

**H.H. THE RAJAH'S COLLEGE (AUTONOMOUSB+)  
PUDUKKOTTAI**

**B.Sc., Physical Education,  
Health Education and Sports**



**SYLLABUS  
(2015-16 ONWARDS)  
COURSE STRUCTURE UNDER CBCS**

**B. Sc. Physical Education, Health Education and Sports Course Structure under CBCS**  
**(Applicable to the candidates admitted from the academic year 2018-2019 onwards)**

### **I. Aims of the Bachelor's degree programme in Physical Education**

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

- ❖ The acquisition and refinement of motor skills,
- ❖ To equip the students with the scientific knowledge of body response to various types of exercise.
- ❖ Maintenance of fitness for optimal health and well-being,
- ❖ Attainment of knowledge and the growth of positive attitude towards physical activity and sports.

### **II VISION**

- ❖ In this course the students will be taught to meet the health, physical fitness and positive lifestyle related challenges faced by the members of the society.
- ❖ The programme has compulsory learning of foundation and allied sports science courses besides being trained in numerous sports.
- ❖ The students are provided with various choices in the skill enhancement course which are directly related to the implementation of knowledge in the society.
- ❖ This course creates strong foundation for all form of teachers training courses in physical education & sports sciences at various levels
- ❖ The programme will enable the students to propagate the importance of Physical Education at various levels and its requirement for every individual of the society in order to keep oneself healthy and live a stress free and positive lifestyle'
- ❖ To train the students to meet the challenges faced by the sports persons with respect to doping, which is both injurious to health and contrary to the sporting ethic, and to protect the physical and mental health of athletes, the virtues of fair play and competition, the integrity of the sporting community and the rights of people participating in it at any level whatsoever.

### **III MISSION**

- ❖ Developing outstanding sports personality of international caliber
- ❖ Facilitating the learners to participate in intramural and extramural competitions
- ❖ Training the learners to become officials and referees
- ❖ Making the learners to excel in one game and familiarize with all other major games
- ❖ Making the learners to excel in Yoga and Gymnastics creating social responsibility by exposing learners to their social obligations.

Note:

	Internal Marks	External Marks
1. Theory	25	75
2. Practical	40	60
3. Separate passing minimum is prescribed for Internal and External marks		

### **FOR THEORY**

The passing minimum for CIA shall be 40% out of 25 marks [i.e. 10 marks]

The passing minimum for University Examinations shall be 40% out of 75 marks [i.e. 30 marks]

### **FOR PRACTICAL**

The passing minimum for CIA shall be 40% out of 40 marks [i.e. 16 marks]

The passing minimum for University Examinations shall be 40% out of 60 marks [i.e. 24 marks]

## **B.Sc. Physical Education, Health Education and Sports**

### ***Course Structure under CBCS***

(Applicable to the candidates admitted from the academic year 2018-2022 onwards)

#### **Admission Guidelines**

#### **1. Duration**

The duration of the B.Sc. Physical Education, Health Education and Sports shall be three year programme consisting of six semesters.

#### **2. Eligibility**

Applicants should have passed the +2 examination of the Government of Tamil Nadu or any other equivalent examination recognized by the Government of Tamil Nadu or approved by the Bharathidasan University. School representation in any games or sports is preferred for the applicants. The candidates should not have completed 18 years of age as on 1st July. However, relaxation of 3 years may be given for SC / ST alone.

### 3. Admission

Admission shall be made on the basis of ranking for a total of 150 marks as detailed below.

