

**ENGLISH – I**

**Unit- I**

**Poetry: Harmony, ED. K. TRIPATHY – PUB. OUP, CHENNAI.**

1. Wordsworth: Solitary Reaper
2. Robert Frost : Stopping by Woods on a Snowy Evening
3. Masfield : Sea Fever
4. Shakespeare : All the World is a Stage
5. Hugh Clough : Say Not the Struggle Naught Availeth

**Unit- II**

**Short Stories: Popular Short Stories ED. Board OF EDITORS – PUB. OUP, CHENNAI.**

1. Katherine Mansfield : A cup of tea
2. V.M. Basheer : The World Renowned Nose
3. R.K. Narayan : The Gateman's Gift
4. Leo Tolstoy : How Much Land Does a Man Need?

**Unit-III**

**Plays: Tales from Shakespeare, Published By Madhuban Educational Books, UBS Publishers & Distributors, New Delhi.**

1. The Merchant of Venice
2. Macbeth
3. Twelfth Night
4. King Lear

**Unit- IV**

**Grammar: Form And Function, By V. Sasikumar & V. Syamala, Emerald Publishers, Chennai-8.**

1. Statements and Questions
2. Determiners including Articles
3. Conjunctions and other Devices

**Unit- V**

**Composition: Communication Skills For Undergraduates, Dr. T.M. Farhathulah, RBA Publications, Chennai**

1. Letter Writing
2. Telegrams
3. Advertisements

**FOUNDATIONS AND HISTORY OF PHYSICAL EDUCATION****Unit - I**

- a. Meaning and definition of education and physical education.
- b. Physical training and physical Culture.
- c. Aims and objectives of physical education –development of physical, mental, social, emotional aspects and neuromuscular co-ordination.

**Unit - II**

- a. Biological foundations of physical education – Muscle tone, Athletic Heart, Vital capacity, Reciprocal Innervations and Unsynchronized development.
- b. Chronological, Anatomical, Physiological and Mental ages
- c. Body types –Sheldon and Kretchmer classification
- d. Differences between male and female during adolescence.

**Unit – III**

- a. Learning Process – Theories of learning– Trial and error learning, Conditioned Response theory and Insightful learning theory.
- b. Laws of Learning- Readiness, Exercise, Effect, Frequency, Regency and Intimacy.
- c. Learning curve.
- d. Kinds of Learning – Primary, Associate and concomitant learning.

**Unit - IV****History of Physical Education and Sports**

- a. History of Physical Education in Sparta and Athens
- b. Olympic Games – Ancient and Modern-Origin – Organization and conduct of the game.
- c. Olympic Flag, Torch, Oath, Emblem and Motto – The Marathon Race.

**Unit – V**

- a. Y.M.C.A and its contributions.
- b. Recent developments in India-SNIPES, NSNIS, SAI, All India council of sports. National Physical Efficiency Drive.
- c. National and International competitions Asian Games, SAF, SGF, RDS, and BDS.
- d. Awards and Scholarships - Arjuna Award, Dhronochariya Award, Maulana Abdul Kalam Azad Award, Rajiv Gandhi Khel Retna Award and Dayand Chand Award.

**REFERENCE BOOKS:**

1. Bucher, Charles A. and Wuest, Deborah A. (1992), Foundations of Physical education and sport (11<sup>th</sup> edn) New Delhi: B1 publication Private limited.
2. Jackson Sharma, “Modern principles of physical education” A. Barnes & co, New York.
3. M.L. Kamalesh “History and principles of Physical education.

**ANATOMY, PHYSIOLOGY AND SUBSTANCE USE DISORDERS**

**Unit - I**

- a. Meaning of Anatomy and Physiology.
- b. Need and Importance of Anatomy and Physiology for Physical Education and Sports.
- c. Cell – Structure and Functions of Various Parts of the Cell.
- d. Blood – Clotting of Blood – Blood Groups.

**Unit - II**

**Digestive System**

Mouth – Tongue – Teeth – Salivary Glands – Pharynx – Esophagus – Abdominal Cavity and its Contents – Stomach – Small Intestine – Large Intestine – Rectum and Anus.

**Unit - III**

- a. Cardio – Vascular System – Structure and Functions of Heart.
- b. Respiratory System – Structure of Lungs and Mechanism of Respiration
- c. Muscular System and its Types
- d. Nervous System – Structure and Function of Brain and Spinal Cord, Reflex arc.
- e. Skeleton System – Classification of Bones and Joints

**Unit - IV**

Endocrine System – Types and their role in Growth, Development and Regulations of Body Functions – Pituitary, Thyroid, Parathyroid, Adrenal and Pancreas Glands.

**Unit – V**

- a. Alcohol use disorders (Alcoholism)
- b. Tobacco (Smoking and chewing)
- c. Cannabis use disorders (Ganja)

**REFERENCE BOOKS:**

1. Chaurasiya, B.D. Human Anatomy, CBS publishing, Delhi – 1982
2. Chatterge, Chadicharen, human Physiology (vol 1 & vol 2) Medical Allied agency, Calcutta.
3. Dr. Murugesan, Anatomy, Physiology and Health Education.

**ENVIRONMENTAL SCIENCE****Unit – I      Natural Resource and Ecosystems**

Meaning, scope and importance, Need for public awareness. Forest resources: Use and over – exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people. Water resources: Use and over – utilization of surface and ground water, floods, dams-benefits and problems. Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies. Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer pesticide problems, water logging, salinity, case studies. Energy resources: Growing energy needs, renewable and non-renewable energy sources, case studies. Land resources: Land as a resource, land degradation, soil erosion and desertification. Role of an individual in conservation of natural resources. Concept of an ecosystem. - Structure and function of an ecosystem. - Producers, consumers and decomposers. - Energy flow in the ecosystem. Ecological Succession. Food chains, food webs and ecological pyramids. Introduction, types, characteristic features, structure and function of the following ecosystem. Forest System. Grassland ecosystem. Desert ecosystem. Aquatic ecosystems. (ponds, streams, lakes, rivers, oceans, estuaries)

**Unit – II      Biodiversity and its conservation**

Introduction – Definition: Genetic, Species and eco-system diversity. Biogeographically classification of India. - Value of biodiversity: consumptive use, productive use, social, ethical, aesthetic and option values. - Biodiversity at global, National and local levels. - India as a mega-diversity nation. - Hot – Spots of biodiversity. - Threats to biodiversity: habitat loss, poaching of wildlife, man wildlife conflicts. Endangered and endemic species of India Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity.

**Unit –III      Environmental and Noise Pollution**

Air pollution. - Water Pollution. - Soil Pollution. - Noise Pollution. - Thermal Pollution. - Thermal Pollution. - Nuclear hazards. - Solid waste management: Causes, effects and control measures of urban and industrial wastes. - Role of an individual in the prevention of pollution. - Pollution case studies. Disaster Management : Floods, earthquake, cyclone and landslides. Sources – Measurement – effects of noise pollution on human beings, Wild life and non living things, Control of noise pollution

**Unit – IV      Social issues and the Environment:**

From Unsustainable to Sustainable development. - Urban problems related to energy. - Water conservation, rain water harvesting, water-shed management. - Resettlement and rehabilitation of people, its problems and concerns, Case studies. - Environmental ethics: Issues and possible solutions. - Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust, Case studies. - Wasteland reclamation. - Environment Protection Act. - Air (Prevention and Control of Pollution) Act. - Water (Prevention and Control of Pollution) Act. Wildlife Protection Act. Forests Conservation Act. - Issues involved in enforcement of environmental legislation. Public awareness.

