

UNIVERSITY OF DELHI

MODIFIED PROPOSED ORDINANCES FOR THE AWARD OF MASTER OF PHYSICAL EDUCATION (M.P.Ed.) – Four Semester Course

There shall be a Master of Physical Education (M.P.Ed.) course in the Department of Physical Education & Sports Sciences, IGIPSS, B-Block, Vikaspuri, New Delhi-110018. It is a professional post graduation degree course of four semester duration in Physical Education.

ELIGIBILITY:

1. Every candidate seeking admission to the examination for the degree of Master of Physical Education (M.P.Ed.) semester examination shall satisfy the following conditions:-
 - a) **The candidate** must have passed the Bachelor of Physical Education (B.P.E./B.P.Ed./D.P.Ed./P.G.D.P.Ed.) or B.Sc. (Physical Education, Health Education & Sports) Examination of the University of Delhi or any other examination recognized as equivalent thereto with a minimum of 50% marks in aggregate. In case, a relaxation is given to any specific category of candidate/s it shall be with approval of the National Council of Teacher Education (N.C.T.E.)/Department of Physical Education & Sports Sciences, Faculty of University of Delhi. There shall however be a relaxation of 5% marks for those who have secured 1st, 2nd or 3rd position at National level/ All India Interuniversity /Interuniversity level sports competitions in the proceeding three years. However, the condition of position in the proceeding three years will not be applicable for the inservice candidates. Whereas, remaining relaxation of 5% marks shall be same as for other candidates.
 - b) **Fitness:** The candidate shall be medically fit to carry out the vigorous physical and academic activities concerning curriculum and co-curricular activities, which run throughout the year.
 - c) **Age:** The candidate shall have attained minimum twenty years of age before the first day of October of the year in which he/she seeks admission to the M.P.Ed. Examinations. However, relaxation of age limit up to a maximum of one year on the basis of individual merits may be made by the Vice-Chancellor, University of Delhi through the Principal of the Institution concerned.
 - d) **Attendance:** A candidate to be eligible for appearing in the final Semester Examination for Master of Physical Education (M.P.Ed.) semester I, II, III, & IV shall have at least 80% attendance in aggregate and 70% attendance separately in each paper including theory and practical.
 - e) **Duration of Course:** The maximum duration of Master of Physical Education course semester I, II, III, & IV shall not exceed to four years from the initial admission to first semester of the course.
 - f) **Nature of the Course:** the Master of Physical Education (M.P.Ed.) is a regular post graduation professional course in physical education on full time basis.
 - g) **Reservations:** Reservations for OBC/ Schedule Caste/Schedule Tribes will be as per the norms of the Central Government/ University of Delhi, Delhi.

SEMESTER-I

Paper No.	Title of the Paper
MPE 0701	Research Process and Statistical Techniques in Physical Education
MPE 0702	Scientific Basis of Sports Training & Talent Identification
MPE 0703	Game of Specialization (One to be selected from the list and carried up to IInd Semester) MPE 0703 (i) Athletics MPE 0703 (ii) Aquatics (Swimming, Diving & Water-polo) MPE 0703 (iii) Badminton MPE 0703 (iv) Basketball MPE 0703 (v) Cricket MPE 0703 (vi) Football MPE 0703 (vii) Gymnastics MPE 0703 (viii) Handball MPE 0703 (ix) Hockey MPE 0703 (x) Judo MPE 0703 (xi) Kabaddi MPE 0703 (xii) Kho-Kho MPE 0703 (xiii) Table Tennis MPE 0703 (xiv) Volleyball MPE 0703 (xv) Yoga
MPE 0704	Subject Specialization (Any one to be selected from the list and to be carried over upto forth Semester) MPE 0704 (i) Exercise Physiology MPE 0704 (ii) Sport Biomechanics MPE 0704 (iii) Exercise & Sport Psychology MPE 0704 (iv) Professional Preparation & Curriculum Design MPE 0704 (v) Sport Sociology MPE 0704 (vi) Sport Management

SEMESTER-II

Paper No.	Title of the Paper
MPE 0801	Research Process and Statistical Techniques in Physical Education
MPE 0802	Educational Technology and Pedagogy Techniques in Physical Education
MPE 0803	Game of Specialization (One to be carried over from Semester-I)
MPE 0804	Subject Specialization (To be carried over from semester-I) MPE 0804 (i) Exercise Physiology MPE 0804 (ii) Sport Biomechanics MPE 0804 (iii) Exercise & Sport Psychology MPE 0804 (iv) Professional Preparation & Curriculum Design MPE 0804 (v) Sport Sociology MPE 0804 (vi) Sport Management

SEMESTER-III

Paper No.	Title of the Paper
MPE 0901 MPE 0902 MPE 0903	Optional Group-I (Any two to be selected from the list other than one's subject specialization) Fundamentals of Health Education Fundamentals of Sport Biomechanics Fundamentals of Exercise Physiology
MPE 0904	Subject Specialization (To be carried over from Semester -II) MPE 0904 (i) Exercise Physiology MPE 0904 (ii) Sport Biomechanics MPE 0904 (iii) Exercise & Sport Psychology MPE 0904 (iv) Professional Preparation & Curriculum Design MPE 0904 (v) Sport Sociology MPE 0904 (vi) Sport Management
MPE 0905	Athlete's Care and Rehabilitation

SEMESTER-IV

Paper No.	Title of the Paper
MPE 1001 MPE1002 MPE 1003	Optional Group-II (Any two to be selected from the list other than one's subject specialization) Fundamentals of Sport Sociology Fundamentals of Sport Psychology Fundamentals of Sport Management & Administration
MPE 1004	Subject Specialization (To be carried over from semester-III) MPE 1004 (i) Exercise Physiology MPE 1004 (ii) Sport Biomechanics MPE 1004 (iii) Exercise & Sport Psychology MPE 1004 (iv) Professional Preparation & Curriculum Design MPE 1004 (v) Sport Sociology MPE 1004(vi) Sport Management
MPE 1005	Measurement and Evaluation in Physical Education
MPE 1006	Dissertation OR Optional Group-III (One to be selected out of the following) MPE 1006 (i) Adapted Physical Education MPE 1006 (ii) Fitness and Wellness MPE 1006 (iii) Sport Therapy MPE 1006 (iv) Sport Journalism MPE 1006 (v) Sport Industry & Marketing MPE 1006 (vi) Sport, Physical Activity & Nutrition

ADD-ON COURSES

Paper No.	Title of the Paper
MPE 1101	Sports Nutrition and Exercise Prescription/ Advance Fitness Assessment & Exercise Prescription
MPE 1102	Sports Field Technology
MPE 1103	Gymnasium Operations
MPE 1104	Computer Applications in Physical Education & Sports
MPE 1105	Life Saving Skills & Disaster Management
MPE 1106	Adventure Sports Leadership Training
MPE 1107	Sports and Community Volunteer Leadership
MPE 1108	Sports for All
MPE 1109	Physical Education for All
MPE 1110	Study of Olympics

Note:

- i) *The written examination shall be for 50 marks in each paper and 25 marks for internal assessment. The practical examination shall be of 25marks. In case there is no practical examination in any paper, theory paper shall be of 75 marks. The game of specialization paper (i.e. Paper 703) will be opted in semester-I and the same will be carried through & up to semester-II only as Paper No. 803 the subject specialization paper (i.e. Paper 704) will be opted in the semester-I and the same subject specialization paper will be carried through semester-II, III & IV as Paper No. 804, 904, 1004.*
- ii) *Credit Systems: The Principle of one theory period or two practical periods (Lab practical/Field practical/Seminar/Tutorial/Perceptorial/ Skill & Prowess/Lesson Plan/Library Assignments/Intra murals/Extra murals) per day per semester amounts to one credit. For instance if a student attends four theory period and four practical period per day, per semester he/she will earn six credit per semester.*
- iii) *The written/theory and practical examinations shall be held by the University of Delhi at IGIPES and through the approved examiners of the University of Delhi for each paper separately (theory as well as practical examinations).*
- iv) *Each candidate is required to opt and pass one add on course out of the list of add on course paper duration of add on course between Ist and IInd semester. The candidate is also required to opt and pass one (different from the one opted between Ist and IInd semester) more add on course between IIIrd and IVth semester. The written examination shall be for 50 marks in each paper and 25 marks for internal assessment. The practical examination shall be of 25marks. In case there is no practical examination in any paper, theory paper shall be of 75 marks.*
- v) *The Dissertation/Project Report/Long Essay (Semester-IV) shall be assessed as under:*
 - a) ** Internal Assessment by the Supervisor : 30 Marks*
 - b) *** Assessment of the Report by an Examiner : 40 Marks*
other than the Supervisor
 - c) **** Viva-voce to be conducted by an External : 30 Marks*
Examiner (The concerned Supervisor shall be free to attend the Viva-voce examination , but the marks shall be awarded by an external examiner).

The candidate shall appear in the Viva-voce examination as one of the eligibilities to pass in this paper and for the successful award of the M.P.Ed. degree.

- vi) *A student who does not opt for dissertation he/she may select a paper from optional group III to be evaluated in lieu of Dissertation/Project/Long Essay from Optional Group-III. The Dissertation/ Project Report/Long Essay shall submitted and evaluated along with a short "Summary" within three weeks time of the conclusion of the written examination of M.P.Ed. semester-IV. The report shall be examined separately and the summary be kept in the Institute from which the candidate appears.*
- vii) *Any candidate, who has been declared unsuccessful at the final Semester Examination, but has passed the paper 1006 i.e. Dissertation/Project/Long Essay shall be exempted from submitting a fresh report at the next Final Semester Examination.*
- viii) *A candidate can either take dissertation or opt one paper out of the listed papers as Optional Group- III under Paper No. 1006.*
- ix) *The written examination of each paper shall be of three hours duration for each semester of M.P.Ed.*

Internal Assessment:

The marks allotted for the internal assessment for each paper shall be awarded on the basis of tutorials, projects, assignments, class tests, presentations, seminars, workshops, attitude in the class, attendance etc.as per guidelines issued by the University of Delhi from time to time.

2. MEDIUM OF EXAMINATION:

The medium of instruction and examination shall be English or Hindi for the M.P.Ed. course.

3. RULES FOR PASS PERCENTAGE & AWARD OF DEGREE:

- i) The candidate shall be promoted from M.P.Ed. semester- I to M.P.Ed. semester- II, if he/she fulfills all the conditions, prescribed for the promotion.
- ii) The minimum marks required to pass the examination shall be 40% in each paper (Theory & Practical separately) with an aggregate of 45% in each semester.
- iii) Any candidate, on appearing in semester Examination who has obtained not less than 45% marks in the aggregate, but has failed in the maximum of two papers in any semester examination may be allowed to be promoted to the next semester. In such case, the candidate shall be allowed to reappear in that paper/s while appearing in the next semester annual examination on payment of the prescribed fee for that semester. The candidate shall be declared to have passed the examination in the year in which he/she successfully completes his examination.
- iv) At the end of semester, the unsuccessful candidates shall be allowed to appear in the final examination in the next semester as an Ex-student, in the papers in which they have not secured pass marks.
- v) The candidate shall qualify the written and practical examination both for each paper (where, practical examination is a part of the paper) at a stretch on one single attempt, not in parts. In case, if the candidate has passed in the practical examination (if practical examination is a part of the concerned paper) but has failed in theory examination in paper/s, as the case may be, the candidate shall appear only in the theory examination. However, if the candidate has been declared failed in the practical examination in paper/s, then the candidate shall have to appear in both theory and practical examinations.

4. CLASSIFICATION OF THE RESULT:

- i) Distinction : Minimum 75% marks in aggregate in written, practical and internal assessment.
- ii) First Division : Minimum 60% of the total marks or above but below 75%.
- iii) Second Division : Minimum 50% of the total marks or above but below 60%.
- iv) Third Division : Passing with less than 50% marks in aggregate.

5. MISCELLANEOUS:

The duration of the course of study shall be of four semesters.

- i) No candidate shall be allowed to appear in any semester Examination of M.P.Ed., if he/she is in service on full time/part time basis before the completion of the final Examination (theory, practical and internal assessment etc.). However, if the candidate has the permission from the employer concerned to join the course alongwith the approved Leave Certificate and 'No Objection Certificate' for the entire duration of the course of study, the candidate shall be eligible to carry on the course and may appear in the examination (provided the candidate fulfill all other condition/s). In case of concealment of facts found/proved, the candidate shall be held responsible and action of debarring from the course and/or legal action shall be taken against him/her. However, the maximum
- ii) No female candidate shall be allowed to continue the course of study for the concerned semester, if she carries pregnancy. However, the maximum duration of the course will be four years from the 1st year of initial admission to the course.
- iv) The candidate failing or failing to appear in the M.P.Ed. IV semester, shall be allowed to appear at the Semester-IV examination in the next semester, only on being enrolled as an 'Ex-student' (provided, the candidate fulfills all the examination eligibility criteria to appear on the final examination) in accordance with the regulations prescribed on that behalf. Candidates must pass the M.P.Ed. course within the duration of four years from the year of the first admission to the first year of the M.P.Ed. course.

**6. IMPROVEMENT OF EITHER PAPER/OR DEGREE:
As provided in the M.A./M.Sc. rules of the University of Delhi.**

AT A GLANCE

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RESEARCH PROCESS AND STATISTICAL TECHNIQUES IN PHYSICAL EDUCATION

UNIT-I	<u>INTRODUCTION TO RESEARCH</u>
	1.1 Meaning, need and nature
	1.2 Types of research : Basic (fundamental), Applied and Action research
	1.3 Identifying a research problem
	1.4 Criteria in selecting a research problem
	1.5 Stating the research problem
	1.6 Formulating, presenting and listing hypothesis
	1.7 Delimitation and limitation of a problem
UNIT-II	<u>LITERATURE SEARCH</u>
	2.1 Reason for surveying related literature
	2.2 Major literature resources
	2.3 Documentation over-view
	2.4 Library sources
	2.5 Research reviews
	2.6 Card catalogue indices – physical education indices
	2.7 Abstracting material
UNIT-III	<u>DESCRIPTIVE METHODS OF RESEARCH</u>
	3.1 Historical research
	<ul style="list-style-type: none"> ▪ Meaning, nature and scope of historical research ▪ Sources of historical materials (primary and secondary) ▪ Evaluation of historical material – internal and external criticism – general principles of criticism ▪ Historical hypothesis ▪ Pitfalls in historical research
	3.2 Philosophical Research
	<ul style="list-style-type: none"> ▪ Need, nature and techniques of thinking process ▪ Methods of philosophy ▪ Analyzing philosophical research problem ▪ Inductive and deductive reasoning
	3.3 Survey and case study
	<ul style="list-style-type: none"> ▪ Meaning, need and scope of survey and case study in physical education ▪ Types of survey ▪ Survey techniques – by questionnaire, interviews, case study ▪ Qualitative and quantitative research data ▪ Procedure for developing a questionnaire, a checklist, a schedule, a score card
UNIT-IV	<u>INTRODUCTION TO STATISTICS</u>
	4.1 Meaning, need and importance of statistics in physical education
	4.2 Types of statistics – descriptive, comparative, relationship, inferential and predictive
	4.3 Characteristics of data
	<ul style="list-style-type: none"> ▪ Raw scores ▪ Single scores ▪ Attribute and variable ▪ Types of data ▪ Population and sample ▪ Parameters and statistics ▪ Frequency distribution ▪ Discrete and continuous class intervals ▪ Measures of central tendency ▪ Measures of variability
UNIT-V	<u>NON-PARAMETRIC STATISTIC</u>
	5.1 Uses and application of non-parametric statistic
	5.2 Computation of chi-square, rank order correlation and tetrachoric correlation

REFERENCES

Research Process

- Author's guide: Research Methods applied to Health Physical and Recreation, Washington, D.C. 1991.
- Best John & Kahni, J.V. Research in Education, New Delhi. Prentice Hall of India (Pvt.) Ltd., 1992.
- Clarke, H.H., The Application of Measurement in Health and Physical Education, 1992.
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- Rothstein, A.L. Research Design and Statistics for Physical Education Prentice Hall, New Jersey, U.S.A. (1985)
- Shaw, Dhananjay. Fundamental statistics in physical Education & Sports sciences, sports Publication, 2007.
- Smith, R. Philosophy, Methodology and Educational Research, Wiley Black Well, USA. (2007).
- Swann, J. Pratt Educational Research in Practice: Making Sense of Methodology, Viva, New Delhi (2007)

SCIENTIFIC BASIS OF SPORTS TRAINING & TALENT IDENTIFICATION

- UNIT-I**
- 1.1 **SPORTS TRAINING**
- Importance and definition of sports training
 - Aim and objectives of sports training
 - Characteristics of sports training
 - Principles of sports Training
- 1.2 **TRAINING LOAD, ADAPTATION AND RECOVERY**
- Concept of load
 - Adaptation
 - Relationship of load and recovery
 - Factors of load
 - Relationship between volume and intensity
 - Overload
 - Causes and symptoms of overload
 - Tackling of over load
- 1.3 **VARIOUS TRAINING METHODS**
- Interval training method
 - Repetition training method
 - Continuous training method
 - Circuit training method
 - Fartlek training method
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 - Resistance training method
 - Plyometric method
- UNIT-II** **BIO-MOTOR ABILITIES AND THEIR DEVELOPMENT**
- 2.1 **STRENGTH**
- Types of strength
 - Factors affecting strength performance
 - Methods of strength : training maximum strength; explosive strength and Strength endurance
- 2.2 **ENDURANCE**
- Definition and significance of endurance
 - Factors affecting endurance
 - Forms of endurance
 - Methods to develop endurance
 - Load factors in relation to endurance training
- 2.3 **SPEED**
- Definition
 - Forms of speed
 - Factors determining speed
 - Load parameters to develop speed
 - Methods to develop speed abilities
 - Physiological characteristics of speed.
- 2.4 **FLEXIBILITY**
- Definition
 - Factors affecting flexibility;
 - Types of flexibility
 - Methods used to develop flexibility
- 2.5 **COORDINATIVE ABILITIES**
- Definition
 - Classification of coordinative abilities
 - Methods used to develop coordinative abilities
- UNIT-III** **TECHNICAL AND TACTICAL PREPARATION**
- Definition and meaning of technique, skill and style
 - Technique training & its implication in various phases; methods employed for technique training, causes of technical fault and their correction
 - Definition and meaning of tactics, aim of tactics according to sport
 - Training for tactics
 - Principles of tactical preparation

UNIT-IV

COMPETITION TRAINING, PLANNING AND PERIODIZATION

- 4.1 Definition of planning
 - Need and importance in planning
 - Principles of planning
 - Types of plan (training conception, macro, micro, meso and training session plan)
- 4.2 Periodization
 - Need of periodization
 - Top Form and periodization
 - Aims and contents of various periods of periodization
 - Types of periodization
- 4.3 Competition
 - The number and frequency of competition
 - Preparation for competition

UNIT-V

TELENT IDENTIFICATION AND ITS DEVELOPMENT

- 5.1 Talent identifications and its importance,
- 5.2 Phases of talent identification,
- 5.3 Guidelines for talent identification
- 5.4 Stages of growth and development, general behavioural patterns,
- 5.5 Motor development and training implications and different

PRACTICAL

1. Assessment of maximum strength
2. Assessment of explosive strength in vertical and forward direction
3. Assessment of muscular endurance for arms and shoulder girdle, abdominal, muscles of the legs, general muscular endurance of the body.
4. Assessment of endurance through-twelve minute and nine minutes run walk test; six hundred yards run-walk test; harvard step test; forestry step test.
5. Assessment of speed – four second dash test; six second dash test; 50 yards dash test; 30 & 40 yards dash test.
6. Assessment of flexibility - bridge-up test; sit and reach test; front to rear split test and side split test; shoulder and wrist elevation test; trunk and neck extension test; shoulder rotation test; ankle plantar and dorsi flexion test.
7. Assessment of coordinative abilities – burpee test; side step test; quadrant jump test; semo-agility test; lsu agility test; bass and modified bass test; nelson test of hand reaction; foot reaction and speed of movement.
8. Designing & formulation of macro/micro/meso/training session plans.
9. Measuring of pulse rate before, during & after training/workout/manually and with the help of “Heart Rate Monitor”.
10. Teaching & learning of selected Psychological Skills Training (PST).

REFERENCES

Sports Training

- American College of Sports Medicine, “*Guidelines for Exercises Testing and Prescription*” 4th ed. (McGraw Hill) 2005.
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GAME OF SPECIALIZATION – ATHLETICS**FOCUSED ATHLETIC EVENTS:**

Running	: Sprints
Jumps	: Long Jump & Triple Jump
Throws	: Shot Put and Discus Throw,
Hurdle	: For Men – 110m & 400m; For Women – 100m & 400m.
Relays	: 4 x 100m, & 4 x 400 m.

UNIT-I HISTORICAL DEVELOPMENT AND MODERN TRENDS IN ATHLETICS

- 1.1 History of athletics – ancient and modern Olympics & other important national and international competitions
- 1.2 Structure and function of IAF (International Athletics Federation) & AFI (Athletics Federation of India), IOA (Indian Olympic Association)
- 1.3 Modern trends in athletics in terms of playfields, equipments etc.
- 1.4 General rules of athletics
- 1.5 Rules And Regulations As specified by the IAAF and AFI, Role and contributions of SGFI and AIU, Role of International Olympic Committee (IOC)

UNIT-II TRAINING AND TECHNICAL PREPARATION FOR SPECIFIED ATHLETIC EVENTS

- 2.1 Required motor abilities
- 2.2 Technical preparation
- 2.3 Marking, construction and maintenance of Track & Field
- 2.4 Physical, physiological, psychological and sociological characteristics of athletes
- 2.5 Technical Preparation for Focused Athletic Events, Required motor abilities and their technical preparation, Technical and tactical preparation, Physical, physiological, psychological and sociological characteristics of athletes

UNIT-III SYSTEMATIZATION OF TRAINING PROCESS

- 3.1 General training for children, Training for beginners, Training for intermediate players (advanced sportspersons)
- 3.2 Training for seniors (high performance sportspersons)
- 3.3 Safety measures and prevention of injuries, Management of injuries
- 3.4 Causes and remedies of injuries
- 3.5 Physiotherapy, rehabilitation and massage

UNIT-IV ORGANIZATION OF THE ATHLETICS MEET

- 4.1 Structure and organization of the athletics meet
- 4.2 Budgeting, purchase of equipments
- 4.3 Preparation, execution and conclusion of the respective events
- 4.4 Protocols and ceremonies

UNIT-V SPORTS NUTRITION

- 5.1 Meaning, definition, classification and components of nutrition
- 5.2 Energy requirements of athletes in specified events
- 5.3 Nutritional requirements of athletes : pre, during and post competition phases
- 5.4 Electrolytes – sports drinks, minerals and supplements : pre, during and post competition

PRACTICALS

1. Different techniques of specified events :
sprints (start, finish etc.), throws (shot-put & discus), jumps (long jump, triple jump), Hurdle : (For Men – 110m & 400m; For Women – 100m & 400m.) Relays: (4 x 100m, & 4 x 400 m).
2. Warming-up and cooling down
3. Supplementary exercises for specified events, practice and training of selected events, organization and planning in specified events.
4. Visit to a stadium where the track and field facilities exist

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Athletics

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- Renwick, G.R., Play Better Athletics, Delhi: Sports Pub., 2001.
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- Weaver, T., Personal Best : Athletics, London : Willionm Colliv ., 1988.

GAME OF SPECIALIZATION – AQUATICS (Swimming, Diving & Water-Polo)

UNIT-I INTRODUCTION

- 1.1 Aquatics - historical perspectives, modern trends and developments
- 1.2 Structure and function of federation of International de Nation Amateur (FINA)
- 1.3 Fundamentals of swimming, diving and water-polo
- 1.4 Techniques and tactics in aquatics
- 1.5 Rules, Regulations And Interpretations as Specified by the FINA, Latest changes and developments in rules and regulations, techniques and tactics, officiating and coaching etc.

UNIT-II TECHNICAL PREPARATION FOR SWIMMING

- 2.1 Motor abilities required
- 2.2 Technical preparation/shadow practice
- 2.3 Construction and maintenance of swimming pool
- 2.4 Physical, physiological and psychological preparation
- 2.5 Officiating And Coaching, Qualifications, qualities and responsibilities of a coach, Philosophy of coaching, Qualifications and responsibilities/functions of technical officials, Protocols of technical officials, Role of sports psychologists, sports physiotherapists and fitness trainers

UNIT-III SYSTEMATIZATION OF TRAINING PROCESS

- 3.1 Systematizing training process for swimmers – warming-up, cooling-down, supplementary exercises, basic skills, weight-training, circuit-training etc.
- 3.2 Training for beginners, Training for intermediate swimmers, Training for high performance swimmers.
- 3.3 Prevention of injuries, causes and remedies of injuries in swimming and safety measures,
- 3.4 First-aid, treatment and management of injured swimmers
- 3.5 Physiotherapy, rehabilitation, massage and fitness management

UNIT-IV ORGANISATION OF THE COMPETITION

- 4.1 Planning for the competition
- 4.2 Organisation of the competition
- 4.3 Selection of men, material and management
- 4.4 Concluding the competition – submission of accounts, preparing report
- 4.5 Protocols and ceremonies

UNIT-V SPORTS NUTRITION

- 5.1 Meaning, definition, classification and components of nutrition
- 5.2 Energy requirements of swimmers
- 5.3 Nutritional requirements of swimmers : pre, during and post competition phases
- 5.4 Electrolytes – sports drinks & minerals etc. : pre, during and post competition

PRACTICALS

1. Warming-up (general and specific), cooling down, and supplementary exercises
2. Demonstration of techniques
3. Variations and combinations of techniques
4. Training of fundamentals of Aquatics, planning for competition, organization of competition/seminar/workshop,clinic.
5. Visit to the facilities of the game

REFERENCES

Aquatics

- Jain, R., Play and Learn Swimming, New Delhi, Khel Sahitya Kendra, 2003.
- Kumar, Naveen., Coaching Successfully, Sports Publication, Delhi 2002.
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- Thani, Lokesh., Skill & Tactics Swimming" Delhi, Sports Publication, 1995.
- Thani, Lokesh., Swimming, Delhi, Sports Publisher, 2000.

GAME OF SPECIALIZATION- BADMINTON

- UNIT-I HISTORICAL DEVELOPMENT AND MODERN TRENDS IN BADMINTON**
- 1.1 Origin, historical perspectives and modern trends & development of Badminton
 - 1.2 Structure and function of badminton association of India (BAI), International Badminton Federation (IBF) and other associations
 - 1.3 Orientation of the fundamental skills
 - 1.4 Techniques and tactics
 - 1.5 Individual and game strategies
 - 1.6 Rules, Regulations And Interpretations as specified by the Badminton Association of India (BAI), As per the International Badminton Federation (IBF), Latest developments, Latest amendments, Interpretations
- UNIT-II TECHNICAL PREPARATION FOR BADMINTON**
- 2.1 Training of motor components
 - 2.2 Technical preparation – reflexes, perceptual sense, neuro-muscular coordination
 - 2.3 Construction and maintenance of badminton court, equipments etc.
 - 2.4 Physical, physiological and Psychological preparation
 - 2.5 Officiating and Coaching -Duties/responsibilities, qualifications and qualities of a coach, Philosophy of coaching, Qualifications and responsibilities/functions of technical officials, Protocols of referees, judges, umpires, Role of sports psychologists, sports physiotherapists and fitness trainers
- UNIT-III SYSTEMATIZATION OF TRAINING PROCESS**
- 3.1 Systematizing training process for badminton players – general warming-up, specific warming-up and cooling-down
 - 3.2 Supplementary exercises, basic skills, weight-training and circuit-training
 - 3.3 Training for beginners, Training for intermediate players - advanced sportspersons, Training for seniors - high performance sportspersons.
 - 3.4 Prevention of injuries and Safety measures.
 - 3.5 Specific injuries in Badminton and their causes, Management of injuries and Rehabilitation of injured players
- UNIT-IV ORGANISATION OF THE COMPETITION**
- 3.1 Planning for the competition
 - 3.2 Selection of men, material and management
 - 3.3 Concluding the competition – submission of accounts, preparing report
 - 3.4 Protocols and ceremonies
- UNIT-V DIET, NUTRITION AND SPORTS PERFORMANCE**
- 5.1 Meaning, definition, classification and components of nutrition
 - 5.2 Energy requirements of badminton players
 - 5.3 Nutritional requirements of badminton players : pre, during and post competition phases
 - 5.4 Minerals
 - 5.5 Sports drinks : pre, during and post competition

PRACTICALS

1. Demonstration of skills
2. Warming-up (general and specific), cooling down, and supplementary exercises
3. Training for foot work
4. Shadow practice and pressure training, planning for competition, organization of competition/seminar/workshop,clinic.
5. Visit to a place where the facilities of Badminton exist

REFERENCES

Badminton

- Ashok Kumar, Badminton, New Delhi Discovery, 2003.
- Ballou, Palph B., Teaching Badminton, India, 1982.
- Bloss, M.V & Hales, R.S., Badminton, WC Brown, 1994.
- Davis, Pat, Badminton, S.A. David & Charles Inc., 1988.
- Downey, J., How to Coach Badminton, London: Collins Pub., 1990.
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- Narang, P., Play and Learn Badminton, Khel Sahitaya Kendra, 2005.
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- Talbot, Derlk, Top Coach Badminton, Britain: Q.A. Press, 1989.

GAME OF SPECIALIZATION – BASKETBALL

UNIT-I

INTRODUCTION

- 1.1 Historical development of basketball at international and national level
- 1.2 Modern trends and developments in basketball
- 1.3 Organization of IBF
- 1.4 The congress, the board of administration, executive committee, the international commissions, the permanent secretariat, the continental confederations, the internal auditors
- 1.5 Organization and constitution of BFI and state bodies

UNIT-II

RULES AND THEIR INTERPRETATIONS

- 2.1 Latest Rules, and their Interpretations
- 2.2 Organisation-Selection of a team and conduct of a camp, Playfield technology- planning, construction and maintenance of a basketball court
- 2.3 Conduct of a tournament, Short-term and long-term planning for organization of a competition
- 2.4 Report writing, photography, analysis and commentary
- 2.5 Evaluation of players performance during matches, Video analysis of skills and techniques, Assessment of prospective opponents

UNIT-III

PREPARATION AND TRAINING

- 3.1 Prerequisites of preparation and training
 - Theory of basketball training process
 - General & specific warming-up, cooling down (specific exercises for basketball), Principles of warming up and cooling down and their effects
- 3.2 Basic skills and techniques
 - Chest pass
 - Underhand pass
 - Dribbling
 - Shooting- long shooting, lay up shots
- 3.3 Preparation, pre-contact movement, contact Teaching progression, Coaching points, Drills for skill development (any five), Defense patterns and drills (zone and man - man drill), Lead up games for beginners in basketball, Teaching of basketball skill - preparing a lesson plan, Tactical application.
- 3.4 Development of motor components with specific reference to basketball, Specific training methods for different positions
- 3.5 Development of basketball specific fitness components

UNIT-IV

ORGANIZATION

- 4.1 Selection of a team and conduct of a camps.
- 4.2 Playfield technology-planning, construction and maintenance of Basketball Court.
- 4.3 Conduct of a Tournament
- 4.4 Short Term and Long Term Planning for organization of a competition.
- 4.5 Report writing, photography, analysis and commentary.

