

DEPARTMENT OF PHYSICAL EDUCATION HEALTH EDUCATION AND SPORTS

UG SYLLABUS

(B.Sc. PHYSICAL EDUCATION)

Effect from the Academic Year 2019-2020



**J.J.COLLEGE OF ARTS AND SCIENCE
(AUTONOMOUS)**

(Reaccredited at 'A' Grade by NAAC)

PUDUKKOTTAI – 622 422

J.J. COLLEGE OF ARTS AND SCIENCE (AUTONOMOUS), PUDUKKOTTAI
(Re-Accredited by NAAC with “A” Grade in Third Cycle)
DEPARTMENT OF PHYSICAL EDUCATION, HEALTH EDUCATION AND SPORTS
Proposed Course Structure under Choice Based Credit System
(Applicable for the Candidates from Academic Year 2019-2020 Onwards)
B.Sc. Physical Education, Health Education and Sports
Syllabus effect from 2019-2020 onwards

Sem.	Part	Course Code	Course	Course Title	Hrs / Week	Credit	Exam hours	CIA Marks	SE Marks	Total Marks
I	I	U1R1TL1	Lan -I	Tamil/Hindi/Arabic/French –I	6	3	3	25	75	100
	II	U1R1EL1	Lan -II	English –I	6	3	3	25	75	100
	III	U1R1PECC1	CC	Foundation and History of Physical Education and Sports	6	5	3	25	75	100
	III	–	CC	Major Games Practical Group- 1(Basket Ball, Cricket, Kabaddi and Kho-Kho) *	3	#	#	#	#	#
	III	U1R1PEAC1	AC	Theories of Yoga and Gymnastics	6	3	3	25	75	100
	III	-	AC	Allied Practical Yoga and Gymnastics. *	3	#	#	#	#	#
	Total				30	14	-	-	-	400
II	I	U2R1TL2	Lan-I	Tamil/Hindi/Arabic/French –II	6	3	3	25	75	100
	II	U2R1EL2	Lan-II	English –II	6	3	3	25	75	100
	III	U2R1PECC2P	CC	Major Games Practical Group- 1 (Basket Ball, Cricket, Kabaddi and Kho-Kho)	3	5	3	40	60	100
	III	U2R1PEAC2P	AC	Allied Practical Yoga and Gymnastics.	3	3	3	40	60	100
	III	U2R1PECC3	CC	Sports Management	5	5	3	25	75	100
	III	U2R1PEAC3	AC	Test Measurement and Evaluation in Physical Education	5	3	3	25	75	100
	IV	U2R1ES	EVS	Environmental Studies	2	2	3	25	75	100
	Total				30	24	-	-	-	700
III	I	U3R1TL3	Lan. -I	Tamil/Hindi/Arabic/French –III	5	3	3	25	75	100
	II	U3R1EL3	Lan -II	English –III	5	3	3	25	75	100
	III	U3R1PECC4	CC	Methods in Physical Education	5	5	3	25	75	100
	III	U3R1PECC5P	CC	Major Games Practical Group -II (Badminton, Volleyball, Football, Hockey)	5	5	3	40	60	100
	III	U3R1PEAC4	AC	Human Anatomy and Physiology	5	3	3	25	75	100
	III	U3R1PEAC5P	AC	Practical- Evaluation Process in Physical Education. (Test and Measurements)	3	3	3	40	60	100
	IV	U2R1VE	VE	Value Education	2	2	3	25	75	100
	Total				30	24	-	-	-	700

Sem.	Part	Course Code	Course	Course Title	Hrs / Week	Credit	Exam hours	CIA Marks	SE Marks	Total Marks
IV	I	U4R1TL4	Lan.-I	Tamil/Hindi/Arabic/French –IV	5	3	3	25	75	100
	II	U4R1EL4	Lan-II	English –IV	5	3	3	25	75	100
	III	U4R1PECC6	CC	Sports Physiotherapy	6	5	3	25	75	100
	III	U4R1PECC7P	CC	Practical (Mass demonstration Activities Calisthenics, Indian Clubs, Wands, March Past.)	5	5	3	40	60	100
	III	U4R1PEAC6	AC	Research and Statistics for Physical Education and Sports.	6	3	3	25	75	100
	IV	U4R1PESBE1	SBE	Skill Based Elective Course – I (Any one from list in Annexure)	3	2	3	25	75	100
	Total				30	21	-	-	-	600
V	III	U5R1PECC8	CC	Theories of Track and Field	6	5	3	25	75	100
	III	U5R1PECC9	CC	Sports Psychology & Sociology	5	5	3	25	75	100
	III	U5R1PECC10	CC	Health Education	5	5	3	25	75	100
	III	U5R1PECC11P	CC	Practical (Field Events and Vertical Jumps)	5	5	3	40	60	100
	IV	U5R1PEMBE1	MBE	Major Based Elective Course-I (Any one from list in Annexure)	4	4	3	25	75	100
	IV	U5R1PESBE2	SBE	Skill Based Elective Course-II (Any one from list in Annexure)	3	2	3	25	75	100
	IV	U5R1PEIDC1	IDC	Inter Disciplinary Course-I (Any one from list in Annexure)	2	2	3	25	75	100
Total				30	28	-	-	-	700	
VI	III	U6R1PECC12	CC	Theories of Major Games	5	5	3	25	75	100
	III	U6R1PECC13	CC	Sports Training	6	5	3	25	75	100
	III	U6R1PECC14P	CC	Major Practical – (Track Events and Horizontal Jumps).	5	5	3	40	60	100
	III	U6R1PEMBE2	MBE	Major Based Elective Course-II (Any one from list in Annexure)	4	4	3	25	75	100
	III	U6R1PEMBE3	MBE	Major Based Elective Course-III (Any one from list in Annexure)	4	4	3	25	75	100
	IV	U6R1PESBE3P	SBE	Skill Based Elective Course-III (Any one from list in Annexure)	3	2	3	25	75	100
	IV	U6R1PEIDC2	IDC	Inter Disciplinary Course-II (Any one from list in Annexure)	2	2	3	25	75	100
	V	U6R1GS	GS	Gender Studies	1	1	3	25	75	100
	V	-	-	Extension Activity	-	1	-	-	-	
	Total				30	29	-	-	-	800
Grand Total					-	140	-	-	-	3900

CC- Core Course, AC- Allied Course, MBE- Major Based Elective, SBE-Skill Based Elective, IDC- Inter Disciplinary Course, CIA- Continuous Internal Assessment.

I MAJOR BASED ELECTIVE OFFERED (Annexure I)

- 1. Sports Kinesiology**
- 2. Safety Education and First Aid**
- 3. Sports Bio- Mechanics**
- 4. Sports Nutrition and Health Hygiene**
- 5. Exercise Physiology**

II SKILL BASED ELECTIVE OFFERED (Annexure II)

- 1. Fitness and Sports Innovations**
- 2. Modern trends in physical education**
- 3. Teaching practice practical**
- 4. Athletic care and Rehabilitation**
- 5. Sports Technology**

III INTER DICIPLINARY COURSE OFFERED (Annexure III)

- 1. Fundamentals of Yoga.**
- 2. Health Education and First Aid.**
- 3. Fitness and Nutrition**

SPECIFIC OUTCOMES

- 1. The programme gives the Physically, Mentally, Emotionally and Socially strong individual to the society.**
- 2. Utilize the Physical Activities as a tool to manage stress in their life.**
- 3. To acquire basic knowledge on Human Anatomy and Physiology, Bio - Mechanics, Training Methods and various areas in Physical Education.**
- 4. Capability to get employment opportunities in uniform service jobs.**
- 5. The programme gives eligibility to study the teaching oriented Physical Education courses.**

SEMESTER: I
WEEK: 6 Hrs.
TOTAL HOURS: 72 Hrs.

SUB CODE: U1R1PECC1
CREDIT: 5
MAX. MARKS:100

FOUNDATION AND HISTORY OF PHYSICAL EDUCATION AND SPORTS

Objectives

- To study and understand the fundamental concepts of physical education and various allied principles
- To acquire knowledge of history of physical education in India.

UNIT: I INTRODUCTION

(12 Hrs)

Meaning and Definition of Physical Education– Aims and Objectives of Physical education –Scope of Physical education– Need and importance of Physical Education.- Physical Training and Physical Culture.- Recreation – Types of Recreation.

UNIT: II BIOLOGICAL FORMATION, GROWTH AND DEVELOPMENT

(15Hrs)

Biological Formations – Body types (Sheldon and Kretchmer)–Muscle tone, Athletic heart, Vital capacity, Ossification, Reciprocal innervations and unsynchronized development.- Evolution (Period of growth and development) – Body mechanics.- Age Classification – Intelligent Quotient.- Difference between Boys and Girls during Adolescence.

UNIT: III HISTORY OF OLYMPIC MOVEMENTS IN INDIA

(13 Hrs)

History of Physical Education in Sparta and Athens and Pan – Hellenic Festivals.- Olympics Games – Ancient and Modern – Origin – Organization and Conduct of the Game.- Olympic flag, Torch, Oath, Emblem, Ideal and Motto- the Marathon Race – Winter Olympics.

UNIT: IV HISTORY AND DEVELOPMENT OF PHYSICAL EDUCATION

(12 Hrs)

Physical Education in India – Epic age, Buddhist age, Mohammedan age.- Y.M.C.A and its contribution.- Recent developments – AICS, NCC and ACC, NFC, NPED, NSNIS, LNIPE,IOC, IOA, SAI and its Objectives– SDAT (Structure and schemes)

UNIT: V VARIOUS TROPHIES IN SPORTS AND GAMES

(15 Hrs)

Important National and International Trophies –Santosh Trophy, Ranji Trophy, Duleep Trophy, Rengasamy Cup- Thomas Cup, Davis cup, Euro Cup, Wimbledon, fight for Ashes)- Sports Competition – Asian games, Commonwealth games, SAF, AIU, SGFI, RDS and BDS.- Awards and Honour– ArjunaAward, DronacharyaAward and Rajiv GandhiKhelRetnaAward, MaulanaAbulkalam Azad Award and Dayan Chand Award.

UNIT: VI (LATEST LEARNINGS)

(5 Hrs)

Latest development related to the course during the semester concerned– CIA only

Text Books:

- Bucher, Charles A(1986), Foundations of Physical Education, St.Louis: CV Mosby Company.
- Nixon, E E& Cozen, F W (1969), An Introduction to Physical Education, Philadelphia: W.B Saunders Co.
- Thirunarayanan, C. and HariharanS(1990), Analytical History of Physical Education. Karaikudi C.T & S.H Publication.
- Sandeep Kumar “history, principles and foundations in physical education’ ISBN:978-81-921354-4-1, 2016.

Reference Books/ Websites:

- KamaleshM.L(2014). Fundamental Elements of Physical Education, New Delhi:KSK publishers and distributors.
- Perinbaraj, Bevinson. S. (2002) History of Physical Education. Karaikudi: Vinsi Publication.
- www.iosrjournals.org/iosr-jspe/papers/vol3-issue2/ao3020103.pdf

Course Outcomes:

- Studied the fundamental concepts of Physical Education.
- Learned the Historical development of Physical education in India
- Attained knowledge about biological formations of Physical Education.
- Knowledge about sports organization will be enhanced.
- Fair idea about national sports federation/ association were highlighted.

Note: ICT Classes and Self Study also included.

SEMESTER: I
WEEK: 6 Hrs.
TOTAL HOURS: 72 Hrs

SUB CODE: U1R1PEAC1
CREDIT: 3.
MAX. MARKS: 100

THEORIES OF YOGA AND GYMNASTICS

Objectives

- To study and understand the fundamental concepts of Yoga and Gymnastics.
- To acquire knowledge of history of Yoga and Gymnastics and procedure.

UNIT: I INTRODUCTION

(12 Hrs)

Meaning and definition of yoga. History of Yoga.

Aim and objectives of yoga . Principles of Yoga.

Branches of yoga – Jnana, Bhakthi, Karma, Kudalini, Mantra, Hatha and Raja yoga.

UNIT: II ASTANGA YOGA AND EIGHT LIMBS OF YOGA (14 Hrs)

Yoga and Diet. Yoga sutra- Sections of Yoga Sutra.

Raja yoga (Astanga Yoga and Eight limbs of yoga) -Stages with description.

Bahiranga Yoga and Antharanga Yoga.

UNIT: III SURYANAMASKAR

(14 Hrs)

Suryanamaskar - Asanas – Classification of Asana based on Pose, Difficulty and Position.

Guidelines for Practicing Asanas. Difference Between Physical Exercises and Yogic Asanas.

Benefits of Padmasana, Vajrasana, Halasana, Dhanurasana, Sarvangasana, and savasana.

UNIT: IV PRANAYAMA AND MEDITATION

(14 Hrs)

Pranayama – Concept of Pranayama (Nadis, Breath and Bandhas) - Practice of Pranayama (Nadi Suddhi, Nadi Shodhana, Surya Bhedana, Kapalabhati and Sitali).

Kriyas – types of Kriyas – Practice of Kriyas (Neti, Dahuti, Nauli and Trataka). Mudras- Chin, Chinmaya, Brahma, Nasika and Yoga mudra. Meditation- Types of Meditation (Silent, Mantra, Object and Breathing Meditation).

UNIT: V GYMNASTICS

(14 Hrs)

Meaning and Definitions of Gymnastics- Scope of Gymnastics. Type of Gymnastics- Identification of Gymnasts. Gymnastics Apparatus and Specifications- Pommel Horse, Vaulting Horse, Roman Rings, Parallel Bars, Horizontal Bar Balancing Beam, Wall Bars. Gymnastics Skills- Forward Roll, Backward Roll, Head stand, Hand Stand, Cartwheel, Perfect Swing in Parallel Bar, Horizontal Bar and Roman Rings.