## **Unit – V      Population and Field work**

Population growth, variation among nations- Population explosion-Family Welfare Programme. - Environment and human health - Human Rights - Value Education - HIV/AIDS - Women and Child Welfare - Role of Information Technology in Environment and human health - Case Studies. Visit to a local area to document environmental assets river, forest, grassland, Hill and mountain. Visit to a local polluted site – Urban, Rural, Industrial and Agricultural. Study of common plants, insects, birds. Study of simple ecosystems – pond, river, hill slopes, etc. (Field work equal to 5 lecture hours)

**SAFETY EDUCATION AND FIRST AID****Unit – I****Introduction**

- a. Meaning of safety – Factors affecting safety.
- b. Need and importance of safety Education for preventing accidents.
- c. Safety in physical Education and Sports with respect to play fields, equipments, dress, etc.

**Unit – II****First Aid**

- a. The definition and Importance of First Aid.
- b. First Aid for Athletic injuries – Open and closed wound.
- c. Types of bleeding and Fracture.

**Unit – III**

- a. Meaning and Definition of Massage.
- b. Need and importance – Indication and Contra Indication of Massage.
- c. Physiological Effect of Massage.
- d. Classification of Massage.

**Unit – IV****Therapeutic Modalities**

- a. Cryotherapy – ice and cold water, ice pack and ice massage.
- b. Thermotherapy – contrast bath, whirlpool bath and hot water.
- c. Electrotherapy – infrared radiation – ultra violet – micro wave diathermy – ultra sound.

**Unit – V****Rehabilitation**

- a. Meaning and definition of physical rehabilitation – goal of rehabilitation – various stages of rehabilitation – neck, shoulder.
- b. Various stages of rehabilitation Arm, elbow, wrist, hand.
- c. Various stages of rehabilitation hip, thigh, knee, leg, ankle and foot.

**REFERENCE BOOKS:**

1. The Human Machine, by Adolphe Abraham, penguin Books Pelican Medical Series
2. Physiology of Muscular Activity, by Karpovich W.B. Saunders Co.
3. Dolan; "Treatment and Prevention of Athletic injuries" The interstate Danville, Illionis.
4. Edward Donald, Physiotherapy, Occupational therapy and Gymnastics." London Publishers.

**ENGLISH – II**

**Unit-I**

**Poetry: Harmony Ed. K.Tripathy – pub. OUP, Chennai.**

- |                |   |                            |
|----------------|---|----------------------------|
| 1. Milton      | : | On His Blindness           |
| 2. G.M.Hopkins | : | Thou Art Indeed Just, Lord |
| 3. Shelley     | : | Ozymandias                 |
| 4. W.owen      | : | Anthem for Doomed Youth    |
| 5. Keats       | : | La Belle Dame Sans Merci   |

**Unit-II**

**Short Stories : Popular Short Stories ed. Board of editors – pub. OUP, Chennai.**

- |                           |   |                       |
|---------------------------|---|-----------------------|
| 1. Sir Arthur Conan Doyle | : | The Dyeing Detective  |
| 2. Manohar Malgonkar      | : | Monal Hunt            |
| 3. Ernest Hemingway       | : | Old Man at the Bridge |
| 4. Guy de Maupassant      | : | The Necklace          |

**Unit-III**

**Plays: Tales from Shakespeare, published by Madhuban educational books, UBS**

**Publishers & Distributors, New Delhi**

1. A Midsummer Night's Dream
2. Much Ado About Nothing
3. Julius Caesar

**Unit-IV**

**Grammar: Form and Function, By V.Sasikumar & V.Syamala, Emerald**

**Publishers, Chennai-8.**

1. The Active and Passive Voice
2. Reported Speech
3. Conditional Clauses

**Unit-V**

**Composition: Communication Skills for Undergraduates, Dr.T.M.Farhathulah, RBA**

**Publications, Chennai.**

1. Notices
2. Designing a Resume
3. Writing a Report

**METHODS IN PHYSICAL EDUCATION****Unit - I****Introduction**

Meaning of method – Factors influencing Method – Presentation Technique – Teaching Aids - Class Management – Principles of Class Management.

**Unit - II****Lesson Plan**

- a. Types of various Physical Activities in the field of Physical Education – Callisthenic's. Marching, Minor games, Major games, Gymnastics. Defensive arts and swimming.
- b. Lesson Plan- General and Specific Lesson Plan – Values of Lesson Plan.

**Unit - III****Tournaments**

- a. Single knock-out-Seeding-Special seeding.
- b. League – Cyclic and stair case method.
- c. Combination tournaments.
- d. Merits and Demerits of Knock-out and League tournaments.

**Unit - IV****Competitions**

- a. Intramural Competition – Objectives – Method of organizing and conducting – Units for competition – intramural Committee.
- b. Extramural competition – Benefits – Drawbacks – Methods of organizing and conducting.

**Unit - V****Sports Meet**

- a. Sports Meet – Standard and Non-standard – Method of organizing and conducting sports meet.
- b. Play days – Method of organization and conduct.
- c. Programmes of Opening and Closing ceremony of the sports meet.

**REFERENCE BOOKS:**

- 1. Mathew, Donald: Measurement in Physical Education London, W.B. Saunders Co.,
- 2. Clarke H. : Application of Measurement in Health and Physical Education, Prentice Hall Inc. 1967.
- 3. Methods in Physical Education by C.T. & S.H. Karaikudi.

**SCIENCE OF YOGA EDUCATION****Unit – I****Fundamentals of Yoga Education**

Yoga – Meaning –Definition – Need and Important – Aim and Objective – Philosophy of Yoga –Suryanamaskar –Astanga Yoga – Modern Development in Yoga,

**Unit – II****Yoga Life Style**

General Life Style Considerations – Physical, Mental, and Emotional, yoga practice for different stage of life, yoga practice for different kind of disease – diabetic, asthma, headaches, obesity, hypertension and mental illness.

**Unit – III****Physiology of Yoga**

Definition and meaning of bandhas – mudras – viparitakarani – satkriyas – nadis – ida, pingaiab and sushumna, chakras and kundalini shaki.

**Unit – IV****Yoga in Psychology**

Mind – origin of mind – types of mind, powers of mind unfolding latest power of mind – consciousness - sub- consciousness – unconsciousness - super consciousness.

**Unit – V****Practical's**

- a. Surya namaskar
- b. Standing, sitting, supine and prone position asana types.
- c. Pranayama.
- d. Mudras & bandhas.

**REFERENCE BOOKS:**

1. Jayanthi Anandapadmanban (2006) "Science of Yoga".
2. Rishi Vivekananda (2006) "Practical Yoga Psychology" Munger: Yoga Publication Trust.
3. Mangal S.K (1991), "Psychological Foundation of Education", Ludiana: Prakash Brother.
4. Iyengar BKS (1989) Light on Yoga: unwinn – paper backs.