UNIT-V

MEASUREMENT AND EVALUATION

- 5.1 Fitness tests- AAHPER Youth Fitness Test, AAHPER Health related Fitness Test, Fleishman Physical fitness test, National Physical Efficiency Test, Indiana Motar Fitness Test
- 5.2 Skill Tests – AAHPERD, Johnson Basketball Test Battery, SAI Test Battery, Knox Test
- 5.3 Evaluation of team performance – observation techniques, statistical techniques, scouting charts

PRACTICAL

1. General and specific warm up
2. Teaching fundamental skills
3. Drills to develop fundamental skills
4. Drills for defense and offense system
5. Preparing and taking lesson plans for above
6. One on one measurement, development and evaluation of motor components
7. Preparing training load and schedule for basketball players

8. Executing : Fitness test, Knowledge test, Specific skill test
9. Organizing Basketball tournaments.

REFERENCES

Basket Ball

- Ambler, V., How to Play Basket Ball, Delhi: Paper Balls, 1984.
- Jain, Naveen Play and Learn Basket Ball, Khel Sahitya Kendra, New Delhi-2003
- Nat B. B Conditioning Coaches Association, NBA Power Conditioning, Human Kinetics, 1997
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- Thani, Yograj, Coaching Successfully Basket Ball, Sports Publisher, Delhi-2002

GAME OF SPECIALIZATION – CRICKET**UNIT-I****INTRODUCTION**

- 1.1 Historical development of cricket at international and national level
- 1.2 Modern trends and developments in cricket
- 1.3 Organization of cricket at international and national level
BCCI, ICC, DDCA, MCG, NCA etc.
- 1.4 Organizational setup and constitution of cricket and state bodies

UNIT-II**RULES AND THEIR INTERPRETATIONS**

- 2.1 Latest rules and their interpretations
- 2.2 Evaluation of players' performance during matches
- 2.3 Video-analysis of skills and techniques, importance of a third umpire
- 2.4 Assessment of prospective opponents

UNIT-III**PREPARATION AND TRAINING**

- 3.1 Prerequisites of preparation and training
 - Theory of cricket training process
 - General and specific warming up and cooling down (specific exercises for cricketers), Principles of warming up and cooling down and their effects
- 3.2 Basic skills and techniques
 - Batting - forward defense, backward defense, all types of drives, glance, cut, pull, and sweep
 - Bowling - medium pace, leg spin, off spin and their improvisation
 - Fielding - catching, ground fielding, close and deep fielding
 - Wicket keeping
 - Drills for skills development (any five)
- 3.3 Lead-up games for beginners in cricket, Teaching of cricket skill - preparing a lesson plan
- 3.4 Development of motor components with specific reference to cricket, Specific training methods for different positions (slip catching, close fielding, fast bowling)
- 3.5 Development of cricket specific fitness components

UNIT-IV**ORGANIZATION**

- 4.1 Selection of a team and conduct of a camp
- 4.2 Short-term and long-term planning Playfield technology - planning, construction and maintenance of the cricket field
- 4.3 Conduct of a Tournament, short term and long term planning for organization of a competition
- 4.4 Report writing, photography, analysis and commentary

UNIT-V**MEASUREMENT AND EVALUATION**

- 5.1 Fitness tests - Fitness tests- AAHPER Youth Fitness Test, AAHPHER Health Related Fitness Test, Fleishman Physical fitness test, National Physical Efficiency Test, Indiana Motar Fitness Test
- 5.2 Skill tests – beep test, running between the wickets, different kinds of catches and throw
- 5.3 Evaluation of team performance – observation techniques, statistical techniques, scouting charts

PRACTICALS

1. General & specific warming-up
2. Training means for development of different components of physical & motor fitness
 - (a) Speed
 - (b) Strength
 - (c) Endurance
 - (d) Flexibility
 - (e) Coordination
 - (f) Core stability

- (g) Agility
3. Game officiating
4. Advancement of different techniques, organize intramurals in the institution, organizing camping, scouting & giving commentary, coaching lesson-5 (five) Internal lessons.

REFERENCES

Cricket

- Aibara, E.B., Cricket, Delhi: National Museum, 1993.
- Amarnath, Mohinder, Learn to Play Good Cricket, ND: Ubspd, 1996.
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- Thasi, Y. [ed.], The Encyclopedia of Cricket, New Delhi, 1991.
- Vic Marks, The Test Country Cricket Board Guide to Better Cricket, London, 1987.
- Willis, Cricket, India, 1987.

GAME OF SPECIALIZATION – FOOTBALL

UNIT-I

INTRODUCTION

- 1.1 Historical development of football at international and national level
- 1.2 Modern trends and developments in football
- 1.3 Organization of FIFA and the confederations
- 1.4 The congress, the board of administration, executive committee, the international commissions, the permanent secretariat, the continental confederations, the internal auditors
- 1.5 Organization and constitution of AFFI and state bodies

UNIT-II

RULES AND THEIR INTERPRETATIONS

- 2.1 Latest rules and their interpretations
- 2.2 Officiating- Evaluation of player's performance during matches , Video analysis of skills and techniques , Assessment of prospective opponents
- 2.3 Duties and responsibilities of officials
- 2.4 Mechanism of officiating and scoring

UNIT-III

PREPARATION AND TRAINING

- 3.1 Prerequisites of preparation and training
 - Theory of football training process
 - General and specific warming - up and cooling down (specific exercises for football)
 - Principles of warming up and cooling down and their effects
- 3.2 Basic skills and techniques
 - Kicking
 - Receiving
 - Heading
 - Dribbling
 - Pyramid system – swiss bolt, three back system, 4-2-4 formation
 - Goal-keeping
 - Preparation, pre-contact movement, contact
 - Teaching progression
 - Coaching points
 - Tactical application
 - Drills for skill - development (any five)
- 3.3 The field defense – general characteristics, teaching progression and coaching tips, position specific and other defense drills, Lead - up games for beginners in football, Teaching of football skill - preparing a lesson plan
- 3.4 Development of motor components with specific reference to football, Specific training methods for different positions
- 3.5 Development of football specific fitness components

UNIT-IV

ORGANIZATION

- 4.1 Organisation-Selection of a team and conduct of a camp
- 4.2 Playfield technology - planning, construction and maintenance of football field
- 4.3 Conduct of a tournament.
- 4.4 Short-term and long-term planning for organization of a competition, Report writing.
- 4.5 photography, analysis and commentary

UNIT-V

MEASUREMENT AND EVALUATION

- 5.1 Fitness tests - AAHPER Youth Fitness Test, Fleishman Physical fitness test, Indiana Motar Fitness Test
- 5.2 Skill tests – Mcdonald test, Mitchell – SAI Football Test.
- 5.3 Evaluation of team performance – observation techniques, statistical techniques, scouting charts

PRACTICAL

Advanced movements with the ball

1. Kicking – basic action, requirement, classification and types of kicking
2. Receiving – with the feet, legs, inside the foot, outside and sole, thigh, stomach, abdomen and chest
3. Heading – types of heading, surface of impact, proper movements
4. Dribbling and shooting– types of skills
5. Goal keeping – receiving the ball on floor and in the air, diving skills, punching the ball
6. Applied tactics of defense – positioning by a defender, defensive attacker, interchanging of position
7. Attacking tactics- shooting and heading at goal, place changing, special method-attack with two center forward
8. Refining of skills
 - Kicking
 - Receiving
 - Heading
 - Dribbling
 - Tackling
 - Goal keeping
- 9 Taking advantage of offside rule - attack and defense
- 10 Match officiating
 - Referee
 - Linesmen
 - Table officials
 - Play field preparation guide/organizer

REFERENCES

Football

- Lau, S.K., Encyclopedia of Football, Delhi : Sport Pub., 1995.
- N. Kumar, Play and Learn Football, New Delhi : K.S.K, 2003.
- Reilly, T., Science and Football, London: E.N. Sport Ltd., 1988.
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- Williams, J., The Roots of Football, London, 1988.
- Wirhed, R., Training to Win Football, Europ : Wolfe Pub., 1992.

GAME OF SPECIALIZATION – GYMNASTICS**UNIT-I****HISTORICAL DEVELOPMENT OF GYMNASTICS**

- 1.1 Origin and development of gymnastics in India and Asia
- 1.2 Structure and function of FIG, GFI, AGU, AIU
- 1.3 Planning And Periodization Of Training In Gymnastics-Planning, Annual plan, Long term plan – aims and contents of training methods and means of training
 - Periodisation of training for different events
 - Single Periodisation
 - Double Periodisation
 - Multi Periodisation
- 1.4 Aims and contents of trainings in various periods, Elements in different periods

UNIT-II**PRE-REQUISITES OF A GOOD GYMNASTICS COACH AND A GOOD GYMNAST**

- 2.1 Gymnastics coach
 - a. Qualifications, qualities and abilities
 - b. Personality profiles of a gymnastics coach
- 2.2 Gymnast
 - a. Kinanthropometrical demands (physique, body composition, somatotypes of men and women gymnasts)
 - b. Conditional and coordinative abilities
 - c. Psycho-social abilities
- 2.3 Knowing gymnastics terminology
 - a. Definition and principles of terminology
 - b. Methods of naming various gymnastics terms
 - c. Names and definition of some basic positions and movements
 - d. Principles of teaching, coaching and training of gymnastics movements on apparatus

UNIT-III**DEVELOPMENT, MEASUREMENT AND EVALUATION OF MOTOR ABILITIES**

- 3.1 Role of various motor abilities in gymnastics
- 3.2 Means and methods of developing general motor abilities and their evaluation
- 3.3 Means and methods of developing specific motor abilities and their evaluation
- 3.4 Schedule Of Training And Planning For Competition - Training schedules
 - Daily schedules
 - Weekly schedules
 - Monthly schedules
- 3.5 Planning for competition
 - Meaning and concept
 - Preparation for competition schedule
 - Order of events
 - Sequence of gymnast

UNIT-IV**SAFETY MEASURES IN GYMNASTICS**

- 4.1 Supporting techniques and their methods
- 4.2 Security – means and methods
- 4.3 Self security methods
- 4.4 Causes, prevention and remedies of injuries in gymnastics

UNIT-V**THEORY OF VARIOUS FORMS OF GYMNASTICS**

- 5.1 Rhythmic gymnastics : (i) basic exercises (throw, catch, jumps, turns, waves & balance); and (ii) combination
- 5.2 Physical fitness in gymnastics : (i) through free hand exercises; (ii) through apparatus i.e., medicine ball, skipping rope, wall bars, gymnastics bench, free weights, dumbbells, multi gym, rope climbing, modern fitness equipment (treadmill, elliptical upright and recumbent bikes etc.)
- 5.3 Trampoline gymnastics : (i) jumps, (ii) somersaults (forward), (iii) twists/turns on small trampoline

PRACTICALS

1. Rhythmic gymnastics : (i) basic exercises (throw, catch, jumps, turns, waves & balance); and (ii) combination
2. Physical fitness in gymnastics : (i) Free hand exercises; (ii) Use of apparatus - Medicine ball, skipping rope, wall bars, gymnastics bench, free weights, dumbbells, multi gym, rope climbing, modern fitness equipment (treadmill, elliptical upright and recumbent bikes etc.)
3. Trampoline gymnastics : (i) jumps, (ii) somersaults (forward), (iii) twists/turns on small trampoline
4. Visit to the gymnastics centre

REFERENCES

Gymnastics

- Chakraborty, S. and Sharma, Lalit, Fundamental of Gymnastics, New Delhi: D.V.S. Pub., 1995.
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GAME OF SPECIALIZATION – HANDBALL**UNIT-I****INTRODUCTION**

- 1.1 Historical development of handball at international and national level
- 1.2 Modern trends and developments in handball
- 1.3 Organization of AHFI
- 1.4 The congress, the board of administration, executive committee, the international commissions, the permanent secretariat, the continental confederations, the internal Auditors
- 1.5 Organization and & constitutions of HFI and state bodies, organization.

UNIT-II**RULES AND THEIR INTERPRETATIONS**

- 2.1 Latest rules and their Interpretations
- 2.2 Match Analysis-Evaluation of players performance during matches, Video analysis of skills and techniques,
- 2.3 Assessment of prospective opponents.
- 2.4 Duties and responsibilities of officials
- 2.5 Mechanism of officiating and scoring

UNIT-III**PREPARATION AND TRAINING**

- 3.1 Prerequisites of preparation and training
 - Theory of handball training process
 - General and specific warming up and cooling down (specific exercises for handball), Principles of warming up and cooling down and their effects
- 3.2 Basic Skills And Techniques
 - Catching – chest level, head and reaching height, side, below waist, one hand, in air
 - Passing – straight shoot pass (with and without blocking), underhand, wrist, push and bounce
 - Shooting (throw on goal) - straight shot with variation, jump shot with variation, jump shot long (near shot zone)
 - Jump shot (long shot zone), penalty shot (7 m.), jump fall shot, side straight shot, back flick, lob
 - Dribbling – high and low
 - Feints – system of feints, play round and off, offensive and defensive
 - Goal keeper
 - Preparation, pre-contact movement, contact
 - Teaching progression
 - Coaching points
 - Tactical application
 - Drills for skill development (Any Five)
- 3.3 The Court Defense – general characteristics, teaching progression and coaching tips, position specific and other defense drills, Lead - up games for beginners in handball, Teaching of handball skill - preparing a lesson plan.
- 3.4 Development of motor components with specific reference to handball, Specific training methods for different positions
- 3.5 Development of handball specific fitness components

UNIT-IV**ORGANIZATION**

- 4.1 Selection of a team and conduct of a camp.
- 4.2 Playfield technology planning, construction and maintenance of the handball court,
- 4.3 Conduct of a tournament,
- 4.4 Short term and long term planning for organisation of a competition,
- 4.5 Report writing, photography, analysis and commentary

UNIT-V**MEASUREMENT AND EVALUATION**

- 5.1 Fitness tests - Fitness tests- AAHPER Youth Fitness Test, AAHPER Health Related Fitness Test, Fleishman Physical fitness test, National Physical Efficiency Test, Indiana Motar Fitness Test

5.2 Skill tests – Cornish Handball Test

5.3 Evaluation of team performance – observation techniques, statistical techniques, scouting charts

REFERENCES

Handball

- Jain, D., Play & Learn Handball, New Delhi, Khel Sahitya Kendra, 2003.
- Kumar Ashok, Handball, New Delhi, Discovery Publishing House, 1999.
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GAMES OF SPECIALIZATION – HOCKEY

UNIT-I

INTRODUCTION

- 1.1 Historical development of hockey at international and national level
- 1.2 Modern trends and developments in hockey
- 1.3 Organizational setup of IHF
 - The congress, the board of administration, executive committee, the international commissions, the permanent secretariat, the continental confederations, the internal auditors
- 1.4 Organizational setup and constitution of HFI and state bodies

UNIT-II

RULES AND THEIR INTERPRETATIONS

- 2.1 Latest rules, and their interpretations
- 2.2 Duties and responsibilities of officials
- 2.3 Mechanism of officiating and scoring
- 2.4 Match Analysis-Evaluation of player performance during matches
- 2.5 Video - analysis of skills and techniques, Assessment of prospective opponents

UNIT-III

PREPARATION AND TRAINING

- 3.1 Prerequisites of preparation and training
 - Theory of training process in hockey, General and specific warming up and cooling down (specific exercises for hockey), Principles of warming-up and cooling down and their effects
- 3.2 Basic skills and techniques
 - Hitting
 - Passing
 - Dribbling
 - Scoop
 - Bully
 - Grip
 - Flicking
 - Goalkeeping
 - Preparation, pre-contact movement, contact
 - Teaching progression
 - Coaching Points
 - Tactical application
 - Drills for skill development (any five)
- 3.3 The Field Defense – general characteristics, teaching progression and coaching tips, position specific and other defense drills, Lead - up games for beginners, Teaching of hockey skill - preparing a lesson plan.
- 3.4 Development of motor components with specific reference to hockey, Specific training methods for different positions
- 3.5 Development of hockey specific fitness components

UNIT-IV

ORGANIZATION

- 4.1 Organisation-Selection of a team and conduct of a camp,
- 4.2 Playfield technology - planning, construction and maintenance of a hockey field,
- 4.3 Conduct of a tournament,
- 4.4 Short term and long term - planning for content of a competition,
- 4.5 Report writing, photography, analysis and commentary

UNIT-V

MEASUREMENT AND EVALUATION

- 5.1 Fitness tests - Fitness tests- AAHPER Youth Fitness Test, AAHPER Health Related Fitness Test, Fleishman Physical fitness test, National Physical Efficiency Test, Indiana Motar Fitness Test
- 5.2 Skill Tests – Schmithal's French Field Test, Freidel Field Test.
- 5.3 Evaluation of team performance – observation techniques, statistical techniques, scouting charts

PRACTICALS

1. Hitting – basic action, requirement, classification
2. Receiving
3. Dribbling and shooting– types of skills
4. Goal keeping – receiving the ball on floor and air, diving skills, punching the ball
5. Grip
6. Beating an opponent or dodging
7. Ball passing and tackling
8. Applied tactics of defense – positioning by a defender, defensive attacker, interchanging of position
9. Attacking tactics - shooting and heading at goal, place changing, special method-attack with two centre forward
10. Refining of skills
 - a. Kicking
 - b. Receiving
 - c. Heading
 - d. Dribbling
 - e. Tackling
 - f. Goal - keeping
11. Taking advantage of offside rule - attack and defense
12. Match officiating
 - a. Referee
 - b. Linesmen
 - c. Table Officials
 - d. Play field preparation guide / organizer

REFERENCES

Hockey

- Dubey, H.C. Hockey, New Delhi, Discovery Publishing House, 1999
- International Hockey Federation, Rules of the Game of Hockey with Guidance for Players and Umpires. India, International Hockey Federation, 2003.
- Jain, D., Hockey Skills & Rules New Delhi, khel Sahitya Kendra, 2003.
- Narang, P., Play & Learn Hockey, Khel Sahitya Kendra, New Delhi, 2003
- Thani Yograj., Coaching Successfully Hockey, Delhi, Sports Publication, 2002.

GAME OF SPECIALIZATION – JUDO**UNIT-I INTRODUCTION TO JUDO**

- 1.1 Origin, historical perspectives, development in India and World, modern trends
- 1.2 Structure and function of Judo Federation of India (JFI), International Judo Federation (IJF)
- 1.3 Fundamentals
- 1.4 Technique classification and tactics
- 1.5 Rules, Regulations And Interpretations-Specified by the Judo Federation of India, Specified by the International Judo Federation, Latest changes and developments in rules and regulations, techniques and tactics, officiating and coaching etc.

UNIT-II TECHNICAL PREPARATION FOR JUDO

- 2.1 Required motor abilities
- 2.2 Technical preparation and grading system
- 2.3 Competition area, equipments etc.
- 2.4 Physical, physiological and psychological preparation
- 2.5 Officiating And Coaching-Qualifications, qualities and responsibilities of a coach, philosophy of coaching, Qualifications and responsibilities/functions of technical officials, Protocols of referees, judges, technical officials, Role of sport psychologists, sport physiotherapists, fitness trainers and doctors

UNIT-III SYSTEMATIZATION OF TRAINING PROCESS AND SAFETY MEASURES

- 3.1 Systematizing training process for players – warming-up, cooling-down, supplementary exercises, basic skills, weight-training, circuit-training
- 3.2 Training for beginners, Training for intermediate players, Training for high performers
- 3.3 Prevention of injuries Causes and remedies of injuries in judo and safety measures
- 3.4 First-aid, treatment and management of injured athletes
- 3.5 Physiotherapy, rehabilitation, massage and fitness management

UNIT-V DIET, NUTRITION AND SPORTS PERFORMANCE

- 5.1 Meaning, definition, classification and components of nutrition
- 5.2 Energy requirements of Judokas
- 5.3 Nutritional guidelines for Judokas : pre, during and post competition phases
- 5.4 Nutritional supplements, special diet and ergogenic aids : pre, during and post competition phases

PRACTICAL

1. Warming-up (general and specific), cooling down, supplementary and stretching exercises
2. Demonstration of judo techniques
3. Variations and combination of judo techniques
4. Training of fundamentals of judo
5. Visit to a Judo Centre
6. Planning for competitions
7. Organisation of a competition/seminar/workshop/clinic

REFERENCES**Judo**

- Caffary, B., Skilful Judo, London : A & C Black, 1992.
- Dando, J., Play The Game Judo, Great Britain: Blandford, 1994.
- Harrison, E.J., Coaching Successfully Judo, Delhi: Sports, 2002.
- Harrison, J., Teaching & Coaching Judo, New Delhi: Sport Pub., 1998.
- Holme, P., Get to Gripe With Judo, London: Blandford, 1995.
- Holme, Peter, Competition Judo, London: Ward Lock, 1996.
- Jain, D., Play and Learn Judo, New Delhi: Khel Sahitaya Kendra, 2003.
- Kumar, Mukesh, Action Judo, Delhi: Sport Publication, 1994.
- Marwood, D., Critical Judo, New Delhi: A.I.T.B.S. Pub., 1995.

GAMES OF SPECIALIZATION - KABADDI

UNIT-I

INTRODUCTION

- 1.1 Historical development of Kabaddi at Asian and national level
- 1.2 Modern trends and developments in Kabaddi
- 1.3 Organization of KFI and affiliated units
- 1.4 The congress, the board of administration, executive committee, the Asian commissions, the permanent secretariat, the internal auditors

UNIT-II

RULES AND THEIR INTERPRETATIONS

- 2.1 Latest rules and their Interpretations
- 2.2 Duties and responsibilities of officials
- 2.3 Mechanism of officiating and scoring
- 2.4 Match analysis- Evaluation of players performance during matches , Video analysis of skills and techniques,
- 2.5 Assessment of prospective opponents

UNIT-III

PREPARATION AND TRAINING

- 3.1 Prerequisites of preparation and training
 - Theory of Kabaddi training process
 - General and specific warming up and cooling down (specific exercises for Kabaddi)
- 3.2 Principles of warming up and cooling down and their effects, Basic skills and techniques
 - Raid – mule kick, corner chain break, shoulder jumping
 - Catching – ankle hold, waist hold, chain formations
 - Bonus
 - Preparation, pre-contact movement, contact
 - Teaching progression
 - Coaching points
 - Tactical application
 - Drills for skill development (any five)
- 3.3 The court defense – general characteristics, teaching progression and coaching tips, position specific and other defense drills, Lead-up games for beginners in Kabaddi , Teaching of Kabaddi skill - preparing a lesson plan
- 3.4 Development of motor components with specific reference to Kabaddi, Specific training methods for different positions
- 3.5 Development of Kabaddi specific fitness components

UNIT-IV

ORGANIZATION

- 4.1 Organisation- Selection of a team and conduct of a camp,
- 4.2 Playfield technology planning, construction and maintenance of Kabaddi court ,
- 4.3 Conduct of a tournament,
- 4.4 Short-term and long - term planning for organization of a competition,
- 4.5 Report writing, photography, analysis and commentary

UNIT-V

MEASUREMENT AND EVALUATION

- 5.1 Fitness tests - AAHPER Youth Fitness Test, Fleishman Physical fitness test, Indiana Motar Fitness Test
- 5.2 Skill tests -
- 5.3 Evaluation of team performance – observation techniques, statistical techniques, scouting charts

REFERENCES

Kabaddi

- Rao, C. V., Kabaddi, New Delhi: Oxford Press, 1982.
- Rao, E.P., Modern Coaching in Kabaddi, D.V.S.Pub, 1994.
- Rao, C.V., Kabaddi; Native Indian Sports, Patiala Nis Publisher, 1983.

GAME OF SPECIALIZATION - KHO-KHO**UNIT-I****INTRODUCTION**

- 1.1 Historical development of Kho-kho at national level
- 1.2 Modern trends and developments in Kho-kho
- 1.3 Organization of KKFI and the confederations
- 1.4 The congress, the board of administration, executive committee, the permanent secretariat, the internal auditors

UNIT-II**RULES AND THEIR INTERPRETATIONS**

- 2.1 Latest Rules, and their Interpretations
- 2.2 Match analysis- Evaluation of player's performance during matches, Video analysis of skills and techniques, Assessment of prospective opponents

UNIT-III**PREPARATION AND TRAINING**

- 3.1 Prerequisites of preparation and training
 - Theory of Kho-kho training process
 - General & specific warming up and cooling down (specific exercises for Kho-kho), Principles of warming up and cooling down and their effects,
- 3.2 Basic skills and techniques
 - Running – chain game - single chain, double chain 3-3-2
 - Feint
 - Dosing
 - Oval
 - Chasing – pole dive – sitting, running, fake and pole dive
 - Sitting and block
 - Dive – air dive, sitting dive, flat dive
- 3.3 Preparation, pre-contact movement, contact, Teaching progression, Coaching points, Tactical application, Drills for skill development (any five), The court defense – general characteristics, teaching progression and coaching tips, position specific and other defense drills, Lead - up games for beginners in Kho-kho, Teaching of Kho-kho skill - preparing a lesson plan
- 3.4 Development of motor components with specific reference to Kho-kho, Specific training methods for different positions
- 3.5 Development of Kho-kho specific fitness components

UNIT-IV**ORGANIZATION**

- 4.1 Organization and constitution of KKFI and Affiliated Units, Organisation- Selection of a team and conduct of a camp,
- 4.2 Playfield technology planning, construction and maintenance of Kho-kho court,
- 4.3 Conduct of a tournament,
- 4.4 Short-term and long-term planning for organization of a competition,
- 4.5 Report writing, photography, analysis and commentary

UNIT-V**MEASUREMENT AND EVALUATION**

- 5.1 Fitness tests - AAHPER Youth Fitness Test, Barrow General Motor Ability Test.
- 5.2 Skill tests -
- 5.3 Evaluation of team performance – observation techniques, statistical techniques, scouting charts

REFERENCES**Kho-Kho**

- Chakrabarty, G., Kho - Kho Aveloken, Delhi, Khel Sahitya Kendra, 2002.
- Panday, L., Kho - Kho Sarvaswa, New Delhi Metropolitan, 1982.

GAME OF SPECIALIZATION – TABLE TENNIS

UNIT-I HISTORICAL DEVELOPMENT AND MODERN TRENDS IN TABLE TENNIS

- 1.1 Origin, historical perspectives and modern trends & development of Table Tennis
- 1.2 Structure and function of Table Tennis Federation of India (TTFI), International Table Tennis Federation (ITTF) and other associations
- 1.3 Rules, Regulations and Interpretations as specified by the Table Tennis Federation of India (TTFI), As per the International Table Tennis Federation (ITTF), Latest developments, Latest amendments, Interpretations
- 1.4 Officiating : Duties/responsibilities, qualifications and qualities of a coach,
- 1.5 Qualifications and responsibilities/functions of technical officials, Protocols of referees, judges, umpires,

UNIT-II TECHNICAL PREPARATION FOR TABLE TENNIS

- 2.1 Training of motor components, Technical preparation – reflexes, perceptual sense, neuro-muscular coordination
- 2.2 Orientation of the fundamental skills, Techniques and tactics, Individual and game strategies
- 2.3 Construction and maintenance of Table Tennis hall, equipments etc.
- 2.4 Physical, physiological & Psychological preparation
- 2.5 Coaching : Philosophy of coaching, Role of sports psychologists, sports physiotherapists and fitness trainers

UNIT-III SYSTEMATIZATION OF TRAINING PROCESS AND SAFETY MEASURES

- 3.1 Systematizing training process for Table Tennis players – general warming-up, specific warming-up and cooling-down
- 3.2 Supplementary exercises, basic skills, weight-training and circuit-training
- 3.3 Training for beginners, Training for intermediate players - advanced sportspersons, Training for seniors - high performance sportspersons
- 3.4 Prevention of injuries, Specific injuries in Table Tennis and their causes, Management of injuries
- 3.5 Safety measures & Rehabilitation of injured players

UNIT-IV ORGANISATION OF THE COMPETITION

- 4.1 Planning for the competition
- 4.2 Selection of men, material and management
- 4.3 Concluding the competition – submission of accounts, preparing report
- 4.4 Protocols and ceremonies

UNIT-V DIET, NUTRITION AND SPORTS PERFORMANCE

- 5.1 Meaning, definition, classification and components of nutrition
- 5.2 Energy requirements of Table Tennis players
- 5.3 Nutritional requirements of Table Tennis players : pre, during and post competition phases
- 5.4 Minerals
- 5.5 Sports drinks : pre, during and post competition

PRACTICALS

1. Demonstration of skills
2. Warming-up (general and specific), cooling down, and supplementary exercises
3. Training for foot work
4. Shadow practice and pressure training
5. Visit to a place where the facilities of Table Tennis exist
6. Planning for competitions
7. Organization of a competition/seminar/workshop/clinic

REFERENCES

Table Tennis

- Jain, Deepak, Teaching and Coaching -Table Tennis, Delhi : Khel Sahitaya Kendra, 2001.
- Narang, P., Play & Learn Table Tennis, Khel Sahitaya Kendra, 2005.
- Parker, D., Take Up Table Tennis, Springfield Books Ltd., 1989.
- Simpson, Peter, Successful Table Tennis, London: Charles Letts, 1980.
- Taylor, R., Sports Action-Table Tennis, London, 1989.
- Thani, Lokesh, Skills and Tactics Table Tennis, Delhi: Sports, 1998.

GAME OF SPECIALIZATION – VOLLEYBALL

UNIT-I

INTRODUCTION

- 1.1 Historical development of Volleyball at international and national level
- 1.2 Modern trends and developments in volleyball
- 1.3 Organization of FIVB and the confederation
- 1.4 The congress, the board of administration, executive committee, the international commissions, the Permanent Secretariat, the continental confederations, the internal auditors
- 1.5 Organization and constitution of VFI and state bodies

UNIT-II

RULES AND THEIR INTERPRETATIONS

- 2.1 Latest rules, and their interpretations
- 2.2 Duties and responsibilities of officials
- 2.3 Mechanism of officiating and scoring
- 2.4 Match analysis- Evaluation of player's performance during matches, Video analysis of skills and techniques,
- 2.5 Assessment of prospective opponents

UNIT-III

PREPARATION AND TRAINING

- 3.1 Prerequisites of preparation and training
 - Theory of volleyball training process
 - General and specific warming up and cooling down (specific exercises for volleyball)
 - Principles of warming up and cooling down and their effects
- 3.2 Basic skills and techniques
 - The serve – underhand, tennis, jump and serve, overhead float
 - Forearm passing
 - Overhead passing
 - Spiking / attack
 - Blocking
 - Preparation, pre-contact movement, contact
 - Teaching progression
 - Coaching points
 - Tactical application
 - Drills for skill development (any five)
- 3.3 The court defense – general characteristics, teaching progression and coaching tips, position specific and other defense drills, Lead - up games for beginners in volleyball, Teaching of volleyball skill - preparing a lesson plan
- 3.4 Development of motor components with specific reference to volleyball, Specific training methods for different positions
- 3.5 Development of volleyball specific fitness components

UNIT-IV

ORGANIZATION

- 4.1 Organisation- Selection of a team and conduct of a camp,
- 4.2 Playfield technology - planning, construction and maintenance of the Volleyball court
- 4.3 Conduct of a tournament,
- 4.4 Short-term and long-term planning for organization of a competition,
- 4.5 Report writing, photography, analysis and commentary

UNIT-V

MEASUREMENT AND EVALUATION

- 5.1 Fitness tests - AAHPER Youth Fitness Test, Indiana Motar Fitness Test, Philips JCR Test
- 5.2 Skill Tests – AAHPER, Russell-Lange, Brady's Volleyball Test
- 5.3 Evaluation of team performance – observation techniques, statistical techniques, scouting charts

REFERENCES

Volley Ball

- American.... Program, Coaching Youth Volley Ball, Campaign, H.K., 1996.
- FIVB, Backcourt Spiking in Modern Volley Ball, Chennai : FIVB, 1996.
- Saggar, S.K., Cosco Skills Stactics - Volley Ball, Delhi : Sport Publication, 1994.
- Scates, A.E., Winning Volley Ball, WC Brown, 1993.

GAME OF SPECIALIZATION – YOGA

UNIT-I INTRODUCTION TO YOGA :

- 1.1 Meaning, definition and scope of yoga, limitations and misconceptions, importance of yoga in education and other fields
- 1.2 Rules and regulations for yoga championships : State, national, international, SGFI, AIU.

UNIT-II PHILOSOPHICAL FOUNDATIONS OF YOGA :

- 2.1 Pre-vedic and Vedic period; upnishada, sutra period, patanjali yoga sutra; hatha yoga tantra
- 2.2 Officiating and coaching - Qualifications, qualities and responsibilities of a coach, Duties/responsibilities of technical official, Scoring system and judgment criteria, Protocols for referees, judges and officials

UNIT-III SYSTEMATIZATION OF TRAINING PROCESS & PREPARATION FOR COMPETITION AND SAFETY MEASURES :

:

- 3.1 *Asanas* : padmasana, vajrasana, sidhasana, paschimottanasa, halasana, sarvangasana, shalabhasana, ardh-matsyendrasana, bhujangasana, tadasana, vrikshasana, matsyasana, gomukhasana, ushtasana, shavasana, makarasana, vrishchikasana, dhanurasana, purna matsyendrasana, chakrasana, vatyayanasana, ek pad sikandasana, bakasana, mayurasana, shirshasana
- 3.2 *Pranayam* : anulom-vilom, bhasrika, naddi shodhan, sheetal, sheetkari, bhrumari, ujjayi
- 3.3 *Shatkarma* : neti, dhauti, nauli, basti, kunj, kapal bhati, shankh prakshalana
- 3.4 *Bandhas* : jalandhar, uddyana, mool bandha
- 3.5 Environment, Costume and dress, Systematic preparation for competition, sequence, Causes and remedies of injuries, physiotherapy, rehabilitation and massage

UNIT-III ORGANISATION OF YOGA COMPETITION :

- 4.1 Structure and organisation of yoga competition
- 4.2 Preparation, execution and closing of the competition
- 4.3 Protocols and ceremonies

UNIT-V SPORTS NUTRITION

- 5.1 Meaning, definition, classification and components of nutrition, nutrients
- 5.2 Yogic diet
- 5.3 Role of fluids - sports drinks & minerals etc. : pre, during and post competition

PRACTICALS

1. Prayer
2. Asanas, pranayama, shatkarma, bandha (as mentioned in theory)
3. Yoga-nidra/relaxation techniques
4. Visit to yoga centre
5. Planning for a Yoga competition
6. Organisation of a Yoga competition
7. Project on researches in Yoga
8. Officiating in Yoga competitions

REFERENCES

Yoga

- Anand, Omprakash. Yog Dawra Kaya Kalp, Kanpur, Sewasth Sahitya Perakashan, 2001.
- Sarin, N., Yoga Dawara Ragoon Ka Upchhar, Khel Sahitya Kendra, 2003.
- Sri, Swami Rama, Breathing, Rishikesh, Sadhana Mandir Trust, 2001.
- Swami, Ram., Yoga & Married Life, Rishikesh Sadhana Mandir Trust, 2000.
- Swami, Veda Bharti., Yoga, Polity, Economy and Family, Rishikesh Sadhana Mandir Trust, 2000.

