marketing and promotion including branding, sponsorship, advertising, and media role. Digital marketing, social media promotion, and fan engagement strategies in modern sports business.

Unit IV:
Entrepreneurial skills development including leadership, innovation, and risk management. Case studies of successful sports entrepreneurs. Challenges and future trends in sports entrepreneurship.

Text Books

1. Ratten, V. – Sport Entrepreneurship
2. Smith, A. C. T. – Introduction to Sport Marketing
3. Mullin, B. J. – Sport Marketing
4. Hisrich, R. D. – Entrepreneurship

Reference Books

1. Byers, T. – Key Concepts in Sport Management
2. Hoye, R. – Sport Management: Principles and Applications
3. Masteralexis, L. – Principles of Sport Management
4. Beech, J. & Chadwick, S. – The Business of Sport Management
5. Fayolle, A. – Entrepreneurship and New Value Creation
6. Ratten, V. – Sports Innovation Management
7. Pitts, B. G. – Fundamentals of Sport Marketing
8. Shank, M. D. – Sports Marketing: A Strategic Perspective
9. Pegoraro, A. – Sport Marketing and Social Media

SPORTS TECHNOLOGY

Course Type: Major Disciplinary Course
Course Code: PE-40005
Standard: UG
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Physical Education and Sports Science

Course Objectives

1. To understand the role of technology in sports performance.
2. To study modern equipment and tools used in sports.
3. To analyze biomechanical and performance analysis technologies.
4. To learn use of digital tools in coaching and training.
5. To understand safety and technological advancements in sports.
6. To apply technology for improving sports performance.

Course Outcomes

- **CO1:** Explain the concept of sports technology.
- **CO2:** Identify modern sports equipment and tools.
- **CO3:** Apply technology in performance analysis.
- **CO4:** Analyze biomechanical aspects using technology.
- **CO5:** Understand safety and technological innovations.
- **CO6:** Use digital tools in coaching and training.

Course Content

Unit I:
Introduction to sports technology including meaning, scope, and importance. Evolution of technology in sports and its impact on performance. Overview of modern equipment and innovations in different sports.

Unit II:
Sports equipment and materials including design, quality, and safety standards. Use of advanced materials in sports gear. Maintenance and selection of equipment for better performance.

Unit III:
Performance analysis using technology including video analysis, motion analysis, and wearable devices. Role of biomechanics and data analysis in improving skills and techniques.

Unit IV:
Use of digital tools in sports such as software, mobile applications, and smart devices. Role of technology in coaching, officiating, and injury prevention. Future trends in sports technology.

Text Books

1. Haake, S. – The Engineering of Sport
2. Bartlett, R. – Introduction to Sports Biomechanics
3. Lees, A. – Science and Racket Sports

4. Magill, R. – Motor Learning and Control

Reference Books

1. Knudson, D. – Fundamentals of Biomechanics
2. McGinnis, P. – Biomechanics of Sport and Exercise
3. Winter, D. A. – Biomechanics and Motor Control
4. Lees, A. – Biomechanics and Sports Performance
5. Zatsiorsky, V. – Science and Practice of Strength Training
6. Hughes, M. – Performance Analysis in Sport
7. O'Donoghue, P. – Research Methods for Sports Performance Analysis
8. Reilly, T. – Science and Soccer
9. Dyson, G. – The Mechanics of Athletics

ADAPTED PHYSICAL EDUCATION

Course Type: Major Disciplinary Course
Course Code: PE-40007
Standard: UG
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Physical Education and Human Development

Course Objectives

1. To understand the concept of adapted physical education.
2. To study different types of disabilities and their needs.
3. To develop skills for teaching physical activities to special populations.
4. To understand inclusive education in physical education.
5. To learn modified games and activities.
6. To promote physical fitness and well-being among differently-abled individuals.

Course Outcomes

- **CO1:** Explain the concept of adapted physical education.
- **CO2:** Identify different types of disabilities and their characteristics.
- **CO3:** Apply modified physical activities for special populations.
- **CO4:** Understand inclusive teaching methods in physical education.
- **CO5:** Develop fitness programs for differently-abled individuals.
- **CO6:** Promote participation and well-being through adapted activities.