1.	Qualifying examination 25 marks	25 marks
2.	Participation in Sports and games	25 marks
3.	Sports proficiency test	50 marks
4.	Physical fitness test a. 100 mts – 20 marks b. Shot put – 15 marks c. Long Jump – 15 marks	50 marks

### 4. Qualifying Examination (Maximum marks: 25)

The marks to be awarded for qualifying examination is to be calculated as under: Marks obtained in part - III at the Degree level should be reduced to a maximum of 25. For example, if a candidate has secured 400 marks out of 600 in part - III at the Degree level, his marks for the qualifying examination is

$$\left( \frac{400}{600} \times 25 \right) = 16.66$$

### 5. Participation in Sports and Games (Maximum marks: 25)

The norms for award of marks for the sports and games participation are furnished hereunder: Any one which is applicable / advantageous.

1.	Representation for the Country / National placing (I,II,III and IV)	25
2	State Representation (Form-II / IV in games/sports)	20
3	Inter Division (Participation) BDS /RDS Inter District (Participation) / CBSC CLUSTER	15
4	Pongal / District (BDS /RDS)	10
5	Inter-School Representation	05

**Note:** Participation marks are awarded only to Sports discipline, which is part of Inter-University competitions under auspices of Association of Indian Universities (AIU).

**6. Sports proficiency test (Maximum marks: 50)**

The applicant should choose any one of the following games (Badminton, Ball Badminton, Basketball, Cricket, Football, Handball, Hockey, Kabaddi, Kho-Kho& Volleyball) for assessment.

**7. Medical Certificate**

All applicants should submit along with the application a latest Medical Certificate issued by a Government Doctor not below the rank of a Civil Surgeon to the effect that the candidate is fit to undergo strenuous activities.

**8. Reservation policy**

The Government of Tamil Nadu rules of reservation of seats must be scrupulously followed.

**SEMESTER: 1**

**SUB CODE: JSPSA1**

**CREDIT : 5**

**MAJOR PAPER - I**  
**FOUNDATIONS AND HISTORY OF PHYSICAL EDUCATION AND**  
**SPORTS**

**UNIT: I**

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

**UNIT: II**

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

**UNIT: III**

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

**UNIT: VI**

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

**UNIT: V**

- a) Important National and International Trophies – Santosh Trophy, Ranji Trophy, Duleep Trophy, Rengasamy Cup- Thomas Cup, Davis cup, Euro Cup, Wimbledon, fight for Ashes)
- b) Sports Competition – Asian games, Commonwealth games, SAF, AIU, SGFI, RDS and BDS.
- c) Awards and Honour – Arjuna award, Dronacharya award and Rajiv Gandhi Khel Retna award, Maulana Abulkalam Azad award and Dayan chand award.

**References:**

- Bucher, Charles.A.,&Deborah.A.Wuest, Foundation of Physical Education and Sports Times Mirror Mosby College Publishing, St.Louis 1989.
- Thirunayanan C.,&S.Hariharasarma, An Analytical History of Physical Education The South Indian Press, Keraikudi,1996.
- Kamlesh M.L &M.S.Sangral, Principles and History of Physical Education, Parkash Brothers Education Publishers, Ludhiana1981.

**ALLIED PAPER - I**  
**THEORIES OF YOGA AND GYMNASTICS**

**UNIT: I**

- a) Meaning and definition of yoga
- b) History of Yoga
- c) Aim and objectives of yoga
- d) Principles of Yoga.
- d) Branches of yoga – Jnana, Bhakthi, Karma, Kudalini, Mantra, Hatha and Raja yoga.

**UNIT: II**

- a) Yoga and Diet.
- b) Yoga sutra- Sections of Yoga Sutra.
- c) Raja yoga (Astanga Yoga and Eight limbs of yoga) -Stages with description.
- d) Bahiranga Yoga and Antharanga Yoga.

**UNIT: III**

- a) Suryanamaskar - Asanas – Classification of Asana based on Pose, Difficulty and Position.
- b) Guidelines for Practicing Asanas.
- c) Difference Between Physical Exercises and Yogic Asanas.
- d) Benefits of Padmasana, Vajrasana, Halasana, Dhanurasana, Sarvangasana, and savasana.