UNIT: VI (Latest learning)

(4 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Bava, Gurdial Singh, (1994). *Fundamentals of Men's gymnastics*. New Delhi: Friends publications
- Lawrence, Debbie. (1999). *Exercise to music*. London: A& C Black publishers.
- Dr. Mahendra Kumar Singh, "Yoga Education" ISBN: 978-93-86641- 03-8. 2015

References:

- Swami Kuvalayananda and S.L. Vinekar (1985)- Yogic Therapy.
- Yogasasas: A Teacher's Guide- NCERT, New Delhi.
- B.K.S. IYANKAR, Light on Yoga Harper Collins Publications, Delhi.
- CoopnPhyllis and Milan Trnka, Teaching Gymnastic Skills to Men and Women, Surjeet Publications, Delhi, 1982

Course outcomes

- Studied the history of Yoga and Upanishads.
- Studied the various concept of Yoga in eight limbs.
- Studied the various aspects of gymnastics floor exercise.
- Fair idea about other gymnastics events was given.

Note: ICT Classes and Self Study also included.

SEMESTER: II
WEEKLY Hrs: 6 Hrs.
TOTAL HOURS: 72 Hrs

SUB CODE: U2R1PECC2P
CREDIT: 5
Max. Marks: 100

MAJOR GAMES GROUP-I (PRACTICAL- I) *
(BASKETBALL, CRICKET KABADDI & KHO-KHO)

Objectives

- To impart the History and fundamental skills about the selected major games.
- To understand the various scientific principles in coaching, physical fitness components and conditioning exercises.

UNIT: I (12 Hrs)

- a) General Warming – up
- b) Specific Warming – up

UNIT: II (16 Hrs)

- a) The skills of the game/ Sport are to be taught the following heads.
- b) Stance/ Approach
- c) Execution
- d) Follow Through

UNIT: III (16 Hrs)

- a) Progressive teaching stages of skills.
- b) Lead up activities.
- c) Coaching of skills in relation to the situation.

UNIT: IV (14 Hrs)

- a) The skills of the sports/ games will be taught with the help of the following exercise.
- b) Preparatory exercise.
- c) Basic exercise.
- d) Supplementary exercise.

UNIT: V (14 Hrs)

- a) Individual Tactics (Attack, Defence and performance)
- b) Team Tactics (Attack, Defence and performance)
- c) Selected Rules and their Interpretations.

UNIT: VI (Latest learnings)

Latest development related to the course during the semester concerned – CIA only

Text books

- Aibara, E.B., (1975). *Cricket*. Patiala: National Institute of Sports
- Anand. R.L. (1986). *Play field manual*, Patiala: NIS publication.
- Book of rules of games and sports, (2005). New Delhi: National council of Y.M.C.A of India.
- Rao, E.Prasad (2002). *The complete hand book on Kabaddi*. Vizianagaram: Jagadamba publication.

References:

- Wein Horst (1979). *The Science of Hockey*. London, Pelham Books.
- Dr. P. Mariayyah, Kabaddi, Sports Publications, Raja Street, Coimbatore.
- Dr. P. Mariayyah, Volleyball, Sports Publications, Raja Street, Coimbatore.
- Dhanaraj V. Hubert, Volleyball – A Modern Approach, Patiala, Sainsoris, 1991.
- Dr. Anil Sharma O.P. Sharma Rules of games sports publication 4264/3

Course outcomes

- Gain fundamental knowledge about the ground preparation, its dimensions and markings.
- Various physical fitness components and its types were studied thoroughly.
- Understood the concept of conditioning exercises and warming up.
- Provided the basic knowledge of rules and interpretation of games and sports.

SEMESTER: II
WEEKLY Hrs: 6 Hrs.
TOTAL HOURS: 72 Hrs

SUB CODE: U2R1PEAC2P
CREDIT: 3
MAX. MARKS: 100

YOGA AND GYMNASTICS (ALLIED –PRACTICALS -I)

Objectives

- To acquire the practical knowledge of yogic practises and techniques.
- To practice the various gymnastics skills and techniques properly.

UNIT – I: SURIYANAMASKAR (12 Hrs)

- Suryanamaskar twelve pose and its name.
- Suryanamaskar procedure and techniques.

UNIT – II: ASANAS (20 Hrs)

- | | | | |
|----------------|-----------------------|----------------------|-------------------|
| • Padmasana | • ArdhaMatsyandrasana | • Ardhakaticakrasana | • Savasana |
| • Dhanurasana | • Mayurasana | • ArdhaChakrasana | • Garudasana |
| • Bhujangasana | • Vajrasana | • Ekapada Asana | • Veerabathrasana |
| • Vakrasana | • Paschimottanasana | • Gomukhasana | • Halasana |
| • Matsyasana | • Salababhasana | • Navasana | • Sarvangasana |
| • Ustrasana | • Ardhasalabhasana | • Chakrasana | |
| • Trikonasana | • Natarajasana | • Sirasasana | |

UNIT – III: PRANAYAMA AND MUDRAS (16 Hrs)

- NadiSuddhi, NadiShodhana, Surya Bhedana, Kapalabhati and Sitali.
- Chin, Chinmaya, Brahma, Nasika and Yoga mudra.

UNIT – IV: KRIYAS AND MEDITATIONS (12 Hrs)

- Neti, Dahuti, Trataka, Mantra Meditation and silent meditation

UNIT – V: GYMNASTICS SKILLS (12 Hrs)

MEN

Forward Roll, Backward Roll
Cartwheel, Jump Forward Roll
Perfect Swing on Parallel Bar, Shoulder Stand
Perfect Swing on Horizontal Bar and Hand Stand.

WOMEN

Forward Roll, Backward Roll, Cartwheel
Walking on the beam, Jump to squat stand
Hand stand

UNIT: VI (Latest learnings)

Latest development related to the course during the semester concerned – CIA only

Text books

- Gharote, M.L. & Ganguly, H. (1988). Teaching methods for yogic practices. Lonawala: Kaivalyadhama.
- Iyengar, B.K.S., (2001). Yoga the path to holistic health. Dorling: Kindersley.
- Iyengar, B.K.S., (2003). The Art of Yoga. New Delhi: Harper Collins Publishers.

References:

- Swami Kuvalayananda, Asanas, Kaivalyadhama, Lonavala, Pune.
- B.K.S. IYANKAR, Light on Yoga Harper Collins Publications, Delhi.
- CoopnPhyllis and Milan Trnka, Teaching Gymnastic Skills to Men and Women, Surjeet Publications, Delhi, 1982

Course outcomes

- Learned technique of Suryanamaskar.
- Provided the basic knowledge of corrective asanas.
- Attained knowledge of the relaxative, cultural and meditative asanas.
- Gain knowledge in pranayama, meditation, kriyas and Bandhas techniques.
- Given fair idea about in detail.
- Understood the concept of kriyas practically.

SEMESTER: II
WEEK: 6 Hrs.
TOTAL HOURS: 72 Hrs

SUB CODE: U2R1PECC3
CREDIT: 5
MAX. MARKS: 100

SPORTS MANAGEMENT

Objectives

- To study and understand the fundamental concepts of organization and administration.
- To provide basic knowledge on competition organization, facilities & management and supervision

UNIT: I INTRODUCTION (12 Hrs)

Meaning of Organization and Administration-Procedures of Organization-Aim of Organization-Major phases of Administration.Meaning and Definition of Management –Functions of Management-Guiding principles of Management.Schemes of Management in Physical Education-School, Colleges-University- State.Physical Education Syllabus and Physical Education Periods.Supervision in Physical education-Qualities of a Supervisor.

UNIT: II PLAY FIELD (16 Hrs)

Play area is Schools and College- Facilities and Standard in Physical Education – Factors affecting Facilities and Standard-Location of Playfield (surface and its types) Suggestion for Planning and Constructing the Playfield-Care and Maintenance of Play ground. Gymnasium-Need for Gymnasium-Specification of Gymnasium-Purpose of the Gymnasium- (Gymnastics, yoga, weight training apparatus, Multi – Gym). Swimming Pool-Importance and Need of Swimming Pool-Types of Swimming Pool – Areas in a Swimming Pool–Purification of Water –Regulation to be Observed in the Swimming Pool.

UNIT: III SPORTS COMMITTEES (16 Hrs)

Sports Committee - Purchase Committee - Structure and Functions. Games and Athletic Equipments-Need for the Equipments-Types of Equipments. Indent Approval-Call for quotation- Comparative Statement- Purchase of Equipments. Care and Maintenance of Equipments –Stock Verification-Auction.

UNIT: IV FINANCE AND BUDGET (12 Hrs)

Finance and Budget- Model Physical Education Budget for a Year- Guiding Factors for the Preparation of Budget-Rules of Utilization of Games Fund. Records and Registers- AttendancePhysical Fitness-Stock-Accession-Auction-Issue Registers-Contingency.Files-Intramural-Extramural-Purchase-Miscellaneous Files.

UNIT: V COURSES IN PHYSICAL EDUCATION (11 Hrs)

Teacher Education Courses in Physical Education- D.P.Ed; B.P.Ed and M.P.Ed.. Higher Education in Physical Education – M.Phil and Ph.D. Teaching careers- P.ET, PD, DPE, ADPE, DDPE, Assistant Professor, Associate Professor, Professor, Principal. Coaching Education Courses in Sports- Diploma in Sports Coaching, Master of Sports Coaching. Coaching careers-Coach, DSO, RSM, DGM and GM. Health related career- Fitness trainer, Gym Instructor and Sports therapist.

UNIT: VI (Latest learnings) (5 Hrs)

Latest development related to the course during the semester concerned – **CIA** only

Text books

- Broyles, F. J. & Rober, H. D. (1979). Administration of sports, Athletic programme: A Managerial Approach. New York: Prentice hall Inc.
- Bucher, C. A. (1983). Administration of Physical Education and Athletic programme.St. Louis: The C.V. Mosby Co.
- Dr. Amit Banerjee, “Sports Managements”. ISBN:978-81-8909-203-0. 2017

References:

- SamiranChakraborty – Sports Management
- S.S. Roy, Sports Management: Friends Publications: New Delhi.
- SamiranChakraborty, Sports Management: Sports Publications: Delhi, 1998.
- Janet A. Wessel, Luke Keely, Achievement – Based Curriculum Development in Physical Education: Lea &Febiger, 1986.

Course outcomes

- Learned the importance and principles of organisation and administration in Physical Education.
- Details and ways in competition organisation were thought.
- Attain knowledge on facilities management.
- The time table management preparation were knowledge was gained.
- The office management, record, register and budget were learned.

Note:ICT Classes and Self Study also included.

SEMESTER: II
WEEK: 6 Hrs.
TOTAL HOURS: 72 Hrs

SUB CODE: U2R1PEAC3
CREDIT: 5
MAX. MARKS: 100

TEST, MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION

Objectives

- To impart the fundamentals of Test, Measurement and Evaluation.
- To understand various fitness tests and sports skill tests.

UNIT: I INTRODUCTION (12 Hrs)

Meaning and Definition of the Terms- Test, Measurement and Evaluation. Need and Importance Measurement and Evaluation in Physical Education. Criteria of Test Selection- Validity, Reliability and Objectivity. Classifications of Test- Standardized test and Teacher made test. Rating scales- Subjective rating and Objective rating. Test Administration.

UNIT: II PHYSICAL FITNESS (14 Hrs)

Components of Physical fitness- Health Related Physical fitness and Performance Related Physical fitness. Strength test- Dip Strength test- Bent knee sit up test- Push-ups- Pull-ups. Cardio-Vascular Test- Cooper's test- Harvard step-up test. Flexibility test- Sit and reach test. Agility test- Shuttle run test. Speed- 50mts- Stride length and Stride frequency. Balance – Stork stand. Explosive power- Standing Broad jump- Sargent jump (Vertical jump)

UNIT: III AAPHERD (12 Hrs)

AAPHERD Health Related Physical Fitness test. AAPHERD Youth Fitness Test. Motor ability- Newton Motor Ability test- Barrow Motor Ability test. Motor Educability- Methny Johnson Test. Posture test- New York Posture test

UNIT: IV TEST IN GAMES (20 Hrs)

Basketball	-	Johnson Basketball Ability test.
Hockey	-	Schmithals French Field Hockey test
Soccer	-	Mc Donald Soccer test.
Volley ball	-	Russel Lange- Volley ball test.
Badminton	-	French short service Test.
Tennis	-	Dyer tennis Test.

UNIT: V PHYSIOLOGICAL MEASUREMENTS (10 Hrs)

Physiological Measurements- Resting Pulse Rate, Respiratory Rate, Breath Holding Time, Vital Capacity, Aerobic Power and Anaerobic Power. Anthropometrical Measurements- Height, Weight, Girth, Length, Breadth, Body Composition- BMI. Psychological Measurements- Anxiety, Aggression and Motivation.

UNIT: VI (Latest learnings) (4 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Barrow, Harold M. Rosomany (1964). A physical approach to measurement in physical education, Philadelphia: Lea and Febiger
- Kansal, K. Devinder (2012). A practical approach to test, measurement and evaluation. New Delhi: SSS publication
- Morrow, Jr James., Jackson, Allen, Disch, James, Mood, Dale, (2011). Measurement and Evaluation in Human Performance with Web Study Guide-4th Edition.
- Dr. Amit Banerjee, "Sports Managements". ISBN:978-81-8908-202-4. Edition. 2017

References:

- Bosco, James. (1983). Measurement and Evaluation in Physical Education and sports, New Jersey, Prentice Hall Inc.
- Barry L. Johnson, Jack K. Nelson. Measurements for Evaluation in physical education. Surjeet Publications.
- Horold, M. Borrow. A Practical applied to measurement in Physical Education.

Course outcomes

- Studied the fundamentals of test, measurement and evaluation.
- Learned the need and importance of test, measurements and evaluation.
- Provided the basic knowledge of criteria for administration of test.
- Attained knowledge about classification of test.

Note: ICT Classes and Self Study also included.

SEMESTER: III
WEEK: 5 Hrs.
TOTAL HOURS: 60Hrs

SUB CODE: U3R1PECC4
CREDIT: 5
MAX. MARKS: 100

MAJOR PAPER - IV
METHODS IN PHYSICAL EDUCATION

Objectives

- To study and understand the fundamental concepts and teaching aids.
- To provide basic knowledge on lesson plan and teaching innovations.