Course Content

Unit I:
Introduction to adapted physical education including meaning, scope, and importance. Types of disabilities such as physical, intellectual, and sensory impairments. Role of physical education in rehabilitation and inclusion.

Unit II:
Assessment and evaluation of individuals with disabilities. Principles of adapted physical education programs. Planning and organization of activities according to individual needs and abilities.

Unit III:
Modified games and sports for special populations. Adaptation of rules, equipment, and environment. Teaching methods and instructional strategies for inclusive physical education.

Unit IV:
Rehabilitation and fitness programs for differently-abled individuals. Role of therapy, exercise, and recreation. Government policies, inclusion programs, and awareness about rights of persons with disabilities.

Text Books

1. Sherrill, C. – Adapted Physical Activity, Recreation and Sport
2. Auxter, D. – Principles and Methods of Adapted Physical Education
3. Winnick, J. P. – Adapted Physical Education and Sport
4. Kasser, S. L. – Inclusive Physical Activity

Reference Books

1. Davis, R. – Teaching Disability Sport
2. DePauw, K. – Disability Sport
3. Block, M. – A Teacher's Guide to Adapted Physical Education
4. Lieberman, L. – Strategies for Inclusion
5. Hutzler, Y. – Adapted Physical Activity

POLITICAL SCIENCE

Course Type: Minor Disciplinary Course
Course Code: PO-22001
Standard: UG
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Social Science / Civics

Course Objectives

1. To understand basic concepts and theories of political science.
2. To study the structure and functions of government.
3. To develop knowledge of the Indian Constitution.
4. To analyze political ideologies and systems.
5. To understand rights, duties, and democratic values.
6. To develop awareness of contemporary political issues.

Course Outcomes

- **CO1:** Explain fundamental concepts of political science.
- **CO2:** Describe the structure and functions of government.
- **CO3:** Analyze the Indian Constitution and political system.
- **CO4:** Evaluate different political ideologies.
- **CO5:** Understand citizen rights and responsibilities.
- **CO6:** Develop awareness of current political issues.

Course Content

Unit I:
Introduction to political science including meaning, nature, scope, and importance. Concepts such as state, nation, sovereignty, power, authority, and legitimacy. Role of political science in understanding governance and society.

Unit II:
Indian Constitution including features, preamble, fundamental rights, and duties. Structure of government: legislature, executive, and judiciary. Federal system and center-state relations.

Unit III:
Political ideologies such as democracy, socialism, liberalism, and secularism. Role of political parties, electoral system, and public opinion. Importance of media in politics.

Unit IV:
Contemporary political issues such as globalization, human rights, and governance. Role of citizens in democracy. Challenges faced by modern political systems and public administration.

Text Books

1. M. Laxmikanth – Indian Polity
2. O. P. Gauba – An Introduction to Political Theory
3. A. Appadorai – Substance of Politics
4. V. D. Mahajan – Political Theory

Reference Books

1. D. D. Basu – Introduction to the Constitution of India
2. B. L. Fadia – Indian Government and Politics
3. Andrew Heywood – Politics
4. Andrew Heywood – Political Theory
5. Rajni Kothari – Politics in India
6. Subhash Kashyap – Our Constitution
7. Granville Austin – The Indian Constitution
8. Amal Ray & Mohit Bhattacharya – Political Theory
9. A. C. Kapur – Principles of Political Science
10. H. J. Laski – Grammar of Politics
11. R. C. Agarwal – Political Theory

SEMESTER – VII
DOUBLE MAJOR WITHOUT RESEARCH

RESEARCH METHODOLOGY

Course Type: Major Disciplinary Course
Course Code: PE-40001
Standard: UG
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Physical Education and Statistics

Course Objectives

1. To understand the fundamentals of research in physical education.
2. To develop knowledge of research methods and designs.
3. To learn techniques of data collection and analysis.
4. To understand statistical tools used in research.
5. To develop skills in report writing and presentation.
6. To promote scientific thinking and problem-solving ability.