SUBJECT SPECIALIZATION

COURSE DESCRIPTION: The course provides an introduction to neuromuscular concepts, energy metabolism and hormonal control that occur in response to exercise. Emphasis is placed on the cardio respiratory responses to exercise, environmental aspects of work performance, Special Population in exercise, optimizing performance and principles of exercise testing and prescription for the sedentary class and sports men. The course prepares students for teaching, training and research in exercise physiology.

COURSE OBJECTIVES:

1. To understand the physiology of the neuromuscular response to exercise
2. To analyse the acute and chronic adaptation to exercise by various systems.
3. To explore the environmental considerations during work/ performance
4. To gain an understanding of role of exercise for Special Population
5. To understand the method of exercise testing and prescription for the sedentary class
6. To acquire knowledge of the protocols of physiological sport specific testing of players.
7. To learn the various aspects that contribute in optimizing fitness and performance
8. To gain lab experience that shall enforce and expand concepts addressed in the course.

SUBJECT SPECIALIZATION -EXERCISE PHYSIOLOGY

UNIT-I PHYSIOLOGY OF EXERCISING MUSCLE

- 1.1 (a) **Structure and function of muscles:** microscopic structure of the myofibril and contractile mechanism, chemical composition, molecular basis of contraction of skeletal muscle, fuel for muscular work.
- (b) **Neural control of exercising muscle:** - acute response and chronic adaptation, neuron, motor unit, neuromuscular junction, neuron –neural nerve to nerve synapse junction neural transmission and motor response
- 1.2 **Fuel for Exercising Muscle: Metabolism and its physiological adaptation**
Metabolism and Bioenergetics
- (a) Aerobic and anaerobic components of physical activities/ sports
- (b) Primary energy scale.
- Metabolic adaptation to training**
- (a) Metabolic adaptation to endurance training
- (b) Metabolic adaptation to strength /speed training

UNIT-II EXERCISE TRAINING

- 2.1 **Principles of Exercise Training:**
- General training principles
 - Overtraining, detraining, retention of training effects.
 - Resistance training program
 - Aerobic and anaerobic training program
 - Role of Slow Twitch Fibre and Fast Twitch Fibre in sports.
- 2.2 **Acute Response and Chronic Adaptation of the;**
- Cardiovascular System
 - Respiratory System
 - Musculo-skeletal system and other systems

UNIT-III PRESCRIPTION OF EXERCISE FOR HEALTH AND FITNESS

- 3.1 **Prerequisites for Exercise Prescription**
- Medical Clearance
 - Stop test indicators
 - Health Appraisal flow chart
 - Administrative guidelines for pre-testing situation
- 3.2 **Formulation and guidelines of Exercise Program**
- Consent form
 - Steps for program formulation
 - Rationale for formulating an individualized exercise program
 - Protocol Guidelines
 - Monitoring exercise intensity
 - Administrative guidelines for testing situation

UNIT-IV MUSCULAR FLEXIBILITY

- 4.1 **Muscular flexibility for fitness and preventive health care**
- Importance of flexibility for sedentary, normal and active people
 - Factor affecting flexibility
 - Assessment of flexibility (lab and field methods)
 - Methods of developing flexibility.

- 4.2 Physiological approach to enhance flexibility.**
- Principles of developing flexibility
 - Preventing and rehabilitating low back pain

UNIT-V PHYSIOLOGY OF HEALTH RELATED AND SKILL RELATED FITNESS .

5.1 Health Related Fitness

- Components
- Benefits
- Development

5.2 Skill-Related Fitness

- Components
- Benefits
- Development.

PRACTICAL:

1. Assessment of resting physiological parameters- Heart rate, respiratory rate and blood pressure.
2. Assessment of flexibility (Lab and Field test)
3. Assessment of cardio respiratory fitness- Harvard step test, Cooper's 12min run/walk.
4. Assessment of skill related fitness components
5. Assessing heart rate response to selected exercise (maximal and sub-maximal).
6. Assessment the steady state of oxygen consumption
7. Assessment anaerobic power. (Sargeant Jump).
8. Use of the Readiness to Exercise Questionnaire (PAR-Q)

REFERENCES

- Hoeger, Werner W.K, Hoegen, Sharon A. Principles and Labs for fitness and wellness. 7thed, Thomson Warsworth, 2004.
- Kang, Jie. Bioenergetics Primer for Exercise Science, Human kinetics, 2008.
- Richardson, Seano, Anderson, Mark B: Overtraining Athletes: Personal Journey in Sports, Human Kinetics 2008
- Wilmore, Jack H and Costill, David L. Physiology of Sports and Exercise, Human kinetics, human kinetics, 1994.
- Wilmore, Jack H and Costill, David L. Kenny W. Physiology of Sports and Exercise, 4thed. Human kinetics, 2008.

SUBJECT SPECIALIZATION - SPORTS BIO-MECHANICS

UNIT – I

THE STUDY AND ANALYSIS OF HUMAN MOVEMENT

Kinesiology and Biomechanics:

Areas of study,

Approaches for studying movement,

Importance of biomechanics in Physical Education and Sports

Research in and out of the Laboratory

INTRODUCTION TO BIOMECHANICS INSTRUMENTATION

Overview of instrumentation and its uses

Clocks and times

Stroboscopy

Cinematography and computer assisted analysis

Videography and computer assisted analysis

Force measuring instrumentation

Accelerometry

Electrogoniometry

Electromyography

Using micro computers for collecting and analyzing data

UNIT-II

LOOKING AT MOVEMENT: SOME MECHANICAL CONCEPTS

Types of motion

Distance and Displacement

Speed, Velocity and uniform acceleration

Acceleration and uniform acceleration

Force and momentum

Pressure

Mass and weight

Gravity

Center of gravity

Work

Power

Energy

Forces and Movement

Forces acting on a system

Reaction forces

Friction force

Centripetal and centripetal forces

Elastic force

Internal and external forces

Motive and Resistive forces

Force diagrams and Vectors

Torque and moment of inertia

The effect of two or more torques on a system

Vector Composition of torque

Torque and the body's center of gravity location

Other Kinetics

Lever, types of levers and their mechanical advantage and disadvantage with special reference to physical education and sports application.

Friction, types of friction and their mechanical advantage and disadvantage with special reference to physical education and sports application.

UNIT-III

BODY BALANCE AND STABILITY CONTROL

Balance

Equilibrium and stability

Controlling balance in static positions

Controlling balance during movement

NEWTONS LAWS OF MOTION

Law of Inertia (Linear Motion)

Law of moment of Inertia (Angular Motion)

Law of Momentum (Linear Motion)

Law of Angular Momentum (Angular Motion)

Law of Action and Reaction (Linear Motion)

Law of Action and Reaction (Angular Motion)

UNIT-IV

OBSERVING AND ANALYZING PERFORMANCE

The Nature of skills

Overall performance objective of skill

The analysis process

Projectile – Related Activities

Properties of motion related to projecting for vertical distance

Projecting for vertical distance with a horizontal component

Projecting for horizontal distance

Projecting for accuracy

Principles derived from Projectile Motion

FLUID FORCES

Fluid drag force

Fluid lift force

Application of Arrangement in Sport

Effective of drag on the body and objects in sport

Effects of lift in sport

Lift force produced by spin: The Magnus effect.

Application of Hydrodynamics in Swimming

Buoyancy & flotation

Resistive forces in swimming skills

Propulsive forces in swimming skills

Swimming speed & efficiency

UNIT-V

STRUCTURE OF MOTOR ACTION

Structure of cyclic & acyclic motor action and movement combination

Functional relationship of different phases of motor action

Qualities of Motor Movements

Movement rhythm

Movement coupling

Movement flow

Movement precision

Movement amplitude

Biomechanical principles:

Principles of initial force

Principles of optimum path of acceleration

Principles of conservation of momentum.

Principles of Action and Reaction

PRACTICAL

1. Development of a Velocity time graph from a cinematographically and/video system and/photo specially recorded sprint and / Vertical jump and / analysis movement.
2. Determination of centre of Gravity by Reaction Board Method.
3. Determination of centre of Gravity by Joint- point – method.
4. Determination of centre of Gravity of Main- point method.
5. Determination of combined center of Gravity (joint-point method).
6. Demonstration of the Principle conservation of Angular momentum.
7. Demonstration of Principle of action and reaction.
8. Biomechanical analysis of a given technique. (Qualitative)

REFERENCES

- Atha, J., Current Research in Sports Biomechanics, Switzerland: Karger, 1987.
- Burstein, A.H & Wright, T, M., Fundamental of Orthopaedic Biomechanics, Baltimore : Williams & Wilkins, 1994.
- Gheluwe, B.N. and Atha, J. [Ed], Medicine & Sport Science: Current Research & Sports Biomechanics, London: Karger, 1987.
- Gowitzke, B.A. and Milner, M. Scientific Bases of Human Movement. (3rd. Ed.) Baltimore: Williams and Wilkins, (1988).
- Grabiner, M. D. Current Issues in Biomechanics, New Delhi, 1993.
- Grimshaw, Paul., Lees, Adrian., Flower, Neil.,&Burden, Adrian. Sports and Exercise Biomechanics. Taylor & Francis.
- Groves, R and Camaine, D. Concepts in Kinesiology. (2nd. Ed.). Philadelphia: Saunders College Publishing, (1983).
- Hall, S.J., Basic Biomechanics, London, Mosby, 1991.
- Hay, J. The biomechanics of sport techniques. (2nd. Ed.). Englewood Cliffs: Prentice-Hall, (1978).
- Hay, J. & Reid, J. The Anatomical and Mechanical Bases of Human Motion. Englewood Cliffs: Prentice-Hall, (1982).
- Kreighbaum & Barthels, Biomechanics, NY: Macmillan, 1985.
- Luttegens, Kathryn., Deutsch, Helga., Hamilton, Nancy. Kinesiology-Scientific Basis of Human Motion. 8th Ed, Brown & Bench mark.
- Mood, S.D., Beyond Biomechanics, New York: Taylor, 1996.
- Nordin, M. & Frankel, V. Basic Biomechanics of the Musculoskeletal System, Philadelphia: Lea & Febiger, (1990).
- Northrip, J., Logan, G. & McKinney, W. Analysis of Sport Motion. (3rd. Ed). Dubuque: William C. Brown, (1983).
- Rasch, P. Kinesiology and Applied Anatomy. Philadelphia: Lea & Febiger, (1989).
- Shaw, D. Pedagogic Kinesiology, Khel Sahitya Kendra 2007.
- Shaw, D., Mechanical Basis of Biomechanics, Delhi : Sport Pub., 2000.
- Shaw, D., Mechanical Basis of Biomechanics, London : A&C, 2003.
- Shaw, Dhanonjoy, Kinsiology and Biomechanics of Human Motion, Khel Sahitya Kendra, 1998.
- Thompson, C. Manual of Structural Kinesiology. (10th Ed.). St. Louis: Times Mirror/ Mosby College Publishing, (1985).

SUBJECT SPECIALIZATION - EXERCISE & SPORT PSYCHOLOGY

UNIT- I

INTRODUCTION TO SPORT PSYCHOLOGY

- 1.1 Meaning & scope of sport psychology
- 1.2 Division of sport psychology
- 1.3 Landmarks in the development of exercise and sport psychology
- 1.4 Place of sport psychology in sports sciences hierarchy.
- 1.5 Importance of sport psychology to-
 - Teachers
 - Coaches and trainers
 - Sportspersons
 - Administrators
- 1.6 Methods of sport psychology
 - Observation
 - Introspection
 - Experimental
 - Clinical case study
 - Psychoanalysis
 - Interview
 - Questionnaire

UNIT-II

LEARNING

- 2.1 Concept and meaning of learning
- 2.2 Types of learning
- 2.3 Theories of learning
 - Classical and operant conditioning
 - Information processing
 - Observational learning
- 2.4 Feed back –biofeedback, augmented (teacher) feedback
- 2.5 Motor-skill acquisition and factors affecting it

UNIT-III

GROWTH & DEVELOPMENT

- 3.1 Concept of growth & development
- 3.2 Genetic & environmental influences on growth & development
- 3.3 Physical, mental, social and emotional characteristics of infants, children and adolescents
- 3.4 Ensuring wholesome growth through physical activity

UNIT-IV

MOTIVATION

- 4.1 Meaning and concept of motivation
- 4.2 Theories of motivation : internal process theories - drive, need, optimal arousal, and external process theories - incentive, expectancy theory
- 4.3 Perceived competence
- 4.4 Achievement motivation
- 4.5 Goal-setting in sport

UNIT-V

SENSORY, PERCEPTUAL AND COGNITIVE PROCESS

- 5.1 Meaning and concept of sensory, perceptual and cognitive processes
- 5.2 Theories of cognitive process
- 5.3 Factors affecting perception with special reference to physical activity
- 5.4 Thinking, imagination and memory
- 5.5 Action-regulation - meaning, mechanism, classification and stages

REFERENCES

Psychology

- Aggarwal, J.C., Basic Ideas in Educational Psychology, Delhi: Sipra, 2003.
- Bhatia, Hans Raj, Test Book of Educational Psychology, Delhi: Macmillan, 2003.
- Cashmore, Ellis, Key Concepts in Sport Psychology, London, Routledge, 2004.
- Cox, R. H., Sport Psychology Ed 5 Th., London, Mcgraw Hill, 2002.
- Dewey, John, Psychology, New Delhi: Khel Sahitaya Kendra, 2003.
- Jain, D., Introduction to Psychology, New Delhi: Khel Sahitaya Kendra, 2003.
- Jain, Piyush and Tomar, C.S., History, Foundation of Physical Education and Educational Psychology, New Delhi, Friends, 2006.
- Kamlesh, M.L, Educational Sport Psychology, New Delhi, Friends Pub., 2006.
- Kamlesh, M.L., Key Ideas in Sport Psychology, New Delhi, Friends Pub., 2007.
- Kutty, S.K., Foundations of Sports & Exercise Psychology, New Delhi: Sports, 2004.
- Levinthal, Charles F., Introduction to Physiological Psychology, New Delhi, Prentice Hall, 2005.
- Seashore, C.E., Elementary Experiments in Psychology, New Delhi: Sports Pub., 2001.
- Shaw, D., An Encyclopedia of Test and Measurement in Sports Exercise Psychology, New Delhi, 2001.
- Woodworth, R.S., Basic Facts in Psychology, New Delhi: Sports Pub., 2001.

SUBJECT SPECIALIZATION - PROFESSIONAL PREPARATION AND CURRICULUM DESIGN

OBJECTIVES

- To develop an understanding of professional preparation in physical education.
- To develop skills to meet professional requirements.
- To understand the need for professional development.
- To acquire skill and competencies for professional development.
- To gain knowledge of curriculum development.
- To acquire skill to analyze, develop and evaluate curriculum.

FUNDAMENTALS OF PROFESSIONAL PREPARATION

UNIT-I HISTORICAL PERSPECTIVE

- 1.1 Professional Preparation in India
 - Pre Independence perspective
 - Post Independence perspective
- 1.5 Comparative analysis of professional preparation program in U.S., Europe and China

UNIT-II PROFESSIONAL PREPARATION POLICY PERSPECTIVE

- 2.1 Role and responsibilities of Centre and State in the implementation of policies on education and physical education.
- 2.2 Compulsions and constraints affecting planning and implementation of educational policies and programs.

UNIT-III PHYSICAL EDUCATION AND PROFESSIONALISM

- 3.1 Concept and meaning of Profession, Professional and Professionalism.
- 3.2 Physical education as a profession.

UNIT-IV CAREER AVENUES & JOB OPPORTUNITIES IN PHYSICAL EDUCATION & SPORTS

- 4.1 Career avenues after under graduation and post graduation and research degrees.
- 4.2 Exploring and venturing into new avenues: challenges and opportunities in physical education
- 4.3 Inter-relationship among various careers in physical education and sports
- 4.4 Planning for a career : self-assessment, motivational dynamics, decision making, counseling and guidance

UNIT-V PROFESSIONAL PREPARATION PROGRAMMES

- 5.1 Foundation: need, objectives and characteristic of professional preparation programmes
- 5.2 Courses available in physical education and sports.
- 5.3 Level of study : undergraduate preparation, graduate study, post-graduate study, advance professional study
- 5.4 Laboratory experience, teaching practice, field work, non-curricular preparation
- 5.5 Role of physical education teacher and institutes in professional preparation programmes

PRACTICALS :

1. Case study on national sports policy/national education policy

REFERENCES

- Adams William C. Foundation of Physical Education Exercise and Sports Sciences, Philadelphia, 1991
- Gupta Rakesh, Sharma Akhilesh, and Sharma Santosh, Professional Preparation and Curriculum Design in Physical Education & sports Sciences, New Delhi, Friends Publications, 2004
- Hoover. Kenneth H., The Professional Teacher's Handbook, Boston, Allyn and Bacon, 1972
- Krik David, Physical Education and Curriculum Study, Kent, Croom Helm, 1988
- Sandhu Kiran, Professional Preparation and Career Development in Physical Education, New Delhi, Friends Publications, 2004
- Sandhu Kiran, Trends and Development in Professional Preparation in Physical Education, New Delhi, Friends Publication, 2006
- Wessel Janet A, and Kelly Luke, Achievement-Based Curriculum Development in Physical Education, Philadelphia, Lea and Febiger, 1986
- Zeigler E.F, Professional and Scholarly Foundation of Physical Education and Kinesiology, Sports Educational Technologies, 2007

SUBJECT SPECIALIZATION - SPORT SOCIOLOGY

UNIT-I INTRODUCTION TO SPORT SOCIOLOGY

- 1.1 Meaning and concept of sport sociology
- 1.2 Sports and society
- 1.3 Current status of sports sociology in India and abroad.
- 1.4 Sports sociology as a science of social relationships. (Structural and functional, conflict, critical, interactionary theories)

UNIT-II SPORTS SOCIOLOGY THEORIES

- 2.1 Theories in sports sociology
- 2.2 Implications of social theories in sports
- 2.3 Comparative analysis of different theories of sport sociology

UNIT-III SOCIAL ROOTS OF SPORT IN ANCIENT SOCIETY

- 3.1 Sports as man's cultured heritage
- 3.2 Sport in ancient times - Greece and Rome
- 3.3 Spectacles and gladiator contests
- 3.4 Approach to sport and physical activity through ages in India and abroad.
- 3.5 Sports among various classes of different civilizations

UNIT-IV CHANGES IN SPORT IN MODERN SOCIETY

- 4.1 Emergence of modern sport
- 4.2 Traditional recreation to rational recreation
- 4.3 Industrial Revolution and changes in sport dynamics
- 4.4 Capitalistic and socialistic view - point on sport
- 4.5 Professionalism versus amateurism in sport
- 4.6 Commercialism in sport

UNIT-V METHODS AND METHODOLOGY

- 5.1 Research techniques in social sciences
- 5.2 Positivism and field research
- 5.3 Inductive and deductive methods.
- 5.4 Empirical and analytical techniques
- 5.5 Semiotics, and phenomenology, Hermeneutics
- 5.6 Identifying research problems in sport sociology

PRACTICALS AND ASSIGNMENTS

1. Social loafing scale and socioeconomic status scale
2. Prepare a paper on sports sociological work done in India by scrutinizing literature and compare and evaluate with the studies done at international level
3. Analyze the significant sports events in view of phenomenology, hermeneutics, semiotics etc
4. Evaluate current status and nature of sports among India and other countries

REFERENCES

Sociology

- Bhusan, V. and Sachdeva, An Introduction to Sociology, Delhi: Kitab, 2003.
- Coaplay, Joy. J., Sport In Society, Issues And Controversies, Mcgraw Hill International edition 1997
- Dictionary of Sociology, Penguin reference
- Donald. W. Ball and John W. Joy, Sport and Social Order: Contributions to the Sociology of Sports, Addison Wesley Publishing company 1975
- Freeman. S. and Boyes R., Sports beyond the iron curtain, London Protcus Publishing Company 1980
- Gultmann, A., Sport Spectators, Colombia University, New York 1986
- Hosue, J., Tomlinson, A., Whannel, G., Undertaking Sport – An Introduction To The Sociology And Cultural Analysis of Sport, Routbdge, New York 1999
- IGNOU, The Study of Society - Understanding Sociology, Delhi - IGNOU, 2007.
- Inkeles, A. Ed., What Is Sociology, New Delhi: Prentice Hall, 1997.
- Jain, Rachna, Sports Sociology, New Delhi: Khel Sahitaya Kendra, 2005.
- Kanwal Jeet, S., Sport Sociology, New Delhi: Friends Pub., 2000.

- Knop,P.D., Engstrow, L.M., Sbisstadd, B., Uleiss, M.R., World Wide Trends In Youth Sport, Human Kinetics 1996
- Learning Experience in Sociology of Sport by Lusan L. Greendoefer, C.A. Hasbroob, Human Kinetics Books Champaign, Illinois U.S.A. 1991
- Loy,J.W., Mc pherson , B.D., Kenyon, G., Sport And Social Systems, A Guide To The Analysis Problems Literture, Addison wesley publishing company Messachuslls 1978
- Maguire, J. and Young JAI, K., Theory, Sport and Society , Elsevier Ltd. 2005
- Majuardar, B., and Morgan Reutledge, J. A., Sport in South Asian Society Past and Present edited, New York and London 2005
- Mc Pherson, B.D., Curtis,J.E., and Loy, J.W., The Social Significance of Sport, Human Kinetics books Champaign Illinois U.S.A.1989
- Mitchell, G.D. Ed., Dictionary of Sociology, U.K: Routledge, 1999.
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- Redmond, G., Sport and Politics, Human Kinetics publishers, In Champaign, Illinois 1986
- Roulledge, M.Abrow, Sociology, The Basics London 2001
- Sege, G.H Power And Radiology In American Sport, A Critical Perspective, Human Kinetics 1998
- Sharma, R. N, Urban Sociology, New Delhi: Surjeet Pub., 1993.
- Shoebridge, M., Women in Sports, a selected biography, Mansell publishing Ltd. London and New York 1987
- Singh, Bhupinder, Sports Sociology, New Delhi: Friends, 2004.
- Singh, J.P., Samaajshastra Avdharanaaye Aur Sidhaant, Prentis Hall of India New Delhi 1999
- Snyder, E.E. and Prentis Hall Jersey, Social aspect of Sport, 1978
- Sports in Contemporary Society: An ethnology worth publications, New York-2001
- Stanly eitzan and George H. Sage, Sociology of world American Sports, Bastow, M. A: W C B/Mcgraw Hill 1997
- Turner, B., Cambridge Dictionary of Sociology, U.K., Cambridge, U.N. Press., 2006
- Vidhyabhushan, & Sachdeva,D.R., Samaajshastra Ke Sidhaant, Kitaab Mahal Ellahabad 1979
- Woods,Ronald B., Social issues in Sports, Human Kinetics, 2007

SUBJECT SPECIALIZATION – SPORT MANAGEMENT

BASICS OF SPORTS MANAGEMENT

UNIT-I

- 1.1 Meaning and definition of sports management
- 1.2 Historical perspective of sports management in India
- 1.3 Nature and scope of sports management
- 1.4 Aims and objectives of sports management

UNIT-II

- 2.1 Guiding principles of sports management
- 2.2 Leaderships
- 2.3 Identification of resources
- 2.4 Planning

UNIT-III

- 3.1 Significance of sports management in present day world
- 3.2 International perspectives in sports management- China and India
- 3.3 Sports medicine
- 3.4 Sports coaches

UNIT-IV

- 4.1 Definition and meaning of planning
- 4.2 Need and importance of planning
- 4.3 Principal of planning
- 4.4 Steps involved in planning process.

UNIT-V

- 5.1 Job specification of manager, physical educational professional
- 5.2 Career avenues and professional preparation
- 5.3 Doping
- 5.4 Press and electronic media

REFERENCES

Sport Management

- Chakraborty, S. Sports Management Delhi, Sports Publications, 1998.
- Kamlesh, M. L. Management Concept in Physical Education and Sport, New Delhi Metropolitan Book Co. Pvt. Ltd, 2000.
- Roy, S.S. Sports Management Delhi, Friends Publications, 1995.
- Sivia, G.S. Sports Management in Universities, New Delhi: A.I.U. Deen Dayal Upadhyaya Marg, 1991.

SEMESTER-II

Paper No.	Title of the Paper
MPE 0801	Research Process and Statistical Techniques in Physical Education
MPE 0802	Educational Technology and Pedagogy Techniques in Physical Education
MPE 0803	Game of Specialization (One to be carried over from Semester-I)
MPE 0804	Subject Specialization (To be carried over from semester-I) MPE 0804 (i) Exercise Physiology MPE 0804 (ii) Sport Biomechanics MPE 0804 (iii) Exercise & Sport Psychology MPE 0804 (iv) Professional Preparation & Curriculum Design MPE 0804 (v) Sport Sociology MPE 0804 (vi) Sport Management

RESEARCH PROCESS AND STATISTICAL TECHNIQUES IN PHYSICAL EDUCATION

- UNIT-I** **EXPERIMENTAL RESEARCH**
- 1.1 Scientific method and experimental research
 - 1.2 Characteristics of experimental method
 - 1.3 Experimental control
 - 1.4 Experimental design
 - Single group design
 - Repeated measure design
 - Static group comparison
 - Random groups design
 - Post-test only random group design
 - Related groups design
 - Rotation group design
 - Factorial design
- UNIT-II** **AREAS OF RESEARCH**
- 2.1 Research in exercise and sport physiology
 - 2.2 Motor learning and motor control
 - 2.3 Psychological studies
 - 2.4 Bio mechanical research
 - 2.5 Growth and development research
- UNIT-III** **PREPARATION OF RESEARCH REPORT**
- 3.1 Formulating and submitting research proposal
 - 3.2 Organization of thesis report
 - 3.3 Technical aspects of writing research report
 - 3.4 Use of illustrative material
 - 3.5 Considerations in writing report and abstract
- UNIT-IV** **PROBABILITY CURVE**
- 4.1 Meaning and principles of normal curve
 - 4.2 Binominal expansion and properties of normal curve
 - 4.3 Comparison of various scales
- UNIT-V** **RELATIONSHIP AND COMPARATIVE STATISTICS**
- 5.1 Principles of relationship
 - 5.2 Coefficient of correlation
 - 5.3 Product moment correlation
 - 5.4 t-ratio – independent and paired
 - 5.5 ANOVA – one way and two way

REFERENCES

- Author's guide: Research Methods applied to Health Physical and Recreation, Washington, D.C. 1991.
- Best John & Kahni, J.V. Research in Education, New Delhi. Prentice Hall of India (Pvt.) Ltd., 1992.
- Clarke, H.H., The Application of Measurement in Health and Physical Education, 1992.
- Shaw, D., Fundamental statistics in physical Education & Sports sciences, sports Publication, 2007.

EDUCATIONAL TECHNOLOGY AND PEDAGOGY TECHNIQUES IN PHYSICAL EDUCATION

OBJECTIVES

- To understand teaching as a process.
- To know and apply the knowledge of methods and techniques of teaching.
- To develop lesson plan for different activities and population.
- To get acquainted with the developmental aspects of motor and skill development.
- To understand the use of technology in physical education.
- To familiarize with the use of ICT in physical education.

UNIT-I

TEACHING PROCESS

- 1.1 Effective teaching and teacher responsibilities.
- 1.2 A review of methods of teaching.
- 1.3 Techniques of presentation and class management skills.

UNIT-II

PLANNING LESSON

- 2.1 Structure and stages of lesson plan
- 2.2 Preparing for a lesson plan
- 2.3 Finding material and tapping resources
- 2.4 Feed back: teachers self evaluation, student feed back on lesson content and lesson effectiveness

UNIT-III

DEVELOPMENTAL PROGRAM

- 3.1 Developmental curriculum
- 3.2 Physical education content
- 3.3 Movement skill development
 - Stability skills
 - Manipulative skills
 - Locomotor and non-locomotor skills
- 3.4 Developmental games, modified games, dance and gymnastics

UNIT-IV

TECHNOLOGY IN PHYSICAL EDUCATION AND SPORTS

- 4.1 Initiating technology
- 4.2 Use of Audio/Video technology
- 4.3 Image analysis
- 4.4 Technological devices used in Physical activity, sports (adobe premier, underwater camera, various measuring tools, wind gauges, foul indicators, electronic gadgets, adobe Photoshop, Microsoft animation, laser beam technology, LCD display, software for different game and sports)

UNIT-V

USE OF ICT IN PHYSICAL EDUCATION

- 5.1 Computer analysis instructional software
 - Assessing student learning
 - Using technology to improve instructional process
 - Use of World Wide Web
- 5.2 Power point presentation

REFERENCES

- Adams William C., Foundation of Physical Education Exercise and Sports Sciences, Philadelphia, 1991
- Gupta Rakesh, Sharma Akhilesh, and Sharma Santosh, Professional Preparation and Curriculum Design in Physical Education & sports Sciences, New Delhi, Friends Publications, 2004
- Hoover. Kenneth H., The Professional Teacher's Handbook, Boston, Allyn and Bacon, 1972
- Krik David, Physical Education and Curriculum Study, Kent, Croom Helm, 1988
- Sandhu Kiran, Professional Preparation and Career Development in Physical Education, New Delhi, Friends Publications, 2004
- Sandhu Kiran, Trends and Development in Professional Preparation in Physical Education, New Delhi, Friends Publication, 2006
- Wessel Janet A, and Kelly Luke, Achievement-Based Curriculum Development in Physical Education, Philadelphia, Lea and Febiger, 1986
- Zeigler E.F, Professional and Scholarly Foundation of Physical Education and Kinesiology, Sports Educational Technologies, 2007

GAME OF SPECIALIZATION – ATHLETICS**FOCUSED ATHLETIC EVENTS:**

Running: Middle Distance, Long Distance, Cross Country, Race Walking

Jumps: High Jump & Pole Vault

Throws: Javelin & Hammer

Combined events: Heptathlon & Decathlon

UNIT-I TRAINING LOAD AND ADAPTATIONS

- 1.1 Important motor components
- 1.2 Structure and process of improvement in performance
- 1.3 Principles of training load and various training methods
- 1.4 Causes, symptoms and management of overload

UNIT-II TECHNICAL PREPARATION FOR FOCUSED ATHLETIC EVENTS

- 2.1 Motor abilities required
- 2.2 Technical preparation
- 2.3 Marking, construction and maintenance of track & field
- 2.4 Physical, physiological, psychological and sociological preparation of athletes

UNIT-III COMPETITION PLANNING AND PERIODIZATION

- 3.1 Types of competition planning
(long term & short term) and preparatory, competition and transition periods/season
- 3.2 Cyclic process of training : micro, meso and macro cycles of training
- 3.3 Preparation of training schedules
- 3.4 Tactical efficiency

UNIT-IV TEST, MEASUREMENT AND EVALUATION

- 4.1 Physical fitness tests
- 4.2 Motor ability tests
- 4.3 Keeping performance record

UNIT-V TEACHING LESSONS

- 5.1 Means, methods and process of classroom teaching
- 5.2 Preparation of teaching lesson-plans : characteristics & principles
- 5.3 Stages of teaching
- 5.4 Use of teaching aids

PRACTICALS

1. Different techniques of specified events : running (middle distance, long distance, cross country race and walking); jumps (high jump & pole vault); throws (javelin & hammer) combined events (heptathlon & decathlon)
2. Practical applications of tactics
3. Training means for development of strength, speed, endurance, flexibility, coordinative abilities
4. Observing and assessing the video/tournament recording/movie and preparing a report
5. Teaching lessons

REFERENCES**Athletics**

- Chauhan, B.S., Khel Jagat Mein Athletics, Jalandhar: A.P. Pub., 1999.
- Evans, D.A., Teaching Athletics, London: Hodder, 1984.
- Fox, E.L., Physiological Basis of Physical Education and Athletics, Brown Pub., 1989.
- Frost, R.B. and others, Administration of Physical Education and Athletics, Delhi: Universal Book, 1992.
- Gothi, Ekta, Teaching & Coaching Athletics, New Delhi: Sport Pub., 1997.
- Knight, T. and Troop, N., Sackville Illustrated Dictionary of Athletics, Jackvillie, 1988.
- Knight, T., Athletics, Backville Book, 1988.
- Renwick, G.R., Play Better Athletics, Delhi: Sports Pub., 2001.
- Shri Vastav, Abhay Kumar, Athletics, S & S Parkashan, 1997.

