

## Semester – IV

### Theory Courses

#### CC-401 MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION

##### Unit- I Introduction to Test & Measurement & Evaluation

- Meaning of Test & Measurement & Evaluation in Physical Education.
- Need & Importance of Test & Measurement & Evaluation in Physical Education.
- Principles of Evaluation.

##### Unit- II Criteria; Classification and Administration of test

- Criteria of good Test.
- Criteria of tests, scientific authenticity (reliability, objectivity, validity and availability of norms).
- Type and classification of Test.
- Administration of test, advance preparation – Duties during testing – Duties after testing.

##### Unit- III Physical Fitness Tests

- AAHPER youth fitness test.
- National physical Fitness Test.
- Indiana Motor Fitness Test.
- JCR test.
- U.S Army Physical Fitness Test.

##### Unit- IV Sports Skill Tests

- Lockhart and McPherson badminton test.
- Johnson basketball test.
- McDonald soccer test.
- S.A.I volleyball test.
- S.A.I Hockey test.

##### References:

Bangsbo, J. (1994). *Fitness training in football: A scientific approach*. Bagsvaerd, Denmark: Ho+Storm.

Barron, H. M., & Mchee, R. (1997). *A practical approach to measurement in physical education*. Philadelphia: Lea and Febiger.

Barron, H.M. & Mchee, R. (1997). *A Practical approach to measurement in physical education*. Philadelphia: Lea and Febiger.

Kansal, D.K. (1996). *Test and measurement in sports and physical education*. New Delhi: D.V.S. Publications.

Mathews, D.K., (1973). *Measurement in physical education*, Philadelphia: W.B.SoundersCompnay.

Pheasant, S. (1996). *Body space: anthropometry, ergonomics and design of work*. Taylor & Francis, New York.

Phillips, D. A., &Hornak, J. E. (1979). *Measurement and evaluation in physical education*. New York: John Willey and Sons.

Sodhi, H.S., & Sidhu, L.S. (1984). *Physique and selection of sports- a kinanthropometric study*. Patiala: Punjab Publishing House.

### **Semester – IV Theory Courses**

#### **CC-402 KINESIOLOGY AND BIOMECHANICS**

##### **Unit – I Introduction to Kinesiology and Sports Biomechanics**

- Meaning and Definition of Kinesiology and Sports Biomechanics.
- Importance of Kinesiology and Sports Biomechanics to Physical Education Teacher, Athletes and Sports Coaches.
- Terminology of Fundamental Movements.
- Fundamental concepts of following terms – Axes and Planes, Centre of Gravity, Equilibrium, Line of Gravity.

##### **Unit – II Fundamental Concept of Anatomy and Physiology**

- Classification of Joints and Muscles.
- Types of Muscle Contractions.
- Posture – Meaning, Types and Importance of good posture.
- Fundamental concepts of following terms- Angle of Pull, All or None Law, Reciprocal Innovation.

##### **Unit – III Mechanical Concepts**

- Force - Meaning, definition, types and its application to sports activities.
- Lever - Meaning, definition, types and its application to human body.
- Newton's Laws of Motion – Meaning, definition and its application to sports activities.
- Projectile – Factors influencing projectile trajectory.

## **Unit – IV Kinematics and Kinetics of Human Movement**

- Linear Kinematics – Distance and Displacement, speed and velocity, Acceleration.
- Angular kinematics – Angular Distance and Displacement, Angular Speed and velocity, Angular Acceleration.
- Linear Kinetics – Inertia, Mass, Momentum, Friction.
- Angular Kinetics – Moment of inertia, Couple, Stability.

### **Reference:**

Bunn, J. W. (1972). *Scientific principles of coaching*. Englewood Cliffs, N.J.: Prentice Hall Inc.

Hay, J. G. & Reid, J. G. (1982). *The anatomical and mechanical basis of human motion*. Englewood Cliffs, N.J.: Prentice Hall Inc.

Hay, J. G. & Reid, J. G. (1988). *Anatomy, mechanics and human motion*. Englewood Cliffs, N.J.: Prentice Hall Inc.

Hay, J. G. (1970). *The biomechanics of sports techniques*. Englewood Cliffs, N.J.: Prentice Hall, Inc.

Simonian, C. (1911). *Fundamentals of sport biomechanics*. Englewood Cliffs, N.J.: Prentice Hall Inc.

## **Semester – IV**

### **Theory Courses**

#### **CC-403 RESEARCH AND STATISTICS IN PHYSICAL EDUCATION**

##### **Unit-I Introduction to Research**

- Definition of Research.
- Need and importance of Research in Physical Education and Sports.
- Scope of Research in Physical Education & Sports.
- Classification of Research.
- Research Problem, Meaning of the term, Location and criteria of Selection of Problem.
- Formulation of a Research Problem, Limitations and Delimitations.

##### **Unit-II Survey of Related Literature**

- Need for surveying related literature.
- Literature Sources, Library Reading.
- Research Proposal, Meaning and Significance of Research Proposal.
- Preparation of Research proposal / project.

- Research Report: A group project is to be undertaken by a small batch of students under the supervision of a teacher, wherein it is expected to survey school facilities of physical education, health assessment programme evaluation, fitness status of the students, staff and other stakeholders etc. and submit the report to the institution.