UNIT – I INTRODUCTION (8 Hrs)

Meaning – Factors influencing Method. Presentation techniques-Steps in the way of Presentation. Class Management (General and Specific) – Principles of Class Management. Teaching aids.

UNIT – II PHYSICAL ACTIVITIES AND INDIGENOUS ACTIVITIES (12 Hrs)

Explain various physical activities in the field of Physical Education – Calisthenics, Marching, Minor and Major games, Indigenous activities, Rhythmic activities, Gymnastics, Defensive arts and Swimming-Track and Field events-Asanas. Methods of teaching Physical activities-Variety commands.

UNIT – III LESSON PLAN (10 Hrs)

Lesson plan-values of lesson plan. Types of lesson plan
General lesson plan-Particular lesson plan. Parts of lesson plan. Preparation of lesson plan.

UNIT – IV TOURNAMENTS AND FIXTURES (12 Hrs)

Meaning of Tournaments. Single Knock out – Seeding – Special Seeding Fixtures. League Fixtures – Cyclic and Stair case method. Combination Tournaments. Merits and Demerits of Knock out and League tournaments. Method of deciding winner in the League tournaments - Tie breaking in league tournaments.

UNIT – V SPORTS MEET (14 Hrs)

Intramural Competition – Objectives – Method of Organizing and conducting – Units for Competition – Intramural Committee. Extramural Competition – Benefits – Drawbacks – Methods of Organizing and Conducting.

Group competitions- Benefits-Methods of organizing and conducting. Sports Meet – Standard and Non – Standard – method of organizing and conducting Sports meet-Handicap Sports, telegraphic sports and Tabloid sports.

Play days – method of organization and conducting -model programme of play days.

UNIT: VI (Latest learnings) (4 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Bhatia, & Bhatia, (1959). *The principles and methods of teaching*. New Delhi: Doaba House.
- Kochar, S.K. (1982). *Methods and techniques of teaching*. New Delhi: Sterling Publishers

References book:

- Dheer, S., & Radhika Kamal, Organization, and Administration of Physical Education of Physical Education, Friends Publication, New Delhi, 1991.
- Voltner, Edward. F., Arthur A. Esslinger, Betty Foster McCule and Kenneth G. Tillman (1979), *The Organization and Administration of Physical Education*, Prentice Hall, Inc., New Jersey.

Course outcomes

- Fair idea about Teaching Technique was given.
- Learned the various kinds of teaching aids.
- Focused on teaching lesson plan in detail.
- The basic knowledge about the teaching innovations is given.
- Elaboration of the role of educational technology and its scope & importance.
- Provided the evaluation system of teaching.

Note: ICT Classes and Self Study also included.

SEMESTER: III
WEEK: 5Hrs
TOTAL HOURS: 60Hrs

SUB CODE:U3R1PECC5P
CREDIT: 5
MAX. MARKS: 100

MAJOR GAMES PRACTICAL GROUP II
(BADMINTON, VOLLEYBALL, FOOTBALL AND HOCKEY)

Objectives

- To impart the History and fundamental skills about the selected major games.
- To understand the various scientific principles in coaching, physical fitness components and conditioning exercises.

UNIT: I **(10 Hrs)**

- a) General Warming-Up
- b) Specific Warming-UP

UNIT: II **(14 Hrs)**

- a) The skills of the game/ sport are to be taught under the following heads.
- b) Stance/ Approach
- c) Execution
- d) Follow Through

UNIT: III **(14 Hrs)**

- a) Progressive teaching stages of skills.
- b) Lead up activities.
- c) Coaching of skill in relation to the situation.

UNIT: IV **(12 Hrs)**

- a) The skills of the sports/game will be taught with the help of the following exercise.
- b) Preparatory exercise.
- c) Basic exercise.
- d) Supplementary exercise.

UNIT: V **(12 Hrs)**

- a) Individual Tactics (Attack, Defense and high performance)
- b) Team tactics (Attack, Defense and high performance)
- c) Selected Rules and their Interpretations.

UNIT: VI (Latest learnings)

Latest development related to the course during the semester concerned – **CIA** only

Text books

- Aibara, E.B., (1975). *Cricket*. Patiala: National Institute of Sports
- Anand. R.L. (1986). *Play field manual*, Patiala: NIS publication.
- Book of rules of games and sports, (2005). New Delhi: National council of Y.M.C.A of India.
- Rao, E.Prasad (2002). *The complete hand book on Kabaddi*. Vizianagaram: Jagadamba publication.

References:

- Coleman Brain et al. (1976), Ep Publishing Ltd.
- Tyson Frank (1985). *The Cricket Coaching Manual*. Calcutta, Rupa& Co.
- Carting Ganagon, *Play Better Soccer in All Colour*, W.B. Saubders Company, 1972
- Dr.Anil Sharma O.P.Sharma *Rules of games sports publication* 4264/3

Course outcomes

- Gain fundamental knowledge about the ground preparation, its dimensions and markings.
- Various physical fitness components and its types were studied thoroughly.
- Understood the concept of conditioning exercises and warming up.
- Provided the basic knowledge of rules and interpretation of games and sports.

SEMESTER: III
WEEK: 5 Hrs
TOTAL HOURS: 60Hrs

SUB CODE: U3R1PEAC4
CREDIT: 3
MAX. MARKS:100

HUMAN ANATOMY AND PHYSIOLOGY

Objectives

- To provide basic knowledge about human anatomy and physiology.
- To study the various systems in the human body and their functions.

UNIT: I INTRODUCTION

(12 Hrs)

Meaning and definition of Anatomy and Physiology. Cell-Structure and Functions of various parts of the Cell. Tissues-types and Functions of Various Tissues-(Epithelial, Muscular, Connective, and Nerves tissues) Myology, Histology, Osteology, Arthrology, Dermatology, Ophthalmology, Cardiology, Neurology, Nephrology, Anterior, Posterior, Lateral, Medial, Inferior and Superior. Need and importance of anatomy and physiology.

UNIT: II SKELETON

(12 Hrs)

Meaning and Functions of Skeleton-Exoskeleton and Endoskeleton (Axial and Appendicular Skeleton) Bones-Classifications and Functions-General Feature of different bones of the body Scapula, Humerus, Radius and Ulna, Pelvic bone, Femur, Patella, Vertebral Column Tibia and Fibula and Bones of the Skull. Joints-Definition and Classification of Joints-Diarthrosis, Amphiarthrosis and Synarthrosis-Classification of Freely Movable Joints.

UNIT: III FUNCTIONS OF HEART AND BLOOD

(12 Hrs)

Cardio-Vascular System-Structure and Functions of Heart- Circulation of the Blood-Stroke Volume and Cardiac Output- Brady Cardia and Tachy Cardia -Blood Pressure. Respiratory System-Structure of the Lungs and Mechanism of Respiration-Tidal Volume, Residual Volume, Minute Volume. Blood-Constitutions of Blood-Main Functions of Blood-Blood Groups-Blood Clotting Mechanism.

UNIT: IV FUNCTIONS OF LIVER. NERVOUS SYSTEM

(10 Hrs)

Digestive System-Structure and Functions of various parts- Functions of Liver. Nervous System- Structure and Functions of Brain and Spinal Cord- Functions of Neuron Reflex Action and Reflex Arc. Excretory System – Structure and Functions of Kidney-Structure and Functions of Skin.

UNIT: V STRUCTURE OF VARIOUS GLANDS

(10 Hrs)

Endocrine System-Structure of Various Glands, Types and their role in growth, development and regulations of Body functions-Pituitary, Thyroid, Parathyroid, Adrenal and Pancreas glands. Difference between Hormones and Enzymes.

UNIT: VI (Latest learnings)

(4 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Pearce, Evelyn B., (1979) Anatomy and physiology for Nurses, London: Faber and Faber Ltd.
- Wilmore, Jack H and Costill, David L. (1994). Physiology of Sports and Exercise. Human kinetics.
- Wilson, Kathleen J. W. (1987). Anatomy and Physiology, Health and illness. 6th Edition. Churchill Livingstone Edinburgh. Publication.
- Dr. Harsh Kumar Yadav, “Anatomy and Physiology” ISBN: 978-81-921352-1-2. Edition. 2016.

References:

- Guyton A.C., Functions of the Human Body, London, W.B. Saunders Company, 1969
- Seeley et. al. Anatomy and Physiology McGraw Hill.
- Srivastava et. al., Text Book of Practical Physiology, Calcutta Scientific Book Agency, 1976

Course outcomes

- Provided basic knowledge about the human anatomy and Physiology.
- Studied the various systems in the human body and their functions.
- Had highlight the need and importance of anatomy and physiology in the field of Physical Education.
- Highlights on selected systems in the human body.

Note: ICT Classes and Self Study also included.

SEMESTER: III
WEEK: 3Hrs
TOTAL HOURS: 36 Hrs

SUB CODE: U3R1PEAC5P
CREDIT: 3
MAX. MARKS: 100

ALLIED PAPER - V

EVALUATION PROCESS IN PHYSICAL EDUCATION (ALLIED PRACTICALS-II)

Objectives

- To impart the fundamentals of Test, Measurement and Evaluation.
- To understand various fitness tests and sports skill tests.

UNIT: I

(6 Hrs)

Body composition-skin fold measurement- Triceps-Biceps-Supra-Iliac, Muscular endurance/Strength-one minutes bent knee sit ups, Flexibility-Sit and reach test. Cardio respiratory endurance-nine minutes run, twelve minutes run

UNIT: II

(8 Hrs)

Speed-50 meters run test- measuring stride frequency- stride length. Agility- 4X10 shuttle run, Explosive power-Horizontal (Standing broad jump)- Vertical (Sargent jump). Balance-stork stand, Reaction time and movement time (using apparatus test)

UNIT: III

(6 Hrs)

AAPHERD Youth Fitness test, JCR Fitness test
Barrow Motor Ability test, Metheny- Johnson Motor Educability test.

UNIT: IV

(8 Hrs)

Basket ball-Johnson test, Football-McDonald Soccer test- Volleyball.
Volleyball test-Russell Lange Test ,Hockey-Shemithals French field Hockey test.
Badminton – French short service Test.Tennis – Dyer Tennis Test.

UNIT: V

(8 Hrs)

Height and weight measurement –BMI, Length measurement –Arm and Leg
Breath measurement-Hand, Ankle, Foot, Girth measurement – Arm, Thigh, Calf.
Physiological Measurements-Pulse rate, Breath holding time, vital capacity.

UNIT: VI (Latest learnings)

Latest development related to the course during the semester concerned – **CIA** only

Text books

- Barrow, Harold M. Rosomany (1964). A physical approach to measurement in physical education, Philadelphia: Lea and Febiger
- Kansal, K. Devinder (2012). A practical approach to test, measurement and evaluation. New Delhi: SSS publication
- Morrow, Jr James., Jackson, Allen, Disch, James, Mood, Dale, (2011). Measurement and Evaluation in Human Performance with Web Study Guide-4th Edition

References:

- Bosco, James. (1983). Measurement and Evaluation in Physical Education and sports, New Jersey, Prentice Hall Inc.
- Barry L.Johnson, Jack K.Nelson. Measurements for Evaluation in physical education. Surjeet Publications.
- Horold, M.Borrow. A Practical applied to measurement in Physical Education.
- Safrit, Margarit, J. (1986). *Measurement in Physical Education and Exercises science*, St louis Times MirrorMos by college publishing.
- A.K.Gupta. *Tests & Measurements in physical Education*. New Delhi. Sports Publication

Course outcomes

- Studied the fundamentals of test, measurement and evaluation.
- Learned the need and importance of test, measurements and evaluation.
- Understood the role of measurement and evaluation in Physical Education.
- Created awareness on measuring the posture.

SEMESTER: IV
WEEK : 6 Hrs.
TOTAL HOURS: 72 Hrs

SUB CODE: U4R1PECC6
CREDIT: 5
MAX. MARKS: 100

MAJOR PAPER - VI
SPORTS PHYSIOTHERAPY

Objectives

- To provide the basic knowledge about Sports Physiotherapy and using procedure equipment.
- To educate on Massage and Therapeutic exercise and Rehabilitation.

UNIT – I INTRODUCTION (12 Hrs)

Meaning of Physiotherapy – Guiding Principles of Physiotherapy – Importance of Physiotherapy.
Posture – Meaning and Definition – Types of Posture – Values of Good Posture – Drawbacks and Causes of Poor Posture – Concepts of posture. Posture Deviations and the Corrective Exercise for Kyphosis, Lordosis, and Scoliosis, Knock knee, Bowleg and Flat foot.

UNIT – II HYDROTHERAPY – CRYOTHERAPY (14 Hrs)

Hydrotherapy – Cryotherapy (Ice Towel, Ice water Immersion, Ice Packs, Ice Cube Massage, Spray Coolants)-Thermo therapy (Hot pack, Hot Water Bag, Hot water Bottle, Fomentation)- Whirlpool Bath – Wax Bath-Contrast Bath- its Modifications. Electrotherapy – Infra – red rays irradiation therapy and Ultra – sound wave Diathermy.

UNIT – III MASSAGE (16 Hrs)

Massage – History of Massage – Swedish Massage System – Points to be considered in giving Massage – Contra -indication of Massage – Physiological and Psychological Effects of Massage. Classification of Massage Manipulation – Stroking, Pressure, Percussion, Shaking Manipulations – Self Massage Manipulation Techniques.

UNIT – IV THERAPEUTIC EXERCISES AND REHABILITATION (10 Hrs)

Meaning of Therapeutic Exercises and Rehabilitation. Physiological Classifications of Movements- Voluntary and Involuntary Movements. Therapeutic Movements – Passive, Active, Assistive and Resistive Movements.

UNIT – V CRUTCHES AND TRACTIONS (15 Hrs)

Types of Crutches- Types of Traction- Equipments used in Exercise Therapy (Pronator, Supinator, Wobble Board, Wall bar, Pulley Circuits, Shoulder Wheel etc). Reconditioning- Types of Reconditioning Programmes. Treatment of Patient in Individual or in groups/Classes.