- Singh, Granth, Track and Field Athletics, Delhi: Ashoka, 1998.
- Thani, Lokesh., Skills and Tactics Track Athletics, Delhi : Sports Pub., 1995.
- Thani, Y. ed., Encyclopedia of Athletics, Delhi, Gian Pub, 1991.
- Turbbull, S., Sports Views Guide Athletics, London: David & Charles, 1989.
- Warden, P., Take Up Athletics, Springfield Books Ltd., 1990.
- Weaver, T., Personal Best: Athletics, London : Willionm Colliv ., 1988.

GAME OF SPECIALIZATION – AQUATICS (SWIMMING, DIVING & WATER-POLO)

UNIT-I TRAINING LOAD AND ADAPTATIONS

- 1.1 Important motor components
- 1.2 Structure and process of improvement of performance
- 1.3 Principles of training load and various training methods
- 1.4 Causes, symptoms and management of overload

UNIT-II SCIENTIFIC APPLICATIONS FOR HIGH PERFORMANCE

- 2.1 Anatomical and physiological considerations
- 2.2 Biomechanical considerations
- 2.3 Psychological environment
- 2.4 Scientific research reviews

UNIT-III COMPETITION PLANNING AND PERIODIZATION

- 3.1 Long term and short term planning, main and build-up competitions
- 3.2 Cyclic process of training : micro, meso and macro cycles
- 3.3 Preparation of training schedules for all the three seasons
- 3.4 Tactical efficiency
- 3.5 Coaching a team, Organising a competition, Officiating in a competition, Conducting a workshop/seminar/clinic

UNIT-IV TEST, MEASUREMENT AND EVALUATION

- 4.1 Fitness tests
- 4.2 Skill tests
- 4.3 Periodical assessment of performance

UNIT-V TEACHING AND COACHING LESSONS

- 5.1 Means, methods and process of classroom teaching and Field Coaching
- 5.2 Preparation of teaching and Coaching lesson-plans : characteristics & principles
- 5.3 Different stages/phases of technique learning/teaching/Coaching, their applications and principles
- 5.4 Use of teaching and Coaching aids

PRACTICALS

1. Practical applications of techniques and tactics
2. Training means for development and measurement of strength, speed, endurance, flexibility and coordinative abilities
3. Observing and assessing the video/tournament recording/movie and preparing a report
4. Teaching and Coaching lessons

REFERENCES

Aquatics

- Jain, R., Play and Learn Swimming, New Delhi, Khel Sahitya Kendra, 2003.
- Kumar, Naveen., Coaching Successfully, Sports Publication, Delhi 2002.
- Nelson, R., Macnee, M.J.Ed., Olympic Fact book: A Spectator's Guide to the Summer games, New York Visible, 1996.
- Thani, Lokesh., Swimming, Delhi, Sports Publisher, 2000.
- Thani, Lokesh., Skill & Tactics Swimming" Delhi, Sports Publication, 1995.

GAME OF SPECIALIZATION – BADMINTON

- | | |
|-----------------|---|
| UNIT-I | <u>TRAINING LOAD AND ADAPTATIONS</u> <ol style="list-style-type: none"> 1.1 Important motor components 1.2 Structure and process for improvement of performance 1.3 Various training methods and principles of training load 1.4 Causes and symptoms of overload 1.5 Management of overload |
| UNIT-II | <u>SCIENTIFIC CONSIDERATIONS FOR HIGH PERFORMANCE</u> <ol style="list-style-type: none"> 2.1 Anatomical considerations 2.2 Physiological considerations 2.3 Biomechanical considerations 2.4 Psychological consideration 2.5 Scientific research reviews |
| UNIT-III | <u>COMPETITION PLANNING AND PERIODIZATION</u> <ol style="list-style-type: none"> 3.1 Long term and short term planning for competition 3.2 Cyclic process of training : micro, meso and macro cycles 3.3 Preparation of training schedules 3.4 Tactical efficiency 3.5 Build-up and main competitions |
| UNIT-IV | <u>TEST, MEASUREMENT AND EVALUATION</u> <ol style="list-style-type: none"> 4.1 Introduction, importance of test, measurement and evaluation in badminton 4.2 Fitness tests 4.3 Skill tests 4.4 Knowledge tests 4.5 Periodical assessment of performance |
| UNIT-V | <u>TEACHING AND LESSONS</u> <ol style="list-style-type: none"> 5.1 Means & methods 5.2 Teaching and Coaching lessons, process of classroom teaching and Field coaching 5.3 Preparation of teaching and Coaching lesson-plans : characteristics & principles 5.4 Stages of teaching and Coaching 5.5 Use of teaching and Coaching aids |

PRACTICALS

1. Practical applications of tactics and strategies
2. Training means for development and measurement of strength, speed, endurance, flexibility and coordinative abilities
3. Observing and assessing the video/tournament recording/movie and preparing a report
4. Teaching and Coaching lessons
5. Project or Research in Badminton

REFERENCES

Badminton

- Ashok Kumar, Badminton, New Delhi Discovery, 2003.
- Ballou, Palph B., Teaching Badminton, India, 1982.
- Bloss, M.V & Hales, R.S., Badminton, WC Brown, 1994.
- Davis, Pat, Badminton, S.A. David & Charles Inc., 1988.
- Downey, J., How to Coach Badminton, London: Collins Pub., 1990.
- Jain, Deepak, Teaching and Coaching –Badminton, Delhi : Khel Sahitaya Kendra, 2001.
- Kumar, Ashok, Badminton, Delhi : Discovery Pub., 1999.
- Narang, P., Play and Learn Badminton, Khel Sahitaya Kendra, 2005.
- Singh, M.K., A to Z Badminton, New Delhi, Friends Pub., 2006.
- Singh, M.K., Comprehensive Badminton, N.D. Friends Pub., 2007.
- Talbot, Derlk, Top Coach Badminton, Britain : Q.A. Press, 1989.

GAME OF SPECIALIZATION – BASKETBALL

UNIT-I

COACHING PHILOSOPHY

- 1.1 Principles and objectives of coaching
- 1.2 Techniques of coaching – pep talk, coaching- pre match, during and post match, individual and group coaching
- 1.3 Coaching schedule – seasonal, daily, weekly, monthly and yearly
- 1.4 Talent identification to select the winning combination – the offense and the defense
- 1.5 Team building, Coaching lesson plan

UNIT-II

COMPETITION PLANNING

- 2.1 Long - term and short - term preparation for the decisive basketball competitions
- 2.2 Psychological qualities and preparation of a basketball player
- 2.3 Team system and tactical training
 - Offensive system in play
 - Defense system in play
 - Dribbling and shooting pattern
 - Individual , group and team tactics
- 2.4 Diet and nutrition for a basketball player
- 2.5 The coordination among the coach, doctor, psychologist and the players

UNIT-III

SCIENTIFIC APPLICATIONS AND TRAINING LOAD AND ADAPTATION

- 3.1 Anthropometrical and physiological considerations
- 3.2 Biomechanical analysis of skills
- 3.3 Principles of load and adaptation
- 3.4 Fatigue, recovery and super compensation
- 3.5 Overload and its management

UNIT-IV

MANAGEMENT AND MARKETING AND PLAYER PROFILE

- 4.1 Managing team during competitions, Information and publicity concerning the competition, Office management – correspondence and maintenance of records, Facility management – quality control of equipment and player's kit, Risk management - medical check up, medical aid and insurance
- 4.2 Personnel management – interpersonal communication skills,
- 4.3 Event identification and event profile development
- 4.4 Projection of the event and marketing strategy – pamphlets, door - door, newspaper, electronic media
- 4.5 Writing press release and reports, Sponsor identification, fund raising, Building of player portfolio, development of a contract and understanding of laws

UNIT-V

INJURIES IN BASKETBALL

- 5.1 Ankle sprain, jammed thumb, shoulder dislocation, wrist twist, rib injuries
- 5.2 Preventive and safety measures
- 5.3 Rehabilitation

PRACTICAL

1. Scouting for various teams
 - Direct scouting
 - Indirect scouting
2. Officiating practice
3. Assisting the physiotherapy department in injury management

REFERENCES

Basket Ball

- Ambler, V., How to Play Basket Ball, Delhi : Paper Balls, 1984.
- Jain, Naveen Play and Learn Basket Ball, Khel Sahitya Kendra, New Delhi-2003
- Nat B. B Conditioning Coaches Association, NBA Power Conditioning, Human Kinetics, 1997
- Pruitt, Jim, Play Better Basket Ball, Great Britain: Matchplan Books, 1984.
- Sharma O.P. Basket Ball Skills and Rules, Khel Sahitya Kendra Delhi-2003

- Thani, Lokesh, Skills & Tactics of Basket Ball, New Delhi : Sport Pub., 1995.
- Thani, Yograj, Coaching Successfully Basket Ball, Sports Publisher, Delhi-2002

GAME OF SPECIALIZATION – CRICKET**UNIT-I COACHING PHILOSOPHY**

- 1.1 Principles and objectives of coaching
- 1.2 Techniques of coaching – pep talk, coaching- pre-match, during and post-match, individual and group coaching
- 1.3 Coaching schedule – seasonal, daily, weekly, monthly and yearly
- 1.4 Talent-identification to select the winning combination
- 1.5 Team building
- 1.6 Coaching lesson plan

UNIT- II COMPETITION PLANNING

- 2.1 Long-term and short-term preparation for the decisive cricket competitions
- 2.2 Psychological qualities and preparation of a cricketer
- 2.3 Team system and tactical training
 - Offensive system in play
 - Defense system in play
 - Individual group and team tactics
- 2.4 Diet and nutrition for a cricketer
- 2.5 The coordination among the coach, doctor, psychologist and players

UNIT-III SCIENTIFIC APPLICATIONS

- 3.1 Anthropometrical and physiological considerations
- 3.2 Biomechanical analysis of skills

UNIT-IV TRAINING LOAD AND ADAPTATION AND INJURIES IN CRICKET

- 4.1 Principles of load and adaptation
- 4.2 Fatigue, recovery and super-compensation
- 4.3 Overload and its management
- 4.4 Ankle sprain, finger injuries, shoulder dislocation, knee displacement, rotator's cuff
Preventive and safety measures
- 4.5 Rehabilitation\

UNIT- V MANAGEMENT AND MARKETING AND PLAYER PROFILE

- 5.1 Managing team during competitions, Information and publicity concerning competition
Office management – correspondence and maintenance of records
- 5.2 Facility management – quality control of equipment and player's kit, Risk management
- medical check-up, medical aid and insurance, Personnel management –
communication and inter-personnel skills
- 5.3 Event identification and event profile development, Projection of the event and
marketing strategy – pamphlets, door-to-door, newspaper, electronic media
- 5.4 Writing press releases and reports, Sponsor identification, fund raising, Building of
player-portfolio, preparing/drawing a contract and understanding pertinent laws

PRACTICALS

1. Practical efficiency in performance & demonstration of different advanced techniques
Basic Skills and Techniques:
Batting - forward defense, backward defense, all types of drives, glance, cut, pull, sweep
 - a. Bowling - medium pace, leg spin, off spin and their improvisation
 - b. Fielding - catching, ground fielding, close and deep fielding
 - c. Wicket-keeping
2. Practical application of different tactics
3. Test, measurement & evaluation
 - (a) Skill tests (throwing ability, running between wicket, target hitting)
 - (b) Tests for different fitness components
4. Coaching lesson - 5 (five) internal lessons

REFERENCES

Cricket

- Aibara, E.B., Cricket, Delhi : National Museum, 1993.
- Amarnath, Mohinder, Learn to Play Good Cricket, New Delhi : Ubspd, 1996.
- Andrew, K., Handbook of Cricket, England : Perlham Book, 1989.
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- Chugh, G.D., Laws of Cricket, New Delhi, D.V.S.Pub., 1993.
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- Jain, R., Play and Learn Cricket, New Delhi: Khel Sahitaya Kendra, 2003.
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- Rachna, Jain, Play & Learn Cricket, Khel Sahitaya Kendra, 2005.
- Rice P., How to Play Cricket, London: Guinness, 1988.
- Sharangpani, R.C., Fitness Training in Cricket, Bombay : Marine Sports, 1992.
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- Swpnronobe, E.W., Barclays World of Cricket, London, Willow Book, 1986.
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- Vic Marks, The Test Country Cricket Board Guide to Better Cricket, London, 1987.
- Willis, Cricket, India, 1987.

GAME OF SPECIALIZATION – FOOTBALL

UNIT-I COACHING PHILOSOPHY

- 1.1 Principles and objectives of coaching
- 1.2 Techniques of coaching – pep talk, coaching- pre match, during and post match, individual and group coaching
- 1.3 Coaching schedule – seasonal, daily, weekly, monthly and yearly
- 1.4 Talent identification to select the winning combination – the offense and the defense
- 1.5 Team building
- 1.6 Coaching lesson plan

UNIT-II COMPETITION PLANNING

- 2.1 Long - term and short - term preparation for the decisive football competitions
- 2.2 Psychological qualities and preparation of a football player
- 2.3 Team system and tactical training
 - Offensive system in play
 - Defense system in play
 - Dribbling and reception pattern
 - Individual , group and team tactics
- 2.4 Diet and nutrition for a football player
- 2.5 The coordination among the coach, doctor, psychologist and the players

UNIT-III SCIENTIFIC APPLICATIONS

- 3.1 Anthropometrical and physiological considerations
- 3.2 Biomechanical analysis of skills

UNIT-IV TRAINING LOAD AND ADAPTATION AND INJURIES IN FOOTBALL

- 4.1 Principles of load and adaptation
- 4.2 Fatigue, recovery and super – compensation
- 4.3 Overload and its management
- 4.4 Ankle sprain, finger injuries, shoulder dislocation, knee displacement and head injuries,
- 4.5 Preventive and safety measures, Rehabilitation

UNIT- V MANAGEMENT AND MARKETING AND PLAYER PROFILE

- 5.1 Managing team during competitions, Information and publicity concerning competition
Office management – correspondence and maintenance of records
- 5.2 Facility management – quality control of equipment and player's kit, Risk management - medical check-up, medical aid and insurance, Personnel management – communication and inter-personnel skills
- 5.3 Event identification and event profile development, Projection of the event and marketing strategy – pamphlets, door-to-door, newspaper, electronic media
- 5.4 Writing press releases and reports, Sponsor identification, fund raising, Building of player-portfolio, preparing/drawing a contract and understanding pertinent laws

PRACTICAL

1. Tackling the ball – basic, slide, shoulder charge
2. Feinting – with the ball, without the ball, with an opponent behind and alongside the dribble
3. Correct skill of throw in – throwing a ball, faults occurring, required instruction
4. Goal keeping - throwing a ball with one hand, rolling the ball along the ground, ground kick, air kick
5. Penalty kick

REFERENCES

Football

- Lau, S.K., Encyclopedia of Football, Delhi : Sport Pub., 1995.
- N. Kumar, Play and Learn Football, New Delhi : Khel Sahitaya Kendra, 2003.
- Reilly, T., Science and Football, London: E.N. Sport Ltd., 1988.
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- Williams, J., The Roots of Football, London, 1988.
- Wirhed, R., Training to Win Football, Europ : Wolfe Pub., 1992.

GAME OF SPECIALIZATION – GYMNASTICS

UNIT-I PSYCHOLOGICAL PREPARATION AND CHILDREN TRAINING IN GYMNASTICS

- 1.1 Psychological preparation of a gymnast
 - Principles and methods of development of mental pre-requisite for training
 - Mental preparation for competition
 - Mental training during competition
 - Attention and its role in gymnastics
- 1.2 Children training in gymnastics
 - Aims and objectives
 - Principles and procedure of training
 - Construction of an exercise/routines for various levels of competitions
- 1.3 **BIOMECHANICAL PRINCIPLES AND THEIR APPLICATION IN GYMNASTICS**
 - Newton's laws of motion and their application
 - Body levers and their application
 - Linear and angular momentum
 - Centripetal and centrifugal forces

UNIT-II SPORTS NUTRITION

- 2.1 Nutrition in gymnastics
 - Meaning, definition and classification of nutrition
 - Basic components of nutrition
 - Energy requirements and body composition in gymnastics
 - Role of diet in pre-competition, during competition and off-session phases
- 2.2 Fluid and its role in gymnastics
 - Pre-session
 - In-session
 - During competition
 - Off-session

UNIT-III WORLD GYMNASTICS PARTICIPATION GUIDELINES AND REGULATIONS

- 3.1 World Gymnasstrada participation guidelines
 - The meaning of World Gymnasstrada
 - The goals of World Gymnasstrada
 - World Gymnasstrada as an inducement for purposeful national federation activities
 - World Gymnasstrada programmed
 - Training of instructors for World Gymnasstrada participation
 - Safety – physiological and morpho-functional aspect, technical aspect, aspect of direct assistance (spotting)
- 3.2 World Gymnasstrada regulations (Application- World Gymnasstrada - objectives, powers, implementation, scope and programme, participation and registration, facilities and scheduling, general organisation, finance, complementary events, conducting provisions)

UNIT-IV DEVELOPMENT OF CODE OF POINTS AND EVALUATION OF DEGREE OF DIFFICULTY AND THEORY OF:

- 4.1 Development of code of conduct of point : rhythmic gymnastics, sports aerobics, trampoline gymnastics, sports acrobatic
 - Qualifications, rights and duties of president of MTC, TC members, chair of the jury, judges for Jury A, technical assistant, judges of Jury B, team judges and service personnel
 - Generalities of evaluation of exercises
- 4.2 Evaluation of degree of difficulty in rhythmic gymnastics, sports aerobic gymnastics, trampoline gymnastics, sports acrobatic gymnastics
- 4.3 Sports Aerobics Gymnastics
 - Group-A : Dynamic strength
 - Group-B : Static strength
 - Group-C : Jumps and leaps
 - Group-D : Balance and flexibility
- 4.4 Sports Acrobatic Gymnastics
 - Mixed
 - Men double
 - Women double

- Quadrap – four men
- 4.5 Professional preparation in Gymnastics
 - Outline a proposal of starting gymnastics in school, college and club
 - Prepare a detailed orientation/clinic/workshop in gymnastics
- 4.6 Teaching lessons (preparation, stages of teaching and use of teaching aids)

UNIT-V

CODE OF POINTS FOR ARTISTIC GYMNASTICS AND THEORY OF :

5.1 Code of points for men Artistic Gymnastics

- Evaluation of an exercise routine on :
 - Floor exercise
 - Pommel horse
 - Roman rings
 - Parallel bar
 - Horizontal bar
 - Vaulting table

Tables of difficulty on :

Floor exercise

Pommel horse

Roman rings

Parallel bars

Horizontal bar

Table vaults

5.2 Code of points for women artistic gymnastics

- Evaluation of exercise on :
 - a. Floor exercise
 - b. Uneven bars
 - c. Balance beam
 - d. Table vault
- Tables of difficulty on :
 - Floor exercise
 - Uneven bars
 - Balance beam
 - Table vaults

5.3 Teaching and training of advance elements on all men and women apparatus

- Floor exercises (men & women)
- Pommel horse
- Roman rings
- Parallel bars/uneven bars
- Table vaults (men & women)
- Horizontal bar
- Balancing beam

5.4 Pedagogic practice

- Warm-up exercises and class organization
- Teaching, training and coaching of basic and advance elements on all apparatus (men & women)
- Officiating

5.5 Assignments/Projects

- Prepare a budgetary proposal for purchase of gymnastics equipment
- Organization of a competition/seminar/workshop/clinic at school/district/state level

5.6 Project on research in gymnastics

5.7 Coaching lessons

PRACTICAL

1. Sports Aerobics Gymnastics
 - Group-A : Dynamic strength
 - Group-B : Static strength
 - Group-C : Jumps and leaps
 - Group-D : Balance and flexibility
2. Sports Acrobatic Gymnastics
 - Mixed
 - Men double
 - Women double
 - Quadrap – four men
3. Assignment/Project
 - Professional preparation in gymnastics
 - Outline a proposal of starting gymnastics in school, college and club
 - Prepare a detailed orientation/clinic/workshop in gymnastics
 - Observing and assessing the video/tournament recording/movie and preparing a report
4. Teaching lessons (preparation, stages of teaching and use of teaching aids)
5. Teaching and training of advance elements on all men and women apparatus
 - i. Floor exercises (men & women)
 - ii. Pommel horse
 - iii. Roman rings
 - iv. Parallel bars/uneven bars
 - v. Table vaults (men & women)
 - vi. Horizontal bar
 - vii. Balancing beam
6. Pedagogic practice
 - i. Warm-up exercises and class organization
 - ii. Teaching, training and coaching of basic and advance elements on all apparatus (men & women)
 - iii. Officiating
7. Assignments/Projects
 - i. Prepare a budgetary proposal for purchase of gymnastics equipment
 - ii. Organization of a competition/seminar/workshop/clinic at school/district/state level
8. Project on research in gymnastics
9. Coaching lessons

REFERENCES

Gymnastics

- Chakraborty, S. and Sharma, Lalit, Fundamental of Gymnastics, N.D. D.V.S. Pub., 1995.
- Chakraborty, S., Fundamental of Gymnastics, New Delhi: DVS Pub, 1995.
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- Harvey, F.J., Physical Exercises & Gymnastics, New Delhi: Khel Sahitya, 1998.
- Jain, R., Play and Learn Gymnastics, Khel Sahitaya Kendra, 2005.
- Pearson, D., Play The Game Gymnastics, Britain : Ward Lock, 1991.
- Smither, Graham, Behing The Scence of Gymnastics, London, 1980.
- Turoff, Fred, Artistic Gymnastics, U.S.A : C. Brown, 1991.

GAME OF SPECIALIZATION – HANDBALL**UNIT-I COACHING PHILOSOPHY**

- 1.1 Principles and objectives of coaching
- 1.2 Techniques of coaching – pep talk, coaching- pre match, during and post match, individual and group coaching
- 1.3 Coaching schedule – seasonal, daily, weekly, monthly and yearly
- 1.4 Talent identification to select the winning combination – the offense and the defense
- 1.5 Team building
- 1.6 Coaching lesson plan

UNIT-II COMPETITION PLANNING

- 2.1 Long-term and short-term preparation for the decisive handball competitions
- 2.2 Psychological qualities and preparation of a handball player
- 2.3 Team system and tactical training
 - Offensive system in play
 - Defense system in play
 - Individual , group and team tactics
- 2.4 Diet and nutrition for a handball player
- 2.5 The coordination among the coach, doctor, psychologist and players

UNIT-III SCIENTIFIC APPLICATIONS

- 3.1 Anthropometrical and physiological considerations
- 3.2 Biomechanical analysis of skills

UNIT-IV TRAINING LOAD AND ADAPTATION AND INJURIES IN HANDBALL

- 4.1 Principles of load and adaptation
- 4.2 Fatigue, recovery and super compensation
- 4.3 Overload and its management
- 4.4 Ankle sprain, finger injuries, shoulder dislocation, knee displacement, rotator's cuff
- 4.5 Preventive and safety measures
- 4.6 Rehabilitation

UNIT- V MANAGEMENT AND MARKETING AND PLAYER PROFILE

- 5.1 Managing team during competitions, Information and publicity concerning competition
Office management – correspondence and maintenance of records
- 5.2 Facility management – quality control of equipment and player's kit, Risk management - medical check-up, medical aid and insurance, Personnel management – communication and inter-personnel skills
- 5.3 Event identification and event profile development, Projection of the event and marketing strategy – pamphlets, door-to-door, newspaper, electronic media
- 5.4 Writing press releases and reports, Sponsor identification, fund raising, Building of player-portfolio, preparing/drawing a contract and understanding pertinent laws

REFERENCES**Handball**

- Jain, D., Play & Learn Handball, New Delhi, Khel Sahitya Kendra, 2003.
- Kumar Ashok, Handball, New Delhi, Discovery Publishing House, 1999.
- Lohar, A.R., Handball Basic Technology Bombay, The Marine Sports Publishing Division, 1998.
- Schmottlach, N., Mcmanama, J., Physical Education Handbook. 9th Edition, London, Allyn & Bacon, 1997.

GAME OF SPECIALIZATION – HOCKEY

UNIT-I

COACHING PHILOSOPHY

- 1.1 Principles and objectives of coaching
- 1.2 Techniques of coaching – pep talk, coaching- pre-match, during and post match, individual and group coaching
- 1.3 Coaching schedule – seasonal, daily, weekly, monthly and yearly
- 1.4 Talent - identification to select the winning combination – the offense and the defense
- 1.5 Team – building
- 1.6 Coaching lesson plan

UNIT-II

COMPETITION PLANNING

- 2.1 Long - term and short term preparation for the decisive hockey competitions
- 2.2 Psychological qualities and preparation of a hockey player
- 2.3 Team system and tactical training
 - Offensive system in play
 - Defense system in play
 - Hitting and receiving pattern
 - Individual , group and team tactics
- 2.4 Diet and nutrition for a hockey player
- 2.5 Coordination among team management personnel - the coach, doctor, psychologist, coach and the players

UNIT-III

SCIENTIFIC APPLICATIONS

- 3.1 Anthropometrical and physiological considerations
- 3.3 Biomechanical analysis of skills

UNIT-IV

TRAINING LOAD AND ADAPTATION AND INJURIES IN HOCKEY

- 4.1 Principles of load and adaptation
- 4.2 Fatigue, recovery and super – compensation
- 4.3 Overload and its management
- 4.4 Ankle sprain, shoulder dislocation, knee displacement, cuts
- 4.5 Preventive and safety measures
- 4.6 Rehabilitation

UNIT- V

MANAGEMENT AND MARKETING AND PLAYER PROFILE

- 5.1 Managing team during competitions, Information and publicity concerning competition
Office management – correspondence and maintenance of records
- 5.2 Facility management – quality control of equipment and player's kit, Risk management - medical check-up, medical aid and insurance, Personnel management – communication and inter-personnel skills
- 5.3 Event identification and event profile development, Projection of the event and marketing strategy – pamphlets, door-to-door, newspaper, electronic media
- 5.4 Writing press releases and reports, Sponsor identification, fund raising, Building of player-portfolio, preparing/drawing a contract and understanding pertinent laws

PRACTICALS

1. Tackling– basic, slide
2. Feinting – with the ball, with an opponent behind and alongside the dribble
3. Goal keeping
4. Penalty kick
5. Applied tactics of defense – positioning by a defender, defensive attacker, interchanging of position
6. Attacking tactics - shooting and heading at goal, place changing, special method-attack with two centre forward
7. Refining of skills
 - a. Kicking
 - b. Receiving
 - c. Heading

- d. Dribbling
- e. Tackling
- g. Goal - keeping
- 8. Taking advantage of offside rule - attack and defense
- 9. Match officiating
 - Referee
 - Linesmen
 - Table Officials
 - Play field preparation guide / organizer

REFERENCES

Hockey

- Dubey, H.C. Hockey, New Delhi, Discovery Publishing House, 1999
- International Hockey Federation, Rules of the Game of Hockey with Guidance for Players and Umpires. India, International Hockey Federation, 2003.
- Jain, D., Hockey Skills & Rules New Delhi, khel Sahitya Kendra, 2003.
- Narang, P., Play & Learn Hockey, Khel Sahitya Kendra, New Delhi, 2003
- Thani Yograj., Coaching Successfully Hockey, Delhi, Sports Publication, 2002.

GAME OF SPECIALIZATION – JUDO

- UNIT-I TRAINING LOAD AND ADAPTATIONS**
- 1.1 Important motor components
 - 1.2 Structure and process of improvement of performance
 - 1.3 Principles of training load and various training methods
 - 1.4 Causes, symptoms and management of overload
- UNIT-II SCIENTIFIC CONSIDERATIONS FOR HIGH PERFORMANCE**
- 2.1 Anatomical and physiological considerations
 - 2.2 Biomechanical considerations
 - 2.3 Psychological considerations
 - 2.4 Scientific research reviews
- UNIT-III COMPETITION PLANNING AND PERIODIZATION**
- 3.1 Long term and short term panning, main and build-up competitions
 - 3.2 Cyclic process of training : micro, meso and macro cycles
 - 3.3 Preparation of training schedules
 - 3.4 Tactical efficiency
- UNIT-IV TEST, MEASUREMENT AND EVALUATION**
- 4.1 Fitness tests
 - 4.2 Skill tests
 - 4.3 Knowledge tests
 - 4.4 Assessment of performance for better efficiency or performance analysis
- UNIT-V TEACHING AND COACHING LESSONS**
- 5.2 Means, methods and process of classroom teaching and field coaching
 - 5.3 Preparation of teaching and coaching lesson-plans : characteristics and principles
 - 5.4 Different stages/phases of technique learning/teaching/coaching, their applications and principles
 - 5.5 Use of teaching and coaching aids

PRACTICALS

1. Practical applications of techniques and tactics
2. Training means for development and measurement of strength, speed, endurance, flexibility and coordinative abilities
3. Observing and assessing the video/tournament recording/movie and preparing a report
4. Teaching lessons

REFERENCES**Judo**

- Caffary, B., Skilful Judo, London : A & C Black, 1992.
- Dando, J., Play The Game Judo, Great Britain: Blandford, 1994.
- Harrison, E.J., Coaching Successfully Judo, Delhi: Sports, 2002.
- Harrison, J., Teaching & Coaching Judo, New Delhi: Sport Pub., 1998.
- Holme, P., Get to Gripe With Judo, London : Blandford, 1995.
- Holme, Peter, Competition Judo, London: Ward Lock, 1996.
- Jain, D., Play and Learn Judo, New Delhi : Khel Sahitaya Kendra, 2003.
- Kumar, Mukesh, Action Judo, Delhi : Sport Publication, 1994.
- Marwood, D., Critical Judo, New Delhi : A.I.T.B.S. Pub., 1995.

GAME OF SPECIALIZATION – KABADDI**UNIT-I COACHING PHILOSOPHY**

- 1.1 Principles and objectives of coaching
- 1.2 Techniques of coaching – pep talk, coaching- pre match, during and post match, individual and group coaching
- 1.3 Coaching schedule – seasonal, daily, weekly, monthly and yearly
- 1.4 Talent- identification to select the winning combination – the offense and the defense
- 1.5 Team building
- 1.6 Coaching - lesson plan

UNIT-II COMPETITION PLANNING

- 2.1 Long - term and short term preparation for the decisive Kabaddi competitions
- 2.2 Psychological qualities and preparation of a Kabaddi player
- 2.3 Team system and tactical training
 - Offensive system in play
 - Defense system in play
 - Raid and save pattern
 - Individual, group and team tactics
- 2.4 Diet and nutrition for a Kabaddi player
- 2.5 The coordination among the coach, doctor, psychologist and players

UNIT-III SCIENTIFIC APPLICATIONS

- 3.1 Anthropometrical and physiological considerations
- 3.2 Biomechanical analysis of skills

UNIT-IV TRAINING LOAD AND ADAPTATION AND INJURIES IN KABADDI

- 4.1 Principles of load and adaptation
- 4.2 Fatigue, recovery and super – compensation
- 4.3 Overload and its management
- 4.4 Ankle sprain, foot injuries, shoulder dislocation, knee displacement, wrist displacement.
- 4.5 Preventive and safety measures
- 4.6 Rehabilitation

UNIT- V MANAGEMENT AND MARKETING AND PLAYER PROFILE

- 5.1 Managing team during competitions, Information and publicity concerning competition
Office management – correspondence and maintenance of records
- 5.2 Facility management – quality control of equipment and player's kit, Risk management - medical check-up, medical aid and insurance, Personnel management – communication and inter-personnel skills
- 5.3 Event identification and event profile development, Projection of the event and marketing strategy – pamphlets, door-to-door, newspaper, electronic media
- 5.4 Writing press releases and reports, Sponsor identification, fund raising, Building of player-portfolio, preparing/drawing a contract and understanding pertinent laws

REFERENCES**Kabaddi**

- Rao, C. V., Kabaddi, New Delhi: Oxford Press, 1982.
- Rao, E.P., Modern Coaching in Kabaddi, D.V.S.Pub, 1994.
- Rao, C.V., Kabaddi; Native Indian Sports, Patiala Nis Publisher, 1983.