## PRINCIPALS OF MOTOR DEVELOPMENT

### Unit -I

#### Introduction

- a. Definition-Motor Development, Motor Learning, Motor Control,
- b. Definition-Physical growth, Maturation and Aging-
- c. Newell's Model of Motor Development
- d. Classification of Motor Activities.

### Unit-II

#### Principles of motion and stability

- a. Moving against gravity
- b. Stability and Balance
- c. Using the Principles of motion and stability to detect errors and correct errors
- d. The open kinetic chain

### Unit-III

#### Physical Growth and Aging

- a. Prenatal and Postnatal Development
- b. Development of the Skeletal System
- c. Development of Muscular System
- d. Development of Nervous System

### Unit-III

#### Motor Development

- a. Early Motor Development
- b. Movement of Infant
- c. Motor Milestones
- d. Development of Postural control and balance in Infancy

### Unit-IV

#### Development of Motor Skills

- a. Development of human Locomotion: Creeping, Crawling, Walking and Running
- b. Development of Ballistic Skills: Throwing, Kicking, Punting and Striking
- c. Development of Manipulative Skills: Grasping, Reaching, catching and anticipation.
- d. Development of Postural control and Balance

### Unit-V

#### Exercise and Motor Development

- a. Development of cardio respiratory endurance
- b. Development of Strength
- c. Development of Flexibility
- d. Development of Body Composition

### References

1. Kathleen M. Haywood and Nancy Getchell., **Life Span motor Development** (5th Ed.), Champaign, IL: Human Kinetics, 2009.
2. Robert M. Malina., Claude Bouchard and David Bar-Or., **Growth, Maturity and Physical Activity** (2nd Ed.), Champaign, IL: Human Kinetics, 2004.
3. **NAPSE., Physical Education for Lifelong Fitness** (2nd Ed.), Champaign, IL: Human Kinetics, 2005.
4. Allen W. Jackson., James R. Morrow., Jr. David W. Hill & Rod K. Dishman., **Physical Activity for Health and Fitness**, Champaign, IL: Human Kinetics, 2004.
5. Cratty Bryant, J. **Movement Behaviour and Motor Learning**. Philadelphia Lea & Febiger, 1975.

**GUIDANCE AND COUNCLING**

**UNIT - I**

**Personality Development**

- a. Concept of Personality.
- b. Self Esteem.
- c. Guidelines on Personality
- d. Developing Good Personality

**UNIT - II**

**Fundamental of Career Rules**

- a. Psychological Position
- b. Better Human Relations
- c. Time Management
- d. Qualities of Leaders

**UNIT -III**

**Communication Skills**

- a. Meaning of Communication.
- b. Basics of Communication.
- c. Theories of Motivation.
- d. Communication Goals.

**UNIT -IV**

**Students Counseling**

- a. Counseling and Psychology.
- b. Objectives and Scope of Student Counseling.
- c. Level of Counseling.
- d. Kinds of counseling techniques.

**UNIT – V**

**Preparation & Presentation**

- a. Outline of your Speech and Effect of Pleasant Voice.
- b. Analyzing the Occasion and The Audience and their Psychology.
- c. Speech Plan.
- d. Art of Speaking and Presentation Techniques.

**REFERENCES BOOK:**

1. Abraham, (1995) R. Personality Development, Communication Skills and Public Speaking, Saint Catherine Press, Chennai – 1995.
2. Guidance and Counseling in India, Atlantic Publication, New Delhi.
3. S. Nagewara Rao (2004), “Guidance and Counseling”, Discovery Publishing House, New Delhi.

**ORGANIZATION, ADMINISTRATION AND SUPERVISION  
IN PHYSICAL EDUCATION****Unit – I****Organization**

Meaning of Organization and Administration. Importance of Organization. Guiding principles of Organization.

Schemes of Health and physical Education in Schools, Colleges. Universities, Districts, States etc.

**Unit – II****Facilities and Stands in Physical Education**

Playgrounds – outdoor and Indoor – standards for Education Institutions – care and maintenance – problem of lack of play space for schools in crowded cities and their solution – public play grounds.

Construction and Maintenance of Swimming pools and Gymnasium.

Equipment minimum requirement for an Educational Institution – purchase of equipment (Policies and Procedures) care of equipment (general and specific).

**Unit – III****Programmers and Records:**

Preparation of Time-Table, physical Education and School Time – Table. Before school, after school activities, Types of physical Education periods. Daily periodical and annual schedules.

**Office Management:**

Maintaining various types of records, registers and reports. Promotion of Physical Education

**Unit – IV****Finance and Budget:**

Source of Income – approved items of expenditure – Rules for the utilization of Games Fund of physical Education – fund preparation and administration of budget – accounting.

**Unit –V****Supervision:**

Meaning and Need for Supervision – Guiding Principles of Supervision – Qualities and Qualifications of a Supervisor – Supervisor's Relationship with the Administrator and the Physical Education Teacher.

**Techniques of Supervision:** Visitation Periodical – Surprise – Request and Social – Visitation Procedure – Report on the Visit – Meeting – Individuals and Groups – Demonstration for individuals Teachers/ Group Teachers – In service Training – Short term Course – Refresher Course – Clinics – Seminars and Conferences.

**REFERENCE BOOKS:**

1. Sachdeva, M.S., **A. Modern Approach to School Organisation and Administration**, Parkash Brothers Publishers,, Ludhina, 1984.
2. Nash Meench and Saurbon. **Organization and Administration of Physical Education**, A.S. Barnes Co.
3. Dr. J.P. Thomas, **Organization of Physical Education**, Gnanodaya Press, Madras.

**THEORY OF GAMES – I****Unit – I****Ball Badminton**

- a. History and Development. Ground Markings and Measurements – Equipments.
- b. System of Officiating – Duties of Officials – Official Signals and Score Sheet - Rules and Interpretations.
- c. Positional play – Team tactics. Offensive and Defensive play – Team Strategy. Drills for the Development of Skills – Lead up Games.

**Unit – II****Cricket**

- a. History and Development. Ground Markings and Measurements – Equipments.
- b. System of Officiating – Duties of Officials – Official Signals and Score Sheet - Rules and Interpretations.
- c. Positional play – Team tactics. Offensive and Defensive play – Team Strategy. Drills for the Development of Skills – Lead up Games.

**Unit – III****Football**

- a. History and Development. Ground Markings and Measurements – Equipments.
- b. System of Officiating – Duties of Officials – Official Signals and Score Sheet - Rules and Interpretations.
- c. Positional play – Team tactics. Offensive and Defensive play – Team Strategy. Drills for the Development of Skills – Lead up Games.

**Unit – IV****Kabaddi**

- a. History and Development. Ground Markings and Measurements – Equipments.
- b. System of Officiating – Duties of Officials – Official Signals and Score Sheet - Rules and Interpretations.
- c. Positional play – Team tactics. Offensive and Defensive play – Team Strategy. Drills for the Development of Skills – Lead up Games.