**UNIT: IV**

- a. Pranayama – Concept of Pranayama (Nadis, Breath and Bandhas) - Practice of Pranayama (NadiSuddhi, NadiShodhana, Surya Bhedana, Kapalabathi and Sitali).
- b. Kriyas – types of Kriyas – Practice of Kriyas (Neti, Dahuti, Nauli and Trataka).
- c. Mudras- Chin, Chinmaya , Brahma, Nasika and Yoga mudra.
- d. Meditation- Types of Meditation (Silent, Mantra, Object and Breathing Meditation).

**UNIT: V**

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

**References:**

- Swami Kuvalayananda and S.L.Vinekar(1985)- Yogic Therapy.
- Yogasasas: A Techer'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

**SEMESTER: I**

**SEMESTER: I**

**SUB CODE: JSCES**

**CREDIT : 2**

**ENVIRONMENTAL SCIENCE**

**UNIT-I**

- a) Nature of environment and environmental studies
- b) Definition, scope and importance : need for public awareness
- c) Renewable and non-renewable resources and their management
- d) A preliminary knowledge on the following resources : forest, water, mineral, food and energy

**UNIT –II**

- a) Concept of an ecosystem, structure of an ecosystem, producers, consumers and decomposers
- a) Energy flow in the ecosystem, food chains, food webs and ecological pyramids.

**UNIT: III**

- a) Biodiversity and its conservation – Introduction – definition of genetic – species and ecosystem diversity.
- b) Bio-geographical classification of India, value of biodiversity: consumptive use, productive use social, ethical, aesthetic and option values.
- c) Threats to biodiversity: habitat loss, poaching of wildlife, man- wildlife conflicts.
- d) Endangered and endemic species of India, conservation of biodiversity.

**UNIT - IV**

- a) Environmental Pollution – Definition, causes, and effects control measures of Air pollution, Water pollution and Soil pollution, Marine pollution, Noise pollution. Thermal nuclear pollution.
- b) Solid waste management: causes, effects and control measures of urban and industrial wastes.

**UNIT – V**

- a) Social issues and problems from unsustainable to sustainable development, urban problems related to energy conservation.
- b) Population growth, variation among nations.
- c) Population explosion – Family welfare programme
- d) Environment and human health, Human rights, value education, HIV / AIDS, Women and child welfare.



**MAJOR PAPER - II**

**MAJOR GAMES GROUP-I (PRACTICAL- I) \***  
**GAME: HOCKEY, KABADDI, KHO-KHO&VOLLEYBALL**

**UNIT: I**

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

**UNIT: II**

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

**UNIT: III**

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

**UNIT: IV**

- 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**

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

**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

**MAJOR PAPER - III  
SPORTS MANAGEMENT****UNIT: I**

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

**UNIT: II**

- a) Play area in 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.
- b) Gymnasium-Need for Gymnasium-Specification of Gymnasium-Purpose of the Gymnasium- (Gymnastics, yoga, weight training apparatus, Multi – Gym )
- c) 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**

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

**UNIT: IV**

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

**UNIT: V**

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

**References:**

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

**ALLIED PAPER - II**  
**YOGA AND GYMNASTICS (ALLIED –PRACTICALS -I)**

**Unit – I: Suriyanamaskar**

**Unit – II: Asanas**

Padmasana	Ardha Matsyandrasana	Ardhaticakrasana
Dhanurasana	Mayurasana	Ardhacakarasana
Bhujangasana	Vajrasana	Ekapada Asana
Vakrasana	Paschimottanasana	Gomukhasana
Matsyasana	Salababhasana	Navasana
Ustrasana	Ardhasalabhasana	Chakrasana
Sarvangasana	Savasana	Natarajasana
Halasana	Garudasana	Trikonasana
Sirasasana	Veerabathrasana	

**Unit – III: Pranayama and Mudras**

NadiSuddhi, NadiShodhana, Surya Bhedana, Kapalabathi and Sitali

Chin, Chinmaya , Brahma, Nasika and Yoga mudra.

