

DEPARTMENT OF PHYSICAL EDUCATION

UG SYLLABUS

Effect from the Academic Year 2017-2018



J.J.COLLEGE OF ARTS & SCIENCE

(AUTONOMOUS)

(Reaccredited at 'A' Grade by NAAC)

PUDUKKOTTAI – 622 422

SEMESTER: 1

SUB CODE: U1RPECC1

CREDIT: 5

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.
- c) Olympic flag, Torch, Oath, Emblem, Ideal and Motto- the Marathon Race
- d) 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.
- Thirunayananan 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.

SEMESTER: II

**SUB CODE:U2RPECC2P
CREDIT: 5**

MAJOR GAMES GROUP-I (PRACTICAL- I) *

GAME: BASKETBALL, CRICKET KABADDI,& KHO-KHO

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
- d) 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, Sainoris, 1991.
 - Dr. Anil Sharma O.P.Sharma Rules of games sports publication 4264/3
 -

SEMESTER: I

SUB CODE: U1RPEAC1

CREDIT: 3

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.
- e) 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 Kavalayananda 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: II

SUB CODE: U2RPEAC2P

CREDIT: 3

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

SEMESTER: II

SUB CODE: U2RPECC3

CREDIT: 5

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.

SEMESTER: II

SUB CODE: U2RPEAC3

CREDIT: 5

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) AAPERD Health Related Physical Fitness test
- b) AAPERD 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 - RussellLange- 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: III

**SUB CODE: U3RPECC4
CREDIT: 5**

MAJOR PAPER - IV

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: III

**SUB CODE:U3RPECC5P
CREDIT: 5**

**MAJOR GAMES PRACTICAL GROUP II
GAME: BADMINTON, VOLLEYBALL, FOOTBALL AND HOCKEY**

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

SEMESTER: III

SUB CODE: U3RPEAC4

CREDIT: 3

ANATOMY AND PHYSIOLOGY

UNIT: I

- a) Meaning and definition of Anatomy and Physiology.
- b) Cell-Structure and Functions of various parts of the Cell.
- c) Tissues-types and Functions of Various Tissues-(Epithelial, Muscular, Connective, and Nerves tissues)
- d) Myology, Histology, Osteology, Arthrology, Dermatology, Ophthalmology, Cardiology, Neurology, Nephrology, Anterior, Posterior, Lateral, Medial, Inferior and Superior.
- e) 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 Tachy 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. al Anatomy and Physiology Mc Graw Hill.
- Srivastava et. al, Text Book of Practical Physiology, Calcutta Scientific Book Agency, 1976

SEMESTER: III

SUB CODE:U3RPAC5P

CREDIT: 3

ALLED PAPER - V

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 by college publishing.
- A.K.Gupta. *Tests & Measurements in physical Education*. New Delhi. Sports Publication

SEMESTER: IV

**SUB CODE: U4RPECC6
CREDIT: 5**

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

SEMESTER: IV

SUB CODE: U4RPECC7P

CREDIT: 4

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

Unit – I

- a) Assembly and Roll Call.
- b) Warming- up.
- c) Class formation
- d) Instruction about formal activities

Unit -II

- a) Demonstration of mass drill activities.
- b) Doing by count

Unit-III

- a) Supervising and Rectifying Mistakes
- b) Exercise with continuously and rhythmically

Unit – IV

- a) Closing order formation
- b) Assembly and disposal

Unit – V

- a) Record 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

SEMESTER: IV

SUB CODE: U4RPEAC6

CREDIT: 4

RESEARCH AND STATISTICS FOR PHYSICAL EDUCATION AND SPORTS

Note: 30% problem should be asked while setting question paper
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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) Criteria for selection the research problem.
- b) Research proposal
- c) Hypothesis – formulation of hypothesis.
- d) Research report

Unit – III:

- 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 – IV:

- 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 – v:

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

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

SEMESTER: IV

SUB CODE: U4RPESBE1

CREDIT: 2

**SKILL BASED 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.

SEMESTER: V

**SUB CODE: U5RPECC8
CREDIT: 5**

THEORIES OF TRACK AND FIELD

50% weight-age shall be given for marking while setting question papers.

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: U5RPECC9

CREDIT: 5

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 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: V

SUB CODE: U5RPECC10

CREDIT: 5

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”.

SEMESTER: VI

SUB CODE: U5RPECC11P

CREDIT: 5

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

Unit – I:

DISCUS THROW, SHOT-PUT, HAMMER.

