



ANNAMALAINAGAR - 608002

(A State University Accredited with 'A' Grade by NAAC)

MYAS-AU DEPARTMENT OF SPORTS SCIENCES

**DIVISION
of
SPORTS PHYSIOTHERAPY**

MPT SPORTS PHYSIOTHERAPY

REGULATIONS AND SYLLABUS

(For students admitted from academic year 2019-20 onwards)

UNDER CHOICE BASED CREDIT SYSTEM

MPT SPORTS PHYSIOTHERAPY

REGULATIONS AND SYLLABUS

(For students admitted from academic year 2019-20 onwards)

1. Objectives:

The MPT Sports Physiotherapy course is designed to provide an opportunity to students to apply theory to practice, which creates a highly valuable learning experience with clear vocational and professional significance. The content on MPT Sports Physiotherapy has been carefully designed to provide quality assured professional training to meet the needs of the athletes and to foster life-long learning in participants.

This programme is designed to:

- Develop knowledge and understanding of the principles and applications of sports physiotherapy and their application to vocational/professional practice.
- Provide an opportunity to critically assess a broad range of theories, methodologies and research findings in sports physiotherapy.
- Develop a critical understanding of how to apply theories, strategies and methodologies in appropriate ways.
- Enable the student to develop empirical rigour in identifying solutions and implement in effective way of clinical practice.
- Develop the appreciation of inter-related scientific concepts that promote understanding of problems and issues in the study of sports physiotherapy.
- Provide a forum for the development of research skills and professional competencies in the field of sports physiotherapy.

2. Definition of key words:

- **Programme:** An educational program leading to the award of a Degree, diploma or certificate.
- **Academic Year:** Two consecutive (one odd + one even) semesters constitute one academic year.
- **Semester:** Each semester consists of 15-18 weeks of academic work equivalent to 90 days of actual teaching days. The odd semester may be scheduled from July to December and even Semester from January to June.
- **CBCS (Choice Based Credit System):** It provides choice for students to select from the prescribed courses.
- **Course:** It is usually referred to as “Papers”. All courses need not carry the same weight. A course may comprise lectures/tutorials/laboratory, work/field, work/outreach activities/project work/vocational training/viva/seminars etc or a combination of some of these.

- **Credit:** A unit by which the course work is measured. It determines the number of hours of instructions required per week. One credit is equivalent to one hour of teaching or two hours of practical work.
- **Core course:** Are course that are basic to the subject of the degree. This is a course which is to be compulsorily studied by a student as a core requirement to the completion of the program.
- **Elective Courses:** This is a course that is supportive to the discipline of study, provides an expanded scope, enables exposure to some other domains or nurtures proficiency/skills. Elective papers can be of two types: Discipline Specific Elective (DSE) and Generic Elective (GE). Core / DS Electives will not be offered as Generic Electives. Elective papers can be taken from MOOC courses and credit transfer should be allowed.
- Each of the Core courses and Discipline Specific Elective (DSE) shall be of 4 credits. Credits under DSE may vary (16/12/8) depending upon the number of DSE courses offered across the semesters.
- **Discipline Specific Elective (DSE):** These courses are inter disciplinary in nature and considered similar to core course. And, the students have to choose one course from the option provided for them.
- **Generic Elective (GE):** These courses add generic proficiency to the students. Students have to choose generic elective courses in consultation with the head of the department from the Generic Elective courses offered by other Division of study in Sports Science or from other Departments in university.

3. Course Structure:

This MPT Sports Physiotherapy is a programme consists of core courses, soft core courses, practical courses, internship and project work. The entire programme carries credit system. The number and distribution of credits for the programme will be decided by the respective faculties.

A programme is divided into two Semesters, Odd Semester and Even Semester. The normal Semester periods are:

Odd Semester: July to November (90 Working days)

Even Semester: December to April (90 Working days)

4. Credits:

The term credit is used to describe the quantum of syllabus for various courses in terms and hours of study. It indicates differential weight age given according to the contents and duration of the courses in the curriculum design. The minimum credit requirement for a two years Master's Programme shall be 90.

One credit of theory equals one lecture hour and

One credit of practical equals two laboratory hours.

5. Courses:

Each Programme may consist of Lectures / Tutorials / Laboratory Work / Seminar / Project Work / Practical Training Report / Viva-Voce etc. Normally, in each of the programmes, credits will be assigned on the basis of the Lectures/Tutorials/Laboratory Work and other form of learning in a 18 week schedule.

6. Eligibility for Admission:

Bachelor's Degree in Physiotherapy (BPT) from a recognized university with a minimum of 50% marks in aggregate.

7. Grading System:

The term grading system indicates a 10 point scale of evaluation of the performance of students in terms of marks, grade points, letter grade and class.

8. Duration:

The duration for completion of two Years Master's programme in any subject is four Semesters, but in any case not more than five years from the year of admission.

9. Attendance:

Every teaching faculty handling a course shall be responsible for the maintenance of Attendance Register for candidates who have registered for the course.

The teacher of the course must intimate the Head of the Department at least Seven Calendar Days before the last instruction day in the semester about the particulars of all students who have secured an attendance of less than 75%.

A candidate who has attendance less than 75% shall not be permitted to sit for the end-semester examination in the course in which the shortage exists.

However, it shall be open to the authorities to grant exemption to a candidate who has failed to obtain the prescribed 75% attendance for valid reasons on payment of a condonation fee and such exemptions should not under any circumstances be granted for attendance below 65%.

10. Examination:

There will be two sessional assessment tests and one End-Semester examination during each semester.

Sessional Test-I will be conducted after 35 working days and Sessional Test-II will be conducted after 70 working days.

Sessional Test-I will be a combination of a variety of tools such as class test, assignment and paper presentation that would be suitable to the course. This requires an element of openness. The students are to be informed in advance about the nature of assessment and the procedures. However, the tests are compulsory. Test-I may be for one hour duration. The pattern of question paper will be decided to the respective faculty. Sessional Test-I will carry 12.5% of marks of the entire course.

Sessional Test–II will be held after 70 working days for the syllabi covered between Seventh and Eleventh weeks.

Sessional Test–II will be conducted with a variety of assessment tools. It will also have an element of openness. The students are to be informed in advance about the nature of assessment and the procedures. However, the tests are compulsory. Test–II may be for two hours duration. The pattern of question paper will be decided by the respective Faculty. Sessional Test–II carries 12.5% of marks of the entire course.

There will be one End–Semester Examination of 3 Hours’ duration in each course. The end semester examination will cover all the syllabus of the course for 75% of marks.

Each course shall carry a maximum of 100 marks for the purpose of grading. The distribution of marks shall be as follows.

Theory Marks			Practical Marks		
Internal	External	Maximum	Internal	External	Maximum
25	75	100	40	60	100

11. Non-Credit Course

For the Non-Credit Courses offered in a Semester, a ‘Satisfactory Participation Certificate’ shall be issued to the Student from the concerned authorities, only after securing $\geq 65\%$ attendance in such a Course. No credits, marks or Letter Grade shall be allotted for the non-credit course.

12. Internship and Field visit:

The Internship / Practical Training shall carry 100 marks and shall be evaluated through internal assessment only. At the end of Internship / Practical training / Summer Project, the candidate shall submit a certificate from the organization where he /she has undergone training and a brief report. The evaluation will be made based on this report and a Viva-Voce Examination, conducted internally by a three member Departmental Committee constituted by the Head of the Department. Certificates (issued by the training centre or Organization) submitted by the candidate shall be attached to the mark list sent by the Head of the Department.

Field visit carry 100 marks and shall be evaluated through internal assessment only. At the end of field visit students has to submit the field visit report. Similarly, like internship evaluation will be made based on this report and a Viva-Voce Examination, conducted internally by a three member Departmental Committee constituted by the Head of the Department. Certificates (issued by the training centre or Organization) submitted by the candidate shall be attached to the mark list sent by the Head of the Department.

13. Evaluation:

Evaluation will be done on a continuous basis. Evaluation may be by Objective Type Questions, Quiz, Short Answers, Essays or a combination of these, but at the end semester it has to be a written examination.

The performance of students in each course is evaluated in terms of percentage of marks (PM) with a provision for conversion to Grade Point (GP). The sum total performance

in each semester will be rated by GPA while the continuous performance from the 2nd Semester onwards will be marked by (OGPA).

14. Marks and Grading:

A student cannot repeat the Sessional Assessment Test–I and Sessional Test– II. However, if for any compulsive reason the student could not attend the test, the prerogative of arranging a special test lies with the teacher in consultation with the Head of the Department.

A minimum of 50% marks in each course is prescribed for a pass. A student has to secure 50% minimum in the End Semester Examination.

If a candidate who has not secured a minimum of 50% of marks in a course shall be deemed to have failed in that course.