**Unit – IV: Kriyas and Meditations**

Neti, Dahuti, Trataka, Mandra Meditation and silent meditation

**Unit – V: Gymnastics**

**Men**

1. Forward Roll
2. Backward Roll
3. Cartwheel
4. Jump Forward Roll
5. Perfect Swing on Parallel Bar
6. Shoulder Stand
7. Perfect Swing on Horizontal Bar
8. Hand Stand.

**Women**

1. Forward Roll
2. Backward Roll
3. Cartwheel
4. Walking on the beam
5. Jump to squat stand
6. Hand stand

**References:**

- SWAMI KUALAYANANDA, 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

## **VALUE EDUCATION**

### **UNIT-I: Meaning and nature of value education**

Meaning and concepts of value education – origin – nature – classification of values – view of eminent thinkers – meaning of value education – need for value education.

### **UNIT –II: Objectives and development of human value**

Role of school and colleges in the development of human values – objectives of value oriented education. Ethical and social values- Gandhiji's non-violence – Gokak committee.

### **UNIT - III: Strategies and approaches to value education**

Role of education in school, family, teachers, personal value development – connectional frame work – strategy suggested by JRF rankle – NCERT approach to value Education – Role play technique in value education based curriculum – teachers' role.

### **UNIT - IV: Sources of values**

Sources of values – Traditional Indian values, sources of values- culture, Education, Religion - Hinduism, Christianity, Islam, Buddhism – Indian constitutions as source for democratic values – equality – secularism, democracy – Research and resources in value education.

### **UNIT – V: Methods of teaching and documents on Human value education**

Methods of teaching value education – Guidelines for developing value among students. Problems in promoting value Education – Documents of value education – Recommendation of the committee appointed by the central advisory Board of Education – Recommendation of the university education commission 1964 – 1966. National policy on Education 1986 – 1992.

#### ***References***

- J.C.Agarwal, Education for values Environment and Human Rights, Shipra publications, New Delhi 2005.
- Dube S.C. Modernization and development, The search for an alternative paradigm, Zee books Ltd., London, 1988.
- MansellR and When U knowledge societies : Information Technology for sustainable Development, OxfordUniversity press, New York.

World Bank knowledge for Development world development report, Oxford Unit Press, New York.

**SOFT SKILL – I**  
**THEORIES OF MAJOR GAMES \***

**UNIT: I Kabaddi and Kho-Kho**

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

**UNIT: II Basketball and Handball**

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

**UNIT: III Football**

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

**UNIT: IV Hockey**

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

**UNIT: V Cricket and Volleyball**

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

**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 Modren Approach, Patiala, Sainsoris, 1991.
- Dr. Anil Sharma O.P. Sharma Rules of games sports publication 4264/3
- Wein Horst (1979). *The Science of Hockey*. London, Pelham Books.

**MAJOR PAPER - IV  
HUMAN ANATOMY AND PHYSIOLOGY**

**UNIT: I**

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

**UNIT: II**

- a) Meaning and Functions of Skeleton-Exoskeleton and Endoskeleton (Axial and Appendicular Skeleton )
- b) 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.
- c) Joints-Definition and Classification of Joints-Diarthrosis, Amphiarthrosis and Synarthrosis- Classification of Freely Movable Joints.

**UNIT: III**

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

**UNIT: IV**

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

**UNIT: V**

- a) 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.
- b) Difference between Hormones and Enzymes.

**References:**

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

**NON MAJOR ELECTIVE - I**  
**FITNESS AND SPORTS INNOVATIONS**

**Unit-I**

- a) Meaning and Definition of Physical Fitness-Types of Physical Fitness-Components of Physical Fitness
- b) Meaning and Definition of Wellness-Components of Wellness
- c) Values of Physical Fitness-Factors affecting Physical Fitness and Wellness-Importance of Physical Fitness and Wellness

**Unit-II**

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

**Unit-III**

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

**Unit-IV**

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

**Unit – V:**

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

**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., The Diomechanics of Sports Techniques, Prentice Hall Inc. Englewood Cliffs N.S. 1973.