Course Outcomes

- **CO1:** Explain the concept and importance of research.
- **CO2:** Identify different types and methods of research.
- **CO3:** Apply data collection techniques in research studies.
- **CO4:** Analyze data using basic statistical tools.
- **CO5:** Prepare research reports in proper format.
- **CO6:** Develop scientific and analytical thinking.

Course Content

Unit I:
Introduction to research including meaning, scope, and importance. Types of research such as descriptive, experimental, and historical research. Steps in research process and identification of research problems.

Unit II:
Research design and methods including sampling techniques, variables, and hypothesis formulation. Tools of data collection such as questionnaires, interviews, and observation methods.

Unit III:
Data analysis and interpretation including basic statistical techniques such as mean, median, mode, and standard deviation. Presentation of data using tables, charts, and graphs.

Unit IV:
Research report writing including structure, format, and referencing styles. Ethical issues in research. Use of technology and software in research work.

Text Books

1. Kothari, C. R. – Research Methodology: Methods and Techniques
2. Best, J. W. – Research in Education
3. Thomas, J. R. – Research Methods in Physical Activity
4. Clarke, D. H. – Research Processes in Physical Education

Reference Books

1. Creswell, J. W. – Research Design
2. Kerlinger, F. N. – Foundations of Behavioral Research
3. Garrett, H. E. – Statistics in Psychology and Education
4. Baumgartner, T. – Measurement for Evaluation in Physical Education
5. Silverman, D. – Doing Qualitative Research
6. Field, A. – Discovering Statistics Using SPSS
7. Bryman, A. – Social Research Methods

SPORTS MEDICINE

Course Type: Major Disciplinary Course
Course Code: PE-40003
Standard: UG
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Anatomy, Physiology & Sports Science

Course Objectives

1. To understand the concept and scope of sports medicine.
2. To study causes and prevention of sports injuries.
3. To develop knowledge of first aid and emergency care.
4. To understand treatment and rehabilitation methods.
5. To study the role of nutrition and fitness in injury prevention.
6. To apply scientific principles for athlete care and performance.

Course Outcomes

- **CO1:** Explain the concept and importance of sports medicine.
- **CO2:** Identify causes and types of sports injuries.
- **CO3:** Apply first aid and emergency care techniques.
- **CO4:** Understand treatment and rehabilitation methods.
- **CO5:** Analyze preventive measures for injuries.
- **CO6:** Develop skills for athlete care and performance improvement.

Course Content

Unit I:
Introduction to sports medicine including meaning, scope, and importance. Role of sports medicine in athlete care and performance. Basic anatomy and physiology related to sports activities and health.

Unit II:
Sports injuries including types, causes, and prevention. Common injuries such as sprains, strains, fractures, and dislocations. Principles of injury prevention and safety measures in sports.

Unit III:
First aid and emergency care in sports. Techniques such as RICE (Rest, Ice, Compression, Elevation). Immediate management of injuries and role of coaches and trainers in emergency situations.

Unit IV:
Rehabilitation and recovery including physiotherapy, therapeutic exercises, and conditioning. Role of nutrition, rest, and psychology in recovery. Return-to-play guidelines and injury management.

Text Books

1. Brukner, P. & Khan, K. – Clinical Sports Medicine
2. Prentice, W. E. – Principles of Athletic Training
3. Peterson, L. & Renström, P. – Sports Injuries: Prevention and Treatment
4. Arnheim, D. D. – Modern Principles of Athletic Training

Reference Books

1. Andrews, J. R. – Physical Rehabilitation of the Injured Athlete
2. Starkey, C. – Injury Assessment
3. Norris, C. M. – Sports Injuries: Diagnosis and Management
4. Konin, J. G. – Special Tests for Orthopedic Examination
5. Tipton, C. M. – Exercise Physiology
6. Sharkey, B. J. – Fitness and Health
7. Baechle, T. R. – Strength Training and Conditioning
8. Hall, C. M. – Therapeutic Exercise

SPORTS ENTREPRENEURSHIP

Course Type: Major Disciplinary Course
Course Code: PE-40005
Standard: UG
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Sports Management / Physical Education

Course Objectives

7. To understand the concept of entrepreneurship in sports.
8. To develop knowledge of business opportunities in the sports industry.
9. To learn planning and management of sports enterprises.
10. To understand marketing and promotion in sports.
11. To develop entrepreneurial skills and leadership qualities.
12. To promote innovation and self-employment in sports sector.