The student can repeat the End Semester Examination when it is offered next in the subsequent Odd/ Even semesters till the regulations are in force. However, a candidate cannot move to the next semester if he/she has more than six papers as arrears at any point of time.

A candidate who has secured a minimum of 50 marks in all courses prescribed in the programme and earned a minimum of the credits will be considered to have passed the Master's Degree Programme.

15. Grading:

A ten point rating is used for the evaluation of the performance of the student to provide a letter grade for each course and overall grade for the Master's Programme. The letter grade assigned is given below:

Marks	Grade Point	Letter Grade	Class
90+	10	S	Exemplary
85-89	9.0	D	Distinction
80-85	8.5	D	Distinction
75-79	8.0	D	Distinction
72-74	7.5	A	First class
65-69	7.0	A	First class
60-64	6.5	A	First class
55-59	6.0	B	Second class
50-54	5.5	C	Second class
49 or less	-	F	Fail

The successful candidates are classified as follows:

I – Class 60% marks and above in over all percentage of marks (OPM).

II – Class 50–59% marks in over all percentage of marks.

Candidates who obtain 75% and above but below 91% of marks (OPM) shall be deemed to have passed the examination in First Class (Distinction) provided he/she passes all the course prescribed for the programme at the first appearance.

Candidates who obtain 90% and above (OPM) shall be deemed to have passed the examination in First Class (Exemplary) provided he/she passes the entire course prescribed for the programme at the first appearance.

For the Internal Assessment Evaluation the break up marks shall be as follows.

Test	10 marks
Assignment	05 marks
Case Study / Seminar / Short Answers etc.	05 marks
Attendance	05 marks
Total	25 Marks

Marks for Attendance Percentage

90% and above	5 Marks
80 – 89%	4 Marks
70 – 79%	3 Marks

16. Course–Wise Letter Grade:

The percentage of marks obtained by a candidate in a course will be indicated in a letter grade. A student is considered to have completed a course successfully and earned the credits if he/she secures over all grades other than F. A letter grade F in any course implies a failure in that course. A course successfully completed cannot be repeated for the purpose of improving the Grade point.

The F Grade once awarded stays in the grade card of the student and is not deleted even when he/she completes the course successfully later. The grade acquired later by the student will be indicated in the grade sheet of the Odd/Even semester in which the candidates has appeared for clearance of the arrears.

A student secures F grade in any course which is listed as course as to repeat it compulsorily when the course is offered next. If it is an elective course, a student has the option to repeat it when it is offered next or to choose a new elective if he / she is chosen in the place of failed elective failed optional will be indicated as dropped in the subsequent grade card.

If a student secures F Grade in the Project Work/ Field Work/Practical Work/ Dissertation, either he/she shall improve it and resubmit it if it involves only rewriting

incorporating the clarification of the evaluators of he/she can re-register and carry out the same in the subsequent semesters for evaluation.

17. Withdrawal from the course by the student:

Within two weeks from the date of commencement of the semester.

M.P.T: SPORTS PHYSIOTHERAPY Two-Year (4-Semester) CBCS Programme			
Basic Structure: Distribution of Courses			
1	Core (C)	16 Papers of 4 Credit each (Total Credit 16X4)	64
2	Elective (E)	4 Papers of 3 Credit each (Total Credit 4X3)	12
3	Project Work / Dissertation Including Presentation, Comprehensive viva	01+02+03	06
4	Core Course Practical (P)	4 Activities of 2 credits each (Total Credit 5x2)	08
5	Core Course Internship (I)	1 Activity of 2 credits (Total Credit 1x2)	02
6	Core Course Field Visit (FV)	1 Activity of 1 credit (Total Credit 1x1)	01
	Total Credit Hrs		93

Semester – II

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
MSPC101	Basic Medical Sciences	C – 1	4	0	4	25	75
MSPC102	Sports Training and Biomechanics	C – 2	4	0	4	25	75
MSPC103	Biostatistics & Research Methodology	C – 3	4	0	4	25	75
MSPC104	Musculo Skeletal Evaluation	C – 4	4	0	4	25	75
MSPE105	Generic Elective Sports Injuries and Rehabilitation	E - 1	3	0	3	25	75
MSPP106	Practical – I	P – 1	0	2	2	40	60
				TOTAL	21	165	435

Semester – II

Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
MSPC201	Sports Physiotherapy Basics	C – 5	4	0	4	25	75
MSPC202	Sports kinesiology	C – 6	4	0	4	25	75
MSPC203	Education, Ethical Principles & Clinical Administration	C – 7	4	0	4	25	75
MSPE204	Discipline Specific Elective – I	E – 2	4	0	4	25	75
	Female Athlete						
	Exercise and ageing						
	Generic Elective	E - 3	3	0	3	25	75
MSPP205	Practical – III	P – 3	0	2	2	40	60
MSPD206	Dissertation (Non Exam)	D – 1	0	1	1	0	0
				Total	22	165	435

Semester – III

Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
MSPC301	Sports injury and management I	C – 8	4	0	4	25	75
MSPC302	Medical Condition in Sports	C – 9	4	0	4	25	75
MSPC303	Applied Exercise physiology and nutrition	C – 10	4	0	4	25	75
MSPE304	Discipline Specific Elective -II	E – 4	4	0	4	25	75
	Exercise and obesity						
	Yoga therapy						
MSPP305	Practical – IV	P - 4	0	2	2	40	60
MSPD306	Dissertation (NE)	D – II	0	2	2	00	00
MSPI307	Peripheral Internship(NE)	I	0	2	2	00	50
MSPV308	Field Visit	FV	0	1	1	100	---
				Total	23	240	410

Semester – IV

Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
MSPC401	Sports Injury and Management II	C – 11	4	0	4	25	75
MSPC402	Recent Advancement and evidenced base practise in sports physiotherapy	C – 12	4	0	4	25	75
MSPC403	Sports Psychology	C - 13	4	0	4	25	75
MSPC404	Physically Challenged Athlete and Physiotherapy	C – 14	4	0	4	25	75
MSPE405	Generic Elective Exercise and Elderly Population	E - 5	3	0	3	25	75
MSPP406	Practical V	P - 4	0	2	2	40	60
MSPD407	Dissertation (Including research work done in previous semesters)	D	0	3	3	25	75
				Total	24	190	510

Dissertation –

The dissertation starts from second semester and at end of fourth semester, candidate has to submit .the exam for desertation will be conducted at the end of fourth semester. The credit hours will be sum of II , III ,IV th semester

Semester	Credit	Internal (marks)	External (Marks)	Total (Marks)
I	21	165	435	600
II	22	165	435	600
III	26	240	410	650
IV	24	190	510	700
Total	93	760	1790	2550

MASTER IN PHYSIOTHERAPY (SPORTS) (SEMESTER-1) - CBCS GRADING

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – I						
MSPC101	Basic Medical Sciences	C – 1	4	0	4	25	75

Objective: To Enhance and Refresh knowledge about Anatomy and Physiology .

Outcome: To utilise acquired Knowledge in clinical support and further learning process

UNIT -1 FUNCTIONAL ANATOMY

- 1 Foundation of human movement: Basic movement terminology; anatomical movement description, reference system: joint movement characteristics.
- 1 Introduction to skeletal consideration for movement; Biomechanical characteristics of bone; aspects of bone articulations.
- 2 Classification of joints General features of Synovial joint
- 3 Classification of muscles Structure, function and types (forms) of skeletal muscle and other related Structures (Tendon, aponeurosis, fascia etc.), Movement relation to orientation of fibers
- 4 Introduction to neurological consideration for movement: overview of general organization of nervous system; function of motor neurons; sensory neurons; effects of training on neurological input and output.

UNIT-2 APPLIED PHYSIOLOGY

MUSCLE PHYSIOLOGY

1. Overview of muscle tissue (types, functions & properties,
2. Morphology of skeletal muscles, Mechanism of contraction and relaxation of skeletal muscle,
3. Neuromuscular transmission,
4. Muscle metabolism

BLOOD & CIRCULATION

5. Cardiac cycle - pressure during cardiac cycle,
6. Haemodynamics mechanical work and pressure, hydrostatic pressure, flow and resistance, Venous - capillary structure and transport mechanisms, filtration & osmosis, vascularization of skeletal muscles,
7. Regulation of circulation during exercise, cardiac output & O₂ updates - stroke volume, blood pressure. Shock and its types

RESPIRATION

1. Lung compliance airway resistance, pulmonary ventilation at rest and during exercise,
2. diffusion in lung tissues, gas pressure - ventilation & perfusion –
3. regulation of breathing method of studying Respiratory abnormalities

NERVOUS SYSTEM.

1. Neurons – Components and function
2. nerve impulse- origin and propagation

3. Nerve fibers – Classification and properties
4. Nerve injuries – Degeneration and regeneration
5. Strength Duration Curve

SENSORY SYSTEM

Sensory Receptors – definition, classification, function and properties
 Sensory pathways with special reference to pain pathways and Mechanism
 Role of thalamus and cerebral cortex

ENDOCRINE SYSTEM

Pituitary hormones, Thyroid, Parathyroid
 Adrenocortical hormone, insulin glycogen hormone.