**MAJOR PAPER - VI  
SPORTS PHYSIOTHERAPY**

**Unit – I:**

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

**Unit – II:**

- a) 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.
- b) Electrotherapy – Infra – red rays irradiation therapy and Ultra – sound wave Diathermy.

**Unit – III**

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

**Unit – IV**

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

**Unit – V:**

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

**References:**

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



**MAJOR PAPER – V**

**MAJOR GAMES: GROUP II (PRACTICAL-II) \***

**GAME: BASKETBALL, CRICKET, FOOTBALL AND HANDBALL**

**UNIT: I**

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

**UNIT: II**

- 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**

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

**UNIT: IV**

- 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**

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

**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

**ALLIED PAPER - III**

**TEST, MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION \***

**UNIT: I**

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

**UNIT: II**

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

**UNIT: III**

- a) AAPHERD Health Related Physical Fitness test
- b) AAPHERD Youth Fitness Test.
- c) Motor ability-Newton Motor Ability test- Barrow Motor Ability test
- d) Motor Educability- Methny Johnson Test
- e) Posture test-Newyork Posture test

**UNIT: IV**

- a) Basketball -Johnson Basketball Ability test.
- b) Hockey -Schmithals French Field Hockey test
- c) Soccer -Mc Donald Soccer test.
- d) Volley ball - RusselLange- Volley ball test.
- e) Badminton - French short service Test.
- f) Tennis - Dyer tennis Test.

**UNIT: V**

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

**References:**

- Bosco, James. (1983). Measurement and Evaluation in Physical Education and sports, New Jersey, Prentice Hall In.
- 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.

**SEMESTER: IV**

**SUB CODE: JSPSYD4P**

**CREDIT : 5**

**ALLED PAPER - IV**

**EVALUATION PROCESS IN PHYSICAL EDUCATION (ALLIED PRACTICALS-II) \***

**UNIT: I**

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

**UNIT: II**

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

**UNIT: III**

- a) AAPHERD Youth Fitness test
- b) JCR Fitness test
- c) Barrow Motor Ability test
- d) Metheny- Johnson Motor Educability test.

**UNIT: IV**

- a) Basket ball-Johnson test-
- b) Football-McDonald Soccer test- Volleyball.
- c) Volleyball test-Russell Lange Test
- d) Hockey-Shemithals French field Hockey test.
- e) Badminton – French short service Test.
- f) Tennis – Dyer Tennis Test.

**UNIT: V**

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

**References:**

- Bosco, James. (1983). Measurement and Evaluation in Physical Education and sports, New Jersey, Prentice Hall In.
- 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, Margarat, J. (1986). *Measurement in Physical Education and Exercises science*, St louis Times Morrow Mos by college publishing.
- A.K.Gupta. *Tests & Measurements in physical Education*. New Delhi. Sports publication

**SOFT SKILL – II**  
**RESEARCH AND STATISTICS FOR PHYSICAL EDUCATION AND SPORTS**

Note: 50% problem should be asked while setting question paper

**Unit – I:**

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

**Unit – II:**

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

**Unit – III:**

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

**Unit – IV:**

- a) Computation of Combined Mean from Un-grouped data.
- b) Computation of Combined Standard deviation from the Un-grouped data.
- c) Normal Curve and its Properties – Homogeneous and Heterogeneous groups – Divergence from Normality- Skewness and Kurtosis.
- d) Percentiles, Deciles and Quartiles –Standard Scales– T-Scale and Hull Scale.

**Unit – v:**

- a) Meaning and Definition of Correlation and its types.
- b) Computation of Product Moment Correlation from the Un-grouped data.
- c) Rank Order Correlation – Computation.