Course Outcomes

- **CO1:** Explain the concept of sports entrepreneurship.
- **CO2:** Identify business opportunities in sports industry.
- **CO3:** Apply planning and management skills in sports enterprises.
- **CO4:** Analyze marketing and promotion strategies in sports.
- **CO5:** Develop entrepreneurial and leadership skills.
- **CO6:** Create business ideas in sports sector.

Course Content

Unit I:
Introduction to entrepreneurship including meaning, scope, and importance in sports. Characteristics of an entrepreneur and role of entrepreneurship in economic development. Overview of sports industry and emerging business opportunities.

Unit II:
Business planning in sports including idea generation, feasibility analysis, and preparation of business plans. Legal aspects, funding sources, and management of sports enterprises such as academies, fitness centers, and event management.

Unit III:
Sports marketing and promotion including branding, sponsorship, advertising, and media role. Digital marketing, social media promotion, and fan engagement strategies in modern sports business.

Unit IV:
Entrepreneurial skills development including leadership, innovation, and risk management. Case studies of successful sports entrepreneurs. Challenges and future trends in sports entrepreneurship.

Text Books

1. Ratten, V. – Sport Entrepreneurship
2. Smith, A. C. T. – Introduction to Sport Marketing
3. Mullin, B. J. – Sport Marketing
4. Hisrich, R. D. – Entrepreneurship

Reference Books

1. Drucker, P. – Innovation and Entrepreneurship
2. Barringer, B. – Entrepreneurship: Successfully Launching New Ventures
3. Timmons, J. A. – New Venture Creation
4. Fayolle, A. – Entrepreneurship and New Value Creation
5. Ratten, V. – Sports Innovation Management
6. Pitts, B. G. – Fundamentals of Sport Marketing
7. Shank, M. D. – Sports Marketing: A Strategic Perspective
8. Pegoraro, A. – Sport Marketing and Social Media
9. Slack, T. – Understanding Sport Organizations

SPORTS TECHNOLOGY

Course Type: Major Disciplinary Course
Course Code: PE-40007
Standard: UG
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Physical Education and Sports Science

Course Objectives

1. To understand the role of technology in sports performance.
2. To study modern equipment and tools used in sports.
3. To analyze biomechanical and performance analysis technologies.
4. To learn use of digital tools in coaching and training.
5. To understand safety and technological advancements in sports.
6. To apply technology for improving sports performance.

Course Outcomes

- **CO1:** Explain the concept of sports technology.
- **CO2:** Identify modern sports equipment and tools.
- **CO3:** Apply technology in performance analysis.
- **CO4:** Analyze biomechanical aspects using technology.
- **CO5:** Understand safety and technological innovations.
- **CO6:** Use digital tools in coaching and training.

Course Content

Unit I:
Introduction to sports technology including meaning, scope, and importance. Evolution of technology in sports and its impact on performance. Overview of modern equipment and innovations in different sports.

Unit II:
Sports equipment and materials including design, quality, and safety standards. Use of advanced materials in sports gear. Maintenance and selection of equipment for better performance.

Unit III:
Performance analysis using technology including video analysis, motion analysis, and wearable devices. Role of biomechanics and data analysis in improving skills and techniques.

Unit IV:
Use of digital tools in sports such as software, mobile applications, and smart devices. Role of technology in coaching, officiating, and injury prevention. Future trends in sports technology.

Text Books

1. Haake, S. – The Engineering of Sport
2. Bartlett, R. – Introduction to Sports Biomechanics
3. Lees, A. – Science and Racket Sports
4. Magill, R. – Motor Learning and Control

Reference Books

1. Knudson, D. – Fundamentals of Biomechanics
2. McGinnis, P. – Biomechanics of Sport and Exercise
3. Hay, J. G. – The Biomechanics of Sports Techniques
4. Zatsiorsky, V. – Science and Practice of Strength Training
5. Hughes, M. – Performance Analysis in Sport
6. O'Donoghue, P. – Research Methods for Sports Performance Analysis
7. Reilly, T. – Science and Soccer
8. Dyson, G. – The Mechanics of Athletics

WORLD HISTORY (1500 CE – 1900 CE)

Course Type: Minor Disciplinary Course
Course Code: HI-40007
Standard: UG
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of History

Course Objectives

1. To understand major events in world history from 1500–1900 CE.
2. To study political, economic, and social transformations.
3. To analyze the impact of revolutions and industrialization.
4. To understand colonialism and imperialism.
5. To develop knowledge of global interactions and conflicts.
6. To build analytical and historical thinking skills.