### **Unit-III Basics of Statistical Analysis**

- Statistics: Meaning, Definition, Nature and Importance
- Class Intervals: Raw Score, Continuous and Discrete Series, Class Distribution, Construction of Tables
- Graphical Presentation of Class Distribution: Histogram, Frequency Polygon, Frequency Curve. Cumulative Frequency Polygon, Ogive, Pie Diagram

### **Unit- IV Statistical Models in Physical Education and Sports**

- Measures of Central Tendency: Mean, Median and Mode-Meaning, Definition, Importance, Advantages, Disadvantages and Calculation from Group and Ungrouped data.
- Measures of Variability: Meaning, importance, computing from group and ungroup data
- Percentiles and Quartiles: Meaning, importance, computing from group and ungroup data.

### **References:**

- Best, J.W. (1963). *Research in education*. U.S.A.: Prentice Hall.
- Bompa, T. O. &Haff, G. G. (2009). *Periodization: theory and methodology of training*, 5<sup>th</sup> ed. Champaign, IL: Human Kinetics.
- Brown, L. E., &Ferrigno, V. A. (2005). *Training for speed, agility and quickness*, 2<sup>nd</sup> ed. Champaign, IL: Human Kinetics.
- Brown, L.E. & Miller, J., (2005). *How the training work*. In: *Training Speed, Agility, and Quickness*. Brown, L.E. &Ferrigno, V.A &Ferrigno, V.A., eds. Champaign, IL: Human Kinetics.
- Carl, E. K., & Daniel, D. A. (1969). *Modern principles of athletes training*. St. Louis: St. Louis's Mosby Company.
- Clark, H. H., & Clark, D. H. (1975). *Research process in physical education*. Englewood cliffs, New Jersey: Prentice Hall, Inc.
- Garrett, H.E. (1981). *Statistics in psychology and education*. New York: VakilsFeffer and Simon Ltd.
- Oyster, C. K., Hanten, W. P., & Llorens, L. A. (1987). *Introduction to research: A guide for the health science professional*. Landon: J.B. Lippincott Company.

Thomas, J.R., & Nelson J.K. (2005). *Research method in physical activity*. U.S.A: Champaign, IL: Human Kinetics Books.

Thomas, J.R., Nelson, J.K. & Silverman, S.J. (2011). *Research method in physical activity*. U.S.A: Champaign, IL: Human Kinetics Books.

Uppal, A. K. (1990). *Physical fitness: how to develop*. New Delhi: Friends

Publication. Verma, J. P. (2000). *A text book on sports statistics*. Gwalior: Venus Publications.

## **Semester – IV**

### **Theory Courses**

#### **EC-402 SPORTS MANAGEMENT (ELECTIVE)**

##### **Unit-I**

- Nature and Concept of Sports Management.
- Progressive concept of Sports management.
- The purpose and scope of Sports Management.
- Essential skills of Sports Management.
- Qualities and competencies required for the Sports Manager.
- Event Management in physical education and sports.

##### **Unit-II**

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

##### **Unit-III**

- Sports Management in Schools, colleges and Universities.
- Factors affecting planning.
- Planning a school or college sports programme.

- Directing of school or college sports programme.
- Controlling a school, college and university sports programme.
  - Developing performance standard
  - Establishing a reporting system
  - Evaluation
  - The reward/punishment system.

#### **Unit-IV**

- Financial management in Physical Education & sports in schools, Colleges and Universities.
- Budget – Importance, Criteria of good budget.
- Steps of Budget making.
- Principles of budgeting.

#### **REFERENCES:**

Ashton, D. (1968). *Administration of physical education for women*. New York: The Ronal Press Cl.

Bucher, C.A. *Administration of physical education and athletic programme*. 7<sup>th</sup> Edition, St. Louis: The C.V. Mosby Co.

Daughtrey, G. & Woods, J.B. (1976). *Physical education and intramural programmes, organisation and administration*. Philadelphia U.S.A. : W.B. Saunders Cp.

Earl, F. Z,& Gary, W. B. (1963). *Management competency development in sports and physical education*. Philadelphia: W. Lea and Febiger.

### **Part – B**

#### **Practical Courses Semester – IV**

##### **PC – 401 Track and field:**

- Running: (Events-100M, 200M, 400M, 800M, 1500M, Hurdle) (As per I sem.)
- Jumping Events (As per II sem.)
- Throwing Events (As per III sem.)

##### **PC – 401 Specialized Games any two of the following.**

Kabaddi/ Kho-Kho/Football/Hockey/Volleyball/ Handball/Basketball/Badminton/ Table-Tennis.

**Part – C**  
**Teaching practices**

**TP – 401 Sports Specialization: Track and field / Gymnastics / Swimming/Yoga.**

(4 internal lesson at practicing school and 1 final external lesson on the students of practicing school as a sports specialization of any discipline mentioned above.)

**TP- 402 Games Specialization: Kabaddi, Kho-kho, Football, Hockey, Volleyball, Handball, Basketball, Badminton, Table Tennis, Squash, Tennis.**

(4 internal lesson at practicing school and 1 final external lesson on the students of practicing school as a games specialization of any discipline mentioned above.)

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