**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

**MAJOR PAPER - VII  
THEORIES OF TRACK AND FIELD**

50% weightage shall be given for marking while setting question

**Unit – I:**

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

**Unit – II:**

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

**Unit – III:**

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

**Unit – IV:**

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

**Unit – V:**

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

**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.

**SEMESTER: V**

**SUB CODE: JSPSH5**

**CREDIT : 4**

**MAJOR PAPER - VIII  
METHODS IN PHYSICAL EDUCATION**

**Unit – I:**

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

**Unit – II:**

- a) 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.
- b) Methods of teaching Physical activities-Variou commands.

**Unit – III:**

- a) Lesson plan-values of lesson plan
- b) Types of lesson plan
- c) General lesson plan-Particular lesson plan
- d) Parts of lesson plan
- e) Preparation of lesson plan.

**Unit – IV:**

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

**Unit – V**

- a) Intramural Competition – Objectives – Method of Organizing and conducting – Units for Competition – Intramural Committee.
- b) Extramural Competition – Benefits – Drawbacks – Methods of Organizing and Conducting.
- c) Group competitions- Benefits-Methods of organizing and conducting.
- d) Sports Meet – Standard and Non – Standard – method of organizing and conducting Sports meet-Handicap Sports, telegraphic sports and Tabloid sports.
- e) Play days – method of organization and conducting -model programme of play days.

**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.

**SEMESTER: V**

**SUB CODE: JSPSI5P**

**CREDIT : 4**

**MAJOR PAPER - IX  
INJURY MANAGEMENT (MAJOR PRACTICAL-III)**

**Unit – I: First aid**

Sprain – Strain – Fracture – Dislocation – Cramp – Bleeding – Wound

**Unit – II: Exercise Therapy**

Passive – Active – Assistive – Resistive movements- Static and Dynamic exercise –  
Concentric and Eccentric movements

**Unit III: Massage Therapy**

Stroking manipulation – Pressure manipulation – Percussion manipulation – Shaking  
manipulation

**Unit – IV: Hydrotherapy**

Cryotherapy – Thermotherapy (Hot pack, Whirlpool and Wax bath) – Contrast bath

**Unit – V: Electrotherapy**

Infra – red rays-Ultra sound diathermy

**References:**

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

**ELECTIVE PAPER - I  
APPLIED KINESIOLOGY**

**Unit – I:**

- a) Meaning and Definitions of Kinesiology
- b) Brief History of Kinesiology.
- c) Role of Kinesiology in Physical Education and Sports.

**Unit – II:**

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

**Unit – III**

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

**Unit – IV**

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

**Unit – V**

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

**References:**

- Gladys Scoth – Kinesiology (Analysis of Human Motion)
- Coper and Glasgow, Kinesiology 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”



**NON- MAJOR ELECTIVE – II**

**INTRODUCTION TO COMPUTER AND INFORMATION TECHNOLOGY**

**Unit – I: Introduction**

- a) Meaning and Definitions of Computers-History of Computers-Types of Computers.
- b) Input and Output device-Hardware- Software.

**Unit – II: Software**

- a) Introduction to word document ,spread sheet and power point
- b) Application software used in physical education and sports ,SPSS and Vassar stat

**Unit – III: Multimedia**

- a) Meaning and Definition of Multimedia-needs-benefits and problems.
- b) Multimedia platform-sound and pictures.