GAME OF SPECIALIZATION – KHO-KHO

UNIT-I

COACHING PHILOSOPHY

- 1.1 Principles and objectives of coaching
- 1.2 Techniques of coaching – pep talk, coaching- pre match, during and post match, individual and group coaching
- 1.3 Coaching schedule – seasonal, daily, weekly, monthly and yearly
- 1.4 Talent identification to select the winning combination – the offense and the defense
- 1.5 Team building
- 1.6 Coaching lesson plan

UNIT-II

COMPETITION PLANNING

- 2.1 Long-term and short - term preparation for the decisive volleyball competitions
- 2.2 Psychological qualities and preparation of a volleyball player
- 2.3 Team system and tactical training
 - Offensive system in play
 - Defense system in play
 - Individual, group and team tactics
- 2.4 Diet and nutrition for a Kho-kho player
- 2.5 Coordination among the coach, doctor, psychologist and players

UNIT-III

SCIENTIFIC APPLICATIONS

- 3.1 Anthropometrical and physiological considerations
- 3.2 Biomechanical analysis of skills

UNIT-IV

TRAINING LOAD AND ADAPTATION AND INJURIES IN KHO-KHO

- 4.1 Principles of load and adaptation
- 4.2 Fatigue, recovery and super compensation
- 4.3 Overload and its management
- 4.4 Ankle sprain, shoulder dislocation, knee displacement
- 4.5 Preventive and safety measures
- 4.6 Rehabilitation

UNIT- V

MANAGEMENT AND MARKETING AND PLAYER PROFILE

- 5.1 Managing team during competitions, Information and publicity concerning competition
Office management – correspondence and maintenance of records
- 5.2 Facility management – quality control of equipment and player's kit, Risk management - medical check-up, medical aid and insurance, Personnel management – communication and inter-personnel skills
- 5.3 Event identification and event profile development, Projection of the event and marketing strategy – pamphlets, door-to-door, newspaper, electronic media
- 5.4 Writing press releases and reports, Sponsor identification, fund raising, Building of player-portfolio, preparing/drawing a contract and understanding pertinent laws

REFERENCES

Kho-Kho

- Chakrabarty, G., Kho - Kho Aveloken, Delhi, Khel Sahitya Kendra, 2002.
- Panday, L., Kho - Kho Sarvaswa, New Delhi Metropolitan, 1982.

GAME OF SPECIALIZATION – TABLE-TENNIS

UNIT-I	<u>TRAINING LOAD AND ADAPTATIONS</u>
	1.1 Important motor components
	1.2 Structure and process for improvement of performance
	1.3 Various training methods and principles of training load
	1.4 Causes and symptoms of overload
	1.5 Management of overload
UNIT-II	<u>SCIENTIFIC CONSIDERATIONS FOR HIGH PERFORMANCE</u>
	2.1 Anatomical considerations
	2.2 Physiological considerations
	2.3 Biomechanical considerations
	2.4 Psychological consideration
	2.5 Scientific research reviews
UNIT-III	<u>COMPETITION PLANNING AND PERIODIZATION</u>
	3.1 Long term and short term planning for competition
	3.2 Cyclic process of training : micro, meso and macro cycles
	3.3 Preparation of training schedules
	3.4 Tactical efficiency
	3.5 Build-up and main competitions
UNIT-IV	<u>TEST, MEASUREMENT AND EVALUATION</u>
	4.1 Introduction, importance of test, measurement and evaluation in Table Tennis
	4.2 Fitness tests
	4.3 Skill tests
	4.4 Knowledge tests
	4.5 Periodical assessment of performance
UNIT-V	<u>TEACHING AND COACHING LESSONS</u>
	5.1 Means & methods
	5.2 Teaching lessons, process of classroom teaching and field coaching
	5.3 Preparation of teaching and coaching lesson-plans : characteristics & principles
	5.4 Stages of teaching and coaching
	5.6 Use of teaching and coaching aids

PRACTICALS

1. Practical applications of tactics and strategies
2. Training means for development and measurement of strength, speed, endurance, flexibility and coordinative abilities
3. Observing and assessing the video/tournament recording/movie and preparing a report
4. Teaching lessons

REFERENCES

Table Tennis

- Jain, Deepak, Teaching and Coaching -Table Tennis, Delhi : Khel Sahitaya Kendra, 2001.
- Narang, P., Play & Learn Table Tennis, Khel Sahitaya Kendra, 2005.
- Parker, D., Take Up Table Tennis, Springfield Books Ltd., 1989.
- Simpson, Peter, Successful Table Tennis, London : Charles Letts, 1980.
- Taylor, R., Sports Action-Table Tennis, London, 1989.
- Thani, Lokesh, Skills and Tactics Table Tennis, Delhi: Sports, 1998

GAME OF SPECIALIZATION – VOLLEYBALL

UNIT-I

COACHING PHILOSOPHY

- 1.1 Principles and objectives of coaching
- 1.2 Techniques of coaching – pep talk, coaching- pre match, during and post match, individual and group coaching
- 1.3 Coaching schedule – seasonal, daily, weekly, monthly and yearly
- 1.4 Talent identification to select the winning combination – the offense and the defense
- 1.5 Team building
- 1.6 Coaching lesson plan

UNIT-II

COMPETITION PLANNING

- 2.1 Long - term and short - term preparation for the decisive volleyball competitions
- 2.2 Psychological qualities and preparation of a volleyball player
- 2.3 Team system and tactical training
 - Offensive system in play
 - Defense system in play
 - Service and reception pattern
 - Individual, group and team tactics
- 2.4 Diet and nutrition for a volleyball player
- 2.5 Coordination among the coach, doctor, psychologist and players

UNIT-III

SCIENTIFIC APPLICATIONS

- 3.1 Anthropometrical and physiological considerations
- 3.2 Biomechanical analysis of skills

UNIT-IV

TRAINING LOAD AND ADAPTATION AND INJURIES IN VOLLEYBALL

- 4.1 Principles of load and adaptation
- 4.2 Fatigue, recovery and super compensation
- 4.3 Overload and its management
- 4.4 Ankle sprain, finger injuries, shoulder dislocation, knee displacement
- 4.5 Preventive and safety measures
- 4.6 Rehabilitation

UNIT- V

MANAGEMENT AND MARKETING AND PLAYER PROFILE

- 5.1 Managing team during competitions, Information and publicity concerning competition
Office management – correspondence and maintenance of records
- 5.2 Facility management – quality control of equipment and player's kit, Risk management - medical check-up, medical aid and insurance, Personnel management – communication and inter-personnel skills
- 5.3 Event identification and event profile development, Projection of the event and marketing strategy – pamphlets, door-to-door, newspaper, electronic media
- 5.4 Writing press releases and reports, Sponsor identification, fund raising, Building of player-portfolio, preparing/drawing a contract and understanding pertinent laws

REFERENCES

Volley Ball

- American.... Program, Coaching Youth Volley Ball, Campaign, H.K., 1996.
- FIVB, Backcourt Spiking in Modern Volley Ball, Chennai : FIVB, 1996.
- Saggar, S.K., Cosco Skills Stactics - Volley Ball, Delhi : Sport Publication, 1994.
- Scates, A.E., Winning Volley Ball, WC Brown, 1993.

GAME OF SPECIALIZATION – YOGA

UNIT-I SCHOOLS OF YOGA :

1.1 Ashtanga yoga, hatha yoga, laya yoga, mantra yoga, bhakti yoga, karma yoga, jan yoga, raj yoga

UNIT-II PATANJALI ASHTANGA YOGA :

2.1 Bahiranga yoga : yama, niyama, asana, pranayama, pratyahara

2.2 Antaranga yoga: dharna, dhyana, samadhi

UNIT-III APPLIED ASPECTS OF YOGA :

3.1 Yoga and sport

3.2 Yoga and research

3.3 Yoga in external climatic conditions

UNIT-IV YOGA, MEDITATION AND HEALTH :

4.1 Corporate yoga

4.2 Yoga for healthy lifestyle

4.3 Common diseases and their yogic treatment

4.4 Different techniques of meditation and their practice on shat chakras, preksha and leshya dhyana, and vipashyana, concentrating on music (nad), and tratak

4.5 Importance of meditation : physical, mental, social, emotional and spiritual

UNIT-V TEACHING AND COACHING LESSONS :

5.1 Yoga – teaching and coaching methodology

5.2 Teaching and coaching of techniques and modules

5.3 Preparing teaching and coaching lessons in yoga

5.4 Use of teaching and coaching aids.

UNIT-IV MEDITATION :

PRACTICALS

1. Repetition of syllabus of Semester-I
2. Tests of flexibility, concentration, VO₂ max., balance
3. Observing and assessing the video/tournament recording/movie and preparing a report
4. Teaching and coaching lessons

REFERENCES

Yoga

- Anand, Omprakash. Yog Dawra Kaya Kalp, Kanpur, Sewasth Sahitya Perkashan, 2001.
- Sarin, N., Yoga Dawara Ragoon Ka Upchhar, Khel Sahitya Kendra, 2003.
- Sri, Swami Rama, Breathing, Rishikesh, Sadhana Mandir Trust, 2001.
- Swami, Ram., Yoga & Married Life, Rishikesh Sadhana Mandir Trust, 2000.
- Swami, Veda Bharti., Yoga, Polity, Economy and Family, Rishikesh Sadhana Mandir Trust, 2000.

SUBJECT SPECIALIZATION – EXERCISE PHYSIOLOGY

UNIT-1 ENVIRONMENTAL CONSIDERATIONS DURING EXERCISE

1.1 Exercise in Hot and Cold conditions

- Thermoregulatory mechanism
- Exercise in the Hot and Cold conditions: Physiological response, fluid electrolyte balance during exercise, Health Risks Associated with Exposure to heat and cold.
- Acclimatization.

1.2 Exercise in Space, Altitude & Underwater:

- Space and exercise: problems of exercise/work at space (zero gravity), physiological alteration with chronic microgravity exposure.
- High altitude exercise: physiological response and associated health risk, acclimatization, high altitude training.
- Under water exercise: Physiological response and Health risks

UNIT-2 SPECIAL POPULATION IN EXERCISE AND SPORT

2.1 Children and Adolescents in Sport and Exercise

- Growth and development of tissues
- Physical activity and fitness promotion
- Recognizing limits in training
- Physical performance in young athlete

2.2 Women in Sports and Exercise

- Specific issues: gynecological considerations: body size/dimensions and physiological differences with male counterpart.
- Female athlete triad
- Sports performance
- Acute response and chronic adaptation
- Expectant mother and exercise guidelines

UNIT-3 PHYSIOLOGY OF WEIGHT MANAGEMENT

3.1

- Exercise: The Key to Weight Management, Physiological foundation of obesity
- Role of exercise, dieting and combination of exercising and dieting in weight loss
- Low intensity versus high- intensity exercise for weight loss
- Healthy weight loss
- Weight loss myths
- Physiological guidelines of losing weight.
- Diet monitoring

UNIT-4 EXERCISE PRESCRIPTIONS FOR FITNESS COMPONENTS

4. 1 Cardio respiratory exercise prescription

- Intensity of exercise
- Mode of exercise
- Duration
- Frequency
- Fitness benefit
- Physiological factors affecting development of cardio respiratory fitness

4. 2 Physiology of Strength-Training

- Factors affecting strength development
- Principles of strength training
- Plyometrics
- Core strength training
- Exercise guidelines, assessment at initial stage, quantum of load/ prevention of injury.

UNIT-5

PRESCRIPTION FOR INITIALCONDITIONING, IMPROVEMENTAND MAINTENANCE

5.1 Stimulus for Adaptation to Cardiovascular and Musculo Skeletal System

- Training session components
- General versus Individualized exercise prescription:
- Cardio respiratory fitness: exercise intensity
 1. Percentage of heart rate reserve
Percent VO2 max reserve
- Energy expenditure
- Flexibility
- Muscular strength/endurance
- Progression through exercise prescription

5.2 Assessing Goals and Commitment To Exercise:

- Assessment of health-related fitness
- Modification of behavior
- Monitoring behavior
- Periodic re-evaluation of the three steps above

PRACTICAL:

1. Assessment of muscular strength/endurance (lab/field)
2. Calculating exercise intensity by Heart rate reserve and VO2 max reserve.
3. Assessment of body composition in children, men and women.
4. Testing flexibility (different joints :wrist , arm, &back).
5. Testing muscular strength by isometric/isokinetic contraction.
6. Assessment of speed.

REFERENCES

- Anderson, Ross E. Obesity: Etiology, Assessment, treatment, Prevention Human Kinetics 2003.
- Ann.F Lowlin. Women's Fitness Program Development. Human Kinetics. 2002.
- Rowland, Thomas W. children's Exercise Physiology. 2nd Edition Human Kinetics. 2005
- Wilmore, Jack H and Costill, David L. Physiology of Sports and Exercise. Human kinetics. 1994.

SUBJECT SPECIALIZATION – SPORTS BIO-MECHANICS

UNIT – I

1. THE STUDY OF RELATED SUBJECTS

The Skeletal system and its Articulations.

The skeletal system, articulations and properties.

Biomechanics and related subjects

Kinanthropometric characteristics effecting the mechanics of human movement

2. **NEUROMUSCULAR ASPECTS OF MOVEMENT**

Functional aspects of the muscular system

Types and functions of muscular of tension

All and none law

Strength of contraction

Group action of Muscles

Reciprocal innervation

Muscular Fatigue

UNIT - II

3. BIOMECHANICS OF THE MUSCULOSKELETAL SYSTEM

Lever like arrangements, wheel and axle like arrangements, Pulley like arrangements,

general consideration of muscular skeletal machines.

4. **APPLICATION OF BIOMECHANICS TO NEUROMUSCULAR FITNESS ACTIVITIES**

Aspects of fitness, resistance devices used in training, strength, muscular endurance, muscular power, flexibility.

UNIT - III

5. LINEAR MOVEMENT RESPONSES TO APPLIED FORCES

Linear speed and velocity, linear acceleration, the relationship of force, mass and linear acceleration, centripetal force and radial acceleration.

LINEAR MOVEMENT AND KINETIC ENERGY

Linear momentum, linear impulse, conservation of linear momentum, kinetic energy.

6. ROTARY MOVEMENT RESPONSE TO APPLIED TORQUES

Angular speed and velocity, linear velocity of a point on a rotating body, angular acceleration, the relationship of torque, rotational inertia and angular acceleration.

ANGULAR MOMENTUM

Angular momentum, angular impulse, conservation of angular momentum within a system, vector resolution of angular momentum.

UNIT - IV

7. ANALYSIS OF ACTIVITIES IN WHICH THE BODY ROTATES FREE OF SUPPORT

The human body in rotary motion, initiating rotations, analysis of rotations while airborne.

ANALYSIS OF ACTIVITIES IN WHICH THE BODY ROTATES WHILE SUPPORTED

The human body in supported rotary motion, conservation of segmental momentum in a supported system, application of angular momentum principles to a supported body.

8. **PERFORMANCE ANALYSIS OF THROW LIKE MOVEMENTS**

Biomechanics of throw like patterns, analysis of sport skills using the kinetic link principle, comparisons of similar skills within the same pattern, performance errors: teaching and coaching applications, developmental patterns: teaching implications.

PERFORMANCE ANALYSIS OF PUSH LIKE MOVEMENTS

Force activities, power activities, and accuracy activities.

UNIT – V :

9. **BIOMECHANICAL ANALYSIS OF MOVEMENTS**

MOVEMENT ANALYSIS

definition of kinesiological analysis, mechanical analysis, and biomechanical analysis

brief knowledge about qualitative analysis and quantitative analysis.

ANALYSIS OF FUNDAMENTAL SKILLS

Walking, Running, Jumping, Throwing, Lifting, Pulling, Pushing, Catching, Climbing
Method of one fundamental skill will be taught Other skill will be given as assignment

ANALYSIS OF SPORTS SKILL

Athletics, Gymnastics, Swimming, Football, Hockey, Basketball, Volleyball, Cricket & Judo
method of one of the sports skill will be taught Other skill will be given as assignment

PRACTICAL

1. Evaluation of dynamogram recorded from force plate and/ or force Transducers of a simple movement i.g. Vertical jump.
2. Use of bio- feed back in basic human movement.
3. Use of Different type of direct measurement techniques in basic human movement (Goniometre).
4. Measurement of Muscle Anthropometry (cross sectional area, change of muscle length during movement, force per unit cross sectional etc).
5. Use of computer programme for determining length of throw in jump or shot put.
6. Use of computer programme for determining optimum angle of a projection in throw or jump.
7. Use of Electromyography of Isometric Tension and / muscle shortening and lengthening and/ fatigue.
8. Evaluation of dynamogram to draw a velocity-time graph, distance- time graph.

REFERENCES

- Basis of Human Motion. 8th ed, Brown & Bench mark.
- Gowitzke, B.A. and Milner, M. Scientific Bases of Human Movement. (3rd. ed.), Baltimore: Williams and Wilkins. (1988).
- Grimshaw, Paul., Lees, Adrian., Flower, Neil., & Burden, Adrian. Sports and Exercise Biomechanics. Taylor & Francis.
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- Luttegens, Kathryn., Deutsch, Helga., Hamilton, Nancy. Kinesiology-Scientific
- Nordin, M. & Frankel, V., Basic Biomechanics of the Musculoskeletal System, Philadelphia: Lea & Febiger. (1990).
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- Shaw, D., Mechanical Basis of Biomechanics, London: A&C, 2003.
- Thompson, C., Manual of Structural Kinesiology. (10th Ed.). St. Louis: Times Mirror/ Mosby College Publishing. (1985).

SUBJECT SPECIALIZATION – EXERCISE & SPORT PSYCHOLOGY

UNIT-I

PERSONALITY & SPORT

- 1.1 Concept and definition of personality
- 1.2 Personality theories - (trait, psychoanalysis, behavioral, biological & social learning theory, humanistic theory)
- 1.3 Personality traits of elite athletes
- 1.4 Personality and sport interactionism

UNIT-II

ANXIETY & AROUSAL

- 2.1 Concept and categories of emotions
- 2.2 Neurophysiological basis of anxiety and arousal
- 2.3 Role of autonomic nervous system in anxiety and arousal states
- 2.4 Effect of anxiety and arousal on performance in sport
- 2.5 Anxiety and arousal theories
 - Inverted - U theory
 - Drive theory
 - Fazy & Hardy's catastrophe model
 - Apter's reversal theory

UNIT-III

PSYCHOLOGICAL SKILLS IN SPORTS

- 3.1 Meaning and concept of psychological skills
- 3.2 Implication of psychological skills
- 3.3 Various psychological skills
 - Attention
 - Concentration
 - Confidence
 - Imagery
 - Anxiety management
 - Independence

UNIT-IV

SOCIAL PSYCHOLOGY

- 4.1 Concept & theory of affiliation
- 4.2 Social isolation & affiliation in sports
- 4.3 Concept of self-efficacy, self-esteem and self - concept
- 4.4 Audience effect - social facilitation, home ground advantage
- 4.5 Aggregation in sport
- 4.6 Concept and theories of aggregation instinct, frustration aggregation, social learning theory acquired
- 4.7 Sport aggression - innate and acquired
- 4.8 Individual differences in aggression

UNIT-V

COUNSELLING AND MENTAL HEALTH OF PARTICIPANTS AND ATHLETES

- 5.1 Concept of counseling
- 5.2 Expectation of different athletes
- 5.3 Counseling process
- 5.4 Exercise and sport as promoters of good mental health
- 5.5 Mental health & mental hygiene perspective
- 5.6 Principles of mental health
- 5.7 Level of aspiration & achievement – a mental health perspective

REFERENCES

Psychology

- Aggarwal, J.C., Basic Ideas in Educational Psychology, Delhi: Sipra, 2003.
- Bhatia, Hans Raj, Test Book of Educational Psychology, Delhi: Macmillan, 2003.
- Cashmore, Ellis, Key Concepts in Sport Psychology, London, Routledge, 2004.
- Cox, R. H., Sport Psychology Ed 5 Th., London, McGraw Hill, 2002.
- Dewey, John, Psychology, New Delhi: Khel Sahitaya Kendra, 2003.
- Jain, D., Introduction to Psychology, New Delhi: Khel Sahitaya Kendra, 2003.
- Jain, Piyush and Tomar, C.S., History, Foundation of Physical Education and Educational Psychology, New Delhi, Friends, 2006.
- Kamlesh, M.L, Educational Sport Psychology, New Delhi, Friends Pub., 2006.
- Kamlesh, M.L., Key Ideas in Sport Psychology, New Delhi, Friends Pub., 2007.
- Kutty, S.K., Foundations of Sports & Exercise Psychology, New Delhi: Sports, 2004.
- Levinthal, Charles F., Introduction to Physiological Psychology, New Delhi, Prentice Hall, 2005.
- Seashore, C.E., Elementary Experiments in Psychology, New Delhi: Sports Pub., 2001.
- Shaw, D., An Encyclopedia of Test and Measurement in Sports Exercise Psychology, New Delhi, 2001.
- Woodworth, R.S., Basic Facts in Psychology, New Delhi: Sports Pub., 2001.

SUBJECT SPECIALIZATION – PROFESSIONAL PREPARATION & CURRICULUM DESIGN

PROFESSIONAL REQUIREMENTS

**UNIT-I HIERARCHY OF SPORTS ORGANIZATIONS, FUNCTIONS OF SPORTS BODIES-
GOVERNMENTAL AND NON-GOVERNMENTAL.**

UNIT-II ACADEMIC (SCIENTIFIC) INTERACTION:

- 2.1 Conferences, seminars, symposium, workshops etc.
 - Preparation of abstracts
 - Writing and presentation of papers
 - Poster presentation
- 2.2 Conducting a scientific session (Role of chairperson, co- chairperson, reporters)

UNIT-III PROFESSIONAL RELATION

- 3.1 Principles and philosophy of democratic relation
- 3.2 Intra and inter relationship among administrators, colleagues, Student/client group, Community

UNIT-IV METHODS OF TEACHING AND INSTRUCTIONAL LEADERSHIP

- 4.1 Principles influencing physical education teaching
- 4.2 Methods of teaching
 - Command Style
 - Demonstration Method
 - Task Method
 - Exploration Method
 - Problem solving Method
- 4.3 Developing teacher competencies
- 4.4 Developing qualitative of researcher

UNIT-V VALUES AND ETHICS

- 5.1 Developing code of conduct
- 5.2 Developing departmental policies
- 5.3 Prevailing Licensing trends in physical education and sports, its implication in the Indian reference
- 5.4 Professional commitments

PRACTICAL

1. Write a brief report/proposal on sports – event/activity
2. Developing an abstract or a research paper or a poster presentation

REFERENCES

- Adams William C. Foundation of Physical Education Exercise and Sports Sciences, Philadelphia, 1991
- Gupta, R., Sharma Akhilesh, and Sharma Santosh, Professional Preparation and Curriculum Design in Physical Education & sports Sciences, New Delhi, Friends Publications, 2004
- Hoover. Kenneth H., The Professional Teacher's Handbook, Boston, Allyn and Bacon, 1972
- Krik David, Physical Education and Curriculum Study, Kent, Croom Helm, 1988
- Sandhu Kiran, Professional Preparation and Career Development in Physical Education, New Delhi, Friends Publications, 2004
- Sandhu Kiran, Trends and Development in Professional Preparation in Physical Education, New Delhi, Friends Publication, 2006
- Wessel Janet A, and Kelly Luke, Achievement-Based Curriculum Development in Physical Education, Philadelphia, Lea and Febiger, 1986
- Zeigler E.F, Professional and Scholarly Foundation of Physical Education and Kinesiology, Sports Educational Technologies, 2007

SUBJECT SPECIALIZATION –SPORT SOCIOLOGY**UNIT-I SOCIETY AND IMPACT OF SPORT**

- 1.1 Definition and concept of society
- 1.2 Type of society and sport
- 1.3 Sports in human society (ancient, feudal, capitalistic and socialistic)
- 1.4 Structure of various sports group
- 1.5 Cohesiveness in various sports

UNIT-II CULTURE AND SUB CULTURE

- 2.1 Culture and sport culture
- 2.2 Components and mechanism of sport culture
- 2.3 Cultural relativism and culture lag
- 2.4 Sport as a social phenomenon
- 2.5 Sports as a commodity

UNIT-III SPORT AND ECONOMIC AND POLITICAL INSTITUTION

- 3.1 Sport and business
- 3.2 Psycho-social implications of revenue generation and revenue sharing among various stakeholders in sport organizations
- 3.3 Sponsorship in sport
- 3.4 Political ideology and sport
- 3.5 Politics in sport

UNIT-IV SPORTS AND STRATIFICATION

- 4.1 Sport and stratification (classes, castes, genders, age)
- 4.2 Social stratification and mobility
- 4.3 Social classes and primary and secondary involvement in sport
- 4.4 Individual personality, identity, action in sport
- 4.5 Moral character and sport

UNIT-V SPORT AND DISCOURSE

- 5.1 Power play and sport
- 5.2 Sports culture in colonial period in India
- 5.3 Amateurism and professionalism
- 5.4 Structuralism and post structuralism

PRACTICAL AND ASSIGNMENT

1. Scale of cultural determination and modernization scale.
2. Prepare a paper on topic from any unit of your choice with at least 15 references.
3. Present a paper on any topic from any unit other than assignments given above by adopting empirical (data-based) and analytical approach.
4. Construct an open pedagogical design of team preparation for an inter-college competition in game if your choice.

REFERENCES**Sociology**

- Bhusan, V. and Sachdeva, An Introduction to Sociology, Delhi: Kitab, 2003.
- Coaplay, Joy. J., Sport In Society, Issues And Controversies, Mcgraw Hill International edition 1997
- Dictionary of sociology, Penguin reference
- Donald. W. Ball and John W. Joy, Sport and Social Order: Contributions to the Sociology of Sports, Addison Wesley Publishing company 1975
- Freeman. S. and Boyes R., Sports beyond the iron curtain, London Protcus Publishing Company 1980
- Gultmann, A., Sport Spectators, Colombia University, New York 1986
- Hosue, J., Tomlinson, A., Whannel, G., Undertaking Sport – An Introduction To The Sociology And Cultural Analysis of Sport, Routbdge, New York 1999
- IGNOU, The Study of Society - Understanding Sociology, Delhi - IGNOU, 2007.
- Inkeles, A. Ed., What Is Sociology, New Delhi : Prentice Hall, 1997.
- Jain, Rachna, Sports Sociology, New Delhi: Khel Sahitaya Kendra, 2005.

- Knop,P.D., Engstrow, L.M., Sbisstadd, B., Uleiss, M.R., World Wide Trends In Youth Sport, Human Kinetics 1996
- Learning Experience in Sociology of Sport by Lusan L. Greendoefer, C.A. Hasbroob, Human Kinetics Books Champaign, Illinois U.S.A. 1991
- Loy,J.W., Mc pherson , B.D., Kenyon, G., Sport And Social Systems, A Guide To The Analysis Problems Litreture, Addison wesley publishing company Messachuslls 1978
- Maguire, J. and Young JAI, K., Theory, Sport and Society , Elsevier Ltd. 2005
- Majuardar, B., and Morgan Reutledge, J. A., Sport in South Asian Society Past and Present edited, New York and London 2005
- Mc Pherson, B.D., Curtis,J.E., and Loy, J.W., The Social Significance of Sport, Human Kinetics books Champaign Illinois U.S.A.1989
- Mitchell, G.D. Ed., Dictionary of Sociology, U.K : Routledge, 1999.
- Moping Sense of Sports, by Ellis Cashmore Routeedge, New York, 2000
- Panomaryow, N.I., Sport and Society, Progress Publication Moscow-1981
- Rawat, H.K. Sociology Basic concepts, Rawat Publication 2007
- Redmond, G., Sport and Politics,. Human Kinetics publishers, In Champaign, Illinois 1986
- Roulledge, M.Abrow, Sociology, The Basics London 2001
- Sandhu, Kanwaljit Singh, Sport Sociology, New Delhi : Friends Pub., 2000.
- Sege, G.H Power And Radiology In American Sport, A Critical Perspective, Human Kinetics 1998
- Sharma, R. N, Urban Sociology, New Delhi : Surjeet Pub., 1993.
- Shoebridge, M., Women in Sports, a selected biography, Mansell publishing Ltd. London and New York 1987
- Singh, Bhupinder, Sports Sociology, New Delhi : Friends, 2004.
- Singh, J.P., Samaajshastra Avdharanaaye Aur Sidhaant, Prentis Hall of India New Delhi 1999
- Snyder, E.E. and Prentis Hall Jersey, Social aspect of Sport, 1978
- Sports in Contemporary Society: An ethnology worth publications, New York-2001
- Stanly eitzan and George H. Sage, Sociology of world American Sports, Bastow, M. A: W C B/Mcgraw Hill 1997
- Turner, B., Cambridge Dictionary of Sociology, U.K., Cambridge, U.N. Press., 2006
- Vidhyabhushan, & Sachdeva,D.R., Samaajshastra Ke Sidhaant, Kitaab Mahal Ellahabad 1979
- Woods,Ronald B., Social issues in Sports, Human Kinetics 2007

SUBJECT SPECIALIZATION – SPORT MANAGEMENT

HUMAN RESOURCE MANAEGMENT

UNIT-I INTRODUCTION

- 1.1 Meaning and concept of human resource in sports
- 1.2 Role of sports professionals in developing humans resources in society
- 1.3 Public relations
- 1.4 Group dynamics

UNIT-II PERSONNEL MANAGEMENT

- 2.1 Recruitment sources
- 2.2 Selection process
- 2.3 Training-methods
- 2.4 Appraisal and career advancement

UNIT-III LEADERSHIP

- 3.1 Meaning and changing concepts of leadership in sports
- 3.2 Need and significance of leadership
- 3.3 Leadership traits and types of leadership
- 3.4 Opportunities for inculcation of leadership skills and traits

UNIT-IV COMMUNICATION

- 4.1 Meaning and concept of communication
- 4.2 Channels of communication
- 4.3 Types and tools of communication
- 4.4 Communication with media and public

UNIT-V MOTIVATION

- 5.1 Meaning and concept of motivation
- 5.2 Type of motivation
- 5.3 Need and theories of motivation
- 5.4 Creating and maintenance of motivation

REFERENCES

Sport Management

- Allen, L.A. Management & Organization. Kogakusha Co. Tokyo, 1988.
- Hert, Renis, New Patterns of Management, McGraw Hill, 1961.
- Sandhu, K. Sports Dynamics: Psychology, Sociology and Management
- Sivia, G.S. Sports Management in Universities, New Delhi: A.I.U. Deen Dayal Upadhyaya Marg, 1991.

SEMESTER-III

Paper No.	Title of the Paper
MPE 0901 MPE 0902 MPE 0903	Optional Group-I (Any two to be selected from the list other than one's subject specialization) Fundamentals of Health Education Fundamentals of Sport Biomechanics Fundamentals of Exercise Physiology
MPE 0904	Subject Specialization (To be carried over from Semester -II) MPE 0904 (i) Exercise Physiology MPE 0904 (ii) Sport Biomechanics MPE 0904 (iii) Exercise & Sport Psychology MPE 0904 (iv) Professional Preparation & Curriculum Design MPE 0904 (v) Sport Sociology MPE 0904 (vi) Sport Management
MPE 0905	Athlete's Care and Rehabilitation

OPTIONAL GROUP-I**FUNDAMENTALS OF HEALTH EDUCATION**

UNIT-I	<u>HEALTH EDUCATION</u>
	1.1 Meaning and definition
	1.2 Importance of health education
	1.3 Need and scope of health education
	1.4 Method and media of health education
	1.5 Health education in prevention of non-communicable disease
UNIT-II	<u>HEALTH</u>
	2.1 Meaning, definition and dimension of Health
	2.2 Interrelationship among various dimensions
	2.3 Factors effecting health
	2.4 Substance abuse (smoking, tobacco, chewing etc)
	2.5 Preventive measures and rehabilitation
UNIT-III	<u>COMMUNICABLE DISEASE</u>
	3.1 Meaning and concepts of communicable disease
	3.2 Source of infection, reservoir of infection, susceptible host, incubation period carriers etc
	3.3 Mode of spread infection,
	3.4 Prevention of communicable diseases
	3.5 Cause, symptoms, and signs of cholera, STD, AIDS, Typhoid, whooping cough, tuberculosis and malaria, hepatitis
UNIT-IV	<u>SCHOOL HEALTH SERVICES</u>
	4.1 Need and importance SHS
	4.2 Components school health services
	4.3 School health programme
	4.4 Guidance and counselling
UNIT-V	<u>FITNESS & WELLNESS</u>
	5.1 Definition, meaning of fitness & wellness
	5.2 Components of wellness
	5.3 Hygiene - meaning, need & importance
	5.4 Nutrition – macro & micronutrients
	5.5 Weight management/obesity control

PRACTICALS

1. Collection of the educational materials (posters, pamphlets, CDs etc)
2. Preparation of school health programmes
3. Collection of vaccination/immunization data of children under - 5
4. Organizing the health awareness programmes
5. Determination of status of weight
 - HT & WT approach
 - BMI approach
 - Percentage of fat

RECOMMENDED BOOKS:

- Even, A Willa Everyday Safety, Chicago lyors & carnahao, 1990
- First Aid To The Injured, New Delhi: St. John Ambulance Association, 1989
- Ghosh B.N.A, Treatise on Preventive & Social Medicine, Calcutta: scientific
- Hanlon john. J., Principles of Public Health Administeration, 1992
- Hygienic and Public Health and Public Health, 1991
- Jonson, Alth in Action. Halt bhincment and Winston, 1977
- Moss Et Al Health Education, National Education, Education Association of U.T.A.1986
- Nemir. A. The School Health Education, New York: Harper and brother, 1991
- Obertenterfer, D.School Education , New York: Harper and brother, 1992
- Park, J.E.Park K. Text Book of Preventive and Social Medicine, 1991
- Royappa, Joseph D., and Govinder Julu L.K , Safety Education ,1996
- Safe School (Education Pamphlet Number 53) London: her majesty's S. stationery office.
- Stack, harbet j. duke Elkow Education For Safe Living Englewood cliffs: New Jersey Prentice Hall-Inc 1991
- Turner G.L. Personal and Community Health , 1990
- Turner, C.E, The School Health And Health Education St. Louis, The C.V. Mossy Co. 1976

**OPTIONAL GROUP-I
FUNDAMENTALS OF SPORT BIO-MECHANICS**

UNIT - I

THE STUDY AND ANALYSIS OF HUMAN MOVEMENT

Kinesiology and Biomechanics:

Areas of study,

Approaches for studying movement,

Importance of biomechanics in Physical Education and Sports

Research in and out of the Laboratory

INTRODUCTION TO BIOMECHANICS INSTRUMENTATION

Overview of instrumentation and its uses

Clocks and times

Stroboscopy

Cinematography and computer assisted analysis

Videography and computer assisted analysis

Force measuring instrumentation

Accelerometry

Electrogoniometry

Electromyography

Using micro computers for collecting and analyzing data

UNIT-II

LOOKING AT MOVEMENT: SOME MECHANICAL CONCEPTS

Types of motion

Distance and Displacement

Speed, Velocity and uniform acceleration

Acceleration and uniform acceleration

Force and momentum

Pressure

Mass and weight

Gravity

Center of gravity

Work

Power

Energy

Forces and Movement

Forces acting on a system

Reaction forces

Friction force

Centripetal and centripetal forces

Elastic force

Internal and external forces

Motive and Resistive forces

Force diagrams and Vectors

Torque and moment of inertia

The effect of two or more torques on a system

Vector Composition of torque

Torque and the body's center of gravity location

Other Kinetics

Lever, types of levers and their mechanical advantage and disadvantage with special reference to physical education and sports application.