**Unit – V****Volleyball**

- a. History and Development. Ground Markings and Measurements – Equipments.
- b. System of Officiating – Duties of Officials – Official Signals and Score Sheet - Rules and Interpretations.
- c. Positional play – Team tactics. Offensive and Defensive play – Team Strategy. Drills for the Development of Skills – Lead up Games.

**REFERENCE BOOKS:**

1. Book of Rules of Games and Sports, National Council of Y.M.C.As. of India, New Delhi, 2005.
2. Perinbafaj, S.Bevinson and others, PLAY FIELD: Dimensions and its Requirements, Vinsi Publications, Karaikudi, 2003.
3. Buck, H.C, Rules of games and Sports.

**TEST AND MEASUREMENT IN PHYSICAL EDUCATION**

**Unit - I**

**Introduction**

- a. Meaning and Definition of the terms-Test, Measurement and Evaluation.
- b. Need and Importance of Measurement and Evaluation in Physical Education.
- c. Classification of test.

**Unit - II**

**Criteria and administration**

- a. Criteria of test selection-validity, reliability, objectivity, and norms and Administrative feasibility and Educational Application.
- b. Test Administration advance preparation.
- c. Rating scales-Subjective rating and objective rating.

**Unit - III**

**Assessing Physical, Physiological and Anthropometrical Qualities:**

- a. Motor Ability, Physical fitness- Components of Physical Education.
- b. Stride length, stride frequency, Elastic power and reaction time.
- c. Resting pulse rate, Respiratory rate, Breath holding time, Vital capacity.
- d. Skin folds measurements.

**Unit - IV**

**Physical fitness test**

- a. AAPHERD Youth Fitness test – JCR test.
- b. Harward step test. Queen College Step Test.
- c. Barrow Motor Ability test.
- d. Cardio Vascular Test — Cooper's 12/9 minutes Run/Walk test.

**Unit - V**

**Skill Test**

- a. Basketball – Johnson Basketball Ability test
- b. Badminton – Miller wall volley test.
- c. Hockey – triedal Filed Hockey test.
- d. Soccer – McDonald Soccer test.
- e. Volleyball –brady volley ball test.
- f. Tennis – Dyer tennis test.

**REFERENCE BOOKS:**

1. Clarke H. Harison and David H.Clarke, Application of measurement to Phycial education.
2. Barry L. Johnson and jack k. Nelson, practical measurement to Physical Education.
3. A. Yobu, Test, Measurement and Evaluation in physical education.

**APPLIED KINESIOLOGY AND BIO-MECHANICS**

**Unit – I**

**Introduction**

- a. Meaning and Definition kinesiology.
- b. History and Development of Kinesiology.
- c. Importance of Kinesiology for Physical Education.
- d. Joints and their Movement.

**Unit - II**

- a. Fundamental Axis and Plane.
- b. Muscular Analysis of Motor Movement.
- c. Skeletal Joint Actions and Muscle Participation.
- d. Neuro Muscular Considerations.

**Unit – III**

- a. Meaning, Definition and Need and importance of Bio-mechanics in the field of Physical Education and Sports.
- b. Kinematics – Distance and Displacement – Speed and Velocity.
- c. Acceleration and its Types.

**Unit – IV**

- a. Law of Motion and its Types.
- b. Newton's Laws of Motion.
- c. Equilibrium and its Types.
- d. Force – Spin or Magnus Force and its Types.

**Unit - IV**

**Mechanical Analysis of Fundamental Movements**

- a. Running
- b. Jumping
- c. Throwing
- d. Pulling
- e. Pushing

**REFERENCE BOOKS:**

1. Pual Zllen Neil: "Kinesiology and study of Motion."
2. Anderson & McClure: Human kinetics and analysis of body Movements. Willam Hoiken, Londin.
3. Murugesan: Study of Kinesiology and Bio-Mechanics.
4. Pual Zllen Neil: "Kinesiology and study of Motion."

**SPORTS PHYSIOTHERAPY****Unit - I****Introduction**

Meaning of Physiotherapy –Role of physiotherapy in protection –Expectations from physiotherapist and patients - Physiotherapy principles guides our practice.

**Unit - II****Massage**

- a. Massage –Origin – meaning – definition – Principles of Massages - Physiological Benefits of Massage.
- b. Swedish Massage and its Classification.

**Unit - III****Hydrotherapy**

Meaning – treatment method – precaution – advantage and disadvantage of cryotherapy, Thermotherapy, Hot pack, Whirlpool bath and Wax bath – contrast bath.

**Unit - IV****Electrotherapy**

Meaning –treatment method –precaution –advantage and disadvantage of – infra –red rays, Ultra – violet rays, Ultra – sound waves, shortwave diathermy and Microwave diathermy.

**Unit - V****Therapeutic Movement**

**Voluntary Movement** – Free Exercise & its Classification – Assisted Exercise – Assisted Resisted Exercise – Resisted Exercise – Resistances.

**Involuntary Movement** - Reflex Movement – Reflex Arc – Stretch Reflex – Righting Reflex – Postural Reflex and Passive Movement.

**REFERENCE BOOKS:**

1. The Human Machine, by Adolphe Abraham, penguin Books Pelican Medical Series
2. Physiology of Muscular Activity, by Karpovich W.B. Saunders Co.
3. Dolan; “Treatment and Prevention of Athletic injuries” The interstate Danville, Illionis.
4. Edward Donald, Physiotherapy, Occupational therapy and Gymnastics.” London Publishers.
5. James A. Gould III – Orthopedic and Sports George j. Davis – Physical therapy 1985 C. V. Mosby Company, Toronto.
6. Dr. Shyamanand – Upkar Guide for NET/ JRF/ SET in Physical Education.

**RECREATION AND CAMPING IN PHYSICAL EDUCATION**

**Unit –I**

**Introduction to Recreation:**

- a. Definition, Scope and Significance of recreation – importance of recreation in physical education.
- b. Philosophy and Object, Relationship of Play, work, leisure and recreation, Historical Development of Recreation.
- c. Types of Recreation – Passive, active, emotional creative and sub zero level recreation.

**Unit – II**

**Organization and Administration of Recreation Agencies Offering Recreation:**

Agencies offering recreation – Home, Government, Voluntary – Private and Commercial agencies – Rural, Urban and Community and Industrial Recreation – Areas, facilities – equipment and their maintenance.

**Unit – III**

**Programme Planning in Recreation:**

General principles of Programme Construction – Type of Recreational Activities – Indoor and Outdoor games, Arts and Crafts.

Drama, Music, Hobbies, Aquatics, dance, hiking, evaluation of Programme.

**Unit – IV**

**Leadership:**

Leadership and Techniques of Leadership - Types of Leaders and their qualifications.

**Unit – V**

**Camping:**

Scope and Significance of Camping, types of Camps – Selection and lay – out of camp sites,

Organization and administration of Camps, Leadership and Supervision, Camp programme and activities, Evaluation of Camp work.