UNIT: VI (Latest learnings) (5 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Conley, M. (2000). *Bioenergetics of exercise training*. In T.R. Baechle, & R.W. Earle, (Eds.), *Essentials of Strength Training and Conditioning* (pp. 73-90). Champaign, IL: Human Kinetics.
- Christine, M. D., (1999). *Physiology of sports and exercise*. USA: Human Kinetics.
- Mathew, D.K. & Fox, E.L., (1971). *Physiological basis of physical education and athletics*. Philadelphia: W.B. Saunders Co.
- Williams, J. G. P. (1962). *Sports medicine*. London: Edward Arnold Ltd.
- Dr. Hamant Varma, “Sports Medicine, Physiotherapy”. ISBN:978-81-921352-7-4. Edition. 2016.

References:

- Tidy's – Physiotherapy 12th Edition. 1996
- Anderson, J.R. (ED) 1985 12th edition, Edward Arnold, London.
- Barnwell, B. and Gall, B. (1988) Physical Therapy, London.

Course outcomes

- Provided the basic knowledge about Sports Physiotherapy.
- Learned the fundamental concepts and principles of Sports Physiotherapy.
- Understood the concept of massage.
- Studied the importance of therapeutic exercise..
- Learn the fundamentals of rehabilitation.

Note: ICT Classes and Self Study also included.

SEMESTER: IV
WEEK :5 Hrs.
TOTAL HOURS: 60Hrs

SUB CODE: U4R1PECC7P
CREDIT: 5
MAX. MARKS: 100

PRACTICAL MASS DRILL ACTIVITIES
(CALISTHENICS, WANDS, INDIAN CLUBS, MARCH PAST)

Objectives

- To provide fundamental practical knowledge on Mass drill activities.
- To develop the rhythmic activities such as Calisthenics, Wands, Indian Clubs, March Past.

UNIT – I (14 Hrs)

Assembly and Roll Call.
Warming- up.
Class formation
Instruction about formal activities

UNIT –II (14 Hrs)

Demonstration of mass drill activities.
Doing by count

UNIT-III (12 Hrs)

Supervising and Rectifying Mistakes
Exercise with continuously and rhythmically

UNIT – IV (14 Hrs)

Closing order formation
Assembly and disposal

UNIT – V (6 Hrs)

Record and Viva

UNIT: VI (Latest learnings)

Latest development related to the course during the semester concerned – CIA only

Text books

- Lawrence, Debbie. (1999). *Exercise to music*. London: A& C Black publishers.

References:

- Dheer,S.,&Radhika Kamal, Organization, and Administration of Physical Education of Physical Education, Friends Publication, New Delhi, 1991.
- Voltner, Edward. F., Arthur A.Esslinger, Betty Foster McCule and Kenneth G.Tillman (1979), The Organization and Administration of Physical Education , Prentice Hall, Inc., New Jersey.
- Coleman Brain et al. (1976), Ep Publishing Ltd.
- Tyson Frank (1985). The Cricket Coaching Manual. Calcutta, Rupa& Co.
- Carting Ganagon, Play Better Soccer in All Colour, W.B. Saubders Company, 1972
- Dr.Anil Sharma O.P.Sharma Rules of games sports publication 4264/3

Course outcomes

- Studied the various aspects of mass drill activities.
- Fair idea about light apparatus activities.
- Provided the practice in count wise exercise.
- Gain knowledge of the various rhythmic activities.

SEMESTER: IV
WEEK :5 Hrs.
TOTAL HOURS: 60Hrs

SUB CODE: U4R1PEAC6
CREDIT:3
MAX. MARKS: 100

RESEARCH AND STATISTICS FOR PHYSICAL EDUCATION AND SPORTS

Objectives

- To provide the basic knowledge of research in physical education.
- To impart the fundamentals concept of statistics.

UNIT – I INTRODUCTION (12 Hrs)

Research- Meaning and Definition. General Types of research-Basic, Action and Applied research. Specific classification of research-Comparative, Relationship, Predictive, Experimental, Historical and case study research. Need and importance of research in Physical Education and Sports.

UNIT- II RESEARCH PROBLEM (12 Hrs)

Criteria for selection the research problem.
Research proposal. Hypothesis – formulation of hypothesis. Research report

UNIT – III STATISTICS (12 Hrs)

Meaning and Definition of Statistics-History of Statistics and Types of Statistics
Data – Quantitative and Qualitative data – Grouped and Un-Grouped data.
Need and Importance of Statistics in Physical Education and Sports.

UNIT – IV MEASURES OF CENTRAL TENDENCY (12 Hrs)

Measures of Central Tendency- Mean, Median and Mode – Definitions. Computation of Mean, Median and Mode from the Un-grouped data and discrete data. Specific Characteristics and Uses of Measures of Central Tendency. Measures of Variability - Range – Quartile deviation – Mean deviation – Standard deviation – Definitions. Computation of Standard deviation, Quartile deviation and Mean deviation Standard deviation from the Un-grouped data. Specific Characteristics and Uses of Measures of Variability.

UNIT – V CORRELATION (8 Hrs)

Meaning and Definition of Correlation. Types of Correlation.
Computation of Product Moment Correlation from the Un-grouped data.

UNIT: VI (Latest learnings) (4 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Clark, H. H., & Clark, D. H. (1975). *Research process in physical education*. Englewood cliffs, New Jersey: Prentice Hall, Inc.
- Clarke, David H. and Clarke H. N. Hares. (1986). *Research Process in Health Education Physical Education and Recreation*. Englewood Cliffs, New Jersey, Prentice Hall, Inc.
- Verma, J. P. (2000). *A text book on sports statistics*. Gwalior: Venus Publications. Best, J.W. (1963). *Research in education*. U.S.A.: Prentice Hall.
- Dr. Amit Banejee. “ Research and Statistic in Physical Education” ISBN: 978-81-8908-205-3. Edition. 2017.

References:

- Dhananjay Shaw – Fundamental Statistics in Physical Education and Sports Sciences
- Best, John W and James V. Kahn. (1992). *Research in Education*. New Delhi: Prentice Hall of India.
- Berg, Kris E and Richard W. Latin. (1994). *Essentials of Modern Research Methods in Health, Physical Education, and Recreation*. New Jersey. Prentice Hall.
- Clarke, David H and H. Harrison Clarke. (1984). *Research Process in Physical Education, Recreation, and Health*. New Jersey: Prentice Hall, 1984

Course outcomes

- Provided the basic knowledge of Research in Physical Education.
- Studied the various types of Research.
- Preparing research proposal was studied thoroughly.
- Attained knowledge about writing the research report.
- The fundamentals concept of statistics was learned.
- Application of statistical software was studied.

Note: ICT Classes and Self Study also included.

SEMESTER: V
WEEK: 5 Hrs.
TOTAL HOURS: 60 Hrs

SUB CODE: U5R1PECC8
CREDIT: 5.
MAX. MARKS: 100

THEORIES OF TRACK AND FIELD

Objectives

- To provide fundamental knowledge about Track and Field.
- To provide basic knowledge about Marking and officiating techniques .

UNIT – IIAAF STRUCTURE AND FUNCTIONS (12 Hrs)

Meaning of Athletics – Track and Field events-Classification of Events.
IAAF and AFI – Structure and Functions.
Definition of Amateurism and Professionalism in Sports.
Age groups – Youth Boys and Girls – Junior Men and Women – Master Men and Women.

UNIT – II TRACK EVENTS (12 Hrs)

Sprint Events – Crouch Start – Types of Finishing. Middle Distance Events and Long Distance Events
Hurdles – Various Stages. Relay – Visual and Non-Visual Method – Upsweep, down sweep and Push technique.

UNIT – III FIELD EVENTS (12 Hrs)

Jumping Events – Long Jump, Triple Jump and High Jump and their various Stages.
Throwing events – Shot put, Discus throw and Javelin throw, and their various Stages.
Combined Events – Pentathlon, Heptathlon, Octathlon and Decathlon.

UNIT – IV TRACK – STANDARD AND NON – STANDARD (12 Hrs)

Types of Track – Standard and Non – Standard.
Types of Running Surface – Mud, Grass, Cinder and Synthetic. Need for a Standard Track.
Guiding Principles of a Standard Track. Layout of 200mts Track Marking – Stagger Start, Arc Start, Relay Marking. Layout of 400mts Track Marking – Stagger Start, Arc Start, Relay Marking, Hurdles Marking.

UNIT – V MARKING (8 Hrs)

Layout of area for all Field events with all Specifications – Long Jump, Triple Jump, High Jump, Shot put,
Discus throw and Javelin throw.
Basic Rules and Regulations related to Track and Field events- Tie breaking system.

UNIT: VI (Latest learnings) (4 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Anand. R.L. (1986). *Play field manual*, Patiala: NIS publication.
- *Book of rules of games and sports*, (2005). New Delhi: National Council of Y.M.C.A of India.
- Bosen, Ken O. (1994). *Track & Field Fundamental Techniques*, Patiala: MS Publication.
- Dr. Sellamuthu Saraboji “Athletics Rulls” ISBN: 978-93-80800-53-0. 2019

References:

- Ken O. Bosen, *Track & field Fundamental Techniques*, NIS Publications, Patiala.
- Doherty, J. Mennath, *Modern Track and Field*, Englewood cliffs, Prentice Hall.Inc., New Jersey.
- Dr. Anil Sharma, O.P. Sharma. *Rules of sports*, sports publication, Ansari Road, New Delhi.
- Conling David, *Athletics*, London Robert Hale 1980.

Course outcomes

- Learned about the Track and Field and its organizations.
- Provided basic knowledge about Sprint, Hurdles, Relay and Field events.
- Attained the knowledge of rules and regulation about Track and Field.
- Understood the important concept in coaching in throwing events.
- Attained the knowledge of Marking about 200M and 400M track and all Field events.

Note:ICT Classes and Self Study also included.

SEMESTER: V
WEEK: 5 Hrs.
TOTAL HOURS: 60 Hrs

SUB CODE: U5R1PECC9
CREDIT: 5
MAX. MARKS:100

SPORTS PSYCHOLOGY AND SOCIOLOGY

Objectives

- To provide the basic knowledge on Sports Psychological factors such as Personality, Motivation & Anxiety.
- To study the Sociology, its need and importance and its types.

UNIT – I INTRODUCTION

(12 Hrs)

Meaning and Definition of Psychology and Sports Psychology. Nature and Scope of Sports Psychology. History of Sports Psychology in India. Branches of Sports Psychology
Need and Importance of Sports Psychology in the field of Physical Education and Sports

UNIT – II PERSONALITY

(14 Hrs)

Perception-Characteristics of perception-Theories of perception-Wrong or Errors of perception-Acuity of sense (Visual, Auditory, Tactile and Kinesthetic perception).
Cognitive process-Cognition-Relationship between intelligence and motor learning-Motor and Physical characteristics of mentally retarded. Personality-Meaning and definition-Characteristics of Personality-Types of Personality-Composition of Personality.

UNIT – III MOTIVATION

(10 Hrs)

Learning process –Motivation-Types-Kinds-Motivational factors-Feedback. Theories of learning-Laws of learning-Transfer of learning-Learning curve-Kinds of learning -Theories of play.
Emotional factors-Tension, Anxiety and Stress. Aggression-Types-Theories of Aggression - Aggression and Athletic competition. Autogenic training and its effects.

UNIT – IV SOCIOLOGY AND SPORTS SOCIOLOGY

(10 Hrs)

Meaning and Definitions of Sociology and Sports Sociology-Nature and Scope of Sociology in Physical Education and Sports-Importance of Sociology in Physical Education and Sports-Social factors in Sports-Women Sports with reference to social aspects- Sociometry- Retention and forgetting – theories of Retention and forgetting.

UNIT – V LEADERSHIP

(10 Hrs)

Leadership –types of leader-qualities of a leader-training for leadership-student leadership. Group dynamics-kinds of group. Spectators and fans-types of audiences –effect of spectators and fans on performance-merits and Demerits of spectators and fans. Group cohesion-group interaction-group membership-communication-Size.

UNIT: VI (Latest learnings)

(4 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Blair, J. & Simpson, R. (1962). Educational psychology, New York: McMillan Co.
- Cratty, B. J. (1968). Psychology and physical activity. Eaglewood Cliffs. Prentice Hall.
- Dr. Sandeep Kumar. "Sports Psychology and Sociology" ISBN: 978-81-921352-6-7. Edition. 2016.

References:

- Brad Hatfield – Psychology of Sports .
- Morgan, King, Weigh, Schopler – Introduction to Psychology.
- Alderman A.B. Psychological Behaviour in sports W.B. Saundar company, Saundar 1974.
- Puni A.T. Sports psychology chanduga NIS.
- Alderman Psychology Behavior
- Cratty B.J. Psychology and Physical activity

Course outcomes

- Studied the importance and scope of Sports Psychology and Sociology.
- Understood the characteristics of personality, its dimension and types.
- Given fair idea about the methods of practice in sports psychology.
- Learned the need, importance and scope of sport sociology.

Note: ICT Classes and Self Study also included.

SEMESTER: V
WEEK : 5 Hrs.
TOTAL HOURS: 60 Hrs

SUB CODE: U5RPECC10
CREDIT: 5
MAX. MARKS: 100

HEALTH EDUCATION

Objectives

- To provide the fundamentals concepts of Health Education and Aim.
- To enable the students to understand the various communicable and non-communicable diseases.

UNIT – I INTRODUCTION

(10 Hrs)

Meaning and definitions of Health-Aspects of Health-Physical, Mental, Social and Spiritual.
Factors influencing Health-Importance of Good Health.Meaning and definition of Health Education-
Scope of Health Education-Aims and Objectives of health education –Principles of health education.