Friction, types of friction and their mechanical advantage and disadvantage with special reference to physical education and sports application.

UNIT-III

BODY BALANCE AND STABILITY CONTROL

Balance
Equilibrium and stability
Controlling balance in static positions
Controlling balance during movement

NEWTONS LAWS OF MOTION

Law of Inertia (Linear Motion)
Law of moment of Inertia (Angular Motion)
Law of Momentum (Linear Motion)
Law of Angular Momentum (Angular Motion)
Law of Action and Reaction (Linear Motion)
Law of Action and Reaction (Angular Motion)

UNIT-IV

OBSERVING AND ANALYZING PERFORMANCE

The Nature of skills
Overall performance objective of skill
The analysis process

Projectile – Related Activities

Properties of motion related to projecting for vertical distance
Projecting for vertical distance with a horizontal component
Projecting for horizontal distance
Projecting for accuracy
Principles derived from Projectile Motion

FLUID FORCES

Fluid drag force
Fluid lift force

Application of Arrangement in Sport

Effective of drag on the body and objects in sport
Effects of lift in sport
Lift force produced by spin: The Magnus effect.

Application of Hydrodynamics in Swimming

Buoyancy & flotation
Resistive forces in swimming skills
Propulsive forces in swimming skills
Swimming speed & efficiency

UNIT-V

STRUCTURE OF MOTOR ACTION

Structure of cyclic & aperiodic motor action and movement combination
Functional relationship of different phases of motor action

Qualities of Motor Movements

Movement rhythm
Movement coupling
Movement flow

Movement precision
Movement amplitude

Biomechanical principles:
Principles of initial force
Principles of optimum path of acceleration
Principles of conservation of momentum.
Principles of Action and Reaction

PRACTICAL

1. Development of a Velocity time graph from a cinematographically and/video system and/photo specially recorded sprint and / Vertical jump and / analysis movement.
2. Determination of centre of Gravity by Reaction Board Method.
3. Determination of centre of Gravity by Joint- point – method.
4. Determination of centre of Gravity of Main- point method.
5. Determination of combined center of Gravity (joint-point method).
6. Demonstration of the Principle conservation of Angular momentum.
7. Demonstration of Principle of action and reaction.
8. Biomechanically analysis of a given technique. (Qualitative)

REFERENCES

- Gowitzke, B.A. and Milner, M. Scientific Bases of Human Movement. (3rd. Ed.) Baltimore: Williams and Wilkins, (1988).
- Grimshaw, Paul., Lees, Adrian., Flower, Neil.,&Burden, Adrian. Sports and Exercise Biomechanics. Taylor & Francis.
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- Thompson, C. Manual of Structural Kinesiology. (10th Ed.). St. Louis: Times Mirror/ Mosby College Publishing, (1985).

OPTIONAL GROUP-I FUNDAMENTALS OF EXERCISE PHYSIOLOGY

COURSE DESCRIPTION: This course provides an introduction to the fundamentals of exercise physiology. Emphasis is placed on physiology of muscle action, training for fitness and performance, nutrition and body composition aspects, health disorder and physical activity and fundamentals of exercise prescription and sports fitness testing.

COURSE OBJECTIVES:

1. Becoming familiar with the mechanism that explains the physiology of muscle action.
2. Examining the significance of physical activity and training for fitness and health promotion.
3. Understanding the fundamentals of nutrition and body composition for fitness and performance.
4. Role of physical activity in prevention and treatment of health disorders

UNIT-1

PHYSIOLOGY OF MUSCLE ACTION

1.1 Neuromuscular Concepts Of Muscle Action_

- Structure and function of Skeletal muscle
- Contractile mechanism
- Neural transmission and Motor response
- Muscular adaptation to training

1.2 Metabolic and Hormonal Control:

- Energy systems during rest and exercise
- Measuring energy expenditure
- Nature of hormone action
- Metabolic adaptation to training

UNIT-2

EXERCISE AND TRAINING FOR FITNESS AND PERFORMANCE

2.1 Physical Activity and Health and Fitness

- Role of physical activity in disease prevention
- Behavior supporting fitness and health
- Elements of total fitness (wellness)

2.2 Training for Sport and Fitness:

- Principles of Training
- Overtraining, under training/ optimum training
- Benefits of resistance training
- Adaptation to aerobic and anaerobic training

UNIT-3

NUTRITION, BODY COMPOSITION FOR FITNESS AND PERFORMANCE

3.1 Nutritional Aspect of Fitness And Performance:

- Balance diet
- Water and electrolyte balance
- Athlete's diet
- Physiological basis of diet for sedentary, physically active and sports person.

3.2 Optimal Body Composition For Fitness And Performance:

- Concepts of body composition
- Assessment of body composition
- Body composition for optimal health and fitness
- Body composition and sports performance

UNIT-4

HEALTH DISORDERS AND PHYSICAL ACTIVITY

4.1 Cardiovascular Disease And Physical Activity:

- Concepts of cardiovascular disease
- Cardiovascular disease risk factors
- Reducing risks through physical activity

4.2 Obesity, Diabetes and Physical Activity:

- Obesity and its causes
- Etiology of diabetes
- Role of exercise in prevention and treatment of obesity and diabetes.

UNIT-V

FUNDAMENTALS OF EXERCISE PRESCRIPTION AND PHYSIOLOGICAL TESTING OF SPORTMEN

5.1 Prerequisites of Exercise Prescription:

- Medical clearance
- Consent form
- Readiness to exercise (PAR-Q)
- Stop test indicators, pre exercise session preparations
- Monitoring exercise intensity

5.2 Sport Specific Physiological Testing Prerequisites:

- Pretest preparation checklist
- Medical examination
- Consent form
- Quality assurance and implementation
- Protocols for physiological assessment of players.

PRACTICAL:

1. Assessment of resting physiological parameters (Heart rate, respiratory rate, blood pressure, etc)
2. Effect of selected exercise on physiological parameters
3. Testing the various components of physical fitness (Performance related and health related fitness)
4. Assessment of body composition using various techniques.

REFERENCES

- Gore, Christopher John. Physiological Tests for Elite Athlete. Australian Sports Commission. Human Kinetics.2000.
- Maud, peter J and Froster, Carl. Physiological Assessments of Human fitness. Second edition. Human kinetics 2006.
- Rowland, Thomas W.Explore the full scope of physiologic responses to exercise in youth. Human kinetics.2005.
- Sharkey, Brian J, Gaskill, Steven E. Improve overall quality of life through better fitness and nutrition Human kinetics 2007.
- Wilmore, Jack H and Costill, David L. Physiology of Sports and Exercise. Human kinetics. 1994.

SUBJECT SPECIALIZATION - EXERCISE PHYSIOLOGY

UNIT-1

OPTIMISING PERFORMANCE IN SPORT

1.1 Body Composition and Nutrition for Sport

- Body composition and its assessment - Specific gravity method, anthropometric method & use of Bio impedance, CAT, DEXA and MRI means to achieve optimal weight
- Role of macro and micro nutrients in physical activity/sports.

1.2 Ergogenic Aids and Sports

- Researching ergogenic aids
- Pharmacological agents
- Hormonal agents
- Physiological agents / miscellaneous substances.

UNIT-2

HEALTH AND WELLNESS IN THE LIGHT OF PHYSICAL ACTIVITY/SPORTS

2.1 Metabolic disorders and physical activity:

- Elevated blood lipid & cholesterol.
- High blood pressure.
- Problem of bones and joints.
- Diabetes.

2.2 CHD and Physical Activity

- Forms of cardio-vascular diseases
- Understanding the disease process (inactivity, uncontrolled diet, smoking, drinking, prolong TV watching.)
- Other risk factors
- Reducing risk factors with physical activity.

UNIT-3

INTRODUCTION AND GUIDELINES OF FITNESS TESTING OF NORMAL SEDENTARY SUBJECTS AND ELITE ATHLETES.

3.1 Guidelines and Purpose of Fitness Testing:

- Medical clearance.
- purpose for fitness testing
- Administrative guidelines for testing situation
- Suggestions when testing cardio-respiratory fitness
- Protocol guidelines
- Criteria for selecting cardio-respiratory fitness test.
- General versus sports specific testing.

3.2 Introduction to Physiological Tests for Elite Athletes

- Laboratory and athlete preparation
- Assessing quality assurance and implementation
- General assessment procedures
- Protocols for the physiological assessment of players

UNIT-4

PHYSIOLOGY OF AGING AND EXERCISE

4.1 Gerontology: Study of Ageing

- Concept and significance of studying aging in the field of physical education and sports.
- Various physical, anatomical, physiological and psychological changes due to aging and its physiological basis.
- Role of regular exercise/ physical activity on aging process.

4.2 Trainability and Fitness Testing:

- Trainability of the older athlete.
- Trainability in old sedentary normal individuals.

UNIT-5

PHYSIOLOGY OF PHYSICALLY DEMANDING OCCUPATIONS

5.1 Physiological requirements of Worker in Multi-Dimensional Occupation Demand:

- Physical characteristics of the worker in the physiological demanding occupations
- Employee health and job related fitness
- Examination of work requirement and capacity for physically demanding job
- Environmental factors affecting employee performance (heat , noise, air, cold)

5.2 Worksite Exercise Program

- Benefits
- Work on the job while maintaining health
- Support to excel in job
- Population need based strategies to increase physical activity

PRACTICAL

1. Assessment of body composition in sportsmen. (sport specific)
2. Assessing health related fitness in the aged population
3. Administration of the older adult fitness battery
4. Assessing fitness in employees working in physically demanding occupations

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- Astrand, per- olof, Rodah, Kaare, Datil, Hans A, Stromme, Sigmund B. Textbook of Work Physiology. 4thed.2003 . Human kinetics.
- Gore, Christopher John. Physiological Tests for Elite Athlete.Australian sports Commission. Human Kinetics 2000.
- Sharkey, Brian J.Hard Work: defining Physical Work Performance Requirements 2008Human Kinetics.
- Wilmore, Jack H and Costill, David L. Physiology of Sports and Exercise. Human kinetics. 1994.

SUBJECT SPECIALIZATION – SPORT BIOMECHANICS

UNIT - I

1: Biomechanical Testing Protocols

- General Consideration
- Biomechanical Parameters and Techniques
- Defining A Problem
- Unites Of Measure
- Definitions
- Ethics And Safety
- Detailed Reporting
- Data Bases
- Frequency Of Testing
- Innovative Techniques
- Strategies For Research
- Conclusion And Recommendations

UNIT - II

2: Kinematics (Set – I)

- I) Time
- II) Position
- III) Linear Displacement
- IV) Linear Velocity
- V) Linear Acceleration
- VI) Angular Displacement
- VII) Angular Velocity
- VIII) Angular Acceleration
- IX) Units Of Measurement For Kinematic Data
- Purpose For Measuring
- Relevance
- Testing Procedure
- X) Cinematography And Computerized Video Analysis
 - Advantage
 - Disadvantage
- XI) Single-Plate Methods
 - Advantage
 - Disadvantage
- XII) Optoelectric Movement Monitoring System
 - Advantage
 - Disadvantage

UNIT - III

3. Kinematics (Set – II)

- XIII) Censors And Movement Monitoring System
- XIV) Television System
 - Advantage
 - Disadvantage
- XV) Accelerometers
 - Advantage
 - Disadvantage
- XVI) Electrogoniometers
 - Advantage
 - Disadvantage
- Interpretation Of Test Results
- Kinematic Written Reports

UNIT - IV

4: Kinetics (Set – I)

Physical Properties Of Limbs And Total Body

- Definitions And Standard Units
- Limitations
- Purpose For Measuring
- Relevance
- Relationship Between Physical Properties And Movement Parameters
- Testing Procedure
- Center Of Gravity (Or Mass) And Center Of Volume
- Mass Moments Of Inertia
- Interpretation Of Test Results

UNIT V

5. Kinetics (Set – II)

Forces, Impulse, and Momentum

- i) Definitions And Standard Units
- ii) Limitations
- iii) Purpose For Measuring
- iv) Relevance
- v) Measurement Techniques And Tests
- vi) Ground Reaction Forces And Pressure Distribution
- vii) Impulses And Momentum
- viii) Interpretation Of Test Results

PRACTICALS

- i) Measurement And / Or Analysis of Any Two Physical Properties.
- ii) Measurement And / Or Analysis of Any Two Kinematic Variables.
- iii) Measurement And / Or Analysis of Any Two Kinetic Variables.
- iv) Prepare A Kinematic Teaching Lesson Plan.
- v) Prepare A Kinetic Teaching Lesson Plan.

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- Gowitzke, B.A. and Milner, M. Scientific Bases of Human Movement. (3rd. Ed.) Baltimore: Williams and Wilkins, (1988).
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SUBJECT SPECIALIZATION – EXERCISE AND SPORT PSYCHOLOGY

- UNIT-I** **PSYCHOLOGICAL MEASUREMENT IN EXERCISE & SPORT**
- 1.1 Concept of psychometry
 - 1.2 Sport & exercise related psychological variables
 - 1.3 Trait versus state measures
 - 1.4 General versus sport-specific measures
 - 1.5 Precautions in using psychological tests
 - 1.6 Qualitative versus quantitative measures
- UNIT-II** **CONSTRUCTION AND STANDARDIZATION OF A PSYCHOLOGICAL TEST**
- 2.1 Standardized versus tailored tests
 - 2.2 Identifying variables & factors to be included in the test
 - 2.3 Developing question- statement
 - 2.4 Seeking expert opinion
 - 2.5 Finalizing test format
 - 2.6 Application of test standardization criteria
 - Validity
 - Reliability
 - Objectivity
 - Practicability
 - Revision of the draft test
 - Development of norms
- UNIT-III** **PROCEDURE FOR ADMINISTRATION OF TEST & INTERPRETATION**
- 3.1 Procedure for administration
 - 3.2 Any seven of the following tests to be administered and the data processed and interpreted of test
 - Personality –Eysenck personality questionnaire and thematic application test
 - Anxiety – SCAT
 - Motivation
 - Athletics problems
 - Mental toughness
 - I.Q, E Q & SQ
 - Attention
 - Aggregation
 - Psychological skill
 - Incentive motivation
 - Self - confidence
 - Self - efficacy
 - Technique of group cohesion, sociometr
 - Self-esteem test- (Rosenberg)
- UNIT-IV** **FIELD WORK**
- 1.1 Preparing a psychological skills profile of at least 10 players
 - 1.2 Identifying athlete's problems and developing strategies to deal with them
 - 1.3 Preparing psychological profiles using any standardized tests
- UNIT-V** **UNDERSTANDING PSYCHOLOGICAL TESTING EQUIPEMENTS**
- 1.1 Reaction time apparatus
 - 1.2 Depth perception, dexterity apparatus
 - 1.3 Peripheral vision apparatus
 - 1.4 Anticipation apparatus
 - 1.5 Eye hand & eye beg coordination apparatus
 - 1.6 Overcoming difficulties in using psychological testing apparatus

REFERENCES

Psychology

- Aggarwal, J.C., Basic Ideas in Educational Psychology, Delhi: Sipra, 2003.
- Bhatia, Hans Raj, Test Book of Educational Psychology, Delhi: Macmillan, 2003.
- Cashmore, Ellis, Key Concepts in Sport Psychology, London, Routledge, 2004.
- Cox, R. H., Sport Psychology Ed 5 Th., London, McGraw Hill, 2002.

SUBJECT SPECIALIZATION - PROFESSIONAL PREPARATION AND CURRICULUM DESIGN

PROFESSIONAL DEVELOPMENT

UNIT-1 SELF-PREPARATION FOR CAREER OPPORTUNITIES

- 1.1 Self-assessment, scanning and listing new/first job
- 1.2 Preparing for job application
- 1.3 Developing a resume
- 1.4 Facing Interview and follow-up

UNIT-2 PROFESSIONAL DEVELOPMENT

- 2.1 Meaning and aim of professional development; need and type for in-service training
- 2.2 Constrains and compulsions in physical education during in-service training
- 2.3 Role of training institutes and resource persons in professional enrichment
- 2.4 Professional literature/material

UNIT-3 INNOVATIVE APPROACHES TO PROFESSIONAL LEADERSHIP AND IDEAS IN PHYSICAL EDUCATION

- 3.1 Volunteer's role
- 3.1 Qualities of volunteer leaders
- 3.2 Developing leadership competencies,
- 3.3 Community sports leadership programs

UNIT-4 FOUNDATIONS OF CURRICULUM DEVELOPMENT

- 4.1 Definition, meaning, approach to curriculum designing
- 4.2 Steps and Factors effecting curriculum development
- 4.3 Resource material for Physical education curriculum
- 4.4 Content, subject matter, its scope and limits

UNIT-5 PRINCIPLES OF CURRICULUM DEVELOPMENT

- 5.1 Principles of curriculum development
- 5.2 Overview of developed curriculum

PRACTICALS:

1. Developing a professional resume/portfolio, group discussions
2. Mock – interviews and discussions for job placements

REFERENCES

- Adams William C. Foundation of Physical Education Exercise and Sports Sciences, Philadelphia, 1991.
- Gupta Rakesh, Sharma Akhilesh, and Sharma Santosh, Professional Preparation and Curriculum Design in Physical Education & sports Sciences, New Delhi, Friends Publications, 2004
- Hoover. Kenneth H., The Professional Teacher's Handbook, Boston, Allyn and Bacocon, 1972
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- Zeigler E.F, Professional and Scholarly Foundation of Physical Education and Kinesiology, Sports Educational Technologies, 2007

SUBJECT SPECIALIZATION –SPORT SOCIOLOGY

UNIT-I SPORT AND SOCIALIZATION PROCESS

- 1.1 Theories of socialization and sport
- 1.2 Socialization and gender
- 1.3 New approaches in sport socialization
- 1.4 Psycho-social implications and impact of organized youth sport
- 1.5 Recent trends in youth sport
- 1.6 Desocialization and sport

UNIT-II SPORT AND SOCIALIZATION THROUGH FAMILY AND EDUCATION SYSTEM

- 2.1 Sport socialization through educational and family systems
- 2.2 Desocialization of sport and school interaction
- 2.3 Competitive sport and socialization prospective
- 2.4 Women and sport – history, technology and social issues

UNIT-III SPORT AND GENDER

- 3.1 Definition and theories of gender
- 3.2 Women & sport history, ideology and structural issues
- 3.3 Gender disparity discrimination and equity
- 3.4 Stereotype and gender (masculinity and femininity) in sport

UNIT-IV SPORT AND PROBLEMS IN SPORTS

- 4.1 Concept and meaning of deviance
- 4.2 Sports problem at school and college (academic performance, academic abuses; use, mis-use, and abuse of sports)
- 4.3 Post retirement psychological problems of athletes

UNIT-V SPORT AND SPECTATORS

- 5.1 Sport spectators history
 - Spectators and sport
 - Influence of spectators on dynamics of sports
- 5.2 Paradox between Olympic movement and emerging priorities in sports

PRACTICAL AND ASSIGNMENT

- 1 Social maturity scale, parent - child relationship scale
- 2 Prepare a paper on a topic of your choice with at least 15 references
- 3 Evaluate and compare the process of socialization taken place in schools of India and abroad.
- 4 Make an observation of spectators involved in National school & into university competition in different games

REFERENCES

Sociology

- Bhusan, V. and Sachdeva, An Introduction to Sociology, Delhi: Kitab, 2003.
- IGNOU, The Study of Society - Understanding Sociology, Delhi - IGNOU, 2007.
- Inkeles, A. Ed., What Is Sociology, New Delhi: Prentice Hall, 1997.
- Jain, Rachna, Sports Sociology, New Delhi: Khel Sahitya Kendra, 2005.
- Kanwal Jeet, S., Sport Sociology, New Delhi: Friends Pub., 2000.
- Mitchell, G.D. Ed., Dictionary of Sociology, U.K : Routledge, 1999.
- Sharma, R. N, Urban Sociology, New Delhi: Surjeet Pub., 1993.
- Singh, Bhupinder, Sports Sociology, New Delhi: Friends, 2004.
- Turner, B., Cambridge Dictionary of Sociology, U.K., Cambridge, U.N. Press., 2006

SUBJECT SPECIALIZATION-SPORT MANAGEMENT

FINANCE AND MARKETING MANAGEMENT

UNIT-I INTRODUCTION

- 1.1 Meaning and concept of finance management
- 1.2 Financial resources
- 1.3 Concept of marketing in sports industries
- 1.4 Sports as growing economy and sports marketing

UNIT-II BUDGETING

- 2.1 Meaning, concept and need of budget
- 2.2 Preparation of budget
- 2.3 Principles of budgeting
- 2.4 Types of budgets

UNIT-III PURCHASE AND INVENTORY MAINTENANCE

- 3.1 Purchase procedure
- 3.2 Stock maintenance
- 3.3 Condemnation procedure
- 3.4 Accounting procedure

UNIT-IV PRODUCTION

- 4.1 Concept and type of production
- 4.2 Marketing surveys and analysis
- 4.3 Pricing strategies of product
- 4.4 Advertising and promotional strategies

UNIT V LEGAL IMPLICATIONS

- 5.1 Firm/ organization registration procedure
- 5.2 Import and export procedure
- 5.3 Franchise procedure
- 5.4 Guarantee, warrantee, after care services and compensation

REFERENCES

Sport Management

- Allen, L.A. Management & Organization. Kogakusha Co. Tokyo, 1988.
- Chakraborty, S. Sports Management Delhi, Sports Publications, 1998.
- Kamlesh, M. L. Management Concept in Physical Education and Sport, New Delhi Metropolitan Book Co. Pvt. Ltd, 2000.
- Roy, S.S. Sports Management Delhi, Friends Publications, 1995.
- Sandhu, K. Sports Dynamics: Psychology, Sociology and Management
- Sivia, G.S. Sports Management in Universities, New Delhi: A.I.U. Deen Dayal Upadhyaya Marg, 1991.

ATHLETE'S CARE AND REHABILITATION**UNIT-I****INTRODUCTION**

- 1.1 Meaning and definition of related terminologies
 - Athlete, fitness, wellness, performance
 - Care
 - Rehabilitation
 - Sports
 - Medicine
 - Sports Medicine
- 1.2 Aim, objectives and scope of ACR/SM
- 1.3 Principles of care and rehabilitation
- 1.4 Role of physical educators in athletic care and Rehabilitation
- 1.5 Exercise as a preventive measure for disease

UNIT-II**SPORTS INJURIES**

- 2.1 Introduction: meaning, definition
- 2.2 Various classification of Sports Injuries
- 2.3 Causes/reasons of sports injuries
- 2.4 Prevention of sports injuries
- 2.5 Treatment and management of sports injuries

UNIT-III**AGE AND GENDER CONSIDERATION IN SPORTS**

- 3.1 Biological, chronological age and age determination
- 3.2 Suitability of sports at various stages of growth
- 3.3 Special problems women and sports performance
- 3.4 Exercise benefits at various stages of life
- 3.5 Physical, physiological, bio-chemical and bio-mechanical difference between men & women

UNIT-IV**ENVIRONMENT & SPORTS PERFORMANCE INTRODUCTION**

- 4.1 Various types of environmental conditions
- 4.2 Medical problems due to environment and their symptoms
- 4.3 Treatment of medical problem and acclimatization in temperature
- 4.4 Training in different temperature and altitude (high & low Pressure)
- 4.5 Training of different surface

UNIT-V**ERGOGENIC AIDS & DOPING IN SPORTS**

- 5.1 Meaning, definition, classification benefits of ergogenic
- 5.2 Nutrition and sports Performance
- 5.3 Definition, classes, method of doping
- 5.4 Side effects, detection and sanction against doping
- 5.5 IOC, FIMS , WADA, NADO, RADO

PRACTICALS

1. First Aid for:
Soft tissue, bone & joint injuries
2. Therapeutic Modalities
 - (i) Cryotherapy
 - (ii) Thermotherapy
 - I/R lamps
 - Wax bath
 - (iii) Electrotherapy
 - TENS
 - Short wave diatherapy
 - Microwave diatherapy
 - Ultra sound
 - (iv) Hydrotherapy

- (v) Exercise therapy
 - Isometric exercise
 - Isotonic exercise
 - Manual massage therapy

REFERENCES

- Davies, J.E., Essentials of Sports Medicine, New Delhi, 1986.
- Ellison, A.E. and others, Athletic Training & Sports Medicine, American Academy, 1984.
- Eriksson, B.O.[et.al.], Sports Medicine, Great Britain: Guinness Pub., 1990.
- Irvin, R. and others, Sports Medicine, USA : Allyn and Bacon, 1998.
- Jain, Rachna, Sports Medicine, New Delhi: Khel Sahitaya Kendra, 2002.
- Khanna, G.L & Jayprakash, C.S., Exercise Physiology & Sports Medicine, Lucky, 1990.
- Khanna, G.L., Exercise Physiology & Sports Medicine, Lucky Enterprises, 1990.
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- Renstrom, Encyclopaedia of Sports Medicine, Blackwell, 1993.
- Roy and Irvin, Sports Medicine, New Jersey: Prentice-Hall, 1983.
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- Shephard, R.J. & Astrand, P.O., Encyclopedia of Sports Medicine, Blackwell, Sc. Pub., 1992.
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- Torg, J.S. and others, Current Therapy in Sports Medicine, New Delhi, 1996.
- Vijay Ed., Handbook of Sports Medicine, Delhi: Friends Pub, 2001.

SEMESTER-IV

Paper No.	Title of the Paper
MPE 1001 MPE1002 MPE 1003	Optional Group-II (Any two to be selected from the list other than one's subject specialization) Fundamentals of Sport Sociology Fundamentals of Sport Psychology Fundamentals of Sport Management & Administration
MPE 1004	Subject Specialization (To be carried over from semester-III) MPE 1004 (i) Exercise Physiology MPE 1004 (ii) Sport Biomechanics MPE 1004 (iii) Exercise & Sport Psychology MPE 1004 (iv) Professional Preparation & Curriculum Design MPE 1004 (v) Sport Sociology MPE 1004(vi) Sport Management
MPE 1005	Measurement and Evaluation in Physical Education
MPE 1006	Dissertation OR Optional Group-III (One to be selected out of the following) MPE 1006 (i) Adapted Physical Education MPE 1006 (ii) Fitness and Wellness MPE 1006 (iii) Sport Therapy MPE 1006 (iv) Sport Journalism MPE 1006 (v) Sport Industry & Marketing MPE 1006 (vi) Sport, Physical Activity & Nutrition

**OPTIONAL GROUP-II
FUNDAMENTALS OF SPORT SOCIOLOGY**

- UNIT-I INTRODUCTION TO SPORT SOCIOLOGY**
- 1.1 Meaning and concept of sport sociology
 - 1.2 Importance of its study
 - 1.3 Current status of sport sociology in India and abroad.
 - 1.4 Trends in sport sociology.
 - 1.5 Theories in sociology
 - 1.6 Theories about sports and society (structured and functionalism;
 - 1.7 Critical, conflict, gender and interactionism theories)
 - 1.8 A comparative analysis of sociological theories in sports
- UNIT-II SOCIETY AND CULTURE**
- 2.1 Definition and concept of society
 - 2.2 Sports in human societies (ancient, feudal, capitalistic and socialistic).
 - 2.3 Sport as a part of social, structural and functional system
 - 2.4 Sociological differences in ancient and modern sports.
 - 2.5 Meaning and concept of culture-sub-culture (Material and immaterial)
 - 2.6 Sport as a cultural phenomenon
 - 2.7 Cultural symbols in sport
- UNIT-III STRATIFICATION AND SOCIALIZATION**
- 3.1 Definition of stratification (classes, caste, age, gender in sports)
 - 3.2 Stratification and social mobility
 - 3.3 Stratification and popularity of sport
 - 3.4 Theories of socialization and sport
 - 3.5 Facilitation and debilitation of sport socialization in genders.
 - 3.6 Desocialization from sport
- UNIT-IV SPORT AND GENDER**
- 4.1 Definition and theories of gender
 - 4.2 Gender disparity and discrimination, and equity
 - 4.3 Gender involvement in sports and masculinity
 - 4.4 Deviance & aggregation in players
 - 4.5 Spectator, fans and violence
 - 4.6 Influence of spectators in dynamics of sports
- UNIT-V COMMUNICATION AND RESEARCH METHODOLOGY**
- 5.1 Mass communication and its implication in sports
 - 5.2 Commercialization in sports
 - 5.3 Amateurism versus professionalism
 - 5.4 Recent social research methodologies (phenomenology, Hermeneutics, semiotics)
 - 5.5 Qualitative and quantitative research
 - 5.6 Participant observation and interview method in research
 - 5.7 Impact of privatization and globalization on sports

PRACTICALS & ASSIGNMENT:

- 1 Sociometric, cultural determination & socio economic status
- 2 Analyzing sports programmes programmes and policies in India with special reference structural, conflict, gender and critical theories.
- 3 Evaluate the level of commercial aspects prevailing in different sports in India
- 4 Critically analyze the topics & methods used in previous session
- 5 How to identify and understand the themes in qualitative research.

REFERENCES

Sociology

- Bhusan, V. and Sachdeva, An Introduction to Sociology, Delhi: Kitab, 2003.
- Coaplay, Joy. J., Sport In Society, Issues And Controversies, Mcgraw Hill International edition 1997
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- Donald. W. Ball and John W. Joy, Sport and Social Order: Contributions to the Sociology of Sports, Addison Wesley Publishing company 1975
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- Redmond, G., Sport and Politics,. Human Kinetics publishers, In Champaign, Illinois 1986
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- Sharma, R. N, Urban Sociology, New Delhi : Surjeet Pub., 1993.
- Shoebridge, M., Women in Sports, a selected biography, Mansell publishing Ltd. London and New York 1987
- Singh, Bhupinder, Sports Sociology, New Delhi : Friends, 2004.
- Singh, J.P., Samaajshastra Avdharanaaye Aur Sidhaant, Prentis Hall of India New Delhi 1999
- Snyder, E.E. and Prentis Hall Jersey, Social aspect of Sport, 1978
- Sports in Contemporary Society: An ethnology worth publications, New York-2001
- Stanly eitzan and George H. Sage, Sociology of world American Sports, Bastow, M. A: W C B/Mcgraw Hill 1997
- Turner, B., Cambridge Dictionary of Sociology, U.K., Cambridge, U.N. Press., 2006
- Vidhyabhushan, & Sachdeva, D.R., Samaajshastra Ke Sidhaant, Kitaab Mahal Ellahabad 1979
- Woods, Ronald B., Social issues in Sports, Human Kinetics 2007

OPTIONAL GROUP-I

FUNDAMENTALS OF SPORT PSYCHOLOGY

COURSE OBJECTIVE: - Provide concrete understanding of techniques for overall behavioral development of an individual so that the physical help in solving the problems of an individual.