Course Outcomes

- **CO1:** Explain key events in world history (1500–1900 CE).
- **CO2:** Analyze political and economic transformations.
- **CO3:** Understand causes and effects of major revolutions.
- **CO4:** Evaluate colonialism and imperialism.
- **CO5:** Identify global interactions and cultural exchanges.
- **CO6:** Develop critical understanding of historical changes.

Course Content

Unit I:
The Renaissance and Reformation in Europe. Rise of nation-states and geographical discoveries. Expansion of trade and early capitalism. Impact of scientific revolution on society and knowledge.

Unit II:
Major revolutions including the American, French, and Industrial Revolutions. Causes, events, and consequences. Growth of democracy, nationalism, and modern political ideas.

Unit III:
Colonialism and imperialism in Asia, Africa, and the Americas. Expansion of European powers and its impact on indigenous societies. Economic exploitation and cultural changes.

Unit IV:
19th-century developments including nationalism, unification of Germany and Italy, and social reforms. Emergence of modern world systems and global interactions.

Text Books

1. Norman Lowe – Mastering Modern World History
2. Jeremy Black – Eighteenth-Century Europe
3. Peter N. Stearns – World Civilizations
4. Jain & Mathur – World History

Reference Books

1. E. J. Hobsbawm – The Age of Revolution
2. Geoffrey Barraclough – An Introduction to Contemporary History
3. C. A. Bayly – The Birth of the Modern World
4. Eric Wolf – Europe and the People Without History
5. Immanuel Wallerstein – The Modern World-System
6. David Thomson – Europe Since Napoleon

SEMESTER - VIII

RESEARCH METHODOLOGY & STATISTICS IN PHYSICAL EDUCATION

Course Type: Major Disciplinary Course
Course Code: PE-40002
Standard: UG
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Physical Education and Mathematics/Statistics

Course Objectives

1. To understand the fundamentals of research and statistics.
2. To develop knowledge of research methods in physical education.
3. To learn techniques of data collection and analysis.
4. To understand basic statistical tools and their applications.
5. To develop skills in interpretation of data.
6. To promote scientific and analytical thinking.

Course Outcomes

- **CO1:** Explain the concepts of research and statistics.
- **CO2:** Identify different research methods and designs.
- **CO3:** Apply data collection techniques in studies.
- **CO4:** Analyze data using statistical tools.
- **CO5:** Interpret results and present findings.
- **CO6:** Develop scientific and analytical skills.

Course Content

Unit I:
Introduction to research and statistics including meaning, scope, and importance. Types of research such as descriptive, experimental, and historical research. Steps in research process and identification of research problems.

Unit II:
Research design and methods including variables, hypothesis, sampling techniques, and tools of data collection such as questionnaires, interviews, and observation.

Unit III:
Statistical techniques including measures of central tendency (mean, median, mode) and variability. Presentation of data using tables, charts, and graphs. Introduction to correlation.

Unit IV:
Interpretation of data and report writing. Structure and format of research reports. Ethical issues in research. Use of computers and software in statistical analysis.

Text Books

1. Kothari, C. R. – Research Methodology: Methods and Techniques
2. Thomas, J. R. – Research Methods in Physical Activity
3. Best, J. W. – Research in Education

Reference Books

1. Creswell, J. W. – Research Design
2. Kerlinger, F. N. – Foundations of Behavioral Research
3. Garrett, H. E. – Statistics in Psychology and Education
4. Verma, J. P. – Statistics and Research Methods in Physical Education
5. Singh, A. K. – Tests, Measurements and Research Methods
6. Baumgartner, T. – Measurement for Evaluation in Physical Education.