UNIT – II PERSONAL HEALTH

(12 Hrs)

Personal Health (Care of skin, hair, eyes, ears, teeth, nose, hands and feet)-Rest and sleep (Need of good sleep and effect of Insomnia)-Relaxation (Need and technique).Physical Health – Characteristics of Physically Healthy person. Mental Health-Meaning and definitions-Characteristics of a Mentally Healthy person-Mental illness- Types, Causes and Remedies.Occupational Health-Occupational Hazards.

UNIT – III FOOD AND NUTRITION

(12 Hrs)

Food and Nutrition- Classification of Food (Carbohydrate, fat, protein, vitamins and minerals)-Functions of Food.Factors affecting nutritional status of an individual-Balanced diet-Malnutrition (causes symptoms and remedies)- Nutritional tips.Contemporary Health Problems –Use of tobacco, alcohol and drugs-their side effects.

UNIT – VI COMMUNICABLE AND NON-COMMUNICABLE DISEASES (12 Hrs)

Disease –Communicable and Non-Communicable diseases.Communicable disease –definition –Types- Modes of transmission-characteristics-prevention and control- Tuberculosis, Malaria, Typhoid, Cholera, Small Pox, Chicken Pox and Scabies- AIDS.Non communicable disease –Hypertension, Stroke, Jaundice and Coronary Heart Disease.Immunology-Meaning and definition-Immunity-Types of Immunity

UNIT – V HEALTH AGENCIES

(10 Hrs)

Health Agencies-Structure and Functions of International and National agencies-WHO, UNICEF,IRCS,FAO,UNDP,ILO and World Bank-Indian Red Cross Society, JRC, IMA,TAI, Family planning Association of India, Central Social welfare Board, Blood Donation- Need and Importance of Blood Donation- Guidelines for Blood Donation.

UNIT: VI (Latest learnings)

(4 Hrs)

Latest development related to the course during the semester concerned – **CIA** only

Text books

- Frank, H. & Walter, H., (1976). Turners school health education. Saint Louis: The C.V. Mosby Company.
- Odum, E.P. (1971). Fundamental of ecology. U.S.A.: W.B. Saunders Co.
- Dr. Dev Raj Yadav. “ Health Education” ISBN: 978-93-86641-04-5. Edition 2018.

References:

- Bedwork&Bedworth – Health for human effectiveness
- Anderson “School Health Practice”.
- BediYashpal “Social and Preventive medicine”.

Course outcomes

- Provided the fundamentals concepts of Health Education.
- Understanding the various communicable and non-communicable diseases.
- Attaining knowledge about natural resources.
- Creating awareness about Health problems in India.
- Learning the social issues and environment.

Note:ICT Classes and Self Study also included.

SEMESTER: V
WEEK: 5 Hrs.
TOTAL HOURS: 60 Hrs

SUB CODE: U5R1PECC11P
CREDIT: 5
MAX. MARKS:100

TRACK & FIELD EVENTS (MAJOR PRACTICAL-IV)
(FIELD EVENTS AND VERTICAL JUMPS)

Objectives

- To teach fundamental skills and techniques of field events and vertical jumping events.
- To provide basic knowledge on planning, preparation and construction of marking for throwing and jumping events.

UNIT – I: DISCUS THROW, SHOT-PUT, HAMMER. (12 Hrs)

General and specific warming up for field events.
Grip ,Preparation / standing position
Rotation, Release and follow throw

UNIT – II: JAVELIN (12 Hrs)

General and specific warming up for field events.
Grips, Run-up preparation
Release and follow throw

UNIT – III: HIGH - JUMP (12 Hrs)

Run up ,Take off foot
Flight and landing, Technique- straddle and Fosbury flop

UNIT – IV: POLE VAULT (12 Hrs)

Grip and approach Run ,Vaulting the box
Clear the cross bar, Landing

UNIT – V: RULES AND INTERPRETATIONS (12 Hrs)

Rules and their Interpretations.
Record Note.

UNIT: VI (Latest learning)

Latest development related to the course during the semester concerned – CIA only

Text books

- Anand. R.L. (1986). Play field manual, Patiala: NIS publication.
- Book of rules of games and sports, (2005). New Delhi: National Council of Y.M.C.A of India.
- Bosen, Ken O. (1994).Track & Field Fundamental Techniques, Patiala: MS Publication.
- Dr. Sellamuthu Saraboji “Athletics Rulls” ISBN: 978-93-80800-53-0. 2019

References:

- Dr. P. Mariayyah, *Track and Field*, Coimbatore, Teachers publication.
- Dr. Anil Sharma, O.P. Sharma, *Rules of sports*, sports publication, Ansari Road, New Delhi.
- Conling David, (1980). *Athletics*, London Robert Hale.
- Ken O. Bosen, *Track & Field Fundamental Techniques*, MS Publication Patiala.

Course outcomes

- Learned about field and jumping events.
- Studied the various techniques involved in throwing and jumping events.
- Created awareness on assessing the performance level in jumping events.
- Attained the knowledge of rules and regulation related to field and jumping events.
- Understand the important concept in coaching and markings.

SEMESTER: VI
WEEK: 5 Hrs.
TOTAL HOURS: 60 Hrs

SUB CODE: U6R1PECC12
CREDIT: 5
MAX. MARKS: 100

THEORIES OF MAJOR GAMES

Objectives

- To impart the fundamental knowledge about the theory of sports and games.
- To understand various organization body of Sports and Games in National and international.

UNIT: I KABADDI AND KHO-KHO (10 Hrs)

Origin, History and development of the game. Fundamental skills-systems of play.
Layout of the courts with specifications. Rules of the game and officiating techniques.
National and state level organizations.

UNIT: II BASKETBALL AND HANDBALL (12 Hrs)

Origin, History and development of the game. Fundamental skills- systems of play.
Layout of the courts with specifications. Rules of the game and officiating techniques.
International, National and State level organizations.

UNIT: III FOOTBALL (12 Hrs)

Origin, History and development of the game. Fundamental skills-systems of play.
Layout of the Football field with specification. Rules of the game and officiating techniques.
International, National and State level organizations.

UNIT: IV HOCKEY (12 Hrs)

Origin, History and development of the game. Fundamental skills-systems of play.
Layout of the Hockey field with specification. Rules of the game and officiating techniques.
International, National and State level organizations.

UNIT: V CRICKET AND VOLLEYBALL (10 Hrs)

Origin, History and development of the game. Fundamental skills-systems of play.
Layout Cricket oval + volley ball court with specification. Rules of the game and officiating techniques.
International, National and State level organizations.

UNIT: VI (Latest learning) (4 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Anand. R.L. (1986). *Play field manual*, Patiala: NIS publication.
- *Book of rules of games and sports*, (2005). New Delhi: National council of Y.M.C.A of India.
- Perinbaraj, S.B., & et al. (2009). *Play field: Dimensions and its requirements*, Karaikudi: vinis publication.
- Rao, C. V. (1971). *Kabaddi*, Patials, N.I.S. Publications.
- Rao, E. Prasad (2002). *The complete hand book on Kabaddi*. Vizianagaram: Jagadamba publication.
- Dr. Amit Banerjee. "ISBN: 987-81-8908-206-x. Edition, 2017.

References:

- Dr. P. Mariayyah, Football, Sports Publications, Raja Street, Coimbatore.
- Dr. P. Mariayyah, Kabaddi, Sports Publications, Raja Street, Coimbatore.
- Dr. P. Mariayyah, Volleyball, Sports Publications, Raja Street, Coimbatore.
- Carting Ganagon, Play Better Soccer in All Colour, W.B. Saubders Company, 1972.
- Dhanaraj V. Hubert, Volleyball – A Modern Approach, Patiala, Sainsoris, 1991.

Course outcomes

- Acquired the knowledge about various sports and games and its organizations.
- Attained the knowledge of equipment and its specifications.
- Gain fundamental knowledge about the ground preparation, its dimensions and markings.
- Provided the basic knowledge of rules and interpretation of games and sports.
- Provided the basic knowledge about system of officiating techniques of games and sports.

Note: ICT Classes and Self Study also included.

SEMESTER: VI
WEEK: 5 Hrs.
TOTAL HOURS: 60 Hrs

SUB CODE: U6RPECC13
CREDIT: 5
MAX. MARKS: 100

SPORTS TRAINING

Objectives

- To provide basic knowledge in sports training.
- To highlight the various methods used in sports training of preparation of the sports person.

UNIT – I INTRODUCTION (10 Hrs)

Meaning and Definition of Training and Sports training. Aim and tasks of Sports training- Characteristics of Sports training. Principles of Sports Training-Basic and General. Warm up and cool down- Types (Psychological and Physiological warm-up)- Importance of Warm Up and cool down.

UNIT – II TRAINING LOAD (10 Hrs)

Definition of Training Load. Important Features of Training Load – (Intensity, Density and Volume). Types of Training Load. Principles of Training Load. Training and Adaptation – Super Compensation. Overload – Causes, Symptoms and Remedies.

UNIT – III STRENGTH (15 Hrs)

Strength – Types of Strength – Factors determining Strength - Methods of Strength improvement- Methods of training-Strength development (Isometric, Isotonic and Isokinetic exercises, circuit training, Polymeric training)
Endurance – Types of Endurance – Factors determining Endurance – Methods of Endurance improvement - Endurance development (Continuous method-slow and fast continuous, Interval training method and Fartlek training) Speed – Important factors determining Speed – Training for improving Speed- Speed barrier -Speed development (Acceleration run and Repetition method)
Flexibility – Types of Flexibility – Factors determining Flexibility – Improvement of Flexibility.

UNIT – IV TECHNICAL TRAINING (12 Hrs)

Co-ordination abilities- types-Characteristics and Significance of Co-ordination abilities- Improvement of Co-ordination abilities. Technical Training- Characteristics of technique- Phases of skill acquisition- Methods of technical training-Causes of faults and their corrections, Tactical training-Concept of tactics and strategy-Basic tactical conceptions-Methods of tactical training.

UNIT – V PRINCIPLES OF PLANNING (8 Hrs)

Planning – Principles of planning-Systems of Planning.
Periodisation-Stages of Periodisation -Types of Periodisation-Aim and content of different periods.

UNIT: VI (Latest learning) (5 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Bompa, Tudor O. (1990). *Periodization theory and methodology of training*. (4Ed) Champaign: Human Kinetics
- Harre, Dietrich, (ed). (1982) *Principles of sports training*. Berlin. Sportverlag,
- Matveyev, I. (1982) *Fundamentals of sports training*. Berlin. Sportverlag,
- Dr. Sukhbir Singh. “ Sports Training” ISBN: 978-81-921352-5-0, Edition 2016.

References:

- Hardhayal, Singh (1984) Sports training General theory and methods, NIS Patiala.
- Williams, J. (1977) II Athletic Training and Physical fitness. Allyn and Bacon Inc., Sydney.
- Singh H, (1984). Science of sports Training.
- Dick Frank. Sports Training Principles.
- .Mateweyew L.P. Fundamental Sports Training.

Course outcomes

- Provided the basic knowledge in sports training.
- Elaborated the training components.
- Studied the training process, components of load and overload.
- Learned the technical training and tactical training concept.
- The various methods used in sports training of preparation of the sports person were studied.

Note: ICT Classes and Self Study also included.

SEMESTER: VI
WEEK: 5 Hrs.
TOTAL HOURS: 60 Hrs

SUB CODE: U6R1PECC14P
CREDIT: 5
MAX. MARKS: 100

TRACK & FIELD EVENTS (MAJOR PRACTICAL-V)
TRACK EVENTS AND HORIZONTAL JUMPS

Objectives

- To teach fundamental skills and techniques of track events and horizontal events.
- To provide basic knowledge on planning, preparation and construction of marking for track and jumping events.

UNIT – I: (14 Hrs)

Correct Running Style Emphasizing on Proper Body Positions.
Crouch start – fixing the starting block at the straight and curve.
Practice of starts with and without blocks using proper command – orthodox and new technique. Curve running

UNIT – II: (14 Hrs)

Practice of standing start using proper command. Proper style of race walking.
Hurdles – high and low – Hurdle clearance – Running in between the hurdles (3 stride and 5 stride pattern).

UNIT – III: (14 Hrs)

Relay exchange – visual, non visual exchange and push technique.
Fixing runners at different zones. Explain and demonstrate the various stages in – Long Jump and Triple Jump.

UNIT – IV: (12 Hrs)

Explain and demonstrate the various stages in – High Jump ,
Explain and demonstrate the various stages in – Long Jump

UNIT – V: (6 Hrs)

Rules and their Interpretations.
Record Note.

UNIT: VI (Latest learning)

Latest development related to the course during the semester concerned – **CIA** only

Text books

- Anand. R.L. (1986). Play field manual, Patiala: NIS publication.
- Book of rules of games and sports, (2005). New Delhi: National Council of Y.M.C.A of India.
- Bosen, Ken O. (1994). Track & Field Fundamental Techniques, Patiala: MS Publication.
- Dr. Sellamuthu Saraboji “Athletics Rulls” ISBN: 978-93-80800-53-0. 2019

References:

- Dr. P. Mariayyah, *Track and Field*, Coimbatore, Teachers publication.
- Dr. Anil Sharma, O.P. Sharma, *Rules of sports*, sports publication, Ansari Road, New Delhi.
- Conling David, (1980). *Athletics*, London Robert Hale.
- Ken O. Bosen, *Track & Field Fundamental Techniques*, MS Publication Patiala.

Course outcomes

- Learned about field and jumping events.
- Studied the various techniques involved in throwing and jumping events.
- Created awareness on assessing the performance level in jumping events.
- Attained the knowledge of rules and regulation related to field and jumping events.
- Understand the important concept in coaching and markings.

MAJOR BASED ELECTIVE PAPERS

WEEK: 5 Hrs.
TOTAL HOURS: 60 Hrs

SUB CODE: UR1PEMBE1
CREDIT: 4
MAX. MARKS: 100

MAJOR BASED ELECTIVE PAPER - I **SPORTS KINESIOLOGY**

Objectives

- To understand human movements through Kinesiology and Biomechanics.
- To know the mechanical advantages applied in Sports.