REFERENCE

- a) Kanaga Suntheram R. Sivananda singham P. and Krishnamurti A. 'Text book of Anatomy' - Regional, Functional and Clinical Orient Longman Ltd (1996).
- b) Ranganathan. T.S. 'A Text book of Human Anatomy' S. Chand and Company Ltd" Ramnagar, New Delhi. Fifth Edition (1995)
- c) Basmajian J.V. 1996 "Muscles Alive" Fourth Edition, Williams and Wilkins: Baltimore'
- d) Evans P.G. "Mechanical Properties of Bone" Thomas, Springfield (1993)
- e) Barnett C.H. Davies. D.V. and Mac'Connell' MA.(1991) "Synovial Joints, Their Structure and Mechanics." Longmans London.
- f) Kapandji I.A. (1970) 'The Physiology of the 'Joints" Living Stone: London.

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – I						
MSPC102	Sports Training and Biomechanics	C – 2	4	1	4	25	75

Objective: To Enhance knowledge about Various Training Method in sports and biomechanics.

Outcome: To utilize acquired Knowledge in clinical Decision Making and further learning process

UNIT.I

Training - Definition, meaning - Training of motor components - Strength, speed, endurance, mobility and co-ordination - Warming up - Conditioning.

UNIT - 11 Strength Development

Strength - Factors determining strength - Maximum strength, Elastic strength¹ Strength endurance - Absolute and relative strength - Development of strength - Physical exercise, types of muscle contraction, method of strength training - Intensive interval method - Higher resistance - circuit training - possible Injury- Exposed and unexposed on muscles, bones and joints - diagnosis, first aid management - Treatment - Rehabilitation exercise.

UNIT - III Speed Development

Speed - Factors determining- speed - Training for speed development - Innervation, elasticity, bio - chemistry, muscle relaxability, action acceptor, will power - Endurance and speed training - Intensity, extent, density- Anaerobic power, speed, capacity - - Possible injury on muscles, bones and joints - Diagnosis, first aid management, treatment and rehabilitation exercise.

UNIT - IV Endurance - Development

Endurance - types - Speed endurance - Short, medium and long term endurance - Factors determining - endurance - Aerobic capacity O₂ intake, O₂ transport, O₂ uptake - energy reserves - Anaerobic capacity - Phosphagen stores, lactic acid tolerance, movement economy - Psychic factor - Improvement of endurance duration method, continuous, alternating and fartlek method - Repetition method - Cardio Respiratory endurance, muscular endurance – Circuit - training - Competition and testing method - Altitude training - Second wind, fatigue - Possible injury on muscles, bones and joints - Coronary problems, cramps, Heat exhaustion, fluid loss
Diagnosis - First Aid management - Treatment and rehabilitation

UNIT - V Mobility and Co-ordination Development

Mobility - Active, passive and Kinetic - Factors determining mobility - Role of mobility - Mobility training- Ballistic method, slow strength and hold method and post isometric strength. Co-ordination - Importance of co-ordinative ability - Differentiation, orientation, coupling, reaction, balance Rhythm and adaptation - Improvement of co-ordination - Physical exercises, general and special, motor sense organ, variation in movement, external condition, against time, under fatigue. Possible injury on muscles, bones and joints diagnosis, first aid management, treatment and rehabilitation.

BIOMECHANICS

UNIT - VI INTRODUCTION TO BIO-MECHANICS

Force, moment, vectors/scalar, stress, torsion, principles of mechanics, stabilising and rotary components, Leverage, equilibrium. Beam, arch and column. Gravitational forces, centre of gravity of human body. Elasticity deformation and pressure. Elasticity of bone, cartilage and ligaments, stress resistance to bone compression.

UNIT - VII APPLIED BIO-MECHANICS

Structure and function of joints, especially shoulder, elbow, wrist, hip, knee and ankle. Kinematics of motion of these joints and their bio-mechanical properties. Kinematics of low back motion.

Introduction to Bio Mechanic Analysis. Recruitment & Technique ,Dynamometer, Electronic Goniometer, Force plate evaluation, videography

Applied biomechanics of sports injury in the lumbar spine pelvis, hip and groin.

Biomechanics of sports in distance running, sprinting, jumping, rowing, football, skiing, court sports and cycling.

Core stability and motor control in the sport activities involving spine.

Reference:

- i) Dick, Frank, W. - "sports Training Principles" Henry Kimpton Publishers, London.
- ii) Singh, Hardayal, "Science of Sports Training" Dr. V.S. publishers, New Delhi.
- iii) Fox, Edward.L: 'The Physiological Basis of Physical Education And * Athletics" (3 Ed.) Sydney: WB Saunders Company.
- iv) Kreighbaum, Ellen & Barthels, Katherine.M. Bio-mechanics, 'A Qualitative Approach for Studying Human Movement - MacMilla publishing Co., New York.
- v) Smith L.K", Weiss E.L."Clinical Kinesiology"Jaypee Brothers,New Delhi.

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – I						
MSPC103	Biostatistics and Research Methodology	C – 3	4	0	4	25	75

Objective: To Enhance knowledge about bio statistics & Research Methodology Application and Tools

Outcome: To utilize acquired Knowledge in the field of Research, Guidance and projects.

BIOSTATSTICS

UNIT-I

Definition and scope of statistics - Uses of Statistical Methods in PT -Characteristics and their measurement -Qualitative characters - Data collection -primary and Secondary methods collection of experimental data.

Classification of data-Tabulation and frequency distribution and table classification of attributive data- Contingency tables. Uses of classification of data Representation of data by diagram and graphs - Histogram- Frequency .

UNIT-II

Measures of Central value - Mean median and mode - quartiles and percentiles-comparison of average.

Measures of dispersion-qualities deviation, mean deviation and standard deviation. Coefficient of Variation .

Correlation and Regression- Linear regression-Rank Correlational

UNIT - III

Probability - Basic concept. Definition, meaning and simple application in PT Statistics. Concept of random variable and distribution- Binomial, Poisson and Normal distribution their properties and simple problem relating to their application in PT studies:

Sampling, random sampling different sampling distribution and applications. Non sampling errors and their control.

UNIT IV

Sampling distribution, parameter and statistics, point stimulation (Concept only) Interval estimation meaning and applications. Test of significance based on Normal, 't', Chi - square and r distribution-Analysis of variance one way Classification

UNIT - V

Vital and health statistics - Death rates- Fertility rates. Chi-square specific and standardized Death rates

RESEARCH METHODOLOGY

UNIT I- RESEARCH PROCESS AND METHODS:

Scientific methods in PT research, Steps in research process, Review of literature, Selection and statement of problem, Formulation of hypothesis and testing, Types of error in research study, Pilot study. Research design, principles and methods.

UNIT II -SAMPLING:

Population and samples, Methods of sampling.

UNIT III -DATA COLLECTION:

Data collection methods, scales and techniques of data collection. Reliability, Validity and criteria for assessing, Measuring the tools. Analysis and interpretation of research data. Role of computers in Research Process for Physiotherapist.

UNIT IV -RESEARCH REPORT:

Preparing the Research report, Mechanics/ Writing the report, Documentation, The Details of the study, Arrangement of report, Presentation of study for discussion.

REFERENCES

- 1.Guptha.S.P., "statistical Method" Sultan Chand Sons
2. Kapoor & Guptha; "Applied Statistics" Sultan Chand Sons
3. Medhi. J., "statistical Method - An Introductory Text" Wilet Easter
4. Hay, J. (1993). The Biomechanics of Sports Techniques, Benjamin Cummings.
5. McGinnis, Peter M. Biomechanics of Sport and Exercise, Human Kinetics, 2005.
6. Clarke, David H. Clarke, Harrison H. Research Process in Physical Education, New Jersey: Prentice Hall Inc. 1984.

7. Jerry R. Thomas, Jack K. Nelson and Stephen J. Silverman., Research Methods in Physical Activity (5th Ed), New York: Human Kinetics. 2005.
8. Chris Gratton and Ian Jones., Research Methods for Sports Studies, London: Routledge, Taylor & Francis Group, 2004.
9. John W. Best and James V. Kahn., Research in Education (9th Ed.), New Delhi: Prentice Hall of India Pvt. 2006.
10. Robertson .E Gordon D et al. Research Methods in Biomechanics. New York: Human Kinetics. 2004.