**REFERENCE BOOKS:**

1. Rubin, R. **Book of Camping**, N.V. Assn Press, 1949.
2. Royappa, D.J. and Govindarajulu, L.K. **Camping and Education**, Jupiter Press Private Ltd, Madras, 1973.
3. Anderson, J.M. **Industrial Recreation**, McGraw – Hill Book Company, Inc, London, 1955.
4. Butler G.D. **Introduction of Community Recreation**, McGraw – Hill Book Company, Inc ., London, 1955.
5. Witt, and Goodalae, **Recreation and Leisure**, Venture Publishing, Pennsylvania, 1985.

**EXERCISE PHYSIOLOGY AND SPORTS NUTRITION**

**Unit - I**

**Introduction**

- a. Meaning and Scope of physiology of exercise.
- b. Structure and function of skeletal muscles.
- c. Types of muscle fibres – Muscle Fibre distribution Red and White.
- d. Types of muscular contraction –isotonic, isometric and Iso- kinetic.

**Unit - II**

**Effect of Exercise on various Systems**

- a. Effect of Exercise on circulator system – pulse rate, Stroke volume, cardiac output, blood pressure etc.
- b. Effect of exercise on respiratory system – Breath holding time, respiratory rate, vital capacity, O<sub>2</sub> debt, second wind etc.
- c. Effect of exercise on muscular system –muscle fiber splitting , muscle size – muscular tone – oxygen supply to the muscle.
- d. Effect of exercise on Nervous system – sympathetic and parasympathetic nervous system –recruitment of motor units – glycogen supply – pain tolerance

**Unit - III**

**Energy Metabolism**

- a. Metabolism – Anabolism and Catabolism
- b. Sources of Energy – Aerobic and Anaerobic metabolism, fat metabolism and protein metabolism

**Unit - IV**

- a. Physiological aspects of warming up and Cool down.
- b. Physiological aspects of fatigue and sourness.

**Unit - V**

**Nutrition**

- a. Nutrition Introduction – Classification of Food.
- b. Balanced Diet – Function of Diet – Factors Affecting Diet – Elements of Balance Diet.
- c. Daily Energy Requirement – Eating and Competition of Sportsperson.
- d. Roles of Various Vitamins and minerals.

**REFERENCE BOOKS:**

1. Moses, Amrit Kumar R., Introduction to Exercise Physiology, Poompugar Pathipagam , Madras,1985.
2. Berger, Richard A., Applied Exercise Physiology, Lea & Febiger, Philadelphia, 1982.
3. William D. MC Ardle, "Exercise Physiology Energy, Nutrition and Human performance", Lea and Febign Publications, Philadepia.
4. Richard W. Bowers and Edward L. Fox, 'Sports Physiology', Wan. C.Brown Publishers.
5. David H. Clarke, 'Exercise Physiology' Prentice Hall, Inc. New Jersey.

**THEORY OF GAMES –II**

**Unit – I**

**Badminton**

- a. History and Development. Ground Markings and Measurements – Equipments.
- b. System of Officiating – Duties of Officials – Official Signals and Score Sheet - Rules and Interpretations
- c. Positional play – Team tactics. Offensive and Defensive play – Team Strategy. Drills for the Development of Skills – Lead up Games.

**Unit – II**

**Kho-Kho**

- a. History and Development. Ground Markings and Measurements – Equipments.
- b. System of Officiating – Duties of Officials – Official Signals and Score Sheet - Rules and Interpretations
- c. Positional play – Team tactics. Offensive and Defensive play – Team Strategy. Drills for the Development of Skills – Lead up Games.

**Unit – III**

**Basket Ball**

- a. History and Development. Ground Markings and Measurements – Equipments.
- b. System of Officiating – Duties of Officials – Official Signals and Score Sheet - Rules and Interpretations
- c. Positional play – Team tactics. Offensive and Defensive play – Team Strategy. Drills for the Development of Skills – Lead up Games.

**Unit – IV**

**Hand Ball**

- a. History and Development. Ground Markings and Measurements – Equipments.
- b. System of Officiating – Duties of Officials – Official Signals and Score Sheet - Rules and Interpretations
- c. Positional play – Team tactics. Offensive and Defensive play – Team Strategy. Drills for the Development of Skills – Lead up Games.

**Unit – V**

**Hockey**

- a. History and Development. Ground Markings and Measurements – Equipments.
- b. System of Officiating – Duties of Officials – Official Signals and Score Sheet - Rules and Interpretations
- c. Positional play – Team tactics. Offensive and Defensive play – Team Strategy. Drills for the Development of Skills – Lead up Games.

**REFERENCE BOOKS:**

1. **Book of Rules of Games and Sports**, National Council of Y.M.C.As. of India, New Delhi, 2005.
2. Perinbafaj, S.Bevinson and others, **PLAY FIELD: Dimensions and its Requirements**, Vinsi Publications, Karaikudi, 2003.
3. Buck, H.C, **Rules of games and Sports**.

**SPORTS JOURNALISM**

**Unit - I**

- a. Sports Journalism – Meaning, Need, Nature and Scope.
- b. Types, Aim and Objectives, Responsibilities, growth and development.

**Unit – II**

- a. Sports writing and reporting – Basic Principles, Basic of Athletic Reporting.
- b. Basics of Games Reporting, Interviews, Photoes, News, Tit-bits.

**Unit- III**

- a. Editing- Techniques – Editor – sub editors.
- b. News Structure –Radio & T.V. Commentary.

**Unit – IV**

Advertising and Newspaper Management.

**Unit –V**

Ethics and Responsibilities of Sports Journalists.

**Ethics of Journalism and Sports Bulletins**

Ethics of Journalism - Canons of Journalism - News, Information's and ideas - Journalism and Sports Education - Structure of Sports education - Compiling a bulletin - Types of bulletin - Hourly bulletins and special bulletin - External bulletins

**Sports, Ethics and Reporting**

Brief review of Olympic Games, Asian Games, Common Wealth Games and Indian Traditional games. - Sports Ethics and Sportsmanship - Sports as an integral part of physical education - Sports organization and sports journalism - General news reporting and sports reporting.

**Mass Medias in Journalism**

Radio and T.V. Commentary - Running commentary on the radio - Sports expert's comments - Sports review for the radio and T.V.

**REFERENCE BOOK:**

1. Ahiya, B.N., Theory and Practice of Journalism: Set to Indian Context Ed. 3, Delhi, Surjeet Publications, 1988.
2. Ahiya, B.N. and Choabra, S.S.A. Concise Course in Reporting Etc. Delhi, Surjeet Publications 1990.
3. Bhaft, S.C. Broadcast Journalism Basic Principles, New Delhi, Har Anand Publications, 1993.
4. Kamali, M.V. the Journalist handbook, New Delhi, Vikas Publishing House Pvt. 1983.

**HEALTH EDUCATION****Unit - I**

- a. Meaning and Definition of Health and Health Education.
- b. Aim and Scope of Health Education.
- c. Role of International Health Organizations.

**Unit - II**

- a. Physical health - Characteristics of a Physical Healthy person.
- b. Mental health – Characteristics of a mentally healthy person – Mental illness.
- c. Community health – Environmental health – Occupational health and Occupational Hazards.