- a) General and specific warming up for field events.
- b) Grip
- c) Preparation / standing position
- d) Rotation
- e) Release and follow throw

Unit – II:

JAVELIN

- a) General and specific warming up for field events.
- b) Grips
- c) Run-up preparation
- d) Release and follow throw

Unit – III:

HIGH - JUMP

- a) Run up
- b) Take off foot
- c) Flight and landing
- d) Technique- straddle and Fosbury flop

Unit – IV:

POLE VAULT

- a) Grip and approach Run
- b) Vaulting the box
- c) Clear the cross bar
- d) Landing

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: V

SUB CODE: USRPEMBE1

CREDIT: 4

**MAJOR BASED ELECTIVE PAPER - I
SPORTS 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 Glassgow, Kinisiology joint, Louis C.V.Mosby Company 1976.
- Dr.Dhavanjoy Shah Pedagogic Kinesiology sports publications New Delhi 1998.
- Logan and McKinney “ Anatomic Kinesiology”
- Raschi and Burke “Kinesiology and Applied Anatomy
- Walks and Lutt gens “ Kinesiology”

SEMESTER: VI

SUB CODE: U5RPESBE2

CREDIT: 5

**SKILL BASED ELECTIVE PAPER - II
MODERN TRENDS IN PHYSICAL EDUCATION**

UNIT – I

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

UNIT – II

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

UNIT – III

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

UNIT – IV

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

UNIT - V

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

REFESRENCE:

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

SEMESTER: VI

SUB CODE: U6RPECC12

CREDIT: 5

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 Modern 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.

SEMESTER: VI

SUB CODE: U6RPECC13

CREDIT: 5

SPORTS TRAINING

Unit – I:

- a) Meaning and Definition of Training and Sports training.
- b) Aim and tasks of Sports training- Characteristics of Sports training
- c) Principles of Sports Training-Basic and General.
- d) 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.
- .Matewewew L.P. Fundamental Sports Training.

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SEMESTER: VI

SUB CODE: U6RPECC14P
CREDIT: 5

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

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 – Long Jump

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: U6RPEMBE2

CREDIT: 4

**MAJOR BASED ELECTIVE PAPER - II
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

- a) Safety at Home – Safety at School-Safety on the Roads (Traffic rules and regulations, traffic signals , Traffic, symbols).
- b) Safety in Physical Education and Sports- Safety in Play area,Gymnasium –Swimming Pool.
- c) 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 Mannaal of First Aid & Abhitabh Gupta
- Park and Park “Preventive and social medicine”
- Anderson “School Health Practice”.

- Bedi Yashpal “Social and Preventive medicine”.

SEMESTER:VI

SUB CODE:U6RPEMBE3

CREDIT: 4

**MAJOR BASED 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

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

References:

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

SEMESTER: VI

SUB CODE: U6RPESBE3P

CREDIT: 2

**SKILL BASED ELECTIVE -III
TEACHING PRACTICE**

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 6th std to 12th std students.

Unit – III:

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

Unit – IV:

Specific Lesson Plan for Classes 6thstd to 12th 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

SEMESTER:VI

**SUB CODE: RSPMBE5
CREDIT: 5**

**MAJOR BASED ELECTIVE PAPER - IV
SPORTS NUTRITION AND HEALTH HYGIENE**

Unit – I

- a) Introduction of sports nutrition
- b) Meaning and definition of sports nutrition
- c) Aim and objective of sports nutrition
- d) Need and importance of sports nutrition
- e) Benefits of nutrition

Unit – II

- a) Role of nutrition in sports
- b) Basic nutrition guidelines
- c) Ingestion to energy metabolism (carbohydrate, protein, fat)
- d) BMI obesity and its hazards

Unit – III

- a) Dieting versus exercise for weight control
- b) Role of food in healthy life style
- c) Exercise schedule for weight gain and loss
- d) Diabetics and diet

Unit – IV

- a) Meaning of health hygiene
- b) Types and its uses
- c) Effect of alcohol and Tobacco
- d) Major health problems in India

Unit – V

- a) Life style management
- b) Hygienic environment and its uses
- c) Health problems of in-hygienic people
- d) Stress for in-hygienic

Reference

- Nutrition encyclopedia, edited by Delores C.S JAMES, the gale group, inc
- Boyd- Eaton s. et al (1989) the Stone Age health programme: diet and exercise as nature intended. Angus and Robertson.

- Terras s. (1994) stress, how your diet can help: the practical guide to positive health using diet, Vitamins, Minerals, Herbs, Amino Acids and thorsons.
- Hanlon, John J. (2003) “principles of public health administration”.

SEMESTER:

**SUB CODE:
CREDIT:**

MAJOR BASED ELECTIVE PAPER - V EXERCISE PHYSIOLOGY

UNIT I – Skeletal Muscles and Exercise

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

UNIT II – Cardiovascular System and Exercise

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

UNIT III – Respiratory System and Exercise

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

UNIT IV – Metabolism and Energy Transfer

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

UNIT V – Climatic conditions and sports performance and ergogenic aids

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

REFERENCES:

- Amrit Kumar, R, Moses. (1995). Introduction to Exercise Physiology. Madras: Poompugar Pathipagam.
- Beotra Alka, (2000) Drug Education Handbook on Drug Abuse in Sports: Sports Authority of India Delhi. Clarke, D.H. (1975). Exercise Physiology. New Jersey: Prentice Hall Inc., Englewood Cliffs.