FITNESS MANAGEMENT

Course Type: Major Disciplinary Course
Course Code: PE-40004
Standard: UG
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Physical Education and Fitness

Course Objectives

1. To understand the concept of fitness management.
2. To develop knowledge of fitness components and assessment.
3. To learn planning and organization of fitness programs.
4. To understand management of fitness centers and facilities.
5. To develop leadership and managerial skills in fitness industry.
6. To promote health and wellness through fitness programs.

Course Outcomes

- **CO1:** Explain the concept of fitness management.
- **CO2:** Identify components and methods of fitness assessment.
- **CO3:** Plan and implement fitness programs.
- **CO4:** Manage fitness centers and facilities effectively.
- **CO5:** Develop leadership and communication skills.
- **CO6:** Promote health and wellness through fitness activities.

Course Content

Unit I:
Introduction to fitness management including meaning, scope, and importance. Components of physical fitness such as strength, endurance, flexibility, and speed. Role of fitness in health and performance.

Unit II:
Fitness assessment and evaluation methods. Tests for measuring fitness components. Planning and designing fitness programs based on individual needs and goals.

Unit III:
Management of fitness centers including organization, equipment, safety measures, and maintenance. Role of fitness trainers and instructors. Client management and motivation techniques.

Unit IV:
Health and wellness promotion through fitness programs. Nutrition, lifestyle management, and stress control. Marketing and promotion of fitness services and facilities.

Text Books

1. Heyward, V. H. – Advanced Fitness Assessment and Exercise Prescription
2. ACSM – Guidelines for Exercise Testing and Prescription
3. Hoeger, W. – Principles and Labs for Fitness and Wellness

Reference Books

1. Baechle, T. R. & Earle, R. W. – Essentials of Strength Training and Conditioning
2. Powers, S. K. – Exercise Physiology
3. McArdle, W. D. – Exercise Physiology
4. Wilmore, J. H. – Physiology of Sport and Exercise
5. Corbin, C. B. – Concepts of Physical Fitness
6. Nieman, D. C. – Exercise Testing and Prescription
7. Bompa, T. – Periodization Training for Sports
8. Plowman, S. A. – Exercise Physiology for Health and Fitness

SPORTS SOCIOLOGY

Course Type: Major Disciplinary Course
Course Code: PE-40006
Standard: UG
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Physical Education and Social Science

Course Objectives

1. To understand the concept and scope of sports sociology.
2. To study the relationship between sports and society.
3. To analyze social factors influencing sports participation.
4. To understand issues like gender, inequality, and culture in sports.
5. To develop awareness of social values through sports.
6. To examine the role of sports in social development.

Course Outcomes

- **CO1:** Explain the concept and importance of sports sociology.
- **CO2:** Analyze the relationship between sports and society.
- **CO3:** Identify social factors affecting sports participation.
- **CO4:** Evaluate issues like gender, inequality, and culture in sports.
- **CO5:** Understand the role of sports in socialization and development.
- **CO6:** Develop awareness of ethical and social values in sports.

Course Content

Unit I:
Introduction to sports sociology including meaning, scope, and importance. Relationship between sports and society. Role of sports in socialization and cultural development.

Unit II:
Social factors influencing sports such as family, education, media, and religion. Role of social institutions in promoting sports. Impact of globalization on sports culture.

Unit III:
Issues in sports including gender inequality, racism, and discrimination. Role of sports in promoting equality, inclusion, and social justice. Women participation in sports.

Unit IV:
Sports and social change including national integration, unity, and development. Role of sports in education, health, and community development. Ethics and values in sports.

Text Books

1. Jay Coakley & Pike, E. – Sports in Society: Issues and Controversies
2. Snyder, E. E. – Sociology of Sport
3. Harry Edwards – Sociology of Sport

Reference Books

1. Horne, J. – Understanding Sport: A Socio-Cultural Analysis
2. Giulianotti, R. – Sport: A Critical Sociology
3. Giddens, A. – Sociology
4. Jarvie, G. – Sport, Culture and Society
5. Maguire, J. – Global Sport
6. Dunning, E. – Sport Matters
7. Bairner, A. – Sport, Nationalism, and Globalization
8. Cashmore, E. – Making Sense of Sports

FIRST AID & SAFETY EDUCATION

Course Type: Major Disciplinary Course
Course Code: PE-40008
Standard: UG
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Health & Physical Education

Course Objectives

1. To understand the principles and importance of first aid.
2. To develop knowledge of safety education in daily life and sports.
3. To learn emergency care and life-saving techniques.
4. To understand prevention of accidents and injuries.
5. To develop skills in handling emergency situations.
6. To promote awareness of health and safety practices.