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme								
Programme Structure						MARK	SPLIT	
Course Code	Course Title	Course Type	No. of Credit			Internal	External	
			Theory	Practical	Total			
	Semester – I							
MSPC104	Musculo Skeletal Evaluation	C – 4	4	1	4	25	75	

Objective: To Enhance knowledge about Various Evaluation Method in the Field of sports Physiotherapy

Outcome: To utilize acquired Knowledge in clinical Decision Making and further learning process

UNIT 1

1.Introduction:

Benefits ,component of Muscular screening, ,Basic Principals ,format, Reliability and validity

2. General Fitness Evaluation

3. Posture Assessment,

UNIT-2 – Gait and Performance

1. Gait Deviation Assessment

2. Functional and Performance Evaluation

UNIT -3 Regional wise Evaluation

1. Upper Quadrant, head, cervical , thorax and chest Evaluation

2. Lower Quadrant , Abdomen,Lumbar,and Pelvis Evaluation

UNIT- 4 On-Field & Off –Field Evaluation

. TRIAGE Screening/On –Field Evaluation- Pre participation Evaluation, onfield kits and prior arrangement,side line classification,On –Field injury classification

UNIT – 5 - 1.Medical Diagnostic report findings introduction

. ECG, TREADMILL STRESS TEST,LUNG FUNCTION TEST EMG,NCV , X-RAY,CT SCAN, MRI..ULTRASONOGRAPHY, BODY COMPSITION ANLYSE, EEG.

REFERENCES

1. Kendall F.P., Kendall. E., Proronce P.G. Muscle testing and Function. Williams and Wilkins
2. Deusen. Can and Brunt. Assessment in Occupational Therapy and Physical'Therapy -W.B. Sauduts, London
3. Berryman Reese, N., Bandy, W.D. **Joint range of motion and muscle length testing.** W.B. Saunders Company, Sydney, Australia; 2002
4. Rothstein, Jules. M. - Measurement in physical Therapy, churchill Livingstone N.Y.
5. .Physical Assessment & Rehabilitation (Susan O' Sullivan) Fifth Edition.
6. Zubuga. M. Breggs. C., Carlile. J. Sports Physiotherapy Churchill livingstone, 1999
7. Sports Medicine - Aids Internal, Auckland, NZ
8. . American Journal of Physical Medicine & Rehabilitation - Lippincott, Williams & Wilkins Baltimore
9. Rathstein, J.M. Measurement in physical Therapy Churchill Livingstone, New York
10. Reid sports rehabilitation

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – I						
MSPE105	Generic Elective Sports Injuries and Rehabilitation	E – 1	4	1	4	25	75

Objective: To Enhance knowledge about Sports Rehabilitation and Tools used in Rehabilitation

Outcome: Acquired Knowledge labot various sports injury and Management.

UNIT I - BASIC MEDICAL SCIENCE & INJURY

- a. Anatomy - Introduction, **Bones** – Ossification, types ,parts ,region wise. **Muscle** – classification based on structure, types, muscles of upper limb, Lower limb, head & neck, abdomen, back and Thorax **.Joints**, Types , articulaton surfaces of various part,Nerve supply, blood supply, movements
- b. Physiology- Introduction, Cardiovascular system, Respiratory system, Muscular System, Nervous system, Endocrine System, physiology of Ageing, Physiological responses to exercise.
- c. Injuries – Introduction, Types of Injuries , Healing process, classification according to Healing Process, Fracture – Classification according to trauma, stages of Healing, Dislocation and Subluxation, Strain , Bruise, Laceration and Scalds.

UNIT II – SPORTS REHABILTAION AND TOOLS OF REHABILITATION

- a. Rehabilitation- Introduction ,Team members, Role of Team members, steps in rehabilitation, Goal of Rehabilitation , Sports medicine and Sports physiotherapist Contribution in Rehabilitation.

- b. Therapeutic Modalities- Introduction, Superficial and Deep heat Modalities, Cryo therapy , Techniques of Cryotherapy, Electrical Stimulation, TENS, Ultra sound, Laser, Interferential Therapy.
- c. Therapeutic exercise and tools- Introduction, Passive movement, Active movement , Active assisted, Resisted, Free Exercise, Mobilization, Manipulation, Balance exercise, coordination exercise, plyometrics.

UNIT III – SPORTS INJURIES AND REHABILITATION

- a. Sports Injuries – Introduction, Factors contributing Injuries, **Intrinsic factors** – strength, flexibility, balance , endurance, skeletal abnormalities, unhealed Injury, extrinsic factors, Extrinsic factors - Environment, Sports Wear, Surface, Sports Equipment, Training Techniques. Prevention of injuries.
- b. Onfield injuries Evaluation and Management – Introduction , first aid kits. Other preparation , Side Line Classification of Injuries, Evaluation , Prioritization, Decision first aid for life threatening-Airway Breathing Circulation, CPR, first aid for other Non Life threatening.
- c. Off field Rehabilitation – Introduction. Contact sports injuries, Non contact sports injuries. Rehabilitation for non Operative conditions, Rehabilitation for Operative conditions. Rehabilitation Protocol For various injuries. Criteria to return.

REFERENCES:

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2. Ranganathan. T.S. 'A Text book of Human Anatomy" S. Chand and Company Ltd" Ramnagar, New Delhi. Fifth Edition (1995)
3. Basmajian J.V. 1996 "Muscles Alive" Fourth Edition, Williams and Wilkins: Baltimore'
4. Evans P.G. "Mechanical Properties of Bone" Thomas, Springfield (1993)
5. Bamett C.H. Davies. D.V. and Mac'Conaill' MA.(1991) "Synovial Joints, Their Structure and Mechanics." Longmans London.
6. Clinical Sports Medicine by Peter Brukner and Karim Khan.
7. The American Orthopaedic Society for Sports Medicine 1988.
8. Low, John, Reed Ann. Electrotherapy Explained, Explained, principles and Practice - Butterworth - Heineman Ltd.,
9. Kishner, Cardyn; Colby, Lyn Allen. Therapeutic Exercise, Foundations and Techniques - Jaypee Publishers
10. Clayton's Electrotherapy - 12th Ed. - CBS Publishers, H.D. Kendall F.P., Kendall. E., Proronce P.G. Muscle testing and Function. Williams and Wilkins
11. Kahn. Joseph, Principles and Practice of Electrotherapy. Churchill Livingstone.
12. Holey, Therapeutic Massager (1998). Jaypee publishers, Chennai
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M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – I						
MSPP106	Practical – I	P – 1	0	3	3	40	60

Objective: To Enhance knowledge about Various Evaluation Method in the Field of sports Physiotherapy

Outcome: To utilize acquired Knowledge in clinical Decision Making and further learning process

Musculo Skeletal Evaluation : Physiotherapy evaluation, Sport specific evaluation, fitness evaluation. Gait Evaluation, Functional Assessment.

Contact and Non Contact Sports , Sports protective equipments, Sports Specific Equipments, Protective Gear, Various Field Surfaces.

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – II						
MSPC201	Sports Physiotherapy Basics	C – 5	4	0	4	25	75

Objective: To Enhance knowledge about Sports Rehabilitation and Tools used in Rehabilitation

Outcome: To utilize acquired Knowledge in clinical Decision Making and further Treatment process

UNIT – 1 SPORTS REHABILITATION BASICS

1.Introduction, Sports Rehabilitation and Team members ,Role of sports physiotherapist, Goals of Rehabilitation

2. Healing process and Rehabilitation ,Steps of Rehabilitation

3. Pre -Rehabilitation

UNIT-II SPORTS THERAPEUTIC PROGRAMME

1.Regaining Range of Motion, Flexibility, Strength, Endurance, and power. Neuromuscular and balance Training

2., Spinal and Soft tissue Manipulation and Mobilization

3. Plyometrics, Open and Close Kinetic Chain Exercise, PNF,METS, ,Pilates, Dry needling, Taping, AQUATIC Therapy.

UNIT-III SPORTS PHYSIOTHERAPY MODALITIES AND MASSAGE

1. Heat therapy, Cryotherapy,Ultrasound, Interferential Therapy,TENS,Russian current,Wireless stimulation

2.Traction and Decompression unit, CPM,LASER,, Vacuum therapy, EMG AND Bio feed back ,

3. Isokinetic Rehabilitation ,shockwave therapy, Robotic Therapy, . Wireless therapy, Game Ready

UNIT-IV SPORTS MASSAGE

1. Introduction
2. Role and Benefits
3. Categories of sports massage
4. Underwater massage
5. Advancement in Massage.

REFERENCE

1. Clinical Sports Medicine by Peter Brukner and Karim Khan.
2. The American Orthopaedic Society for Sports Medicine 1988.
3. Low, John, Reed Ann. Electrotherapy Explained, Explained, principles and Practice - Butterworth - Heineman Ltd.,
4. Kishner, Cardyn; Colby, Lyn Allen. Therapeutic Exercise, Foundations and Techniques - Jaypee Publishers
5. Clayton's Electrotherapy - 12th Ed. - CBS Publishers, H.D. Kendall F.P., Kendall. E., Proronce P.G. Muscle testing and Function. Williams and Wilkins
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7. Holey, Therapeutic Massager (1998). Jaypee publishers, Chennai
8. Lehmann, Justas F -Therapeutic Heat and Cold. Williams & Wilkins
9. . Zubuga. M. Breggs. C., Carlile. J. Sports Physiotherapy Churchill livingstone, 1999.
10. Gardiner, Dena.M. - Principles of Exercise Therapy, CBS publisher – ND
11. Carolin Krisner therptic Exercise
12. William d.prentice, Atheletic Rehabilitation

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – II						
MSPC202	Sports kinesiology	C – 6	4	0	4	25	75

Objective: To Enhance knowledge about Application of Kinesiology in Sports

Outcome: To utilize acquired Knowledge in clinical Decision Making, treatment purpose and further learning process

UNIT – I INTRODUCTION

1. Kinesiology in sports physiotherapy.
2. Basic concepts (influence of Gravitational Force, lever system,) , , starting positions.