- David, L Costill. (2004). Physiology of Sports and Exercise. Human Kinetics. Fox, E.L., and Mathews, D.K. (1981). The Physiological Basis of Physical Education and Athletics. Philadelphia: Sanders College Publishing.
- Guyton, A.C. (1976). Textbook of Medical Physiology. Philadelphia: W.B. Sanders co. Richard, W. Bowers. (1989). Sports Physiology. WMC: Brown Publishers.

SEMESTER: VI

SUB CODE: U6RPECC12

CREDIT: 5

SKILL BASED ELECTIVE -IV ATHLETIC CARE AND REHABILITATION

Unit I – Corrective Physical Education

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

Unit II – Posture

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

Unit III – Rehabilitation Exercises

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

Unit IV – Massage

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

Unit V – Sports Injuries Care, Treatment and Support

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

REFERENC ES:

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

SEMESTER:

SUB CODE:

CREDIT:

**SKILL BASED ELECTIVE -V
SPORTS TECHNOLOGY**

Unit I – Sports Technology

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

Unit II – Science of Sports Materials

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

Unit III – Surfaces of Playfields

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

Unit IV – Modern equipment

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

Unit V – Training Gadgets

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

REFERENCE:

- Charles J.A. Crane, F.A.A. and Furness, J.A.G. (1987) “Selection of Engineering Materials” UK: Butterworth Heiremann.
- Finn, R.A. and Trojan P.K. (1999) “Engineering Materials and their Applications” UK: JaicoPublisher.

- John Mongilo, (2001), "Nano Technology 101 "New York: Green wood publishing group. Walia, J.S. Principles and Methods of Education (Paul Publishers, Jullandhar), 1999. Kochar, S.K. Methods and Techniques of Teaching (New Delhi, Jullandhar, Sterling Publishers Pvt. Ltd.)

SEMESTER:

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**INTER DISCIPLINARY COURSE –I
APPLIED YOGA**

Unit-1 Introduction

- o Meaning and definition of Yoga
- o Aims and objectives of Yoga
- o Yoga in Early Upanishads
- o The Yoga Sutra: General consideration
- o Need and importance of Yoga in Physical Education and Sports

Unit-2 Foundation of yoga

- o The Astanga Yoga: Yama, Niyama, Asana, Pranayama, Dharana, Dhyana and Samadhi
- o Yoga in the Bhagavadgita; Various Schools of Yoga -Karma Yoga, Jnana Yoga an Bhakthi Yoga.

Unit-3 Asanas & Pranayama

- o Asanas- Definition, effects on various systems of the body
- o Classification of Asanas with special reference to Physical Education an sports, Techniques and benefits of various Asanas.
- o Influence of relaxative , meditative posture on various systems of the body
- o Pranayama, meaning and types

Unit-4Bandhas, Kriyas and Mudras

- o Bandhas , Types of Bandhas, Techniques and benefits
- o Mudras, Types of Mudras Techniques and benefits
- o Kriyas, Types of Kriyas, Techniques and benefits

Unit-5 Yoga Education

- o Therapeutic uses of Yoga
- o Difference between yogic practices and physical exercises
- o Yoga education centres in India and abroad
- o Competitions in Yogasanas asana towards management of the emotional disturbances like, tension, anxiety, stress etc.

References

- Brahmachari Amaldas Bode Griffiths (1981), *Yoga and Contemplation*. London. Darton, Longman and todd.
- Brown,F,Y.(2000). *How to Use Yoga*. Delhi: Sports Publication Dr. Kamkhya kumar (2012), *Yoga Education*, New Delhi. Shipra publication.
- Dr. Latha (1999), *Yoga Exercise*. India. Yoga publication trust. Dwiredi . A.N. (1991). *Yoga it,s nature form and scope*. Today's tomorrows publication.

- Gharote, M.L. & Ganguly, H. (1988). *Teaching Methods for Yogic Practices*. Lonawala: Kaixydamhoe. Lilly (SUE) (2002), *The Complete Guide to Understanding and practicing yoga*. Caxton and Editions.
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INTER DISCIPLINARY COURSE –II FOUNDATIONS AND HISTORY OF PHYSICAL EDUCATION AND SPORTS

UNIT: I

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

UNIT: II

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

UNIT: III

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

UNIT: VI

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

UNIT: V

- Important National and International Trophies – Santosh Trophy, Ranji Trophy, Duleep Trophy, Rengasamy Cup- Thomas Cup, Davis cup, Euro Cup, Wimbledon, fight for Ashes)
- Sports Competition – Asian games, Commonwealth games, SAF, AIU, SGFI, RDS and BDS.
- Awards and Honour – 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.
- Thirunayananan 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.

SEMESTER:

SUB CODE:

CREDIT: 2

**INTER DISCIPLINARY COURSE –III
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.
- b) Swimming-Track and Field events-Asanas.

Unit – III:

- a) Lesson plan-values of lesson plan.
- b) Types of lesson plan.
- c) General 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

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.