- | | |
|-----------------|---|
| UNIT- I | <p>1. <u>INTRODUCTION TO SPORT PSYCHOLOGY</u></p> <ul style="list-style-type: none"> 1.1 Meaning and scope of sport psychology 1.2 Divisions of sport psychology 1.3 Place of sports psychology in sports sciences heirachy. 1.4 Importance of sport psychology <p>2. <u>SENSORY PERCEPTUAL PROCESS</u></p> <ul style="list-style-type: none"> 2.1 Meaning, mechanism and stages of sensory perceptual process 2.2 Classification of senses and sensory perceptual process. 2.3 Factors in perception 2.4 Implication of sensory-perceptual process in exercise and sport |
| UNIT-II | <p>1. <u>MOTOR DEVELOPMENT AND LEARNING</u></p> <ul style="list-style-type: none"> 1.1 Understanding motor development and motor learning 1.2 Motor development and learning in infants and children. 1.3 Factors affecting motor development and motor learning <p>2. <u>PSYCHOLOGICAL SKILLS AND THEIR INFLUENCE ON SPORTS PERFORMANCE</u></p> <ul style="list-style-type: none"> 2.1 Attention 2.2 Concentration 2.3 Confidence 2.4 Imagery |
| UNIT-III | <p>1. <u>PERSONALITY</u></p> <ul style="list-style-type: none"> 1.1 Concept and definition of personality 1.2 Modern perspective, trait, humanistic, social cognitive and biological theories) 1.3 Dynamics of personality in activity and sport <p>2. <u>ANXIETY IN SPORT</u></p> <ul style="list-style-type: none"> 2.1 Concept, definition and types of anxiety 2.2 Anxiety and arousal 2.3 Effect of anxiety on physical performance |
| UNIT-IV | <p>1. <u>MOTIVATION IN ACTIVITY AND SPORT</u></p> <ul style="list-style-type: none"> 1.1 Concept, definition and types of motivation 1.2 Theories of motivation (drive, need and instinct theories) 1.3 Motivation in activity and sports |

2. PSYCHOLOGICAL PREPARATION AND COMPETITION

- 2.1 Phenomenon of competition sport
- 2.2 Psychological preparation for competition

UNIT-V

SOCIO-PSYCHOLOGICAL ASPECTS OF ACTIVITY AND SPORT

2 SOCIO-CULTURE FACTORS AFFECTING PERFORMANCE

- 1.1 Social ethics and sport
- 1.2 Attitude towards activity and sport
- 1.3 Team (group) cohesion

3 SPECTATORS AND PERFORMANCE

- 2.1 Types of spectators- crowd, fans
- 2.2 Facilitation and debilitative effects of spectators on performance.

PRACTICALS

To administer the following tests, and process and interpret their data.

- 1. Eysenck personality questionnaire (EPQ).
- 2. Sport competitive anxiety test-1
- 3. Depth perception test
- 4. Reaction time

SUGGESTED READINGS

- Alderman, R.B Psychological behaviour in Sports (Philadelphia London, Saunders Company).
- But, Lusen Dorrcas, Psychological of Sports (Network Van Nostra and Reinhold company) Edn.
- Cratty, Brayant. J Psychology and Physical Activity (New Jersey Englewood Cliffs, Prentice Hall Inc.
- Cratty, Brayant. J. Movement Behaviour and Motor Learning (Philadelphia Lea and Febiger, Edn 3
- Gold Stein and Joffery H. (Ed) Sports Games and Play Social and Psychological Veiw Points (Lowerence Eribanm Associates Publishers R.J.

**OPTIONAL GROUP-I
FUNDAMENTALS OF SPORT MANAGEMENT AND ADMINISTRATION**

UNIT-I MANAGEMENT AND ADMINISTRATION

- 1.1 Definition, meaning and concept of sports management and administration
- 1.2 Nature, scope and principles
- 1.3 Functions of sports management
- 1.4 Profile of a successful administrator/manager

UNIT-II FACILITIES AND FINANCE MANAGEMENT

- 2.1 Planning and development of facilities
- 2.2 Developing multi purpose sports facilities
- 2.3 Management of safety measures
- 2.4 Fundraising, accounting and budgeting

UNIT-III LEADERSHIP

- 3.1 Leadership types and traits of a successful leader
- 3.2 Time management
- 3.3 Managing meetings
- 3.4 Personnel management and voluntary management

UNIT-IV SPECIAL SERVICES

- 4.1 Types of sports events
- 4.2 Formation of committees
- 4.3 Draw of fixtures, schedules and ceremonies
- 4.4 Reporting and evaluation

UNIT-V OFFICE MANAGEMENT

- 5.1 Meaning and definition of office management
- 5.2 Elements and functions of office management
- 5.3 Layout of physical education department
- 5.4 Office correspondence

REFERENCES

Sport Management

- Allen, L.A. Management & Organization. Kogakusha Co. Tokyo, 1988.
- Hert, Renis, New Patterns of Management, McGraw Hill, 1961.
- Sandhu, K. Sports Dynamics: Psychology, Sociology and Management

Sivia, G.S. Sports Management in Universities, New Delhi: A.I.U. Deen Dayal Upadhyaya Marg, 1991.

SUBJECT SPECIALIZATION - EXERCISE PHYSIOLOGY

UNIT-1

ASSESSING ADULT FITNESS AND PHYSICAL ACTIVITY

1.1 Measuring Health-Related Physical Activity

.1 Measuring Aerobic Capacity:

- Laboratory methods- maximal exercise (VO₂ max), Exercise testing submaximal (estimating Vo₂ max)
- Field methods- distance runs, step tests, Rockport 1-mile walk test
- Prediction of Vo₂ max with equations Vo₂ max

(b) Measuring muscular strength and endurance

- Lab methods- computerized dynamometers
- Field methods- upper and lower body strength and endurance
 - Bench press, Canadian standardized test.
 - Test of fitness- push ups, YMCA 1 minute
 - Timed sit-up test

1.2 Testing for older population

- Assessment of lower body strength
- Upper body strength
- Aerobic endurance
- Alternate test to assess aerobic endurance
- Flexibility of different joints.
- Physical mobility

UNIT-2

**ASSESSMENT OF FITNESS IN PHYSICALLY CHALLENGED SUBJECTS
(ADAPTED PHYSICAL EDUCATION)**

2.1 Exercise and Fitness for physically challenged subjects.

- Categories of physically challenged subjects.
- Exercise and fitness review in physically challenged subjects.

2.2 Fitness Assessment in Disabled

- Anaerobic capacity and power
- Aerobic capacity
- Electrocardio graphic response to exercise
- Muscular strength/endurance
- Flexibility
- Body composition
- Appropriate fitness assessment: disability conditions, protocol selection specificity.

UNIT-3

PHYSIOLOGICAL TESTS FOR ELITE ATHLETES IN LAB & FIELD.

3.1 General Assessment Procedures:

- Anthropometric assessment protocols
- Measuring flexibility for performance and injury prevention.
- Determination of maximal oxygen consumption.
- Blood lactate response to exercise
- ECG placement and monitor operations

3.2 Protocols for Physiological Assessment of Players of Specific Sports

- Lab and field environment and subject preparation
- Equipment checklist
- Protocols
- Test administration
- Data recording forms

UNIT-4

CALCULATIONS OF CARDIOVASCULAR DYNAMICS AND METABOLIC EQUIVALENT

4.1 Major Concepts in Calculations of Cardiovascular Dynamics

- The fick equation: determining cardiac out put
- Absolute and relative Vo₂
- a - Vo₂ diff
- Double product
- Mean arterial pressure

4.2 Basel Energy Expenditure:

- Measuring energy expenditure at basal condition.
- Converting METS to Kcal
- Determining appropriate exercise intensity
- Karronen formula.

UNIT-5

CALCULATING ENERGY COST OF ACTIVITY

5.1 Energy Cost

- Energy Cost of Level Walking
- Energy cost of uphill walking.
- Energy cost of running

5.2 Energy cost for submaximal exercise testing and related math

- Stepping
- Cycling.
- Swimming

PRACTICAL:

1. Anthropometric assessments
2. blood lactate response to exercise :assessment
3. ECG placement and monitor operations
4. Physiological assessment of players of various sports.
5. measuring aerobic capacity (lab/field)
6. Measuring muscular strength/endurance. (lab/field)
7. Measurement of energy cost of walking, running, cycling & jogging.

REFERENCES

- Acevedo, Edmund O, Starks, Michael, A. Exercise Testing and Prescription Manual. Human Kinetics 2003.
- Gore, Christopher John. Physiological Tests for Elite Athlete. Australian Sports Lommission. Human Kinetics.2000.
- Morrow, James R. Jackson, Allen W, Disch, James G., Mood, Dale P. Measurement and Evaluation in Human performance. 2nded. Human kinetics 2000.

SUBJECT SPECIALIZATION -SPORTBIOMECHANICS

UNIT - I

1. Kinetics (Set- Iii)

Mechanical Energy, Work, and Efficiency

- i) Definitions And Standard Units
- ii) Limitations
- iii) Purpose For Measuring
- iv) Potential Uses For Measurement Of Movement Patterns
- v) Relevance
- vi) Work-Energy Applications To Sport
- vii) Testing Procedures
- viii) The Problem Of The Concept And Calculation Of Mechanical Efficiency of Athletic Performance
- ix) Interpretation Of Test Results

2: Neuromuscular Considerations

Definition and Explanation of the Parameter

- i) Reaction Time
- ii) Fiber Type
 - Purpose For Measuring The Different Neuromuscular Parameters and Their Relevance
 - Testing Procedure
 - Interpretation Of Results

UNIT - II

3: Recommended Procedures (Set- I)

Cinematography and Computerized Video Analysis

- i) 2-D Cinematography And Computerized Video Analysis
- ii) 3-D Cinematography (Equipment Specifications, Calibration And Expected Reliability, Other Considerations)
- iii) Single – Plate Techniques (Equipment Specifications, Calibration Procedures And Expected Reliability, Other Consideration)
- iv) Optoelectric Movement Monitoring System (Equipment Specifications, Calibration Procedures And Expected Reliability)
- v) Television Systems (Calibration Procedures And Expected Reliability)

Sampling Rate and Data Smoothing

- i) Sampling Rate
- ii) Data Smoothing

4: Recommended Procedures (Set- Ii)

Direct Measurement Techniques

- i) Accelerometry (Equipment Specifications, Calibration Procedures And Expected Reliability)
- ii) Electrogoniometry And Potentiometry (Equipment Specifications, Calibration Procedures and Expected Reliability, Other Consideration)

Physical Properties of the Limbs and the Total Body

Muscular Forces and Moments and Joint Reaction Forces

- Calibration Procedures Expected Reliability

UNIT III

5. Recommended Procedures (Set- Iii)

Force and Procedure Transducers

- i) Transducers (Equipment Specifications, Calibration Procedures And Expected Reliability Of Static Performance, Dynamic Performance Characteristics, Other Consideration)
- ii) Force Platforms (Design, Basic Consideration In Design And Utilization, Calibration Procedures And Expected Reliability)
- iii) Pressure Platforms (Calibration Procedures And Expected Reliability)

6. Impulses and Momentum

- i) Linear Impulses
- ii) Angular Impulses
- iii) Airborne Activities (Equipment Specifications, Calibration Procedures And Expected Reliability)
- iv) Body Segment And Total Body Energies And Mechanical Work Output (Equipment Specifications)
- v) Inter Segmental Power Analysis (Equipment Specifications, Calibration Procedures)

UNIT - IV

7. Recommended Procedures (Set- Iii)

Neuromuscular Measurement (Emg)

- Units, Terms And Standards In Reporting Emg Research.

8. An Introduction to Iso-Kinetic Measurements and Its Application.

UNIT – V

9. An Introduction to Measurement and Applications to Gait Analysis

10(A). Modern Trends and Development of Biomechanical Instrumentation and Measurements.

10(B). Policy Statement Regarding The Use Of Human Subjects And Informed Consent.

PRACTICALS

1. Preparation of A Biomechanical Research Proposal.
2. A Project on Biomechanical Research or Measurements or Normative Reference on A Given Topic.

REFERENCES

- Basis of Human Motion. 8th ed, Brown & Bench mark.
- Gowitzke, B.A. and Milner, M. Scientific Bases of Human Movement. (3rd. Ed.) Baltimore: Williams and Wilkins, (1988).
- Grimshaw, Paul., Lees, Adrian., Flower, Neil.,&Burden, Adrian. Sports and Exercise Biomechanics. Taylor & Francis.
- Groves, R and Camaine, D. Concepts in Kinesiology. (2nd. Ed.). Philadelphia: Saunders College Publishing, (1983).
- Hall, S.J., Basic Biomechanics, London, Mosby, 1991.
- Hay, J. The biomechanics of sport techniques. (2nd. Ed.). Englewood Cliffs: Prentice-Hall, (1978).
- Hay, J. & Reid, J. The Anatomical and Mechanical Bases of Human Motion. Englewood Cliffs: Prentice-Hall, (1982).
- Luttegens, Kathryn., Deutsch, Helga., Hamilton, Nancy. Kinesiology-Scientific Basis of Human Motion. 8th Ed, Brown & Bench mark.
- Nordin, M. & Frankel, V. Basic Biomechanics of the Musculoskeletal System, Philadelphia: Lea & Febiger, (1990).
- Northrip, J., Logan, G. & McKinney, W. Analysis of Sport Motion. (3rd. Ed). Dubuque: William C. Brown, (1983).
- Rasch, P. Kinesiology and Applied Anatomy. Philadelphia: Lea & Febiger, (1989).
- Thompson, C. Manual of Structural Kinesiology. (10th Ed.). St. Louis: Times Mirror/ Mosby College Publishing, (1985).

SUBJECT SPECIALIZATION – EXERCISE AND SPORT PSYCHOLOGY

PSYCHOLOGICAL TECHNIQUES FOR PERFORMANCE - ENHANCEMENT

- UNIT-I PSYCHING-UP STRATEGIES**
- 1.1 Concept of “psyching up” “psyching on” and “psyching down “
 - 1.2 Selected psyching strategies
 - 1.3 Goal - setting, pep talk, bulletin board, fan support, self activation pre-competition
 - 1.4 Work out
- UNIT-II COMPONENTS OF PSYCHOLOGICAL PREPARATION**
- 2.1 Relaxation techniques
 - 2.2 Activation technique
 - 2.3 Short - term psychological training
 - 2.4 Placebo effect
 - 2.5 Psychological skill training
 - 2.6 Meditation –yogic and Zen
- UNIT-III COGNITIVE TRAINING**
- 3.1 Visualization
 - 3.2 Imagery
 - 3.3 Strategies to improve, and concentration attention (association. v/s distraction strategies)
- UNIT-IV IMPROVING LEVEL OF MOTIVATION**
- 4.1 Sports attributions - interest and aptitude
 - 4.2 Developing self confidence
 - 4.3 Attitudinal training
- UNIT-V HANDLING STRESS ANXEITY & AROUSAL**
- 5.1 Relationship among stress, an anxiety and arousal
 - 5.2 Management of aggression, cognitive, affective stress management strategies
 - 5.3 Stress inoculation training
 - 5.4 Arousal control

REFERENCES

Psychology

- Aggarwal, J.C., Basic Ideas in Educational Psychology, Delhi: Sipra, 2003.
- Bhatia, Hans Raj, Test Book of Educational Psychology, Delhi: Macmillan, 2003.
- Cashmore, Ellis, Key Concepts in Sport Psychology, London, Routledge, 2004.
- Cox, R. H., Sport Psychology Ed 5 Th., London, Mcgraw Hill, 2002.
- Dewey, John, Psychology, New Delhi: Khel Sahitya Kendra, 2003.
- Jain, D., Introduction to Psychology, New Delhi: Khel Sahitya Kendra, 2003.
- Jain, Piyush and Tomar, C.S., History, Foundation of Physical Education and Educational Psychology, New Delhi, Friends, 2006.
- Kamlesh, M.L, Educational Sport Psychology, New Delhi, Friends Pub., 2006.
- Kamlesh, M.L., Key Ideas in Sport Psychology, New Delhi, Friends Pub., 2007.
- Kutty, S.K., Foundations of Sports & Exercise Psychology, New Delhi: Sports, 2004.
- Levinthal, Charles F., Introduction to Physiological Psychology, New Delhi; Prentice Hall, 2005.
- Seashore, C.E., Elementary Experiments in Psychology, New Delhi: Sports Pub., 2001.
- Shaw, D., an Encyclopedia of Test and Measurement in Sports Exercise Psychology, New Delhi, 2001.
- Woodworth, R.S., Basic Facts in Psychology, New Delhi: Sports Pub., 2001.

**SUBJECT SPECIALIZATION
PROFESSIONAL PREPARATION & CURRICULUM DESIGN**

CURRICULUM DESIGNING

UNIT-I CURRICULUM DOMAINS

- 1.1 Various models of Curriculum
- 1.2 Psychosocial foundation of curriculum
- 1.3 Curriculum innovations

UNIT-II THEORY OF CURRICULUM IN PHYSICAL EDUCATION

- 2.1 Theoretical perspective
- 2.2 Sources, conceptual framework, study models
- 2.3 Selection of curriculum experiences

UNIT-III PLANNING AND DEVELOPMENT

- 3.1 Curriculum development
 - Active curriculum framework
 - Skill development concerns
 - Sex integrated program plans
 - Urban and rural programs
 - Cultural considerations in Curriculum Development
- 3.2 Concerns in curriculum implementation.

UNIT-IV CURRICULUM IN NATIONAL PERSPECTIVE

- 4.1 Comparative study of school curricula-CBSE, NCERT
- 4.2 Higher education curriculum

UNIT-V PHYSICAL EDUCATION AS AN EXAMINATION SUBJECT

- 5.1 Need and importance of assessment and evaluation
- 5.2 Evaluation techniques in physical education
- 5.3 Criterion and non criterion based evaluation
(Assignments, observations, projects, quiz competitions, group discussions, presentations, skill, prowess, and game performance)

PRACTICAL

1. Developing a curriculum plan with specific reference to various segments of population
2. Content analysis/critical analysis of any curriculum

REFERENCES

- Adams William C. Foundation of Physical Education Exercise and Sports Sciences, Philadepia, 1991.
- Gupta Rakesh, Sharma Akhilesh, and Sharma Santosh, Professional Preparation and Curriculum Design in Physical Education & sports Sciences, New Delhi, Friends, 2004
- Hoover. Kenneth H., The Professional Teacher's Handbook, Boston, Allyn and Bacocon, 1972
- Krik David, Physical Education and Curriculum Study, Kent, Croom Helm, 1988
- Sandhu Kiran, Professional Preparation and Career Development in Physical Education, New Delhi, Friends, 2004
- Sandhu Kiran, Trends and Development in Professional Preparation in Physical Education, New Delhi, Friends Publication, 2006
- Wessel Janet A, and Kelly Luke, Achievement-Based Curriculum Development in Physical Education, Philadepia, Lea and Febiger, 1986
- Zeigler E.F, Professional and Scholarly Foundation of Physical Education and Kinesiology, Sports Educational Technologies, 2007

SUBJECT SPECIALIZATION – SPORT SOCIOLOGY**UNIT-I SPORT AND RELIGION**

- 1.1 Definition and concept of religion
- 1.2 Similarities and differences between religion and sports as a social phenomenon
- 1.3 Challenges in combining sports and religion
- 1.4 Role of religion in sports development

UNIT-II SPORT AND RESEARCH METHODS

- 2.1 Methods in sports sociology (field work), and survey
- 2.2 Check list and participant observation
- 2.3 Interview - structured and non- structured
- 2.4 Content analysis of historical evidence
- 2.5 Theme - identification in qualitative research

UNIT-III SPORT AND COMMUNICATION

- 3.1 Concept and theories of mass communication
- 3.1 Television and sport
- 3.2 Impact of media on sports and vice versa
- 3.3 Role of media in making and breaking images in sport
- 3.4 Ethics of sport journalism

UNIT-IV SPORT AND COMMERCIALIZATION, GLOBALIZATION PROCESS

- 4.1 Emergence and growth of commercial sport
- 4.2 Impact of commercialization and changes in sport
- 4.3 Globalization discourse and sport
- 4.4 National identity and competitive sport
- 4.5 Club culture and its impact on sport development

UNIT-V SPORT AND FUTURE

- 5.1 Ideological issues in sport
- 5.2 Visualization of major sport forms in the future
- 5.3 Changing trends and forecasts in the growth of sports
- 5.4 National sports policy – Challenging and constraints

PRACTICAL AND ASSIGNMENT:

1. Student alienation scale, superstition scale
2. Write a paper on a comparative analysis of selected religions contributing to sport by using Weber's approach
3. Make a comparison of newspaper coverage of six sports, (three individual and three team sport) evaluate the impact of coverage on the popularity of each sport
4. Analyze new trends in social research specifically in relation to qualitative and quantitative techniques at international level and compare with research work in India

REFERENCES**Sociology**

- Bhusan, V. and Sachdeva, An Introduction to Sociology, Delhi: Kitab, 2003.
- IGNOU, The Study of Society - Understanding Sociology, Delhi - IGNOU, 2007.
- Inkeles, A. Ed., What Is Sociology, New Delhi : Prentice Hall, 1997.
- Jain, Rachna, Sports Sociology, New Delhi: Khel Sahitya Kendra, 2005.
- Kanwal Jeet, S., Sport Sociology, New Delhi : Friends Pub., 2000.
- Mitchell, G.D. Ed., Dictionary of Sociology, U.K : Routledge, 1999.
- Sharma, R. N, Urban Sociology, New Delhi : Surjeet Pub., 1993.
- Singh, Bhupinder, Sports Sociology, New Delhi : Friends, 2004.
- Turner, B., Cambridge Dictionary of Sociology, U.K., Cambridge, U.N. Press., 2006.

SUBJECT SPECIALIZATION – SPORT MANAGEMENT
ORGANIZATION OF SPORTS EVENTS AND ALLIED SERVICES

UNIT-I INTRODUCTION

- 1.1 Meaning and concept of sports events management
- 1.2 Type of sports events
- 1.3 Allied services
- 1.4 Organizational structure of sports event.

UNIT-II FACILITIES MANAGEMENT

- 2.1 Need of facilities for promotion of sports and fitness
- 2.2 Type of facilities
- 2.3 Development and maintenance of facilities
- 2.4 Insurance

UNIT-III VOLUNTARISM

- 3.1 Meaning and concept of voluntarism in sports
- 3.2 Types of volunteers
- 3.3 Training and maintenance of volunteers
- 3.4 Incentives – duties and responsibilities

UNIT-IV OFFICE MAINTENANCE AND SUPERVISION

- 4.1 Meaning and concept of office management
- 4.2 Meaning, concept and need of supervision
- 4.3 Function of office
- 4.4 Official correspondence

UNIT-V EVENT AND SERVICES MANAGEMENT

- 5.1 Identification of events/ services
- 5.2 Bidding process
- 5.3 Preparation of conduct of events/providing services
- 5.4 Protocol, ceremonies and schedule

REFERENCES

Sport Management

- Allen, L.A. Management & Organization. Kogakusha Co. Tokyo, 1988.
- Hert, Renis, New Patterns of Management, McGraw Hill, 1961.
- Sandhu, K. Sports Dynamics: Psychology, Sociology and Management
- Sivia, G.S. Sports Management in Universities, New Delhi: A.I.U. Deen Dayal Upadhyaya Marg, 1991.

MEASUREMENT AND EVALUATION IN PHYSICAL EDUCATION

UNIT - I

INTRODUCTION

- 1.1 Concept of test, measurement, evaluation and selection (sports selection)
- 1.2 Inter-relationship between test, measurement and evaluation.
- 1.3 Principle, need & importance
- 1.4 Scope of test, measurement and evaluation.

UNIT - II

TEST

- 2.1 Classification
 - Physical / psychomotor aptitude
 - Standardized/ teacher made (objective/ subjective)
- 2.2 Construction
 - Criteria for test selection (reliability, validity, objectivity, feasibility and precision)
 - Norms and standards (differentiating and setting)
- 2.3 Administration
 - Administrative protocols (administrative guidelines)
 - Preparation of reports (construction of tables, groups & reporting)

UNIT – III

MEASUREMENT TECHNIQUE : (Understanding concepts of)

- 3.1 PHYSICAL : Measurement of size, shape, and body composition
- 3.2 PSYCHOMOTOR :
 - Fitness (physical performance)
 - Physiological (pulse rate, blood pressure, vital capacity, VO2 max.
 - Motor fitness (power, agility, balance, speed, reaction time, co-ordination)
 - Motor ability
 - Sports skill (basketball, volleyball, hockey, football and badminton)
 -
- 3.3 APTITUDE :Individuals attitude , ability, behavior and educability

UNIT - IV

EVALUATION

- 4.1 BASIC MODEL.
- 4.2 TYPES
 - Subjective & objective evaluation
 - Internal & external evaluation
 - Summative and formative evaluation
 - Norm based and criteria based

UNIT V

SPORTS TALENT AND TEAM SELECTION

- 5.1 Concept of talent selection and counseling.
- 5.2 Basis of talent selection
 - general fitness (test batteries *)
 - specific fitness (related to particular sports)
 - sports skills
 - Basketball
 - Volleyball
 - Hockey
 - Football
 - Badminton

* AAPHER, INDIANA, JCR, BARROW

PRACTICALS

1. Anthropometric measurement
2. Somatotyping, somatocharts & indices
3. Practical measurement of
 - Pulse rate
 - Blood pressure
 - Vital capacity
 - Vo2 max
4. Skill test
 - Basketball (Johnson basketball ability test)
 - Volleyball (Braddy volleyball test and Russel & long volleyball test)
 - Hockey (French hockey test, Friedal hockey test)
 - Football (mc Donald soccer test)
 - Badminton (Lockhart & mc Phearson badminton skill, miller wall volley test)
5. CONSTRUCTION OF NEW TEST
 - Skill test
 - Knowledge test
 - Psychomotor test
(Joint venture of group- 5 students per group)

REFERENCES

Measurement & Evaluation

- Cohen, R.J. and M.E. Swerdhik, Psychological Testing and Assessment : An Introduction to Tests and Measurement, 1999.
- Kansal, D.K. Text Book of Test, Measurement, Evaluation and sports selection for All Sports and Spiritual Sciences, Publication, New Delhi, 2008.
- Lacy, A.C. and Douglas N. Hastad, Mesurement & Evaluation in Physical Education and Exercise Science, 2003.
- Tritschler, K.a, Barrow & McGee's, practical Measurement and assessment, 2000.

DISSERTATION

OR

**OPTIONAL GROUP-III
ADAPTED PHYSICAL EDUCATION**

UNIT-I INTRODUCTION TO A DAPTED PHYSICAL EDUCATION

- 1.1 Meaning and definitions
- 1.2 Aims and objectives
- 1.3 Need and importance
- 1.4 Role of physical education in adapted physical education
- 1.5 Brief historical review of adapted physical education

UNIT-II CLASSIFICATION OF DISABILITY

- 2.1 Changing concept of disability handicaps, retardation, physically and mentally challenged
- 2.2 Physical disability
 - 2.2.1 Characteristics
 - 2.2.2 Category
 - 2.2.3 Functional limitation
 - 2.2.4 General causes
- 2.3 Mental retardation and learning disability
 - 2.3.1 Characteristics
 - 2.3.2 Category
 - 2.3.3 Functional limitation
 - 2.3.4 General causes
- 2.4 Hearing and speech impairment
 - 2.4.1 Characteristics
 - 2.4.2 Category
 - 2.4.3 Functional limitation
 - 2.4.4 General causes
- 2.5 Visual impairment
 - 2.5.1 Characteristics
 - 2.5.2 Category
 - 2.5.3 Functional limitation
 - 2.5.4 General causes
- 2.6 Other disabled conditions
 - 2.6.1 Behavioural problems associated with disability
 - Adjustment problem
 - Emotional problem
 - Personality problem
 - 2.6.2 Social problems
 - Social stigma
 - Discrimination
 - Social rejection

UNIT-III ADAPTED PHYSICAL EDUCATION PROGRAMMES

- 3.1 Guiding principles for adapted physical education programme (AAHPER Principle)
- 3.2 Physical education programme for disabled of :
 - 3.2.1 Elementary school
 - 3.2.2 Middle school
 - 3.2.3 High school
- 3.3 Special adapted programme for various types and categories of physical disability
 - 3.3.1 Regular physical activity
 - 3.3.2 Informal games and special activity
 - 3.3.3 Informal and formal competitions

- 3.4 Special adapted programme for hearing and speech impairment, visual impairment, mental retardation and learning impairment
 - 3.4.1 Regular physical activity
 - 3.4.2 Informal games and special activity
 - 3.4.3 Informal and formal competitions

UNIT-IV ACTIVITIES FOR DISABLED

- 4.1 Co-curricular activities for disabled
 - 4.1.1 Outdoor programmes for disabled
 - 4.1.2 Adventure based outdoor programme
 - 4.1.3 Creative development and hobby & culture development programme
- 4.2 Aquatic activity programme for disabled
 - 4.2.1 Importance of activity for disabled
 - 4.2.2 Nature of aquatic activity programme based on types of various disability
 - 4.2.3 Rehabilitative role and importance of aquatic activity

UNIT-V REHABILITATION AND GOVERNMENTAL WELFARE PROGRAMMES

- 5.1 Rehabilitation
 - 5.1.1 Aims and objectives of rehabilitation
 - 5.1.2 Meaning of functional and occupational rehabilitation
 - 5.1.3 Importance of adapted programme in rehabilitation
 - Functional rehabilitation
 - Psychological rehabilitation – adjustmental, environmental and personality development
- 5.2 Governmental Welfare Programme
 - 5.2.1 Provisions of special rights and privilege for disabled through legislations
 - 5.2.2 Social welfare programmes for disabled
 - 5.2.3 Mass public education/awareness programme
 - Education approach
 - Service approach
 - 5.2.4 Legislative approach

REFERENCES

- Anoop Jain, “Adapted Physical Education” Sports Publication, Ashok Vihar, Delhi.
- Arthur G. Miller & James, “Teaching Physical Activities to Impaired Youth” John Wilag & Sons Inc. Canada.
- Arthur S. Daniels & Euilya, “Adapted Physical Education” Harpet & Row Publisher, New York.
- Auxter, Byler, Howtting, “Adapted Physical Education and Reactions” Morbey – St. Louis Mirrauri.
- K. Park, “Preventive Social Medicine” M/s Banarsidas Bhanot Publishers, Prem Nagar, Jabalpur.
- Ronald W. French & Paul J., “Special Physical Education” Charles E. Merrics Publishing Co. Edinburgh, Ohio.

OPTIONAL GROUP-III FITNESS & WELLNESS

UNIT – I INTRODUCTION

- 1.1 Concept and meaning of fitness and wellness
- 1.2 Components of fitness and their description
- 1.3 Components of wellness and their description
- 1.4 Significance of fitness and wellness in present scenario.
- 1.5 Fitness and wellness for life

UNIT – II FITNESS PROFILE, DEVELOPMENT AND MAINTAINENCE OF FOLLOWING

- 2.1 Types :- physical (cardio respiratory, strength, speed agility, flexibility, power, muscular endurance) health related (cardio-respiratory, flexibility, body composition, muscular strength and endurance) motor skill related (speed, power, agility, coordination, endurance, balance)
- 2.2 Principals of physical fitness
- 2.3 Benefits of fitness programme
- 2.4 Obesity (causes and prevention)
- 2.5 Weight management (role of diet & exercise in maintenance of ideal weight)

UNIT – III WELLNESS

- 3.1 Identifying dimensions of wellness, achieving and maintenance of wellness
 - Adopting healthy & positive lifestyle.
 - Identifying stressors and managing stress
 - Staying safe & preventing injuries
 - Knowledge of Nutrition & its implication on healthy lifestyle
 - Factors leading to eating disorders
 - Hazards of substance abuse (smoking, alcohol & tobacco)
 - Adoption of spirituality principals & their remedial measures
 - Yogic practices for achieving health and fitness
 - Worthwhile use of leisure time.
 - Sexuality – preventive measures for sexual transmitted diseases.
 - Emphasis on proper rest & sleep.
 - Prevention of cancer, cardio-vascular disorders & other diseases.
- 3.2 Relationship of wellness towards positive lifestyle
- 3.3 Benefits of wellness

UNIT – IV BEHAVIOR MODIFICATION

- 4.1 Barriers to change
- 4.2 Process of change (6 stages) SMART
- 4.3 Technique of change & smart goal setting.
- 4.4 Healthy lifestyle approach. (Introduction, prevention, and treatment of inactivity diseases)

UNIT – V DAILY SCHEDULE OF ACHIEVING QUALITY OF LIFE & WELLNESS

- 5.1 Daily schedule based upon one's attitude, gender, age & occupation.
- 5.2 Basic – module: - Time split for rest, sleep, diet, activity & recreation.
- 5.3 Principles to achieve quality of life:- positive attitude, daily regular exercise, control over food habits & healthy hygienic practices.