UNIT – II INTERNAL AND EXTERNAL FACTORS: KINETICS

-1. Force and its characteristics, internal and external forces, Classification of force system, Composition and resolution of forces. Friction, Impact, Elasticity, Principles of Spin and Rebound, Eccentric forces. Couple, moment, Principles of Lever, Rotatory force, Gravity, Methods of finding Centre of Gravity, Principles of Equilibrium, Fluid mechanics, principles of projectile.

2. Motion, type of motion, Distance and speed, Displacement and velocity, Acceleration, Angular distance and Angular displacement, Angular Speed, Angular Velocity, Angular Acceleration, Inertia, mass, weight, Newton's Laws of motion, Units in linear and angular motion.

UNIT – III FUNCTIONAL ANATOMY

1. Frame work and joints of the body: Influence of trauma and classification of the muscles, Relation of structure, functions, role of muscles, Types of Muscle, contractions (Static, Concentric and Eccentric), Two joint Muscles, Angle of pull, Role of Gravity affecting muscular action.
2. Joint integrity and its functions
3. Region wise Functional anatomical influence.

UNIT – IV ASPECTS OF PATHOMECHANICS

1. Upper Extremity: Pathomechanics of Muscle Acting at the Shoulder Complex, Elbow, Forearm, Intrinsic Muscles of the hand, Pinch and grasp

2. Head and Spine: Pathomechanics of Vocalization, Pathomechanics of Swallowing, Pathomechanics of the Muscles of the TMJ, Cervical Musculature, Muscles of the Thoracic Spine, Muscles Acting on the Lumbar Spine, Muscle Activity in the Pelvis

3.Lower Extremity: Pathomechanics of Muscle Acting at the Hip, Muscle Activity at the Knee, Muscle Activity at the Ankle and Foot

REFERENCES

1. .Physical Assessment & Rehabilitation (Susan O' Sullivan) Fifth Edition.
2. Zubuga. M. Breggs. C., Carlile. J. Sports Physiotherapy Churchill livingstone, 1999
3. Sports Medicine - Aids Internal, Auckland, NZ
4. . American Journal of Physical Medicine & Rehabilitation - Lippincott, Williams & Wilkins Baltimore
5. Rathstein, J.M. Measurement in physical Therapy Churchill Livingstone, New York

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – II						
MSPC203	Education, Ethical Principles & Clinical Administration	C – 7	4	0	4	25	75

Objective: To Enhance knowledge about Various Education Method ,code of Ethics to maintain and managing clinical setting

Outcome: To utilize acquired Knowledge in Teaching , to follow the code of Ethics in Professional Practice and to Properly Manage the clinical setup

SECTION A- EDUCATION

UNIT-1 EDUCATION BASICS

- 1.Introduction – Basic principles of Education,
- 2.Relationship Between Philosophy and Education
3. Agencies of Education

UNIT -2 CURRICULUM AND TEACHING CONCEPT

- 1.concept,Types and Approach of curriculum
- 2.Determinants and Organisation of Curriculum

- 3.Principles of Learning
- 4.Techniques of Teaching
- 5.Instructional Media.
6. Guidance and counselling

SECTION B - ETHICS

UNIT -I

- 1.Morals and Ethics, Ethical analysis of moral problems.
- 2.Beliefs and orientation of people^and Community towards health/healthcare^

UNIT II - BASIS OF ETHICAL PRACTICE IN PHYSIOTHERAPY

1. Relationship between professions and^ professional groups, physiotherapist - patient relationship.
2. Types of consent, referrals, over - utilization and under - utilization of physiotherapy services. Obligation and Responsibilities to patient.
3. Records, maintaining inventory, Different types of records needed in physiotherapy practices.
4. planning and organizing a unit of physical therapy according to circumstance, Accountability and Social Responsibility
5. Quality of professional service, peer review, continuing education, research Need for outcome studies, Evidence based practice.

SECTION C- MANAGEMENT

UNIT 1 MANAGEMENT PRINCIPALS

- 1.Management - Function of management.
- 2 Evolution of management thought scientific management theory.
- 3.Classical theory - System approach -Contingency approach.

UNIT –II MANAGEMENT PROCESS

- 1.Management process - Planning, organization, direction, controlling, decision making.
- 2.Introduction to personnel management - Staffing recruitment, selection, performance appraisal, collective bargaining, discipline, job satisfaction.
3. Sports and Recreational Events
Financial and Corporate Management in Sports – clubs, events
- 4.Setting sports fitness center

REFERENCES:

- 1 Mohanthy.J. "Indian Education in the Emerging Society" Sterling publishers, New Delhi.
2. Seetharamu. A.S. ..Curriculum Innovation and Educational Technology,' Doaba House, New Delhi.
- 3.Tammer, Daniel & Lanvel N. Thanner "Curriculum Development - Theory into practise,, MacMillian Publishing Co., New Delhi
- 4.Ebel Robert.L. "Measuring Educational Achievement" Prentice Hall of India (p) Ltd., New Delhi.
- 5.Sampath K. & Panneerselvam.S. .,Introduction to Educational Technology"
6. Kumar.K.L. "Educational Technology/, New Age International (p) Ltd., New Delhi.
7. Thorndike. R.L. ..Measurement and Evaluation in Psychology and Education" John Wiley & Sons, New Delhi.
8. Chauhan.S.S. "principles and Techniques of Guidance" Vikas publishing House, New delhi.

9. Indu Dave 'The Basic Essentials of Counselling, Sterling publishers, New Delhi.
10. De Doruaico. geovanni, Wood Elizabeth.,
11. Beard's Massage W.B. Saunders, London.
12. Harold Koontz, Cyril o'donnel and Weihvich "Management" McGraw - Hill Publishers, New Delhi *
13. C.B. Memoria "Personnel Management" Himalaya Publications, Bombay
14. Paul Looma, "Management a Quantitative Perspective" Macmillan publishing Company, New York
15. Philip Kotler, "Marketing Management," Prientice Hall of India Pvt. Ltd., New Delhi
16. Kuchhal, S.C. "Financial Management" Chitanya publishing House, Allahabad.

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – II						
MSPE204	Discipline Specific Elective –I a Female Athlete	E – 2	4	0	4	25	75

Objective: To Enhance knowledge about Various problems and proper management of Female Athlete

Outcome: To utilize acquired Knowledge in clinical Decision Making and further Treatment process

UNIT1- PHYSICAL DIFFERENCE BETWEEN MALE AND FEMALE ATHLETE

1. Cardio vascular, strength, flexibility, power
2. Body composition, Hormonal Factor, Injury Risk
3. Exercise and Pregnancy

UNIT II- FEMALE ATHLETE TRIAD

1. Introduction & Classification, Temperature Regulation, Menstruation, Injuries
2. Risk Factors, Anorexia Nervosa, Bulimia nervosa
3. Identification – Energy needed, Eating Disorder

UNIT III- PREVENTION AND TREATMENT

1. Multidisciplinary Approach,
2. Non pharmacological- Exercise Intensity and Nutrition
3. Pharmacological Approach, Prevention Strategy

REFERENCES:

ACSM Position Stand on the female Athlete Triad (2007). Medicine and Science in Sport and Exercise. 39(10): 1867-1882. Arendt, E and Dick R. (1995). Knee injury patterns among men

and women in collegiate basketball and soccer: NCAA data and review of literature. American Journal of Sports Medicine; 23(6), 694-701. Salis, R.E., Jones K., Sunshine, Smith, G and Simon, L. (2001).

Comparing Sports Injuries In Men and Women. International Journal of Sports Medicine, 22, 420-423. Manore M.M. (2002).

Dietary Recommendations and Athlete Menstrual Dysfunction. Sports Medicine, 32(14) 887-901. Thompson, R. A. and Sherman, R.T. (1993) Helping athletes with eating disorders. Human Kinetics, Champaign, Illinois American Psychiatric Association. (1994). Diagnostic and Statistical

Manual of Mental Disorders, 4th ed. Washington DC: American Psychiatric Association 539-550 Loucks, A.B. and Horvath, S.M. (1990)

Effects of exercise training on the menstrual cycle: existence and mechanisms. Medicine and Science in sport and Exercise, 22, 275-280 Wiggins, D.L. and Wiggins, M.E. (1997).