UNIT – I: INTRODUCTION (12 Hrs)

Meaning and Definitions of Kinesiology
Brief History of Kinesiology.
Role of Kinesiology in Physical Education and Sports.

UNIT – II: JOINTS AND MUSCLES (12 Hrs)

Classification of Joints and Muscles, Multi – Joint Muscles.
Terminology of Fundamental movements at the Joints – Flexion, Extension , Abduction, Adduction, Rotation, Circumduction, Pronation, Supination, Inversion, Eversion, Plantar Flexion and Dorsi Flexion.

UNIT – III AXES AND PLANES OF MOTION (10 Hrs)

Axes and Planes of motion – Sagittal, Frontal and Transverse planes
Structure and function of Joints – Elbow Joint, Wrist Joint, Shoulder Joint, Knee Joint, Ankle Joint and Hip Joint.

UNIT – IV LOCATION, ORIGIN, INSERTION OF MUSCLES (10 Hrs)

Location, Origin, insertion and action of muscles
Deltoid, Biceps, Triceps, Trapezius, Rectus abdominals, Quadriceps groups, Pectoralis Major and Minor and Gastrocnemius.

UNIT – V APPLICATION OF KINESIOLOGICAL (12 Hrs)

Application of Kinesiological principles in fundamental movements – Walking, Running, Jumping, Throwing, Pulling and Pushing.

UNIT: VI (Latest learning) (4 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Gladys, Scott., M. (2005). *Text book in Kinesiology*. New York: Warren's Books.
- Hay, J. (1993). *The Biomechanics of Sports Techniques*. Englewood Cliffs New Jersey: Prentice Hall Inc.
- Peter, McGinnis (2005). *Biomechanics of Sport and Exercise*. Champaign: Human Kinetics.
- Dr. Amit Banerjee, “ Sports Kinesiology” ISBN:978-81-8908-204-9. Edition 2017.

References:

- Gladys Scoth – Kinesiology (Analysis of Human Motion)
- Coper and Glasgow, Kinisiology joint, Louis C.V. Mosby Company 1976.
- Dr. Dhavanjoy Shah Pedagogic Kinesiology sports publications New Delhi 1998.
- Logan and McKinney “ Anatomic Kinesiology”
- Raschi and Burke “Kinesiology and Applied Anatomy
- Walks and Lutt gens “ Kinesiology”

Course outcomes

- Studied the human movements through Kinesiology.
- The joints and muscles classification were learned.
- Given fair idea about the role of Kinesiology and Biomechanics in Physical Education.
- Provided the basic knowledge on Kinetics and Kinematics.
- Known the mechanical advantages applied in Sports.
- Gain knowledge about the major muscles of the human body.

Note: ICT Classes and Self Study also included.

WEEKLY: 4 Hrs.
TOTAL HOURS: 48Hrs

SUB CODE: UR1PEMBE2
CREDIT: 4
MAX. MARKS : 100

MAJOR BASED ELECTIVE PAPER - II
SAFETY EDUCATION AND FIRST AID

Objectives

- To teach basic knowledge about safety education.
- To provide basic knowledge about first aid techniques.

UNIT: I INTRODUCTION (10 Hrs)

Meaning and Definition of Safety and Safety Education.
Factors Contributing Safety-Objectives of teaching programme on Safety.
Meaning and Definition of Accident-Types of Accident..Need of teaching Safety Education.
Safety against Poisons- Animals- Insects- Instruments –Infected water.

UNIT: II SAFETY EDUCATION (8 Hrs)

Safety at Home – Safety at School-Safety on the Roads (Traffic rules and regulations, traffic signals , Traffic, symbols).Safety in Physical Education and Sports- Safety in Play area,Gymnasium –Swimming Pool.
Safety on camps.

UNIT: III FIRST AID (8 Hrs)

Meaning and Definition of First Aid.The aims of first aid.
The responsibility of the First aider.Priority of the treatment by First aider.
Major first aid technique.- First aid kits – Rules of First aid – ABC Rule

UNIT: IV FRACTURE (8 Hrs)

Fracture – Causes – Types- Symptoms- Management..Dislocation-Causes –Symptoms-Management
Sprain-Causes-Symptoms-Management- RICE Technique.Strain-Causes –Symptoms- Management
Cramp-Causes-Symptoms-Management.Wounds-Causes-Types-Management.Bleeding-Types-Forms-
Symptoms-Management.

UNIT: V CAUSES-SYMPTOMS OF STROKE (10 Hrs)

Unconsciousness- Causes-Symptoms-Management. Fainting-Causes-Symptoms-Management.
Heart Attack-Causes–Symptoms-Management.Epilepsy-Causes- Symptoms-Management.
Stroke-Causes- Symptoms-Management.Asthma-Causes–symptoms-management.
Artificial respiration.First Aid for Shock-Drowning-Poisoning-Dog bite-Snake bite-Burn

UNIT: VI (Latest learning) (4 Hrs)

Latest development related to the course during the semester concerned – **CIA** only

Text books

- Mathew, D.K. & Fox, E.L, (1971). *Physiological basis of physical education and athletics*. Philadelphia: W.B. Saunders Co.
- Williams, J. G. P. (1962). *Sports medicine*. London: Edward Arnold Ltd.
- Dr. Hement Varma, “ Sports Medicine” ISBN:978-81-921352-7-4. Edition 2016.

References:

- L.G.Gupta Mannal of First Aid & Abhitabh Gupta
- Park and Park “Preventive and social medicine”
- Anderson “School Health Practice”.
- Bedi Yashpal “Social and Preventive medicine”.

Course outcomes

- Provided the basic knowledge about sports medicine.
- Learned the fundamental concepts of safety and first aid.
- Understood the concept of fracture and injuries.
- Studied the importance of therapeutic exercise.
- Learn the fundamentals of rehabilitation.

Note: ICT Classes and Self Study also included.

WEEK: 4 Hrs.
TOTAL HOURS: 48Hrs

SUB CODE: UR1PEMBE3
CREDIT: 4
MAX. MARKS: 100

MAJOR BASED ELECTIVE PAPER - III
SPORTS BIO-MECHANICS

Objectives

- To understand human movements through Biomechanics.
- To know the mechanical advantages applied in Sports.

UNIT – I INTRODUCTION (8 Hrs.)

Meaning and Definition of Biomechanics.
Need and Importance of Biomechanics in the field of Physical Education and Sports.

UNIT – II TYPES OF MOTION (10 Hrs)

Types of Motion- Linear, Angular and General Motion. Linear Kinematics – Distance and Displacement, Speed and Velocity, Acceleration – Projectile – Relative Velocity. Angular Kinematics – Angular distance and displacement – Angular Speed and Velocity – Angular acceleration.

UNIT – III TYPES OF FORCE (10 Hrs)

Linear Kinetics- Inertia and its types-Mass and Weight-Work, Power and Energy-Impact and Elasticity. Force – Factors affecting force – types of force – Internal and External force – Gravitational force, Air resistance and water resistance. Newton's Laws of Motion. Angular Kinetics- Centre of gravity- Centrifugal and centripetal force-Friction and its types.

UNIT – IV EQUILIBRIUM (8 Hrs)

Equilibrium – Stages of equilibrium – Factors affecting equilibrium.
Lever – Types – Mechanical advantage – Application of levers in Physical education & Sports.

UNIT – V APPLICATION OF BIOMECHANICAL (8 Hrs)

Application of Biomechanical principles in fundamental movements – Walking, Running, Jumping, Throwing, Pulling and Pushing.

UNIT: VI (Latest learning) (4 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Gladys, Scott., M. (2005). Text book in Kinesiology. New York: Warren's Books.
- Hay, J. (1993). The Biomechanics of Sports Techniques. Englewood Cliffs New Jersey: Prentice Hall Inc.
- Peter, McGinnis (2005). Biomechanics of Sport and Exercise. Champaign: Human Kinetics.
- Dr. Amit Banerjee, “ Sports Kinesiology” ISBN:978-81-8908-204-9. Edition 2017.

References:

- Kreighbaum Basthels – Biomechanics (A qualitative approach for Studying human movement)
- Greiremiller, Paul & Smith, Techniques for the analysis of Human movement lapse books London 1975.
- Bunn John W “Scientific Principles of coaching”.
- Charles “Fundamentals of sports Bio-Mechanics Techniques.
- Hay, James G “The Biomechanics of sports.
- T. McClurg Anderson Bio Mechanics of Human Motion

Course outcomes

- Studied the human movements through Biomechanics..
- Given fair idea about the role of Biomechanics in Physical Education.
- The joints and muscles classification were learned.
- Provided the basic knowledge on motion.
- Understand the human movements through sports movements.
- Known the mechanical advantages applied in Sports.

Note: ICT Classes and Self Study also included.

WEEK: 4 Hrs.
TOTAL HOURS: 48 Hrs.

SUB CODE: UR1PEMBE4
CREDIT: 4
MAX. MARKS: 100

MAJOR BASED ELECTIVE PAPER - IV
SPORTS NUTRITION AND HEALTH HYGIENE

Objectives

- To study the fundamental concept of sports nutrition.
- To provide the basic knowledge of health hygiene.
- to provide the knowledge on weight manage.

UNIT – I INTRODUCTION (10 Hrs)

Introduction of sports nutrition. Meaning and definition of sports nutrition
Aim and objective of sports nutrition. Need and importance of sports nutrition. Benefits of nutrition.

UNIT – II NUTRITION (10 Hrs)

Role of nutrition in sports, Basic nutrition guidelines
Ingestion to energy metabolism (carbohydrate, protein, fat). BMI obesity and its hazards

UNIT – III HEALTHY LIFE STYLE (8 Hrs)

Dieting versus exercise for weight control. Role of food in healthy life style
Exercise schedule for weight gain and loss. Diabetics and diet

UNIT – IV HEALTH HYGIENE (8 Hrs)

Meaning of health hygiene, Types and its uses
Effect of alcohol and Tobacco. Major health problems in India

UNIT – V LIFE STYLE (8 Hrs)

Life style management. Hygienic environment and its uses
Health problems of in-hygienic people, Stress for in-hygienic

UNIT: VI (Latest learning) (4 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Bessesen, D.H.(2008). Update on obesity .J Clin Endocrinol Metab. 93(6), 2027-2034.
- Butryn, M .L., Phelan , S., & Hill, J.O.(2007). Consistent self- monitoring of weight : a key component of successful weight loss maintenance .Obesity (Silver Spring). 15(12), 3091-3096.
- Dr. Amit Banerjee, “ Sports Kinesiology” ISBN: 978-81-8908-204-9. Edition 2017.

Reference

- Nutrition encyclopedia, edited by Delores C.S JAMES, the gale group, inc
- Boyd- Eaton s. et al (1989) the Stone Age health programme: diet and exercise as nature intended. Angus and Robertson.
- Terras s. (1994) stress, how your diet can help: the practical guide to positive health using diet, Vitamins, Minerals, Herbs, Amino Acids and thorsons.
- Hanlon, John J. (2003) “principles of public health administration”.

Course outcomes

- Learned about sports nutrition, its basic guidelines and its role in sports.
- Gain the knowledge in diet analysis and planning.
- Provided the basic knowledge of weight management in modern era.
- Understood the concept of design diet plan.
- Fair idea about balanced diet was given.

Note: ICT Classes and Self Study also included.

WEEK: 4 Hrs.
TOTAL HOURS: 48 Hrs.

SUB CODE: UR1PEMBE5
CREDIT:4
MAX. MARKS:100

MAJOR BASED ELECTIVE PAPER - V
EXERCISE PHYSIOLOGY

Objectives

- To study the fundamental concept of systematic functions of in organs.
- To provide the basic knowledge of aerobic and anaerobic activities.
- To provide the knowledge on Metabolism and Energy Transfer.

UNIT I – SKELETAL MUSCLES AND EXERCISE (8 Hrs)

Structure of the Skeletal Muscle, Chemical Composition. Sliding Filament theory of Muscular Contraction. Types of Muscle fiber. Muscle Tone, Chemistry of Muscular Contraction – Heat Production in the Muscle, Effect of exercises and training on the muscular system

UNIT II – CARDIOVASCULAR SYSTEM AND EXERCISE (8 Hrs)

Heart Valves and Direction of the Blood Flow – Conduction System of the Heart – Blood Supply to the Heart – Cardiac Cycle – Stroke Volume – Cardiac Output – Heart Rate – Factors Affecting Heart Rate – Cardiac Hypertrophy – Effect of exercises and training on the Cardio vascular system.

UNIT III – RESPIRATORY SYSTEM AND EXERCISE (10 Hrs)

Mechanics of Breathing – Respiratory Muscles, Minute Ventilation – Ventilation at Rest and During Exercise. Diffusion of Gases – Exchange of Gases in the Lungs – Exchange of Gases in the Tissues – Control of Ventilation – Ventilation and the Anaerobic Threshold. Oxygen Debt – Lung Volumes and Capacities – Effect of exercises and training on the respiratory system.

UNIT IV – METABOLISM AND ENERGY TRANSFER (8 Hrs)

Metabolism – ATP – PC or Phosphagen System – Anaerobic Metabolism – Aerobic Metabolism – Aerobic and Anaerobic Systems during Rest and Exercise. Short Duration High Intensity Exercises – High Intensity Exercise Lasting Several Minutes – Long Duration Exercises.

UNIT V – CLIMATIC CONDITIONS, SPORTS PERFORMANCE AND ERGOGENIC AIDS (10 Hrs)

Variation in Temperature and Humidity – Thermoregulation – Sports performance in hot climate, Cool Climate, high altitude. Influence of: Amphetamine, Anabolic steroids, Androstenedione, Beta Blocker, Choline, Creatine, Human growth hormone on sports performance. Narcotic, Stimulants: Amphetamines, Caffeine, Ephedrine, Sympathomimetic amines. Stimulants and sports performance.