**Unit – IV: Internet**

- a) Introduction to Internet- World wide web-Web page- E-mail – Websites- Web browser-Server.
- b) Search engine-Data base-Advantage of Internet -Video conference

**Unit – V: Information and Communication Technology**

- a) Meaning, need and importance information and communication technology.
- b) Application of computers in physical education

**References:**

- Bartee “Digital computer fundamentals ” Tata McGraw Hill 1996.
- Internet programming – kris jansa ken cop.Galgotia Publications PVT., Ltd., 1995
- Judith jeffcoate multimedia in practice Tecnology and application prentice Hall 1995
- Simon j Gibbsand Dionysion C Tsihrikzis- Multimedia Programming.
- Albert Paul Malvino. Donals P.Leach-Digital Principles and Applications-McGraw Hill 1

**SOFT SKILL-III  
SAFETY EDUCATION AND FIRST AID****UNIT: I**

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

**UNIT: II**

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

**UNIT: III**

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

**UNIT: IV**

- a) Fracture – Causes – Types- Symptoms- Management.
- b) Dislocation-Causes –Symptoms-Management
- c) Sprain-Causes-Symptoms-Management- RICE Technique.
- d) Strain-Causes –Symptoms- Management
- e) Cramp-Causes-Symptoms-Management
- f) Wounds-Causes-Types-Management
- g) Bleeding-Types-Forms-Symptoms-Management.

**UNIT:V**

- a) Unconsciousness- Causes-Symptoms-Management.
- b) Fainting-Causes-Symptoms-Management.
- c) Heart Attack-Causes–Symptoms-Management.
- d) Epilepsy-Causes- Symptoms-Management.
- e) Stroke-Causes- Symptoms-Management.
- f) Asthma-Causes–symptoms-management.
- g) Artificial respiration.
- h) First Aid for Shock-Drowning-Poisoning-Dog bite-Snake bite-Burn

**References:**

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

**MAJOR PAPER - XII  
SCIENCE OF SPORTS TRAINING**

**Unit – I:**

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

**Unit – II:**

- a) Definition of Training Load.
- b) Important Features of Training Load – (Intensity, Density and Volume).
- c) Types of Training Load.
- d) Principles of Training Load.
- e) Training and Adaptation – Super Compensation.
- f) Overload – Causes, Symptoms and Remedies.

**Unit – III:**

- a) 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)
- b) 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)
- c) Speed – Important factors determining Speed – Training for improving Speed- Speed barrier -Speed development (Acceleration run and Repetition method)
- d) Flexibility – Types of Flexibility – Factors determining Flexibility – Improvement of Flexibility.

**Unit – IV:**

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

**Unit – V:**

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

**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.

**MAJOR PAPER - XIII  
EXERCISE PHYSIOLOGY**

**Unit – I:**

- a. Meaning and definition of Physiology, Exercise Physiology.
- b. Scope of Exercise Physiology.
- c. Muscle-Characteristics of Muscle-Types of Muscle (Nature, Control and striations)
- d. Muscular Contraction- Types of Muscular Contraction.
- e. Chemical Compositions of Muscle.

**Unit – II:**

- a) Skeletal Muscle –Characteristics of Skeletal Muscle- Properties of Skeletal Muscle.
- b) Structure and Functions of Skeletal Muscle.
- c) Sliding filament theory of muscular Contraction.
- d) Types of muscle Fibers.

**Unit – III:**

- a) Effect of exercise on Circulatory, Respiratory, Muscular and Nervous systems.
- b) Important Terms-Hypertrophy, Cardiac Hypertrophy, Hypotrophy, Hyperplasia, Oxygen Debt, Second wind, Hypoxic, Tonus of the Muscle, VO<sub>2</sub>max, Hyperthermia, Hypothermia.

**Unit – IV:**

- a) Exercise and Environment-Exercise and temperature regulation in hot and cold climates – Effect of exercise on High Altitude (Hypoxic training)-Physiological adaptations in high altitude.
- b) Fatigue and recovery-Definition-Symptoms prevention of Fatigue.

**Unit – V:**

- a) Energy and Metabolism-Sources of energy for muscular contraction-ATP-CP System- Carbohydrate metabolism.
- b) Comparison between Fat and Carbohydrate Metabolism.
- c) Energy Metabolism during rest, exercise and recovery.