The female athlete triad. Clinical Sports Medicine, 16(4) 593-6121

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – II						
MSPE204	Discipline Specific Elective –I b Exercise and Ageing	E – 2	4	0	4	25	75

Objective: To Enhance knowledge about Various problems and proper management of Elderly Athlete

Outcome: To utilize acquired Knowledge in clinical Decision Making and further Treatment process

UNIT 1. AGE SPECIFIC CHANGES AND DEMANDS

1. Physical Changes ,Physiological Changes, Biochemical changes
2. Risk factors ,Medical conditions
3. Psychological,Social Factors and Nutrients

UNIT II AGE SPECIFIC EVALUATION

1. Musculoskeletal screening
2. Cardiovascular and Respiratory Evaluation
3. Movement Analysis, Functional and Sports Specific

UNIT III EXERCISE

1. Active Life Style and Sedentary Individuals
2. Safety consideration During Exercise for Different Age, climatic condition, Nutritional requirement
3. Exercise Prescription for different medical conditions- Diabetes, Hypertension, Cardiac and respiratory problems, Neurological problems .

REFERENCES

1. Neurological Rehabilitation: Umphred, Darcy, A.
2. Essential of Medical pharmacology by Tripathi
3. Text book of Medical Pharmacology by PadmajaUdaykumar Exercise Physiology – Energy, Nutrition and Human Performance William D. McArdle
4. Exercise Physiology - Theory and application to fitness and performance Scott K. Powers
5. Human movements explained. Kim Jorus& Karen Barker
6. Exercise prescription – Shankar
7. Orthopaedic physical assessment – David J. Mager
8. Physical Rehabilitation by – Susan-O-Survan
9. Hamilton Bailey’s – Physical signs – Demonstration of Physical signs

Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
MSPP206	Practical – III Sports Physiotherapy Basics	P – 3	0	6	6	40	60

Objective: To Enhance knowledge about Sports Rehabilitation and Tools used in Rehabilitation

Outcome: To utilize acquired Knowledge in clinical Decision Making and further Treatment process

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – III						
MSPC301	Sports injury and management I	C – 8	4	0	4	25	75

Objective: To Enhance knowledge about Upper Limb Sports Injury and Rehabilitation

Outcome: To utilize acquired Knowledge in clinical Decision Making and further Treatment process

UNIT I - EPIPHYSEAL INJURIES:

Prevention, Classification, Treatment, Complications and Prognosis of Epiphyseal injuries, Osgood Schlatters disease, Traction epiphysitis, Patellar Tendinitis, Complete avulsion of the epiphysis of the Tibial tubercle.

UNIT II-SHOULDER INJURIES AND MANAGEMENT:

- 1.Sterno clavicular joint sprain, Acromioclavicular joint sprain,Clavicular fracture
- 2.Shoulder Dislocation, Shoulder Impingement ,Rotator cuff Tendinitis
- 3.Thoracic outlet syndrome, Brachial Plexus Injury, **Trapezitis**

UNIT III -ELBOW JOINT INJURIES AND MANAGEMENT:

- 1.Olecranon bursitis-Prevention, Treatment,
- 2 Elbow problems resulting from Throwing – Medial lesions, Lateral lesions & Posterior lesions- Treatment.
- 3.Panner’s Disease, Nerve Entrapment and Elbow Dislocation

UNIT IV -WRIST AND HAND INJURIES:

- 1.Acute and overuse injuries of the wrist, hand its immediate management, and PT management in detail.
- 2.Wrist Sprain, Scapoid Fracture,Lunate Dislocation, Hamate Fracture
- 3.Carpal Tunnel Syndrome,Boxer’s Fracture,DeQuervin’s Tenosynovitis, Game keeper Thumb

Unit V -Sport Specific Injuries

- 1..Soccer,basketball, VolleyBall, , Hand Ball, Throw Ball
- 2.Track and Field,Raket Sports, Hockey
- 3.Cricket,Swimming, Cycling, Martial Arts, Wrestling and Boxing

REFERENCES:

- 1.Clinical Sports Medicine by Peter Brukner and Karim Khan.
2. The American Orthopaedic Society for Sports Medicine 1988.
3. Anderson T. Biomechanics and running economy – Sport Medicine 1996.
4. Cameron MH. Physical agents in Rehabilitation WB Saunders 1999.
5. Physical Rehabilitation of Injured Athlete – Andrews J.R, Haulson GL.
6. The athlete Shoulder. Andrews J.R. WILR KE.
7. Frostic R.SP, Mohammed M, Ritchie. DA, Sports Injuries of Elbow.
8. Maitland G.D. Vertebral Manipulation. Sports Rehabilitation - MA Hutson (Churchill Livingstone).
9. Clinical Sports Medicine - Isani and Melone.
10. Sports Medicine - Shellock, Mink & Deutsh.
11. Encyclopaedia of Sports Sciences & Medicine - American College of Sports Medicine.

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – III						
MSPC302	Medical Condition in Sports	C – 9	4	0	4	25	75

Objective: To Enhance knowledge about Various Medical Condition Sports Rehabilitation and Management

Outcome: To utilize acquired Knowledge in clinical Decision Making and further Treatment process

UNIT – I

1. Heat Illness, Infections, Hypertension, varicose vein; Hemophillia Venereal Diseases; Exercise induced Asthma
2. Anemia, Delayed onset muscle soreness (DOMS), Runner’s high & exercise

3. Addiction. G.I.T. Diseases, Exercises and congestive heart failure, exercise for post coronary & by-pass patients, exercise for diabetics.

UNIT – II

1. Diagnosis and management of skin conditions of Athletes, Bacterial infections, Fungal
2. infections, Viral infections, boils and cellulitis.

UNIT – III

1. Common Diseases: Common Cold, Diarrhea, Dysentery, Typhoid,
 2. Cholera, Amoebiasis, Food Poisoning, Tuberculosis, Malaria, Hepatitis etc.
 - 3.. AIDS in sports people.

UNIT – IV

1. Acute rheumatic fever with carditis
2. Ehlers-Danlos syndrome, vascular form Marfan syndrome, Mitral valve prolapsed
3. Atlantoaxial instability (instability of the joint between cervical vertebrae 1 and 2)

REFERENCES

1. Downie, Patricia A - Cash's Text Book of Chest, Heart and Vascular Disorder for physiotherapist - Jaypee publishers, Chennai.
2. Downie, Patricia A- Cash's Text book of Medical and surgical conditions for Physiotherapists - Jaypee publishers, Chennai.
3. Sunder. S. Lecture notes on Rehabilitation Medicine - Jaypee publishers, Chennai.
4. Joshi, Jayant; Kotwal, prakash. Essentials of Orthopaedics and Applied Physiotherapy - BI Churchill Livingstone, pvt. Ltd. New Delhi.
5. Low, John, Reed Ann. Electrotherapy Explained, principles and Practice - Butterworth - Heineman Ltd.,
6. Kishner, Cardyn; Colby, Lyn Allen. Therapeutic Exercise, Foundations and Techniques - Jaypee Publisher

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – III						
MSPC303	Applied Exercise physiology and nutrition	C – 10	4	0	4	25	75

Objective: To Enhance and Refresh knowledge about Physiological Changes During Exercise and Nutrient Requirement for a sports Person.

Outcome: To utilize acquired Knowledge in clinical support and Prevention of Injuries

UNIT I – BASIC EXERCISE PHYSIOLOGY:

- 1 .Muscle: Muscle and its contraction, Architecture of skeletal muscle, Type of muscle fiber, Response to exercise.
- 2 .Blood and Circulation: Cardiac cycle, Pressure during cardiac cycle, Haemodynamics, Pressure, Flow and resistance, Transport mechanisms, Regulation of circulation during exercise,
3. Cardiac output & O₂ uptakes, Cardio vascular response to exercise.
4. Respiration: Lung compliance, Airway resistance, Pulmonary ventilation at rest and during exercise, Diffusion in lung tissues, Ventilation & Perfusion, Regulation of breathing, Exercise and its effect on respiratory system., **Air Conditioning, Second wind, Oxygen Debt, High pressure ventilation**

UNIT II - ENERGY SYSTEM:

- 1.ATP-CP, Glycolysis, Aerobic energy system, Metabolism of fat, carbohydrate, protein,
- 2.Evaluation and training of various energy system, Test of maximal anaerobic power, **Energy Expenditure during various Activities, Fatigue**
- 3.Test of maximal aerobic power – measurement of oxygen uptake, Treadmill test, Bicycle ergometer test, Principle and protocol of aerobic training,
4. Adaptation to training

Unit III-Physical Training:

- 1.Training principles, continuous vs. intermittent exercise training methods,

2. Disuse, Isometric strength training, Dynamic strength training. Endurance training, Retraining, Recovery after exercise, Mechanical efficiency technique,

3 Body composition, Stretching, Plyometrics, Psychological aspects, Muscular soreness.

UNIT IV - FACTORS AFFECTING PERFORMANCE:

1.High altitude-limiting factors, Sports, Adaptation of high altitude, Aerobic & Anaerobic power, metabolic effects.