**Unit –III**

- a. Factors influencing health – Heredity and Environment – Infection – Immunity.
- b. Public Health measures to Combat infection – Protected water Supply – Disposal of garbage – Sewage and refuse disposal, Swimming pool sanitation.
- c. School Health Program – Appraisal aspect including health inspection – Remedial Measure – Healthful School Living – School Healthful Administration – School Health Records – Mid – Day Meal Programme.

**Unit –IV**

- a. **Communicable Disease:** Definition – Causes – Mode of transmission – Prevention – Malaria – Filariasis – Typhoid – Cholera – Chicken pox – Tuberculosis – Sex linked diseases – Aids.

**Unit –V**

**Personal Hygiene:** Care of skin – Mouth, Nails, Clothing, Hair, Breathing and Importance of Rest, Sleep and Exercise.

- a. Organization & Administrative set up of the Health Service in India.
- b. World Health Organization (W.H.O) and other National and International Organizations and Agencies.
- c. Practice, Planning and Evaluation in Health Education Programmes.
- d. National Family welfare programme – Need and Importance.

**REFERENCE BOOKS:**

1. **Health Education** by Moss and others (National Education Association of U.T.A) latest Edition.
2. Park J.E. Text book of **Preventive and Social Medicine** ( A Treatise on Community Health latest Edition Messers Banarside Bharat Publishers, 1263, Napier Town).
3. Berteutfer **School Education**, Harper and Brother New York, latest Edition.
4. Namir A. **The School Health Education**, Harper and Brothers, New York.
5. John Sutton, Webster: Health for effective Living. McGraw Hill.

**SPORTS MEDICINE**

**Unit – I**

**Introduction**

- a. Introduction of the terms sports medicine – definition – aim and objectives, need and importance of sports medicine.
- b. Preventive –curative & rehabilitative aspects of sports medicine.

**Unit – II**

**Athletic injury and management**

- a. Athletic injury and management – causes, sign and symptoms – immediate management of head injuries – shoulder injuries.
- b. Causes, sign and symptoms – immediate management of Arm and elbow joint injuries – wrist and hand injuries
- c. Causes, sign and symptoms – immediate management of Knee, thigh, lower leg ankle and foot injuries.

**Unit – III**

**Rehabilitation**

- a. Meaning and definition of physical rehabilitation – goal of rehabilitation – various stages of rehabilitation – neck, shoulder.
- b. Various stages of rehabilitation Arm, elbow, wrist, hand.
- c. Various stages of rehabilitation hip, thigh, knee, leg, ankle and foot.

**Unit – IV**

**Physiotherapy and injury management**

- a. Role of physiotherapy in injury management classification of massage manipulation.
- b. Physiological effect of various types of massage.

**Unit – V**

**Therapeutic modalities**

- a. Cryotherapy – ice and cold water, ice pack, ice massage and cold compression.
- b. Thermotherapy – contrast bath, whirlpool bath, hot water and vapor bath.
- c. Electrotherapy – infrared radiation – ultra violet – short wave diathermy – microwave diathermy – ultra sound – electrical stimulator – TENS.

**REFERENCE BOOK:**

1. The Human Machine, by Adolphe Abraham, Penguin Books Pelican Medical Series
2. Physiology of Muscular Activity, by Karpovich W.B. Saunders Co.
3. Dolan; "Treatment and Prevention of Athletic injuries" The Interstate Danville, Illinois.
4. Edward Donald, Physiotherapy, Occupational therapy and Gymnastics." London Publishers.
5. James A. Gould III – Orthopedic and Sports George J. Davis – Physical therapy 1985 C. V. Mosby Company, Toronto.

**BASIC STATISTIC IN PHYSICAL EDUCATION**

**Unit – I**

- a. Meaning and definition of Statistics Need and Importance of Statistics in physical education
- b. Types of Statistical process.
- c. Data - Types of data.
- d. Organization of data – construction of frequency table advantages and disadvantage of computing frequency table.

**Unit – II**

- a. Measure of Central tendency – meaning and definition of Mean, Median and mode.
- b. Computation of grouped and ungrouped data. Specific Characteristics of MCT.

**Unit – III**

- a. Measure of Variability – meaning and definition of Range, mean deviation, Standard Deviation, Quartiles Deviation.
- b. Computation of grouped and ungrouped data – Specific Characteristics of Measure of Variability

**Unit – IV**

- b. Measure of relative Positive – Percentiles – Deciles and quartiles
- c. T Scale, Hull Scale, Z scale and 6 sigma scale.
- d. Normal Curve – probabilities of normal curve Skewness and Kurthesis.

**Unit – V**

- a. Meaning of Correlation – Types of correlation.
- b. Computation of co-efficient of correlation and rank order correlation.

**REFERENCE BOOKS:**

1. John W. Best. – Research H. Clarke – “Research in Education 1959”, Prentice hall Inc.
2. Harison Clarke, David H. Clarke – “Research Process in Physical Education and Health” Englewoon Cliff, New Jercey, Prectice Hall Inc 1970.
3. Kamalesh, M.C. – Metholody of Research in Physical Education and Sports, 1986. New Delhi: Metropolitan Book Co.Pvt.
4. Balbir Sing Sindu – Methodology of Research in Evaluations 1987) Bangalore sterling Publishers Pvt.
5. S.C. Gupta: Fundamentals of Statistics. Himalayas Publishing House, 1993.
6. Garrett. E. Henry: Statistics in Psychology and Education. Bombar valalls Foffar and summons Pvt. Ltd, 1969.

**MODERN TRENDS IN PHYSICAL EDUCATION**

**Unit - I**

**Introduction**

Concept of Physical Education

- a. Physical Education Programme in School and College.
- b. Course Content for Academic and Professional Courses.

**Unit - II**

**Health**

- a. The Health Benefits of Physical Activity.
- b. Physical Inactivity for Health – Cardiovascular Disease – Blood Pressure – Hypertension – Blood cholesterol – Obesity and diabetes.
- c. Drugs Addition and its Management
- d. Fitness for special population.

**Unit - III**

**Fitness**

- a. Age category of pupils and selection of activities.
- b. Talent Identification in Sports and Games.

**Unit - IV**

**Nutrition**

- a. Calculating your Daily calorie Expenditure.
- b. Nutrition in Sports.
  1. Aerobic and Anaerobic events.
  2. Pre meal and post meal for competition period.

**Unit - V**

**Modern Trends in Play Field**

- a. Play area – synthetic track – turf field – flex surface – Grass field- wooden surface.
- b. Equipment – Playing and protective Equipment.
- c. Indoor stadium - structure and facilities – flood light matches.

**REFERENCE BOOKS:**

1. Bucher, Charles A. and Wuest, Deborah A.(1992). Foundations of Physical Education and sport. (11<sup>th</sup> edn.) New Delhi: B1 Publication Private Limited.
2. Gangopathyay, S.R. (edn. 1993) Physical Education Today and tomorrow Delhi: French Publication.
3. Theibert, P. Richard and Ezersky, Euyene M.(1976) Facilities in sports and Physical Education Saint Louis: The C.V. Mosby Company.
4. Stotlar, David. K and Wulker, Marcia. L. 1997. Sport Facility management, Bostan: James and Bartlett Publishers.