PRACTICAL

1. FITNESS LABS: Various labs testing related to cardio-vascular endurance, flexibility, muscular strength and body composition.
2. PHYSIOLOGICAL TESTING: - Blood pressure, VO2 max, vital capacity, pulse rate.
3. STRESS MANAGEMENT :- Yogic practices (asanas, pranayam and meditation)
4. SURVEY PROJECT: - Fitness & wellness assessment of local community.
5. NUTRITIONAL DIET ANALYSIS :- Given diet

REFERENCES

Fitness

- Anderson, B., Stretch Yourself for Health & Fitness, Delhi : UBSPD, 2002.
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- Kirtani, Reema, Physical Fitness, Delhi : Khel Sahitya, 1998.
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- Thani, Lokesh, Rules of Games and Games and Fitness, Delhi: Sports, 2003.

OPTIONAL GROUP-III**SPORT THERAPY**

UNIT-I	<u>INTRODUCTION</u>	
	1.1	Meaning, concept and importance of sports therapy
	1.2	Trends, ethics and legalities in sports therapy
UNIT-II	2.1	Qualities & qualification of sports therapist
	2.2	Role of sports therapist in competitive sports
UNIT-III	3.1	Basic and functional anatomy
	3.2	Basic pathology
UNIT-IV	4.1	Sports injuries – causes, classification and complications
	4.2	Common treatment methods <ul style="list-style-type: none"> ▪ Massage ▪ Bandaging ▪ Strapping ▪ Exercise etc
UNIT-V	5.1	Physiotherapy and Rehabilitation: <ul style="list-style-type: none"> ▪ Therapeutic modalities
	5.2	Assessment, priority, planning and management of injuries

REFERENCES**Physiotherapy**

- Porter, S.B., Physiotherapy ed. 13th, Oxford, Butterworth, 2006.

Sports Medicine

- Davies, J.E., Essentials of Sports Medicine, New Delhi, 1986.
- Ellison, A.E. and others, Athletic Training & Sports Medicine, American Academy, 1984.
- Eriksson, B.O.[et.al.], Sports Medicine, Great Britain: Guinness Pub., 1990.
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- Jain, Rachna, Sports Medicine, New Delhi: Khel Sahitya Kendra, 2002.
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- Prentice, W.E., Therapeutic Modalities in Sports Medicine, Times Mirror, 1990.
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OPTIONAL GROUP-III SPORT JOURNALISM

UNIT-I INTRODUCTION

- 1.1 Meaning, scope and changing trends of journalism in sports
- 1.2 Role of journalism in sports promotion & vice - versa
- 1.3 Historical development & role of print and electronic media in sports promotion
- 1.4 Media, ethics and responsibilities of journalist & editor (social, legal and professional)

UNIT-II WRITING SKILLS FOR MEDIA

- 2.1 Language – vocabulary, spellings, figure of speech , dialect, grammar, punctuation
- 2.2 Sports terminators and its use
- 2.3 Fundamentals of a sports story/ news
- 2.4 News – types, curtain – raiser, advance follow – up, news – analysis, box news
- 2.4 Design & make – ups: headings, front reading, layout & page making late stories, editorial tools, marks & skills

UNIT-III ORGANIZATIONAL AND PRESENTATION SKILLS FOR MEDIA

- 3.1 Organizational set-up of a news paper- printing, process sequences of operations in the printing of a news paper/journals.
- 3.2 Introduction of various sports organization and agencies- Olympic Games, Asian games, commonwealth games, awards and trophies.
- 3.3 Write-ups: feature, follow-ups, advance story, curtain raiser, flash back, articles, filters, editorials, boxes, radio and T.V. commentary anchoring, interviews, group discussions, talk – shows, and reviews in sports
- 3.4 Development and maintenance of sports / personal library
- 3.5 Statistics, records and computers in sports

UNIT-IV EXTENDED RELEVANT DIMENSIONS

- 4.1 Theory and principles of advertising in sports
- 4.2 Public relations in sports, press release, conferences
- 4.3 Public Relation Media – advertising, press release, conferences, exhibitions, fairs, street drama, public speaking, radio, televisions, newspapers, films, posters, pictures, and graphics
- 4.4 Sports photo feature and writing captions of photos
- 4.5 Introduction to photo journalism in reference to sports

UNIT-V RESEARCH TRENDS AND FUTURE DIRECTIONS IN SPORTS JOURNALISM

- 5.1 Process of news paper publishing and management
- 5.2 Olympics and sports journalism
- 5.3 Research tools for developing a sports story
- 5.4 Introduction to various types of information technology
- 5.6 Satellite communication: use of satellite in radio and T.V. communication for sports information

REFERENCES

Journalism

- Ahuja, B.N., Theory and Practice of Journalism, Delhi : Surjeet, 1988.
- Aster, J.J., Art of Modern Journalism, Focal Press, 1988.
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**OPTIONAL GROUP-III
SPORT INDUSTRY AND MARKETING**

UNIT-I INTRODUCTION OF SPORTS INDUSTRY AND MARKETING

- 1.1 Evolution, growth and scope of sports industry and sports marketing
- 1.2 Structure of sports industry
- 1.3 Framework of sports marketing
- 1.4 basic marketing principles

UNIT-II ECONOMICS OF SPORTS INDUSTRY

- 2.1 Definition, meaning and scope of economics in sports
- 2.2 Theory of demand and supply in sports industry
- 2.3 Fiscal problems in sports management
- 2.4 Major components of sports industry

UNIT-III RESEARCH PROCESSES IN SPORTS MARKETING

- 3.1 Selection of problem or opportunity
- 3.2 Research tools for selecting potential market
- 3.3 Research design type and data collection techniques
- 3.4 Data analysis and final report.

UNIT-IV PRODUCTION AND MARKETING

- 4.1 Concept of sports product; new product; life cycle of product
- 4.2 Pricing concepts and strategies
- 4.3 distribution concepts and sponsorship programmes
- 4.4 Promotion planning; advertising and personal selling

UNIT-V LEGAL IMPLICATIONS

- 5.1 Constitution and registration of firms
- 5.2 Consumer rights – guarantee, warrantee, after-sales service and insurance
- 5.3 Patent, royalty and approval.
- 5.4 Laws pertaining to sports industry and marketing

REFERENCES

Sport Management

- Allen, L.A. Management & Organization. Kogakusha Co. Tokyo, 1988.
- Hert, Renis, New Patterns of Management, McGraw Hill, 1961.
- Sandhu, K. Sports Dynamics: Psychology, Sociology and Management
- Sivia, G.S. Sports Management in Universities, New Delhi: A.I.U. Deen Dayal Upadhyaya Marg, 1991.

**OPTIONAL GROUP-III
SPORTS, PHYSICAL ACTIVITY & NUTRITION**

UNIT-I SPORT

- 1.1 Meaning and concept
- 1.2 Sport for children
- 1.3 Sport for adults
- 1.4 Sport for old people
- 1.5 Sport for women

UNIT-II PHYSICAL ACTIVITY

- 2.1 Meaning, definition and concepts
- 2.2 Benefits of physical activity at different growth stages
- 2.3 Classification/types of physical activity
- 2.4 Active (healthy) life style
- 2.5 Steps in exercise prescription

UNIT-III BENEFITS OF PHYSICAL ACTIVITY IN PREVENTION & CURE OF DISEASES

- 3.1 Hypokinetic disease and sedentary life style
- 3.2 Benefits of Physical activity in hypertension
- 3.3 Benefits of physical activity in diabetes
- 3.4 Benefits of physical activity in coronary artery diseases
- 3.5 Benefits of physical activity in obesity

UNIT-IV NUTRITION

- 4.1 Definition, meaning and importance
- 4.2 Components of good nutrition & healthy eating habit
- 4.3 Junk food and fast food, vegetarian/non vegetarian diet
- 4.4 Sports nutrition and food hygiene
- 4.5 Caloric value of different foods

UNIT-V WEIGHT MANAGEMENT

- 5.1 Definition and meaning of normal weight
- 5.2 Definition and meaning causes of under - weight and over – weight and their draw backs
- 5.3 Role of exercise in weight management
- 5.4 Role of physical activity weight – management
- 5.5 Weight - management - other methods

PRACTICALS

1. Exercise Prescription for the following age groups
 - i. Under 5 years
 - ii. 5-10 years
 - iii. Preadolescent
 - iv. Adult
 - v. Old age
2. Exercise prescription for females
3. Diet prescription for various age groups
4. Diet prescription for various disease groups
5. Calorie consumption in various activities

REFERENCES

Nutrition

- Driskell, J.A, Sport Nutrition, New York : Crc Press, 2000.
- Eberle, S.G., Endurance Sports Nutrition ed 2nd, U.S. Human Kinetics, 2007.
- Edu. Planning Group Delhi, Food and Nutrition, New Delhi: Arya Pub. House, 1989.
- Guidelines for Training Community Health Workers in Nutrition, World Health Organization, 1986.
- Gupta, K. etc., Food and Nutrition ed 5th., New Delhi. J.P. Broth., 2000.
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- Vuaya Kakshmi, Sports Nutrition, New Delhi Friends, 2007.
- W.H.O, Guideline in Nutrition, Geneva : WHO, 1986.
- Wardlaw, G. [et.al.], Contemporary Nutrition, London: Mosby, 1994.

ADD-ON COURSES

Paper No.	Title of the Paper
MPE 1101	Sports Nutrition and Exercise Prescription/ Advance Fitness Assessment & Exercise Prescription
MPE 1102	Sports Field Technology
MPE 1103	Gymnasium Operations
MPE 1104	Computer Applications in Physical Education & Sports
MPE 1105	Life Saving Skills & Disaster Management
MPE 1106	Adventure Sports Leadership Training
MPE 1107	Sports and Community Volunteer Leadership
MPE 1108	Sports for All
MPE 1109	Physical Education for All
MPE 1110	Study of Olympics

Add-on
SPORTS NUTRITION AND EXERCISE PRESCRIPTION

COURSE DESCRIPTION: This course emphasis on the scientific evidence of strong link of good nutrition to overall health and well being of the sedentary and athletic population. It shall take the students progressively through each phase of exercise testing and prescription for health and fitness.

COURSE OBJECTIVES:

1. To establish the relationship of nutrition to health and well being.
2. To describe the fundamentals of Nutrient functions in the human body
3. Learn to make a comprehensive nutrient analysis
4. To focus on aspects of Nutrition for Athletes and other population
5. To define exercise guidelines that clarifies the safest, most effective and most efficient manner for exercise participation
6. Practical application of the knowledge and skills during exercise testing and prescription

UNIT-1 FUNDAMENTALS OF NUTRITION APPLICATIONS IN WELLNESS

- 1.1 Nutrition: Relationship to Health and Well Being:
 - The essential nutrient and their function in the human body
 - Food guide pyramid
 - Energy mechanisms
 - Balancing the diet
- 1.2 Evaluation of the Diet:
 - Nutrient analysis
 - Achieving a balance diet
 - Estimating caloric needs
 - Nutrient supplementation guidelines
 - Special nutrient needs of women
 - Guidelines for proper hydration
 - Dietary guidelines
 - Exercise and balance diet strategy for reducing obesity
- 1.3 Sport Nutrition and Performance:
 - Nutrition in sport
 - Protein intake for athlete
 - Carbohydrate loading
 - Ergogenic aid: nutrition and pharmacological agents
 - Focus on creative supplementation
 - Female athlete traid

UNIT-2 FUNDAMENTALS OF EXERCISING TESTING AND PRESCRIPTION

- 2.1 Pretest Responsibilities:
 - Orientation to tab instruments
 - Procedures
 - Responsibilities
 - General laboratory instruction
 - Calibration of lab instruments
 - Risk factor evaluation
 - Medical history and evaluation
 - Informed consent
- 2.2 Guidelines for Fitness Testing
 - Purpose for fitness testing
 - Pretesting situation: administration guidelines
 - Testing and post testing situation: administrative guidelines
 - Health appraisal flow chart
 - Readiness K exercise PAR-Q
 - Cardiorespiratory fitness Assessment: administration suggestion
 - Selection of cardiorespiratory fitness test: administration guidelines
 - Protocol guidelines
 - Exercise guidelines for special population
 - The expectant mother

	<ul style="list-style-type: none"> • The aged • The childrens • People with health disorders
UNIT-3	<u>INTRODUCTION TO HEALTH FITNESS ASSESSMENT TECHNIQUES:</u>
3.1	<u>Orientation to Basis Measurement Technique</u> <ul style="list-style-type: none"> ▪ Assessment of health rate ▪ Assessment of blood Pressure ▪ Body composition assessment
3.2	<u>Health Fitness Assessment Techniques</u> <ul style="list-style-type: none"> • Submaximal exercise protected • Assessment of body fat • Evaluation of muscular strength and endurance • ECG Placement and monitor operations • Energy cost of uphill walking • Energy cost of running • Metabolic calculation
UNIT-4	<u>EXERCISE PRESCRIPTION PRINCIPLES</u>
4.1	<u>Principles of Exercise Prescription for Health Fitness</u> <ul style="list-style-type: none"> • Principles of Cardiorespiratory Exercise Prescription • Principles of Muscular Flexibility Prescription • Principles of Strength Training
4.2	<u>Exercise Stages for Prescription Progression</u> <ul style="list-style-type: none"> • Initial conditioning Stage • Improvement stage • Maintenance Stage
4.3	<u>Assessing Goals and Commitment to Exercise</u> <ul style="list-style-type: none"> • Assessment of health related fitness • Behaviour modification (developing an exercise Prescription to achieve goal) • Monitoring behaviour • Periodic Re-evaluation of health related fitness • Modification of behaviour • Continual Monitoring of behaviour
UNIT-5	<u>PRACTICAL IMPLEMENTATIONS IN EXERCISE TESTING G AND EXERCISE PRESCRIPTION</u>
5.1	Assessment of the below given parameters in various population <ul style="list-style-type: none"> ▪ Heart rate ▪ Blood pressure ▪ Skin fold measure ▪ Girth measure and other lab techniques
5.2	Evaluation of health related fitness components (Lab/field)
5.3	ECG placement and monitor operations during rest exercise
5.4	Personal fitness programming
5.5	The exercise log
5.6	Muscular strength and endurance periodization training
5.7	Personalized cardiorespiratory prescription
5.8	Metabolic calculation
5.9	Estimating caloric needs on day to day basis
5.10	Calculating exercise heart rate range
5.11	Preparation of an exercise programme of varied population with different goals

REFERENCES

- Acevedo, Edmund O and Starks, Michael A. Exercising Testing and Prescription Lab Manual Human Kinetics 2003
- Ann-F cowlin. Women's Fitness Programme Development Human Kinetics 2002
- Hoeger, Werner W.K, Hoeger, Sharon A. Principles and labs for Fitness and Well Ness (7 Ed) Wads worth Thompson 2004
- Howley, Edward T. , Franks, Don B. Health Fitness Instructor's Handbook Yed Human Kinetics2003
- Steven, N. Blair. ACSM Fitness Book Human Kinetics 2003
- Vivian H. Heyward. Advanced Fitness Assessment Exercise Prescription (2ed) Human Kinetics 1991

Add-on**ADVANCED FITNESS ASSESSMENT AND EXERCISE PRESCRIPTION**

COURSE DESCRIPTION: This course is updated on the latest standards, guidelines and research, allowing the students to explore the fundamentals, research findings and current issues in the field of exercise testing and prescription for total fitness. Updates on assessing the health related fitness components, applying principles and guidelines for harming diverse populations, and preventing various health disorders.

COURSE OBJECTIVES:

1. To understand role of physical activity in the quality of life.
2. To follow practical guidelines for screening, test supervision.
3. To modifying activity for diverse population.
4. To write and implement appropriate fitness exercise prescription.
5. To define exercise guidelines that clarifies the safest, most effective and most efficient manner for exercise participation.

UNIT-1**UNIT-1 PHYSICAL ACTIVITY, FITNESS, HEALTH AND CHRONIC DISEASE****1.1 Physical activity and Health: An Overview**

- Connections between physical activity and health.
- What we know about physical activity, fitness and health
- Chronic disease: an overview
- Cardiovascular disease, hyper cholestremia & dyslipidemia,
- Diabetes mellitus, metabolic syndrome.
- Musculo skeletal disorder, obesity and overweight.

2.2 Prevention of Premature Health Problems and role of Physical Activity

- Prevention of premature health problems
- Allocation of resources to boost physical activity
- Components of physical fitness
- Behavior supporting fitness and health

UNIT-2 FUNDAMENTALS OF EXERCISE TESTING AND PRESCRIPTION**2.1 Pretest responsibilities:**

- Orientation to laboratory instruments
- Procedures
- Responsibilities
- Calibration of lab instruments
- Risk factor evaluation
- Medical history
- Informed consent

2.2 Guidelines for fitness testing and exercise prescription

- Purpose of fitness testing
- Administrative guidelines: pretest, test and post test situation
- Health appraisal flow chart
- Physical Activity Readiness questionnaire (PAR-Q)
- Administrative suggestions for cardiorespiratory fitness assessment
- Administrative guidelines: selection of cardiorespiratory fitness test
- Protocol guidelines
- Exercise guidelines for diversified population
- (The expectant mother, the older Adult,
- The children, people with health Disorder)

UNIT-3 INTRODUCTION TO HEALTH AND FITNESS ASSESSMENT TECHNIQUES**3.1 Orientation to basic measurement technique**

- Assessment of heart rate, blood pressure, anthropometric measures, body
- Composition, ECG placement and monitor operation.
- 3.2 Health Related fitness assessment**
 - Assessment of cardiorespiratory fitness (Lab and Field)
 - Submaximal exercise protocol
 - Body composition assessment
 - Evaluation of muscular strength and endurance (Lab/Field)
 - Evaluation of flexibility (Lab/Field)

UNIT-4 PRINCIPLE OF EXERCISE PRESCRIPTION

- 4.1 Principles of exercise prescription for health & fitness**
 - Principles of cardiorespiratory exercise prescription
 - Principles of strength training
 - Principles of muscular flexibility prescription
- 4.2 Progression through exercise prescription:**
 - Guidelines for progressing through three stages of exercise programme:
 - Initial conditioning stage
 - Improvement stage
 - Maintenance stage
- 4.3 Assessing goals and commitment to exercise**
 - Health related fitness assessment
 - Behavior modification (developing an exercise prescription to achieve goal)
 - Monitoring behavior
 - Periodic reevaluation of health related fitness
 - Modification of behavior
 - Continual monitoring of behavior

UNIT-5 EXERCISE PRESCRIPTION FOR HEALTH AND FITNESS

- 5.1 Exercise prescription for health related fitness**
 - Cardiorespiratory fitness: prescribing exercise, monitoring
 - Exercise intensity, short term and long term response to exercise, program
 - Selection, exercise recommendation for the unlisted masses and fit population..

NOTE: While prescribing as well as assessing fitness prior to work/ exercise, medical clearance should be taken for each individual. As far as possible the entire exercise should be carried out under the supervision of qualified registered medical practitioner.

References:

- American college of sports Medicine., Acsm's Health-Related Physical Fitness Assessment Manual., London, Lippincott, 2005.
- Anspaugh, D. J. & Others, Wellness, Boston McGraw Hills, 2003
- Robin, J. The Great Physicians Rx for Health & Wellness: Seen Keys to Unlocking Your Health Potential. Nelson Books, Thomson Nelson Publishers, Nashville, Tennessee, USA. (2005).
- Trudeau, K. The Weight – Loss Cure. Alliance Publishing Group, Inc., Elk Grove Village, Illinois, USA. (2007).
- Uppal and Gautam., Health and Physical Education, Friends Publication, 2008.

Add-on
SPORTS FIELD TECHNOLOGY

Details of the courses will be finalized when the teacher opting to teach this add-on course becomes available

Add-on

GYMNASIUM-OPERATIONS

UNIT-I

NUTRITION AND WEIGHT MANAGEMENT

- 1.1 Concept of nutrition and health, balanced diet, dietary aids and gimmicks
- 1.2 Energy and activity, calculating calorie intake and expenditure
- 1.3 Obesity, anorexia and related health problems – measurements and management
- 1.4 Weight management programmes

UNIT-II

AEROBIC FITNESS

- 2.1 Understanding of various forms of aerobics- floor aerobics, step – aerobics, weight Aerobics and aqua aerobics
- 2.2 Training effects of aerobic fitness on various physiological systems namely skeletal Muscular, circulatory and respiratory
- 2.3 Improvement of aerobic fitness
- 2.4 Aerobic fitness programme

UNIT-III

GYM-OPERATION

- 3.1 Location and Establishment of gym (Publicity, policy, reception, information, Registration, offer of programmes), Procurement, placement & maintenance of gym Equipments
- 3.2 Marketing, clientage, Enrolments, record keeping, social activities, Public Relations, Individualized/group grooming programme, basic concepts of financial management
- 3.3 Gym-instructor – qualification, qualities, pay-roll, Performance – evaluation, grooming and presentation
- 3.4 Introduction to different exercise equipment
- 3.5 Gym management – Costing, Balance sheet, Promotional plans

UNIT-IV

EVALUATION

- 4.1 Measurement of Weight and Height, Calculating BMI (Body Mass Index)
- 4.2 Measurement of Fitness Components – Flexibility (Sit and Reach Test, Hip Bend and Toe Touch) Strength (Sit-Ups, Leg-Raise for Minimal Strength) Cardiovascular Endurance (One-mile run, Physical Efficiency test, Harvard step test)
- 4.3 Self- evaluation –Personal Health and Well-being

UNIT-V

EXERCISE SCHEDULES

- 5.1 Exercise schedules – Aerobics, Fitness and Weight Management
- 5.2 Yoga(Any Five Asanas)

PRACTICALS

1. Calculating BMI
2. Flexibility Test (Sit and reach test, hip bend and toe touch)
3. Strength Test (Bend knee sit ups, leg raise for minimal strength)
4. Cardiovascular endurance test (Harvard step test, cooper 12/9 min. run)
5. Self evaluation- (Personal health and well being)
6. Any five asanas
7. Aerobic schedule
8. Weight management

References:

- Alexenderia, Virginia, “The Gym Workout” Published by Time Life Books.
- Ann Goodsell “Your Personal Trainer, 1994.
- Carol Kennedy Armbruster. Mary M. Yoke “ Methods of Group Exercise Instruction”, 2009.
- Philip Mazzurco “Exerstyle”, 1985.
- Refus, Inc, “The Body in Motion” Published by Time Life Books.
- Sheela Kumari , Fitness, Aerobics & Gym Operations, New Delhi, Khel Sahitya Kendra, 2009.
- Sunil Bharihoke, The Gym” , 2002.
- Time life books, Gym workout, London times life books, 2004
- Time life books, staying flexible, London, time life books, 2005
- Time life books, super firm tough workouts, London times life books, 2005
- Wayne L. Westcott, Thomas R. Bachle, “ Strength Training”, 2007.

Add-on
COMPUTER APPLICATION IN PHYSICAL EDUCATION AND SPORTS

UNIT-1

- General Introduction to Computer Hardware and Software
- Introduction to Printer, Scanner, Pen Drive, External Hard Disk
- Introduction to Operating System
- M S Word (Limited Function)
- Application to Physical Education and Sports

UNIT-2

- Excel and Access
- Creating File
- Short Listing
- Different Applications (Limited)
- Data Base Management
- Statistical Applications

UNIT-3

- Power Point (General Introduction)
- Preparation of Slides/Presentation/Different Application
- Animation

UNIT-4

- General Introduction to Multimedia
- Abode Photoshop and Studio (Basic)
- Abode Premier (Basic Introduction)
- Animation (Basic Introduction)
- Pinacle (Basic Introduction)

UNIT-5

- General Introduction to Information Technology
- Construction of web page (any One)
- E-Mail (Construction, operating etc.)
- Web Search
- Computer Based Physical Education and Sports Management
- Computer Aided Analysis

References:

- Irtegov, D. Operating System Fundamentals. Firewall Media. 2004.
- Milke, M Absolute Beginner's Guide to Computer Basics, Pearson Education Asia 2007.
- NIIT Basics of Networking Prentice – Hall of India Pvt. Ltd, 2004.

Add-on
LIFE SAVING SKILL & DISASTER MANAGEMENT

UNIT-I LIFE SAVING SKILL

- 1.1 Meaning and concept of life saving skill
- 1.2 Need and importance of life saving skill

UNIT-II DISASTER MANAGEMENT

- 2.1 Meaning and concept of disaster management
- 2.2 Need and importance of disaster management

UNIT-III CLASSIFICATION OF DISASTER MANAGEMENT

- 3.1 Natural Disaster
 - Earth quack
 - Flood
 - Drought
 - Cyclone
 - Tsunami
 - Landslide
 - Avalanche
 - Heat wave
 - Cold wave
 - Fire
 - Coastal and sea erosion
 - Biological disaster endemic epidemic disaster
- 3.2 Men made disaster
 - War
 - Terrorist attack
 - Radio active hazard

UNIT-IV SAFETY MEASURE & FIRST-AID

- 4.1 Meaning and concept of safety measure & first-aid
- 4.2 Prevention of disasters

UNIT-V DISASTER MANAGEMENT

- 5.1 Steps of disaster management
- 5.2 Various act and agencies in disaster management
 - Disaster management act
 - Local emergency management agency
 - Role of voluntary/NGO agency
 - National disaster management agency
 - Dos and don't and during disaster

References:

- Hung, G.K., J.M. Pallis, Biomechanical Engennering Principles in Sports, Springer, Chicago, Illinois, USA. (2004)

Add-on
ADVENTURE SPORTS LEADERSHIP TRAINING

UNIT-I UNDERSTANDING ADVENTURE SPORTS

- 1.1 Meaning, aim and objectives of adventure sports
- 1.2 Adventure sports as a value concept
- 1.3 Range of adventure sports
- 1.4 Types of activities

UNIT-II ORGANIZATION

- 2.1 Plans and facilities
- 2.2 Material requirement
- 2.3 Organization of adventure sports as leadership, recreational and competition activities
- 2.4 Insurance, travels, safety and health

UNIT-III LEADERSHIP

- 3.1 Meaning and responsibilities
- 3.2 Identification and use of resources
- 3.3 Problem solving as a process decision making and leadership
- 3.4 Group norms-Team building, Sharing & Caring, Personality development

UNIT-IV EVALUATION

- 4.1 Why and what to evaluate
- 4.2 Programmes, facilities, volunteers and organizations

UNIT-V PRACTICAL

- 5.1 Developing departmental paper
- 5.2 Rock climbing, cycling, nature exploration, rescue operations-Tents pitching, knots and ladders etc., Campfire/Recreational programs

REFERENCES

- Sport Administration Manual Lausanne, Switzerland, IOC, 2000.
- Sport Leadership Course created by the Olympic Solidarity Program of the International Olympic Committee to assist sport administrators, 1999.
- Young Leader Teacher Resource Material, Published by Youth Sport Trust and Sport England, U. K. 2007.

Add-on
SPORT AND COMMUNITY VOLUNTEER LEADERSHIP

UNIT-I UNDERSTANDING “VOLUNTEERISM”

- 1.1 Meaning, need and responsibilities
- 1.2 Selection, training, rostering, role specific training, uniform communication
- 1.3 Commitment of volunteers to self, teams, community and venue

UNIT-II STRUCTURE OF WORK FORCE, ROLES AND DEPLOYMENT

- 2.1 Volunteers as managers and in different capacities
- 2.2 Attributes of volunteers
- 2.3 Preparing to be a volunteer
- 2.4 Areas of placement

UNIT-III CODE OF CONDUCT AND CUSTOMER CARE DURING THE GAME

- .1 Ethical practices
- .2 Under the venue and location of volunteering
- .3 Customer care and customer friendly service, plans and provisions
- .4 Dealing with unusual situations

UNIT-IV SAFETY AND COMMUNICATION

- 4.1 Safety for all
- 4.2 First aid
- 4.3 Disaster management
- 4.4 Communication

UNIT-V PRACTICAL

- 5.1 Developing departmental paper
- 5.2 Volunteer assignment on field in schools and colleges community

REFERENCES

- Sport Leadership Course created by the Olympic Solidarity Program of the International Olympic Committee to assist sport administrators, 1999.
- Sport Administration Manual Lausanne, Switzerland, IOC, 2000.
- Young Leader Teacher Resource Material, Published by Youth Sport Trust and Sport England, U. K. 2007.

Add-on
SPORTS FOR ALL

- UNIT – I INTRODUCTION:**
- 1.1 Definition of sports and it's classification
 - 1.2 Concept, meaning and significance of sports for all & all for sports
 - 1.3 Relation of physique & success in sports
 - 1.4 Sport health, personality, figure, rehabilitation, recreation, fitness, wellness and glory
- UNIT – II SPORTS FOR HEALTH AND FITNESS:**
- 2.1 Meaning, Definition & Components of Health and Fitness
 - 2.2 Role of Sports in Promotion of Health & Fitness
- UNIT – III SPORTS FOR EXCELLENCE**
- 3.1 Meaning, definition & categories of competitive sports
 - 3.2 Relation of sports performance with success in competition
 - 3.3 Deterrents & constraints in achieving sports excellence
- UNIT – IV SPORTS FOR RECREATION**
- 4.1 Concept & meaning of recreation
 - 4.2 Relation between sports & recreation(recreational sports)
 - 4.3 Role of sports in human recreation
 - 4.4 Social factors promoting recreation & its values
 - 4.5 Motives of recreational participation
- UNIT – V SPORTS TRAINING & COUNSELLING**
- 5.1 Concept & meaning of sports training & counseling
 - 5.2 Methods of training : technical & tactical
 - 5.3 Principles of sports training
 - 5.4 Components of sports training(intensity, regularity, warming up, cool down)
 - 5.5 Role of sports counselor in selecting sports
 - 5.6 Role of sports counselor in motivating for regular participation in sports Activities

PRACTICALS

1. Presentation of Workbook for Hobbies of Choice
2. Project Work on Conducting Sports Competition (Formation of fixtures and various Committees)
3. Development of Short term Training Program
4. Development of Community Recreation Program
5. Development of Community Relaxation Program

References:

- Bhatnagar, D.P., S.K. Verma and R. Mokha Human Growth. Exercise Science Publications Society, Department of Sports Sciences, Punjabi University, Patiala-147 002, Punjab, 1999.
- Corbin et.al. Fitness & Wellness-Concepts, 2006.
- Gopalan, G., B.V.R. Sastri and S.C. Balasubramanian Nutritive Value of Indian Foods. National Institute of Nutrition (ICMR). Hyderabad-500 007., 2004.
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- Jelliffe, D.B. and E.F.P. Jelliff, Growth Monitoring and Promotion in Young Children. Oxford University Press, Oxford, U.K., 1990.
- Kansal, D.K., Text book of Applied Measurement, Evaluation & Sports Selection, Sports & Spiritual Science Publications, New Delhi, 2008.
- Singh, S.P.S. and P. Malhotra, Anthropometry. Human Biology Department, Punjabi University, Patiala-147 002 (India), 2003.
- Tanner, J.M., Growth at Adolescence. Blackwell Publishers, London, U.K. 1989.
- Uppal, A.K., and Gautam, G.P., Health & Physical Education, Friends Publication, New Delhi, 2008.

Add-on
PHYSICAL EDUCATION FOR ALL

Details of the courses will be finalized when the teacher opting to teach this add-on course becomes available.

Add-on
STUDY OF OLYMPICS

UNIT-I THE OLYMPIC MOVEMENT

- 1.1 The ancient Olympic games
- 1.2 The Olympic movement
- 1.3 Aims and symbols of the Olympic movement
- 1.4 The International Olympic Committee (IOC)

UNIT-II STRUCTURE OF THE OLYMPIC MOVEMENT

- 2.1 The National Olympic Committee(NOC)
- 2.2 The International Sports Federations(IFs)
- 2.3 The National Sports Federations(NFs)
- 2.4 Volunteerism

UNIT-III THE OLYMPIC GAMES

- 3.1 Organization
- 3.2 The international bid process for selecting sites for the games
- 3.3 Participation in Olympic games
- 3.4 Women and sports

UNIT-IV IOC PROGRAMMES

- 4.1 Olympic academy
- 4.2 Olympic solidarity
- 4.3 Olympic museum
- 4.4 Paralympic games

UNIT-V IOC INTERESTS

- 5.1 Sports for all
- 5.2 Culture, olympism, winning, participation and universality of the games
- 5.3 Drug abuse and doping
- 5.4 Arbitration and dispute resolution

References:

- Carto, J.E.L. And Calif, S.D. [ed], Medicine & Sport Science: Physical Structure of Olympic Athletes, London: Karger, 1984
- Cliv, Gifford, Summer Olympic” 2004
- Daw, Anderson, The story of the Olympics, 2008.
- Maranirs David, Rome 1960: The Olympics that changed the world, 2008.
- Osbome, Manpope, Ancient Greece and the Olympic, 2004.
- Oxlade, chris., Olympic, 1999.
- Perrottet, tony, The Naked Olympics: the true story of the Ancient Games, 2004.
- Singh, M.K., Indian Women and Sports, Rawat Publication, 1991.
- Toropove, Brandon., The Olympic for Beginners, 2008.
- Wallechineley, Davi, The Complete Book of the Olympic, 1992.