UNIT: VI (Latest learning) (4 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Pearce, Evelyn B., (1979) Anatomy and physiology for Nurses, London: Faber and Faber Ltd.
- Wilmore, Jack H and Costill, David L. (1994). Physiology of Sports and Exercise. Human kinetics.
- Wilson, Kathleen J. W. (1987). Anatomy and Physiology, Health and illness. 6th Edition. Churchill Livingstone Edinburgh. Publication.
- Dr. Amit Banerjee, “ Exercise Physiology” ISBN:978-81-8568-204-0. Edition 2017

References:

- Amrit Kumar, R, Moses. (1995). Introduction to Exercise Physiology. Madras: Poompugar Pathipagam.
- Beotra Alka, (2000) Drug Education Handbook on Drug Abuse in Sports: Sports Authority of India Delhi.
- Clarke, D.H. (1975). Exercise Physiology. New Jersey: Prentice Hall Inc., Englewood Cliffs.
- David, L Costill. (2004). Physiology of Sports and Exercise. Human Kinetics. Fox, E.L., and Mathews, D.K. (1981). The Physiological Basis of Physical Education and Athletics. Philadelphia: Sanders College Publishing.
- Guyton, A.C. (1976). Textbook of Medical Physiology. Philadelphia: W.B. Sanders co. Richard, W. Bowers. (1989). Sports Physiology. WMC: Brown Publishers.

Course outcomes

- Studied the various systems in the human body and their functions.
- Had highlight the need and importance of exercise physiology in the field of Physical Education.
- Highlights on selected systems changes occur during exercises .
- Attaining the basic concept of balanced diet.
- Seeing the effect of exercise and training on selected system.

Note: ICT Classes and Self Study also included.

SKILL BASED ELECTIVE

WEEK: 3 Hrs.
TOTAL HOURS: 36 Hrs

SUB CODE: UR1PESBE1
CREDIT: 2
MAX. MARKS: 100

SKILL BASED ELECTIVE -I **FITNESS AND SPORTS INNOVATIONS**

Objectives

- To study and understand the fundamental fitness and wellness.
- To provide knowledge on exercise programme, and highlight the issues & Challenges in Physical Education.

UNIT-I INTRODUCTION (6 Hrs)

Meaning and Definition of Physical Fitness-Types of Physical Fitness-Components of Physical Fitness. Meaning and Definition of Wellness-Components of Wellness.Values of Physical Fitness-Factors affecting Physical Fitness and Wellness-Importance of Physical Fitness and Wellness.

UNIT-II OBESITY (6 Hrs)

Obesity-Meaning and Definition-Causes and Symptoms-Obesity Management. Define Fat-Classification of Fats(Lipids)-Fats and Health. Aging and Exercise-Physiological changes accompanying the Aging Process-Training adaptation in the aged
Nutrition for Fitness-Healthy Eating-Dieting and Fitness-Foods to eat and avoid-Eating Disorders.

UNIT-III TRAININGS (8 Hrs)

Exercise and Fitness-Calisthenics, Aerobic exercises-Brisk Walking, Jogging, Cycling, Swimming, Skipping and Aerobic Dance.Anaerobic Exercise-Weight Training, Circuit Training, Dhands and Baithaks-Mobility Training-Stretching and Asanas. Improvised Trainings-Training with Tread mill, Multi-gym -Bicycle Ergometer and Abdomen Pro-king.

UNIT-IV DRUGS (6 Hrs)

Definition of Ergogenic Aid.Drug-Types-Drug abuse in Sports.
Anabolic steroids – Blood doping – Oxygen Loading. Effects and Side effects.
WADA and NADA- Structure and functions.

UNIT - V PLAYING SURFACES (6 Hrs)

Types of Sports (Water Surface, Ice and Snow Surface and Earth Surface).Modern Equipments- Playing, Training and Research Equipments.Play area- Synthetic track-Turf field –Toro flex surface-Grass field-Wooden surface (Preparation is not included).Indoor stadium- Structure and facilities-Flood lit matches.

UNIT: VI (Latest learnings) (2 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Compton Jenkins, (2007) Dynamics of Fitness & Health, Kendall/Hut Publishing
- Ken Hardman, (2011), Contemporary Issues in Physical Education, Meyer & Meyer Sport
- Mcglynn, G., (1993). Dynamics of fitness. Madison: W.C.B Brown.
- Dr. Shivenra Dubey.” Contemporary issues in Physical Education Fitness and Wellness” ISBN:978-93-86641-01-4. Edition. 2017.

References:

- Williams H.Melvin (1995), Life time fitness and wellness, Brow Publications, Dubugue.
- Greenberg/ Pargman – Physical Fitness (A wellness management)
- A.K.Uppal – Physical Fitness (How to Develop)
- Bunn, John W. Scientific Principles of Coaching, New York. Prentice Hall Inc. 1955
- Hey.James, G., TheDiomechanics of Sports Techniques, Prentice Hall Inc. Englewood Cliffs N.S. 1973.

Course outcomes

- Studied the Physical education and its relevance into inter-disciplinary context.
- The concept of fitness and andwellness, its dimensions and components were learned.
- Provided the knowledge about prevention and management of modern lifestyle and hypo kinetic disease.
- The basic idea about concept of BMI
- Learned the concept of designing different fitness training programme for different age group.

Note: ICT Classes and Self Study also included.

WEEK: 3 Hrs.
TOTAL HOURS: 36 Hrs

SUB CODE: UR1PESBE2
CREDIT: 2
MAX. MARKS: 100

SKILL BASED ELECTIVE PAPER - II
MODERN TRENDS IN PHYSICAL EDUCATION

Objectives

- To understand the physical education professional courses .
- To know the scientific application in field of physical education.

UNIT – I INTRODUCTION (10 Hrs)

Physical Education Teacher Training programme in India : C.P.Ed: B. Sc., B.P.E., B.P.Ed., M.P.Ed., NIS and M.S. – Avenues for Placements - School : Physical Education Teacher, Physical Director, RIPE, CIPE, – College & University : Asst. Director of Physical Education, Deputy Director of Physical Education, Director of Physical Education, Lecturer, Reader, Professor, Principal – Sports Council : Coaches, DSO, RSM, DGM and GM).

UNIT – II DOPING (4 Hrs)

Meaning of Doping – Anabolic steroids – Blood Doping and side effects – WADA and its function – Influence of Doping on performance – Side effect of Doping.

UNIT – III RESEARCH (6 Hrs)

Meaning and Definition of research – Types of research – Basic, Action, Applied, all case study and survey method – Need and importance of research in Physical Education and sports – Application of computer in the field of physical education and sports.

UNIT – IV LATEST APPLICATIONS (6 Hrs)

Talent Identification in sports and games – The compulsory Physical Education programme in Schools and Colleges – Play area – synthetic track – Turf field – Toro flexsurface – Grass field – Wooden surface (Preparation is not included) – Indoor stadium – Structure and facilities – Flood lit matches.

UNIT – V INFRASTRUCTURE (8 Hrs)

Assistance for building infrastructure – playfields, Gymnasium., Swimming pool, stadium and equipments – Assistance for coaching and training program – Rural and urban – different levels – advance training and coaching – Assistance for competitions – District, State, National, International – Incentive and awards.

UNIT: VI (Latest learning) (2 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text book

- Perinbaraj, Bevinson. S. (2006). *Methods in Physical Education*. Karaikudi: Vinsi publication.
- Thomas, J.P., (1969). *Physical Education Lesson*. Madras: Gnanodya press.
- <https://www.scribd.com/doc/36200157/Physical-Education>.
- Dr. Amit Banerjee, “Modern Trends in Physical Education” ISBN:978-81-7778-203-0. Edition 2017

Reference:

- Bucher A., Charles, Foundations of Physical Education, Saint Louis, The C.V.Kosby Company, 1972.
- Bunn, John W. Scientific Principles of Coaching, New York. Prentice Hall Inc. 1955
- Hey.James, G., The Biomechanics of Sports Techniques, Prentice Hall Inc. Englewood Cliffs N.S. 1973.

Course outcomes

- Studied the various courses offered physical education in India.
- Studied the various sports organization functioning in India.
- Known about drug abuse for developing performance.
- Provided the basic knowledge on research.
- Known the latest sports equipment using.
- Gain knowledge about the different tournaments.

Note: ICT Classes and Self Study also included.

WEEK: 3 Hrs.
TOTAL HOURS: 36 Hrs

SUB CODE: UR1PESBE3
CREDIT: 2
MAX. MARKS: 100

SKILL BASED ELECTIVE -III
TEACHING PRACTICE

Objectives

- To provide fundamental knowledge on teaching techniques and methods.
- To educate on how to prepare of a lesson plan and how to handle classes.
- To provide knowledge about exercises by light apparatuses.

UNIT – I: (10 Hrs)

Teaching indigenous activities- Free hand exercise- Flag drills- Wands drill- Coconut Shell drills- Marching-Flowers drills- Dands&Baithaks.

UNIT – II: (10 Hrs)

General Lesson Plan for Classes From 6thstd to 12thstd students.

UNIT – III: (8 Hrs)

Teaching Major Games – Basketball, Cricket, Football, Handball, Hockey, Kabaddi, Kho-Kho and Volleyball.

UNIT – IV: (8 Hrs)

Specific Lesson Plan for Classes 6thstd to 12thstd.

UNIT – V:

Records and Viva.

UNIT: VI (Latest learning)

Latest development related to the course during the semester concerned – CIA only

Text books

- Athichan, A. et. al., (2007) Hand book of Indigenous activities. Karaikudi: Vinsi publication.
- Thomas, J. P. (1967). Organization & administration of Physical Education. Madras: Gyanodayal Press.
- Tirunaryanan, C. and Hariharan. S, (1993). Methods in Physical Education. Karaikudi: South India Press.

References:

- Dheer,S.,&Radhika Kamal, Organization, and Administration of Physical Education of Physical Education, Friends Publication, New Delhi, 1991.
- Voltner, Edward. F., Arthur A.Esslinger, Betty Foster McCule and Kenneth G.Tillman (1979), The Organization and Administration of Physical Education , Prentice Hall, Inc., New Jersey.
- Coleman Brain et al. (1976), Ep Publishing Ltd.
- Tyson Frank (1985). The Cricket Coaching Manual. Calcutta, Rupa& Co.
- Carting Ganagon, Play Better Soccer in All Colour, W.B. Saubders Company, 1972
- Dr.Anil Sharma O.P.Sharma Rules of games sports publication 4264/3

Course outcomes

- Provided the basic knowledge about teaching methods and factors affecting teaching.
- The general lesson plan and its importance were studied.
- Learned the types of teaching methods.
- Understood the preparation of general lesson plan.
- Learned the various parts of general lesson plan.
- Created awareness about general teaching practice.

WEEK: 3 Hrs.
TOTAL HOURS: 36 Hrs

SUB CODE: UR1PESBE4
CREDIT: 2
MAX. MARKS: 100

SKILL BASED ELECTIVE -IV
ATHLETIC CARE AND REHABILITATION

Objectives

- To provide the basic knowledge about care of Athlete and prevention of injuries.
- To educate on rehabilitation, massage and therapeutic exercise.

UNIT I – CORRECTIVE PHYSICAL EDUCATION (6 Hrs)

Definition and objectives of corrective physical Education. Posture and body Mechanics, Standards of Standing Posture. Value of good posture, Drawbacks and causes of bad posture. Posture test – Examination of the spine.

UNIT II – POSTURE (6 Hrs)

Normal curve of the spine and its utility, Deviations in posture: Hypnosis, lordosis, flat back, Scoliosis, round shoulders, Knock Knee, Bow leg, Flat foot. Causes for deviations and treatment including exercises.

UNIT III – REHABILITATION EXERCISES (4 Hrs)

Passive, Active, Assisted, Resisted exercise for Rehabilitation, Stretching, PNF Techniques and principles.

UNIT IV – MASSAGE (8 Hrs)

Brief history of massage – Massage as an aid for relaxation – Points to be considered in giving massage – Physiological , effects of massage – Indication / Contra indication of Massage – Classification of the manipulation used in massage and their specific uses in the human body – Stroking manipulation: Effleurage – Pressure manipulation: Petri sage Kneading (Finger, Kneading, Circular) ironing Skin Rolling – Percussion manipulation: Tapotement, Hacking, Clapping, Beating, Pounding, Slapping, Cupping, Poking, Shaking Manipulation, Deep massage.

UNIT V – SPORTS INJURIES CARE, TREATMENT AND SUPPORT (8 Hrs)

Principles pertaining to the prevention of Sports injuries – care and treatment of exposed and unexposed injuries in sports – Principles of applying cold and heat, infrared rays – Ultrasonic, Therapy – Short wave diathermy therapy. Principles and techniques of Strapping and Bandages.

UNIT: VI (Latest learning) (4 Hrs)

Latest development related to the course during the semester concerned – **CIA only**

Text books

- Conley, M. (2000). Bioenergetics of exercise training. In T.R. Baechle, & R.W. Earle, (Eds.), Essentials of Strength Training and Conditioning (pp. 73-90). Champaign, IL: Human Kinetics.
- Christine, M. D., (1999). Physiology of sports and exercise. USA: Human Kinetics.
- Mathew, D.K. & Fox, E.L, (1971). Physiological basis of physical education and athletics. Philadelphia: W.B. Saunders Co.
- Williams, J. G. P. (1962). Sports medicine. London: Edward Arnold Ltd.
- Dr. Hamant Varma, “Sports Medicine, Physiotherapy”. ISBN:978-81-921352-7-4. Edition. 2016.

References:

- Doherty. J. Meno. Web, Moder D (2000) Track & Field, Englewood Cliffs, Prentice Hal Inc. Lace, M. V. (1951) Massage and Medical Gymnastics, London: J & A Churchill Ltd.
- McOoyand Young (1954) Tests and Measurement, New York: Appleton Century.
- Naro, C. L. (1967) Manual of Massage and, Movement, London: Febra and Febra Ltd. Rathbome, J.I. (1965) Corrective Physical education, London: W.B. Saunders & Co. Stafford and Kelly, (1968) Preventive and Corrective Physical Education, New York.