**SPORTS MANAGEMENT**

**UNIT - I**

**Introduction**

- a. Introduction to concept of management and meaning of organization and administration.
- b. Importance of organization and administration, guiding principles of organization.

**UNIT - II**

**Organization Scheme**

- a. Organization scheme and Physical Education in Schools, Colleges, Universities.
- b. Organization scheme and Physical Education in Districts, States, National and International.

**UNIT - III**

**Facilities**

- a. Facilities and standards for outdoor and indoor activities in educational institutions.
- b. Gymnasium – Construction, Factors, Care and Allied Facilities.
- c. Swimming pool – Construction, Factors, Care and Allied facilities.
- d. Staff and Leadership – Need for trained leadership, Qualification of physical education teacher, teaching load and Teacher pupil ratio.

**UNIT - IV**

**Programme Planning**

- a. Curriculum need and importance of syllabus preparation and development of course of studies.
- b. Types of programme – Intramural – Extramural, preparation of time tables – Types of physical education periods.
- c. Promotion of physical education - Public relation – conferences – clinics & Workshop – physical education association.

**UNIT - V**

**Office and Finance Management**

- a. Maintaining various types of records, Registers and reports.
- b. Source of Income – Approved items of expenditure – Rules for utilization of games fund or physical education fund.
- c. Preparation and administration of budget and accounting.

**REFERENCES BOOKS**

1. Hughes, L.W. and French, E. The Administration of Physical Education, Ronald ress Co.
2. Jospeh, P.M. Organization of Physical Education, Old students Assn. TIPE, Kandivilli, Bombay.
3. Nash, J.B. and et.al Organization and Administration of Physical Education, A.S. Barners
4. Thomas, J.P. Organization and Administration of Physical Education, Gnanodaya Press, Anderson Street, Chennai – 1.
5. Velter, B. and Esslinger, A.A. Organization and Administration of Physical Education, Appleton – Century crafts.

**DISABILITY MANAGEMENT AND INCLUSIVE GAMES****UNIT I**

Definition of Disabling Conditions - Benefits of Physical Education for persons with Disabilities - Recreational Sports Opportunities, Competition Opportunities - Special Olympics, Paralympics and Deaflympics.

**UNIT II**

Classification of Disability: Visual, Auditory, Neuromuscular, Orthopedic - Cardiovascular, Respiratory, Mental, Emotional. Adapted Physical Education Activities - Specific Guidelines for: Visual Impairment, Hearing Impairment, intellectually challenged, Orthopedically Handicapped.

**UNIT III**

Adaptation of Motor Activities – Principles for Adaptation of Motor Activities – Facilities and Equipment for different disabilities. Orientation on Facilities and - Types of Equipment- Minimum equipment, Additional Equipment, Evaluation Equipment. Leisure, Recreation and Sports Facilities for persons with disabilities.

**UNIT IV**

Adapted Games for Persons with Disability: Rules of Adapted games and Class Management – Adapted Games for the blind: Adapted Volleyball, Kabaddi, Tennis, Table Tennis and Adapted minor games and Track and Field events. Teaching methods to be adapted by the Special Educator in Sports, Recreation and Games. Kinesthetic – one on one teaching, group teaching, circular method of teaching. Unified Sports.

**UNIT V**

Inclusive Education : Meaning, Definition, Aim and Objectives. Strategies for including students. Steps for modifying and adaptation of the physical education curriculum. Methods of playing Inclusive games: Hula Contortion, Lasso, Pumpkin Fun, Snickers & Hoots, What Do You Like To Eat, Mr. & Mrs. Owl?, Toy soldier, Clean-up Your Own Back Yard, Parachute Activities, Freeze Tag Not!, Peace Release, Top Gun High Five's and Rock, Paper, Scissors, Dynamite.

**REFERENCES:**

1. Auxter, D. (1993). Principles and Methods of Adapted Physical Education. Mosby Publications.
2. Chapman, F. M. (1960). Recreation Activities for the Handicapped. New York: The Ronald Press Company.
3. Daniel, R. C. (1982). Games Sports and Exercises for the Physically Handicapped. Philadelphia
4. Jaimitra.S (1990) Physical Education for the Blind Chennai: Grace Printer,
5. Jain, A. (2003). Adapted Physical Education. Delhi: Sports Publication.
6. Kassir, Susan (1995). Inclusive Games. Human Kinetics Champaign, IL.
7. Lau, D. S. (2001). Physical Education for the Physically Handicapped. Delhi: Khel Sahitya Kendra.

**TRAINING METHODS**

**Unit – I**

**Introduction**

- a. Meaning of the terms – Sports training – Coach – Technique – Tactics - Skill – Strategies.
- b. Aim, Characteristics and Principles of sports training.

**Unit – II**

**Warm up and Cool done**

- a. Warming up: Types of warming up – importance of warming up
- b. Cool done - importance of cool done.
- c. Types of Training: Circuit training – Interval training – Weight training – Fartlek training – Plyometric training.

**Unit – III**

**Concept of load & Recovery:**

- a. Meaning of load - Types of load, important of training load, Training Load & adaptation, compensation & supper compensation.
- b. Over Load – symptoms – Causes and remedies of over load.
- c. Relationship between load and recovery- Factors affecting pace of recovery - Means of recovery.

**Unit – IV**

**Training for Motor Components**

- a. Meaning and importance of Speed – Strength – Endurance – Flexibility and Co-ordination.
- b. Types of Speed – Strength – Endurance and Flexibility.
- c. Factors determining Speed – Strength – Endurance – Flexibility and Co-ordination
- d. Means and methods to developing the above variables.

**Unit – V**

**Planning & Periodisation:**

- a. Meaning and types of training plans.
- b. Main and build-up Competitions, Competition frequency preparation for Competition
- c. Meaning and types of Periodisation.
- d. Aim and contents of various period.

**REFERENCE BOOKS:**

1. Hardayal Singh, "Sports Training, General theory and methods", NSNIS, Patiala.
2. Cart E.K. Klafs, Daniel D. Arnheim, "Modern Principles of Athlitic Training", C. V. Mosphy Company, St. Louis.
3. Bunn, J.N. 'Scientific Principles of Coaching' Prentice Hall, Engle wood Cliffs, New Jersey.
4. Jensen, C.R, and Fisher, A.G, 'Scientific Basis of Athletic Conditioning Philadelphia.