**References:**

- Luttgenes, Kathryn, Helge Deutsch and Nancy Hamilton, Kinesiology: Scientific basis of Human motion, Dubuque : IA: WMC: Broq Communication Inc, 1992.
- Clarke Scoot M., Kinesiology, Sports Publication, Delhi 1998.
- Robergs, Robert A Roberts Scott, Exercise Physiology, Mobsy, London 1997.
- Shaver Larry.G (1985) Essential of Exercise Physiology, New Delhi: Sujeet Singh Publications.
- Reilly, Secher, Snell and Willeams – Physiology of Sports.

**SEMESTER: VI**

**SUB CODE: JPSL6**

**CREDIT : 4**

**MAJOR PAPER - XIV  
HEALTH EDUCATION**

**Unit – I:**

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

**Unit – II:**

- a) 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).
- b) Physical Health – Characteristics of Physically Healthy person.
- c) Mental Health-Meaning and definitions-Characteristics of a Mentally Healthy person-Mental illness- Types, Causes and Remedies.
- d) Occupational Health-Occupational Hazards.

**Unit – III:**

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

**Unit – VI:**

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

**Unit – V:**

- a) 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,
- b) Blood Donation- Need and Importance of Blood Donation- Guidelines for Blood Donation.

**References:**

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

**MAJOR PAPER - X  
TRACK & FIELD EVENTS (MAJOR PRACTICAL-IV)**

**Unit – I:**

- a) Correct running style emphasizing on proper body positions.
- b) Crouch start – Fixing the Starting Block at the Straight and curve.
- c) Practice of starts with and without Blocks using proper command –Orthodox and New technique.
- d) Curve Running.

**Unit – II:**

- a) Practice of standing start using proper command.
- b) Proper style of Race walking.
- c) Hurdles – High and Low – Hurdle clearance – Running in between the Hurdles (3 stride and 5 stride pattern).

**Unit – III:**

- a) Relay Exchange – Visual, Non-visual exchange and Push technique.
- b) Fixing runners at different zones.
- c) Explain and demonstrate the various stages in – Long jump and Triple jump.

**Unit – IV:**

- a) Explain and Demonstrate the various stages in – high jump
- b) Explain and Demonstrate the various stages in – Shot put, Discus throw and Javelin throw

**Unit – V:**

- a) Rules and their Interpretations.
- b) Record Note.

**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.

**SEMESTER: VI**

**SUB CODE: JSPSN6P**

**CREDIT : 4**

**MAJOR PAPER - XI**  
**TEACHING PRACTICE (MAJOR PRACTICAL – V)**

**Unit – I:**

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

**Unit – II:**

General Lesson Plan for Classes From 6<sup>th</sup>std to 12<sup>th</sup>std students.

**Unit – III:**

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

**Unit – IV:**

Specific Lesson Plan for Classes 6<sup>th</sup>std to 12<sup>th</sup> std.

**Unit – V:**

Records and Viva.

***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

**ELECTIVE PAPER - II  
APPLIED PSYCHOLOGY AND SOCIOLOGY**

**Unit – I:**

- a) Meaning and Definition of Psychology and Sports Psychology
- b) Nature and Scope of Sports Psychology.
- c) History of Sports Psychology in India.
- d) Branches of Sports Psychology
- e) Need and Importance of Sports Psychology in the field of Physical Education and Sports

**Unit – II**

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

**Unit – III**

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

**Unit – IV**

- a) 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**

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

**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



**SEMESTER: VI**

**SUB CODE: JSPSEC3**

**CREDIT : 4**

**ELECTIVE PAPER - III  
SPORTS BIO-MECHANICS**

**Unit – I:**

- a) Meaning and Definition of Biomechanics.
- b) Need and Importance of Biomechanics in the field of Physical Education and Sports.

**Unit – II:**

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

**Unit – III**

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

**Unit – IV:**

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

**Unit – V**

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

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