2 **Ergogenic aids** -Effect of Anabolic steroid, Growth hormone, Amphetamine, Caffeine and Doping.

1. Diabetic mellitus, Hypertension, Cardio vascular disease.

UNIT V - NUTRITION:

1.Factors governing the selection of fuel for muscular exercises, Food for the athlete,

2.Energy balance, Regulation of food intake, Ideal body weight,

3.Carbohydrate,Fats,Protien,Vitamin , Mineral and Water

4. Pre – Game meal, Carbohydrate loading, Mega Vitamin therapy, fluid and sport Drinks

2. Obesity, Slimming diets, Optional supply of nutrients.

REFERENCES:

1. Exercise Physiology – Energy, Nutrition and Human Performance William D. McArdle
2. Exercise Physiology - Theory and application to fitness and performance Scott K. Power
3. Kanaga Suntheram R. Sivananda singham P. and Krishnamurti A. 'Text book of Anatomy" - Regional, Functional and Clinical Orient Longman Ltd (1996).4.
4. Ranganathan. T.S. 'A Text book of Human Anatomy" S. Chand and Company Ltd" Ramnagar, New Delhi. Fifth Editon (1995)5.
5. Basmajian J.V. 1996 "Muscles Alive" Fourth Edition, Williams and Wilkins: Baltimore'6.
6. Evans P.G. "Mechanical Properties of Bone" Thomas, Spring Field (1993)7.
7. Bamett C.H. Davies. D.V. and Mac'Conaill' MA.(1991) "Synovial Joints, Their Structure and Mechanics." Longmans London.
8. Kapandji I.A. (1970) 'The Physiology of the 'Joints" Living Stone: London

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – III						
MSPE304	Discipline Specific Elective –II a Exercise and Obesity	E – 4	3	1	4	25	75

Objective: To Enhance knowledge about Various problems and proper management of Obesity

Outcome: To utilize acquired Knowledge in clinical Decision Making and further Treatment process

UNIT-I- OBESITY

1. Introduction , Prevalence, Obesity Screening
2. Etiology , General classification, Childhood obesity, Risk factors, hormonal influences
3. Various Impact of fat on Health - Musculo skeletal , Medical conditions.

UNIT II BODY COMPOSITION ANALYSIS

1. Oldern method of Body Composition Analysis
2. BMI and its Significance for child and Adults , Body Fat Percentage
3. Recent Advanced Method of Evaluation

UNIT III – MANAGEMENT

1. Primary Prevention, Exercise Prescription
2. DIET- calorie requirement for individual, metabolic rate, energy balance equation
3. Counseling Approach, Conservative medical management, surgical interventions, Integrated Approach.

REFERENCES

1. Annesi J. Relations of mood with body mass index changes in severely obese women enrolled in a supported physical activity treatment. *Obes Facts* 2008;1:88-92
2. Berggren J, Boyle K, Chapman W, Houmard J. Skeletal muscle lipid oxidation and obesity: influence of weight loss and exercise. *Am J Physiol Endocrinol Metab* 2008;294:E726-E34.
3. Castello V, Simões R, Bassi D, Catai A, Arena R, Borghi-Silva A. Impact of aerobic exercise training on heart rate variability and functional capacity in obese women after gastric bypass surgery. *Obes Surg* 2011;21:1739-49.
4. Christiansen T, Bruun J, Madsen E, Richelsen B. Weight loss maintenance in severely obese adults after an intensive lifestyle intervention: 2-to4 year follow-up. *Obesity* 2008;15:413-20.
5. Cook C, Eduards C. Success habits of long-term gastric bypass patients. *Obes Surg* 1999;9:80-2
6. Donnelly J, Blair S, Jakicic J, Manore M, Rankin J, Smith B. Appropriate Physical Activity Interventions Strategies for Weight Loss and Prevention of Regain for Adults: American College of Sports Medicine Position Stand. *Med Sci Sports Exerc* 2009;41:459-71.
7. Egberts K, Brown W, Brennan L, O'Brien P. Does Exercise Improve Weight Loss after Bariatric Surgery? A systematic Review. *Obes Surg* 2012;22:335- 41.

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – III						
MSPE304	Discipline Specific Elective –II b Yoga Therapy	E – 4	3	1	4	25	75

Objective: To Enhance knowledge a Yoga therapy and application of Yoga Therapy for Various Aliments

Outcome: To utilize acquired Knowledge in clinical Decision Making and further incorporate yoga therapy in Treatment process

UNIT 1: 1.INTRODUCTION

1. What is yoga therapy, History. Foundation of yoga
2. Asana, Pranayama, Mudras, Bandhas,.
3. Kriyas, Meditation Techniques ,Yoga Therapy Techniques

UNIT-II- YOGA THERAPY FOR MUSCULO-SKELETAL DISORDERS

1. Muscular dystrophy , Gullian Barrier Syndrome
2. Back Pain ,. Cervical and lumbar spondylosis
3. Arthritis ,Strain ,sprain

UNIT-III- YOGA THERAPY FOR CARDIOVASCULAR & RESPIRATORY DISORDERS

- 1.. Hypertension , Coronary artery disease, Cardiomyopathy , Cardiac asthma
2. . Tuberculosis, Chronic Bronchitis iii. Allergic Rhinitis & Sinusitis
3. COPD & Emphysema v. Bronchial Asthma

UNIT IV- YOGA THERAPY FOR ENDOCRINOLOGICAL AND METABOLIC DISORDER

1. Diabetes Mellitus (I&II)
2. Hypo and Hyper-thyroidism
3. Obesity , Metabolic Syndrome

UNIT-V- YOGA THERAPY FOR PSYCHOLOGICAL DISORDER

- 1.Psychosis, Schizophrenia,
- 2.Bipolar, Depression,
- 3.OCD, Gen Anxiety Disorder

REFERENCE:

- 1.Dr R Nagarathna, Dr H R Nagendra, Dr Shamantakamani Narendran. Yoga for Common Ailments and IAYT for Different Diseases. SVYP. 2002 2.
- 2.Dr Shirley Telles, Dr H R Nagendra. A Glimpse into the Human Body. SVYP. Bangalore. 2002 3.
3. Nagarathna R, Nagendra H.R. Integrated Approach of Yoga Therapy for Positive Health. SVYP. Bangalore. 2001

Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
MSPP305	Practical IV Sports Injury and Management I	P - 4	0	4	4	40	60

Objective: To Enhance knowledge about Sports Rehabilitation and Tools used in Rehabilitation

Outcome: To utilize acquired Knowledge in clinical Decision Making and further Treatment process

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – IV						
MSPC401	Sports Injury and Management II	C – 10	4	0	4	25	75

Objective: To Enhance knowledge about lower Limb Sports Injury and Rehabilitation

Outcome: To utilize acquired Knowledge in clinical Decision Making and further Treatment process

UNIT 1 -EMERGENCY CARE AND ATHELETIC FIRST AID:

- 1.Sideline Classification, Sports First Aid Kit.
- 2.Cardiopulmonary emergencies, Heimlich maneuver, Shock Injuries
- 3.- Internal and External Injuries, Head and Neck Injuries, Fractures, Dislocations. Stretcher use,
- 4.TRIAGE Concept and its Application.

Unit 2. Sports Injury and Management for Lower Quadrant

THIGH INJURIES:

- 1.Contusion to the Quadriceps – Signs and Symptoms, Treatment, Complications, Prognosis, Strain of the Quadriceps muscle- Mechanism of injury, Signs and Symptoms, Treatment.
- 2.Acute Strain of the Hamstring group – Signs and Symptoms, Treatment.
- 3 Complete rupture of the Patellar tendon,IT Band syndrome,Pyriiformis Syndrome,Ischial Bursitis, Trochantric Bursitis,Oestitis Pubis – Signs and Symptoms, Treatment.

KNEE INJURIES:

- 1.Prevention of the injuries, Mechanisms of knee ligament injuries, First degree sprain, Second degree sprain, Third degree sprain –Signs and Symptoms, Treatment.
- 2 Anterior and Posterior Cruciate tears, Anterio-medial, Anterio-lateral instability – Symptoms, Pathology, Treatment, Rehabilitation, Exercise for Meniscal lesions. Types of tears, Aetiology, Signs and symptoms, Treatment. Injuries of the patella-.

3.Osteochondritis Dissecans – types, Signs and treatment. Jumper’s knee – Aetiology, symptoms, treatment.