**COMPUTER APPLICATION IN PHYSICAL EDUCATION****Unit-I: Introduction to Computer**

- Meaning, need and importance of information and communication technology (ICT).
- Components of computer and output device
- Basic of internet and emailing – Uses and abuses of internet and Email
- Role of e-sources in teaching, training and coaching
- Application software used in Physical Education and Sports

**Unit-II: MS WORD**

- Introduction to MS Word – Need of MS Word in physical education
- Creating file, opening and document Saving
- Formatting Editing Features Drawing table,
- Page setup, paragraph alignment, spelling and grammar check printing option, inserting page number, graph, footnote and notes
- Utilities of MS Word; Sorting – Word art - Converting table to text and text to table – Mail merge

**Unit-III: MS Excel**

- Introduction to MS Excel – Need of MS Excel in analysis of data
- Creating opening spread sheet and saving file
- Format and editing features adjusting columns width and row height understanding charts.
- Creating formulas – Data analysis
- Construction of Graphical representation: Bar diagram- Pie diagram- Line graph

**Unit-IV: MS Power Point**

- Introduction to MS Power Point – Need of MS Power Point in Physical Education
- Creating , Saving and opening a ppt. File
- Format editing features slide show, design, inserting slide number picture, graph, table
- Preparation of power point presentations
- Animation: Meaning- Method of Preparation- Impact in presentation

**Unit – V Statistical Packages**

- SPSS: Statistical Package for Social Sciences: Need of Statistical Packages,
- Brief about SPSS- Applications in Physical education-
- Data entry- Editing data- format of data- Data structure
- Analysis of Basic statistics – Descriptive: Mean-Median-Variance-Standard deviation
- Import and Export of Data and results to Excel

**References:**

1. Irtegov, D.(2004).Operating system fundamentals. Firewall Media .
2. Marilyn , M.& Roberta, B.(n.d).computers in your features.2<sup>nd</sup> Edn, India Prentice Hall.
3. Milke,M.(2007). Absolute beginner's guide to computer basics . Pearson Education Asia.
4. Sinha, P.K.& Sinha ,P.(n.d.).computer fundamentals . 4<sup>th</sup> Edn, Bpb publication.

**THEORY OF TRACK AND FIELD****Unit - I****Introduction**

- a. National and international governing body.
- b. Structure and Functions of IAAF and AFI
- c. Meaning and types of Track and Field events.
- d. Combined Events – Pentathlon, Heptathlon and Decathlon.

**Unit - II****Age groups and Selection of Athletes**

- a. Trams related to track and field.
- b. Definition of Amateur and professionalism in sports.
- c. Age groups and equipment weight – Youth boys and girls – junior men and women – veteran men and women.
- d. Selection of Athletes – Physical, Physiological, Psychological, anthropometrical and Performance factors.

**Unit - III****Athletic stadium**

- a. Surface of the track
- b. Types of Tracks - Standard and Non-standard.
- c. Need for a Standard track.
- d. Guiding principles of a Standard track.

**Unit - IV****Track events**

- a. Planning and construction - calculation - Marking of non-standard and standard Track.
- b. Specifications of equipments – Rules and Interpretations – Duties of Officials – Score Sheets for all track events.
- c. Technique, stages, tiebreaking system and quality of athlete for track events.

**Unit - V****Field events**

- a. Planning and construction - Marking of field events.
- b. Specifications of equipments – Rules and Interpretations – Duties of Officials – Score Sheets for all track events.
- c. Technique and stages quality of athlete for field events.

**REFERENCE BOOKS:**

- 1. The art of officiating Sports – John W. Bunn.
- 2. Rules of Games and Sports.
- 3. Track and Field – Ray M. Conger.
- 4. Fundamentals of Track and Field Coaching – I. Miller.
- 5. Track and Field for Coach and athlete – Josse P. Mortensen and John M. Copper.

**SPORTS 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.

**Unit - II**

- a. Perception – Definition and Theories of perception.
- b. Perception and Motor Learning.
- c. Errors of Perception.
- d. Intelligence – Definition – ability to learn motor skills – Athlete versus Non-athlete in intelligence.

**Unit - III**

- a. Motivation – Definition – Types of Motivation.
- b. Reinforcement – Success and Failure – Reward and Punishment – Praise and Criticism – Knowledge of results – Feed back – Fans & Spectators.
- c. Emotional factors – Tension, Anxiety and Stress.
- d. Personality – Types of personality – Measuring personality.

**Unit - IV**

- a. Sports Sociology – Definition – Nature & Scope of Sociology in sports Science.
- b. Meaning and Definition of culture – Types of culture.
- c. Relationship of Sports with Culture. Sports as a man's cultural heritage.
- d. Socialization – Socializing Institutions – Community, Family, Peers, Teacher, Mass Media Communication.
- e. Role of Socialization in Sports.

**Unit - V**

- a. Social Institution – Meaning – Types of social Institution.
- b. Relationship of sports with – Religious intuitions – Educational institution – Economic institution – Political institution.
- c. National Integration – Role of Physical Education in National Integration.

**REFERENCE BOOKS:**

1. Robert N. Singer, "Motor Learning and Human Performance," The Macmillan co., New York.
2. Misolav Vanek and Bryant J. Cratty, "Psychology and the Superior Athlete," Macmillon Co., Collier, London.
3. Robert N. Singer and Fobiger, "The Psychomotor Domain and Movement Behavior" Philadelphia.
4. John D. Lauther, "Sports Psychology." Prentice Hall Inc., Englewood.
5. Bryant J. Cratty, Social Dimensions of Physical Activities Pentice Hall, Inc, 1967.
6. Alex Thio, Sociology Introduction, Harper and Row, 1985.

**CONTEMPORARY ISSUES IN PHYSICAL EDUCATION:  
FITNESS AND WELLNESS****UNIT – I**

Concept of Physical Education and Fitness : Definition, Aims and Objectives of Physical Education, fitness and Wellness. Importance and Scope of fitness and wellness. . Modern concept of Physical fitness and Wellness. Physical Education and its Relevance in Inter Disciplinary Context.

**UNIT – II**

Fitness, Wellness and Lifestyle ; Fitness – Types of Fitness and Components of Fitness. Understanding of Wellness. Modern Lifestyle and Hypo kinetic Diseases – Prevention and Management. Physical Activity and Health Benefits

**UNIT – III**

Principles of Exercise Program: Means of Fitness development – aerobic and anaerobic exercises. Exercises and Heart rate Zones for various aerobic exercise intensities. Concept of free weight Vs Machine, Sets and Repetition . Concept of designing different fitness training program for different age group.

**UNIT – IV**

Safety Education and Fitness Promotion: Health and Safety in Daily Life. First Aid and Emergency Care. Common Injuries and their Management. Modern Life Style and Hypo-kinetic Disease –Prevention and Management

**UNIT V Sports Nutrition:**

Diet for sports competition- supplement to the daily diet. Vitamins, Minerals, Fluids. Electrolyte replacement, Carbohydrate loading, Protein loading, Calcium and iron supplement. Pre-event meal. Time for pre-event meal, Alternate eating pattern, Foods to avoid. Exercise and weight control, Crash dieting, Weight Control.

**REFERENCES:**

1. Difiore, J.(1998). *Complete guide to postnatal fitness*. London: A & C Black,.
2. Giam, C.K & The, K.C. (1994). *Sport medicine exercise and fitness*. Singapore: P.G. Medical Book.
3. Mcglynn, G., (1993). *Dynamics of fitness*. Madison: W.C.B Brown.
4. Sharkey, B. J.(1990). *Physiology of fitness*, Human Kinetics Book.
5. William, D. Mc Aradle. (1996). *Exercise Physiology, Energy, Nutrition and Human Performance*. Philadelphia: Lippincott Williams Company.
6. Williams, S. & Rod, W. (2001) *Nutrition and Diet, Therapy* 2<sup>nd</sup> Edition, London :W.B. Saunder College Publishing.