Course outcomes

- Provided the basic knowledge about athlete care.
- Learned the fundamental concepts of rehabilitation.
- Educated on massage.
- Understood the concept of massage.
- Studied the importance of therapeutic exercise.
- Gain knowledge about the prevention of injuries in sports.
- Given fair idea about the common sports Injuries and diagnosis.

Note: ICT Classes and Self Study also included.

WEEK: 3 Hrs.
TOTAL HOURS: 36 Hrs

SUB CODE: UR1PESBE5
CREDIT:2
MAX. MARKS: 100

SKILL BASED ELECTIVE -V **SPORTS TECHNOLOGY**

Objectives

- To provide the basic knowledge about sports technology.
- To educate the various latest modern sports materials.
- To educate the various latest modern sports equipment.

UNIT I – SPORTS TECHNOLOGY

(6 Hrs)

Meaning, definition, purpose, advantages and applications, General Principles and purpose of instrumentation in sports, Workflow of instrumentation and business aspects, Technological impacts on sports.

UNIT II – SCIENCE OF SPORTS MATERIALS

(8 Hrs)

Adhesives- Nano glue, nano-moulding technology, Nano turf. Foot wear production, Factors and application in sports, constraints. Foams- Polyurethane, Polystyrene, Styrofoam, closed- cell and open-cell foams, Neoprene, Foam. Smart Materials – Shape Memory Alloy (SMA), Thermo chromic film, High-density modeling foam.

UNIT III – SURFACES OF PLAYFIELDS

(6 Hrs)

Modern surfaces for playfields, construction and installation of sports surfaces. Types of materials – synthetic, wood, polyurethane. Artificial turf. Modern technology in the construction of indoor and outdoor facilities. Technology in manufacture of modern play equipments. Use of computer and software in Match Analysis and Coaching.

UNIT IV – MODERN EQUIPMENT

(6 Hrs)

Playing Equipments: Balls: Types, Materials and Advantages, Bat/Stick/ Racquets: Types, Materials and Advantages. Clothing and shoes: Types, Materials and Advantages. Measuring equipments: Throwing and Jumping Events. Protective equipments: Types, Materials and Advantages. Sports equipment with nano-technology, Advantages.

UNIT V – TRAINING GADGETS

(8 Hrs)

Basketball: Ball Feeder, Mechanism and Advantages. Cricket: Bowling Machine, Mechanism and Advantages, Tennis: Serving Machine, Mechanism and Advantages, Volleyball: Serving Machine Mechanism and Advantages. Lighting Facilities: Method of erecting Flood Light and measuring luminous. Video Coverage: Types, Size, Capacity, Place and Position of Camera in Live coverage of sporting events.

UNIT: VI (Latest learning)

(2 Hrs)

Latest development related to the course during the semester concerned – **CIA only**

Text books

- Compton Jenkins, (2007) Dynamics of Fitness & Health, Kendall/Hut Publishing
- Ken Hardman, (2011), Contemporary Issues in Physical Education, Meyer & Meyer Sport
- Mcglynn, G., (1993). Dynamics of fitness. Madison: W.C.B Brown.
- Dr. Senthil Kumar, "Sports Technology". ISBN:978-81-921352-7-4. Edition. 2016.

Reference:

- Charles J.A. Crane, F.A.A. and Furness, J.A.G. (1987) "Selection of Engineering Materials" UK: Butterworth Heiremann.
- Finn, R.A. and Trojan P.K. (1999) "Engineering Materials and their Applications" UK: JaicoPublisher.
- John Mongilo, (2001), "Nano Technology 101 "New York: Green wood publishing group. Walia, J.S. Principles and Methods of Education (Paul Publishers, Jullandhar), 1999. Kochar, S.K. Methods and Techniques of Teaching (New Delhi, Jullandhar, Sterling Publishers Pvt. Ltd.)

Course outcomes

- Studied the application of sports technology..
- The basic concept of using latest sports materials. .
- Provided the knowledge about the various sports surfaces to develop performance..
- The basic idea about the training programmes.

Note: ICT Classes and Self Study also included.

INTER DISCIPLINARY COURSE

WEEK: 2 Hrs.
TOTAL Hrs: 24 Hrs.

SUB. CODE: UR1PEIDC4
CREDIT: 2
MAX. MARKS: 100

FUNDAMENTAL OF YOGA (IDC – I)

Objectives

- To understand the fundamental concepts of yogic practices.
- To study the selected yogic practices and its impact on selected systems in the human body.

UNIT- I INTRODUCTION OF YOGA (3 Hrs)

Meaning and Definition of Yoga. Aims and objectives of Yoga. Historical background of yoga. Contributions of Thirumoolar & Patajali. The Yoga Sutra: General consideration. Need and importance of yoga in Physical Education and Sports.

UNIT-II FOUNDATION OF YOGA (4 Hrs)

The Astanga Yoga: Yama, Niyama, Asana, Pranayama, Pratyahara, Dharana, Dhyana and Samadhi. Yoga in the Bhagavadgita. Types of Yoga: Karma Yoga, Jnana Yoga, Hatha Yoga, Raja Yoga and Bhakthi Yoga. Principle of practicing asana, pranayama and meditation.

UNIT-III ASANAS (6 Hrs)

Technique and benefits of Asanas: Classification of asanas Relaxative asanas – Shavasana, Makarasana; Meditative asanas: Padmasana, Vajrasana; Cultural asanas: Thadasana, Patchimottasana, Artha Matsyendrasana, Dhanurasana, Saravangasana and Halasana. Technique and benefits - Suryanamaskar.

UNIT- IV INTRODUCTION OF PRANAYAMA AND CLEANSING PROCESS (6 Hrs)

Pranayama: Nadi Suddhi, Sitali and Sitkari. Meditation - Meaning of Mudra, Bhandas & Kriya. Types of Bandhas (Uddiyana Bandha, Jalandhara Bandha, Mula Bandha), Mudras (Chin Mudra, Chinmaya Mudra, Adi Mudra, Brahma Mudra and Prana Mudra) and Kriyas (Kaphalabhathi, Trataka, Neti -Jala Neti, Sutra Neti, Dhauthi- Vamana Dhauthi).

UNIT- V YOGA EDUCATION (3 Hrs)

Difference between yogic practices and physical exercises. Yoga education centres in India: Bihar School of Yoga and SVYASA. Yoga education centres in abroad. Competitions in yogasanas. International Yoga day. Role of yoga in religion harmony.

UNIT: VI (Latest learning) (2 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Chandrasekaran, K., (1999). Sound Health through Yoga. Sedapatti: Prem Kalyan Publications.
- Gharote, M.L. & Ganguly, H. (1988). *Teaching methods for yogic practices*. Lonawala: Kaivalayadhama.
- Iyengar, B.K.S. (2001). *Yoga the path to holistic health*, Dorling Kindersley.
- Saraswati, Niranjanananda. (2010). *Prana and Pranayama*, Mungaer: Bihar School of Yoga.
- Saraswati, Satyananda. (2008). *Four Chapters on Freedom*, Mungaer: Bihar School of Yoga.
- Dr. Mahendra Kumar. “Yoga Education” ISBN: 978-93-86641-03-8. Edition. 2017.

Reference books / Websites

- Bhowmil, Sanjib kumar. (2012). *A text book on Yoga and Health*. Delhi: Sports publication.
- Brown, F.Y. (2000). *How to use yoga*. Delhi: Sports Publication
- Feuersten, Georg. (2002). *The yoga tradition*, Delhi: Motilal banarsidass publishers.
- Rajjan, S.M. (1985). *Yoga strengthening of relaxation for sports man*. New Delhi: Allied Publishers.

Course outcomes

- To understanding of the fundamental concepts of yogic practice.
- To learned the principles of practicing asana, pranayama and meditation.
- To studied the selected kriyas, mudras and bandhas.
- To elaboration of the leading yoga school both in Indian and foreign soil.

Note: ICT Classes and Self Study also included.

WEEK: 2 Hrs.
TOTAL Hrs: 24 Hrs.

SUB. CODE: U5R1PEIDC5
CREDIT: 2
MAX. MARKS: 100

HEALTH EDUCATION AND FIRST AID (IDC - II)

Objectives

- To provide the fundamentals concepts of Health Education and First Aid.
- To enable the students to understand the various communicable and non-communicable diseases.

UNIT – I INTRODUCTION OF HEALTH EDUCATION (4 Hrs)

Definition of Health, Health Education, Health instruction, Health supervision of Health, Concept of Health - Aims and objectives of Health Education - Health service and guidance instruction in personal hygiene.

UNIT- II COMMUNICABLE AND NON COMMUNICABLE DISEASES (4 Hrs)

Communicable diseases: Malaria, Cholera, Typhoid, Measles, Tuberculosis – Non Communicable :Diabetes, Cancers. Causes, Signs and symptoms and prevention of Communicable and Non Communicable diseases.

UNIT-III HEALTH CARE (4 Hrs)

Personal Health (Care of skin, hair, eyes, ears, teeth, nose, hands and feet)-Rest and sleep (Need of good sleep and effect of Insomnia)-Relaxation (Need and technique). Mental Health-Meaning and definitions-Mental illness- Types, Causes and Remedies.

UNIT-IV NUTRITION (6 Hrs)

Food and Nutrition- Classification of Food (Carbohydrate, fat, protein, vitamins and minerals)-Functions of Food - Factors affecting nutritional status of an individual-Balanced diet-Malnutrition (causes symptoms and remedies)- Nutritional tips. Contemporary Health Problems –Use of tobacco, alcohol and drugs-their side effects

UNIT- V INTRODUCTION OF FIRST AID (4 Hrs)

Meaning and Definition of First Aid. The aims of first aid. The responsibility of the First aider. Priority of the treatment by First aider. Major first aid technique.- First aid kits – Rules of First aid – ABC Rule

UNIT: VI (Latest learning) (2 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Frank, H. & Walter, H., (1976). *Turners school health education*. Saint Louis: The C.V. Mosby Company.
- Odum, E.P. (1971). *Fundamental of ecology*. U.S.A.: W.B. Saunders Co.
- Dr. Dev Raj Yadav. “Health Education” ISBN: 978-93-86641-04-5. Edition 2018.

Reference books / Websites

- Agrawal, K.C. (2001). *Environmental biology*. Bikaner: Nidhi publishers Ltd.
- Alcamo, J., G.J.J. Kreileman, M.S. Krol, and G. Zuidema. (1994). Modeling the global society-biosphere-climate system. Part 1: Model description and testing. *Water, Air and Soil Pollution* 76(March):1–35.
- <http://www.cnheo.org>.
- <http://www.environment-agency.gov.uk/>
- Nemir, A. (n.d.). *The school health education*. New York: Harber and Brothers.

Course outcomes

- To provided the fundamental concepts of Health Education.
- To understanding the various communicable and non-communicable diseases.
- To learning the social issues and First Aid.

Note: ICT Classes and Self Study also included.

WEEK: 2 Hrs.
TOTAL Hrs: 24 Hrs.

SUB. CODE: U5R1PEIDC6
CREDIT: 2.
MAX. MARKS:100

FITNESS AND NUTRITION (IDC – III)

Objectives

- To study and understand the fundamental fitness and Nutrition..
- To provide knowledge on exercise programme, and highlight the issues & Challenges in Physical Education.

UNIT – I INTRODUCTION

(6 Hrs)

Meaning and Definition of Physical Fitness-Types of Physical Fitness-Components of Physical Fitness
Meaning and Definition of Wellness-Components of Wellness - Values of Physical Fitness-Factors affecting Physical Fitness and Wellness-Importance of Physical Fitness and Wellness.

UNIT - II AEROBIC AND ANAEROBIC EXERCISE

(4 Hrs)

Exercise and Fitness-Calisthenics, Aerobic exercises-Brisk Walking, Jogging, Cycling, Swimming, Skipping and Aerobic Dance. Anaerobic Exercise-Weight Training, Circuit Training, Dhands and Baithaks-Mobility Training-Stretching and Asanas.

UNIT – III OBESITY AND BODY DEFORMITIES

(6 Hrs)

Obesity-Meaning and Definition-Causes and Symptoms, BMI obesity and its hazards, Define Fat-Classification of Fats(Lipids)-Fats and Health. Posture – Meaning and Definition – Types of Posture – Drawbacks and Causes of Poor Posture – Concepts of posture. Posture Deviations and the Corrective Exercise for Kyphosis, Lordosis, and Scoliosis, Knock knee, Bowleg and Flat foot.

UNIT – IV NUTRITION AND DIET

(4 Hrs)

Meaning and definition of nutrition, types of nutrition and components (Carbohydrate, fat, protein, vitamins and minerals) Factors affecting nutritional status of an individual-Balanced diet-Malnutrition (causes symptoms and remedies)- Nutritional tips. Deficiency of nutrition.

UNIT – V ISSUES IN PHYSICAL EDUCATION

(4 Hrs)

Meaning of health hygiene, Types and its uses, Effect of alcohol and Tobacco, Major health problems in India.

UNIT: VI (Latest learning)

(2 Hrs)

Latest development related to the course during the semester concerned – CIA only

Text books

- Compton Jenkins, (2007) Dynamics of Fitness & Health, Kendall/Hut Publishing
- Ken Hardman, (2011), Contemporary Issues in Physical Education, Meyer & Meyer Sport
- Mcglynn, G., (1993). Dynamics of fitness. Madison: W.C.B Brown
- Sharkey, B. J.(1990). Physiology of fitness, Human Kinetics Book.
- Dr. S. Durbey and K. Singh, “ Sports Nutrition and Weight Managements” ISBN:978-93-86641-02-1, 2016.

Reference books / Websites

- Difiore, J.(1998). Complete guide to postnatal fitness. London: A & C Black
- Giam, C.K & The K.C. (1994). Sport medicine exercise and fitness. Singapore: P.G. Medical Book
- www.wikinvest.com/concept/Health_%26_Wellness

Course outcomes

- The concept of wellness, its dimensions and components were learned.
- To provided the knowledge about prevention and management of modern lifestyle.
- To learn the concept of designing different fitness training programme .
- The issues in Physical Education were studied in length.

Note: ICT Classes and Self Study also included.