Course Outcomes

- **CO1:** Explain the concept and importance of first aid and safety.
- **CO2:** Identify different types of injuries and emergencies.
- **CO3:** Apply first aid techniques in emergency situations.
- **CO4:** Understand safety measures and accident prevention.
- **CO5:** Develop skills in handling emergencies effectively.
- **CO6:** Promote health and safety awareness.

Course Content

Unit I:
Introduction to first aid including meaning, importance, and principles. Qualities of a first aider. Concept of safety education and its role in daily life and sports activities.

Unit II:
First aid for common injuries such as cuts, wounds, burns, fractures, sprains, and bleeding. Methods of bandaging and immobilization. Management of unconsciousness and shock.

Unit III:
Emergency care techniques including CPR (Cardio-Pulmonary Resuscitation), artificial respiration, and transportation of injured persons. Handling emergencies like drowning, choking, and heat stroke.

Unit IV:
Safety education including prevention of accidents at home, school, and playground. Fire safety, road safety, and disaster management. Role of awareness and preparedness in safety.

Text Books

1. St. John Ambulance – First Aid Manual
2. American Red Cross – First Aid/CPR/AED Participant's Manual
3. Gupta, L. – First Aid and Safety Education

Reference Books

1. Bailey, B. – First Aid Handbook
2. Mayo Clinic – First Aid Guide
3. Government of India – Disaster Management Manual
4. UNESCO – Safety Education
5. Sharma, R. – Health and Safety Education
6. Park, K. – Preventive and Social Medicine
7. Kumar, S. – Safety and Health Education
8. National Safety Council – Safety Guidelines
9. Occupational Safety Manuals – Workplace Safety

POLITICAL SCIENCE

Course Type: Minor Disciplinary Course
Course Code: PE22001
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Social Science / Civics

Course Objectives

7. To understand the basic concepts of political science.
8. To study the structure and functions of government.
9. To develop awareness about constitution and governance.
10. To analyze political ideologies and systems.
11. To understand rights, duties, and democratic values.
12. To develop critical thinking on political issues.

Course Outcomes

- **CO1:** Explain basic concepts and theories of political science.
- **CO2:** Describe the structure and functions of political institutions.
- **CO3:** Analyze the Indian Constitution and governance.
- **CO4:** Evaluate political ideologies and systems.
- **CO5:** Understand citizen rights and duties.
- **CO6:** Develop awareness of democratic processes.

Course Content

Unit I:
Introduction to political science including meaning, nature, scope, and importance. Basic concepts such as state, nation, sovereignty, power, authority, and legitimacy. Role of political science in understanding society and governance.

Unit II:
Indian Constitution including its features, preamble, fundamental rights, and duties. Structure of government with legislature, executive, and judiciary. Federal system and center-state relations.

Unit III:
Political ideologies such as democracy, socialism, liberalism, and secularism. Political parties, electoral system, and role of media and public opinion in politics.

Unit IV:
Contemporary issues including globalization, human rights, and governance. Role of citizens in democracy, public administration, and policy-making process. Challenges faced by modern political systems.

Text Books

1. M. Laxmikanth – Indian Polity
2. O. P. Gauba – An Introduction to Political Theory
3. V. D. Mahajan – Political Theory

Reference Books

1. D. D. Basu – Introduction to the Constitution of India
2. B. L. Fadia – Indian Government and Politics
3. Andrew Heywood – Politics
4. Harold Lasswell – Politics: Who Gets What, When, How
5. Johari, J. C. – Principles of Modern Political Science

SEMESTER – VIII

RESEARCH METHODOLOGY & STATISTICS IN PHYSICAL EDUCATION

Course Type: Major Disciplinary Course
Course Code: PE-40002
Standard: UG
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Physical Education and Mathematics/Statistics

Course Objectives

7. To understand the fundamentals of research and statistics.
8. To develop knowledge of research methods in physical education.
9. To learn techniques of data collection and analysis.
10. To understand basic statistical tools and their applications.
11. To develop skills in interpretation of data.
12. To promote scientific and analytical thinking.

Course Outcomes

- **CO1:** Explain the concepts of research and statistics.
- **CO2:** Identify different research methods and designs.
- **CO3:** Apply data collection techniques in studies.
- **CO4:** Analyze data using statistical tools.
- **CO5:** Interpret results and present findings.
- **CO6:** Develop scientific and analytical skills.

Course Content

Unit I:
Introduction to research and statistics including meaning, scope, and importance. Types of research such as descriptive, experimental, and historical research. Steps in research process and identification of research problems.

Unit II:
Research design and methods including variables, hypothesis, sampling techniques, and tools of data collection such as questionnaires, interviews, and observation.

Unit III:
Statistical techniques including measures of central tendency (mean, median, mode) and variability. Presentation of data using tables, charts, and graphs. Introduction to correlation.

Unit IV:
Interpretation of data and report writing. Structure and format of research reports. Ethical issues in research. Use of computers and software in statistical analysis.

Text Books

4. Kothari, C. R. – Research Methodology: Methods and Techniques
5. Thomas, J. R. – Research Methods in Physical Activity
6. Best, J. W. – Research in Education

Reference Books

7. Creswell, J. W. – Research Design
8. Kerlinger, F. N. – Foundations of Behavioral Research
9. Garrett, H. E. – Statistics in Psychology and Education
10. Verma, J. P. – Statistics and Research Methods in Physical Education
11. Singh, A. K. – Tests, Measurements and Research Methods
12. Baumgartner, T. – Measurement for Evaluation in Physical Education
13. Thomas, J. R. & Nelson, J. – Research Methods in Physical Activity

POLITICAL AND CULTURAL HISTORY OF ODISHA

Course Type: Minor Disciplinary Course
Course Code: HI-42004
Standard: UG
Credits: 4
L-T-P: 3-1-0
Prerequisite: Basic knowledge of Indian History

Course Objectives

1. To understand the political history of Odisha.
2. To study cultural heritage and traditions of Odisha.
3. To analyze dynasties and administrative systems.
4. To understand art, architecture, and literature of Odisha.
5. To develop awareness about socio-cultural development.
6. To promote knowledge of regional history and identity

Course Outcomes

- **CO1:** Explain political history of Odisha.
- **CO2:** Identify major dynasties and rulers.
- **CO3:** Analyze cultural traditions and heritage.
- **CO4:** Understand art, architecture, and literature.
- **CO5:** Evaluate socio-economic developments.
- **CO6:** Develop awareness of regional identity and culture.

Course Content

Unit I:
Ancient history of Odisha including Kalinga and its political importance. Major dynasties such as Mauryas, Guptas, and Kharavela. The Kalinga War and its impact on Indian history and society.

Unit II:
Medieval history of Odisha including the rule of Eastern Ganga and Gajapati dynasties. Development of administration, economy, and society. Growth of temple architecture and cultural practices.

Unit III:
Cultural heritage of Odisha including art, architecture, dance, music, and literature. Famous temples, festivals, and traditions. Contribution of Odisha to Indian culture.

Unit IV:
Modern history of Odisha including British rule, socio-economic changes, and freedom movement. Formation of Odisha state and development of regional identity and culture.

Text Books

1. K. C. Panigrahi – History of Orissa
2. R. D. Banerji – History of Orissa
3. P. K. Mohanty – Cultural Heritage of Odisha

Reference Books

1. Government of Odisha – District Gazetteers
2. UNESCO – Cultural Heritage Reports
3. Patnaik, N. – Odissi Dance and Culture
4. Mohanty, J. – Art and Culture of Odisha
5. S. N. Rajguru – History and Culture of Odisha
6. Tripathy, B. – Medieval History of Odisha
7. Das, H. – Modern History of Odisha
8. Panigrahi, P. – Archaeology of Odisha



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