4.Rehabilitation of the knee and Patellofemoral joints Post Menisectomy- Rehabilitation program.

LEG, ANKLE AND FOOT INJURIES:

1.Rupture of the Gastrocnemius (Tennis leg), Total rupture of the Achilles tendon, Partial rupture of the Achilles tendon - Mechanism of injury, Signs and Symptoms, Treatment, Rehabilitation

2. Prevention of the Ankle injuries, Mechanism for Ankle sprains, Evaluation of injured ankle. Ankle and Foot rehabilitation,

3.Stress fracture of the metatarsal, Morton’s Neuroma.

4.Compartmental Syndrome and its Management

UNIT-III SPORTS INJURY MANAGEMENT FOR SPINE

1.Low Back Ache , Quadratus lumbar Strain ,Signs and Symptoms, Treatment

2.Lumbar Facet Joint Sprain, Hypermobility Syndrome,Disk Related problem,Sacroiliac Joint Strain, Signs and Symptoms, Treatment

3.Cervical Sprain , Ac Signs and Symptoms, Treatment ute Facet Joint Lock,

REFERENCE:

1. Clinical Sports Medicine by Peter Brukner and Karim Khan.
2. The American Orthopaedic Society for Sports Medicine 1988.
3. Anderson T. Biomechanics and running economy – Sport Medicine 1996.
4. Cameron MH. Physical agents in Rehabilitation WB Saunders 1999.
5. Physical Rehabilitation of Injured Athlete – Andrews J.R, Huelson GL.
6. The athlete Shoulder. Andrews J.R. WILR KE.
7. Frostic R.SP, Mohammed M, Ritchie. DA, Sports Injuries of Elbow.
8. Maitland G.D. Vertebral Manipulation.
9. Geraci. MC. Jr. Rehabilitation of Pelvis, hip, and thigh injuries in sports.
10. Mc Comell J, Patellofemoral Pain and Soft tissue injuries.
11. Sports Rehabilitation - MA Hutson (Churchill Livingstone).
12. Clinical Sports Medicine - Isani and Melone.

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – IV						
MSPC402	Recent Advancement and evidenced base practise in sports physiotherapy	C – 11	4	0	4	25	75

Objective: To Enhance knowledge about Recent Advancement in the field of Sports Physiotherapy

Outcome: To upgrade the knowledge and Utilizing the service for betterment of Sports Society

UNIT I .ADVANCED PHYSIOTHERAPY INTERVENTION TECHNIQUES USED IN THE MANAGEMENT OF SPORTS SPECIFIC INJURIES

1. Mobilization and manipulation (peripheral and spinal) Deep dynamic myofascial techniques
- 2.Trigger point release Soft tissu Neural tissue mobilization Muscle energy technique Sports taping and wrapping Core Exercises - pilates, swiss ball exercises, stabilization exercises Therapeutic exercise prescriptioExercise planning and prescriptions
3. Ergonomic aspects of exercise on oxygen, energy consumption,
4. MET value of various exercises and activity
5. Hyperthermia and Shockwave: New methods in the treatment of Sports injuries

UNIT II- EXERCISE AND HEART

- 1.Effect of aerobic, anaerobic
2. Isometric and Isotonic exercise on cardiac functions
- 3.Training in Heart zone
- 4.Precision heart rate training for specific sports
- 5.Training Effect Monitoring

UNIT III CURRENT CONCEPT IN REHABILITATION

1. Isokinetic in Rehabilitation
2. Current concept in Physical Examination of specific joints
3. Current concept in Tendon Related Injuries
4. Platelet Therapy in Sports
5. EMG in Sports and Sports Rehabilitation

UNIT IV :EXERCISE IN GROWING ATHLETE

1. Cardiac Adaptations
2. Exercise and the skeleton Developments
3. Respiratory adaptations of athletes to exercise
4. Training induced adaptation in skeletal muscles

CO CONTRACTION OF SPINAL MUSCLE FOR STABILIZATION

- a. Muscle function in spinal stabilization
- b. Contribution of various muscles to spinal stabilization
- c. Local Muscle dysfunction in Low back pain
- d. Principles of clinical management of deep muscle system for segmental stabilization

UNIT V- EVIDENCED BASE PRACTICE

- 1.Principles of evidence-based Physiotherapy practice
- 2.Elements of evidence Appraising the evidence
- 3 Evidence in practice

REFERENCES:

- 1.Physical therapy for the low back – Twomoy, Churchill Livingstone, London 1995
- 2.sports injuries of the shoulder – Souza Thomas A, Churchill Livingstone, London 1994
- 3.Vertebra manipulation – Maitland G D, Boston, Butterworth and Co. Boston, 1997
- 4.Peripheral manipulation – Maitland G D, Boston, Butterworth and Co. Boston, 1997
- 5.Sports and physical therapy – Bernhardt Donna, Churchill Livingstone, London 1995
- 6.Hand rehabilitation – Christine, Churchill Livingstone, London 1995
- 7.Cardio-Pulmonary symptoms in Physiotherapy practice – Cohen M. Churchill Livingstone, London 1988
- 8.Clinical application of ventilatory support- Kinby, Churchill Livingstone, New York 1990
9. Cardio-Pulmonary Physiotherapy – Irwin C V, Mosby, St. Louis 1990
10. Pulmonary rehabilitation: guidelines to success – Hoidkins, Butterworth, Boston 1984
- 11.Cardiac rehabilitation – Amundsen L R, Churchill Livingstone, London 1988
- 12.Obstetrics and Gynecological physical therapy – Wilder Elnine, Churchill Livingstone, New York 1988

13. Physiotherapy in obstetrics and gynecology – Polden and Mantle, Jaypee Brothers, New Delhi 1994
 14. physical therapy of the cancer patient – McGaryex Charles, Churchill Livingstone, New York 1989
 15. Industrial Therapy – Key G L, Mosby, St. Louis 1987
 16 Sports Medicine- Richard Irvin, Churchill Livingston, Newyork.

JOURNALS

1. Journal of Indian Association of Physiotherapy
 2. physical therapy (APTA, America)
 3. Physiotherapy (CSP, London)
 4. American Journal of Physical Medicine and rehabilitation

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – IV						
MSPC403	Sports Psychology	C - 12	4	0	4	25	75

Objective: To Enhance knowledge about Psychological attitude of sports person for different situation and management of same

Outcome: To utilize acquired Knowledge in clinical Decision Making and further Treatment process

UNIT I –

1. PERSONALITY ASSESSMENT AND SPORTS PERSONALITY.

- a. Theories of personality
- b. Personality assessment

UNIT II STRESS MANAGEMENT

- a. Principles of Stress Management
- b. Stress Management techniques

2. PRE-COMPETITIVE ANXIETY.

- a. Source of PCA
- b. Effect of PCA on performance

3. AGGRESSION IN SPORTS.

- a. Theories of aggression
- b. Management of aggression

4.EATING DISORDERS.

- a. Etiology of eating disorders
- b. Types of eating disorders

UNIT III MANAGEMENT FOR IMPROVING CONCENTRATION AND INTEREST

1. IMPROVEMENT OF CONCENTRATION IN SPORTS.

- a. Basic principles of concentration
- b. Concentration training
- c. Concentration awareness exercises

2. Interest and Attitude in sports.

- a. Athlete's needs of motivation
- b. Motivational inhibitors
- c. Motivational techniques

3. RELAXATION TRAINING.

- a. Definition
- b. Types of relaxation trainings
- c. Progressive muscle relaxation
- d. Breathing exercises
- e. Yognidra
- f. Transcendental meditation

REFERENCES:

- 1.Morgan, Clifford, T. King, Richard, A. John, Weissy. R. and John Schopler. "Introduction to Psychology" (71h Edition) Bombay: TaLa McGraw Hill Publishing Co., Ltd., 1993.
2. Woodworth. R.S. "Contemporary Schools of Psychology New York, The Romald Press Co.,Ltd., 1948
- 3.Wolman. B.B. "Contemporary Theories and Systems in Psychology" New York: Harper &Brothers 1960.
- 4.Coleman, J.C. 'Abnormal Psychology and Modem Life (3rd Indian Eiditon) Bombay: D.P. Tapaporewalas Sons Co., Ltd., 1972.
- 5.Kaplan, H.I. & Sadock. B.J. "Comprehensive Text Book of Psychiatry" (Sixth Edition) Balimore:Williams & Wilkins, 1995.

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – IV						
MSPC404	Physically Challenged Athlete and Physiotherapy	C – 13	4	0	4	25	75

Objective: To Enhance knowledge about Various problems and proper management of Physically Challenged Athlete

Outcome: To utilize acquired Knowledge in clinical Decision Making , Treatment process and to prevent Injuries

UNIT I- INTRODUCTION

1. Spectrum care p[provide for Person with Disabilities
2. Classification for Athlete with Disability
3. Opportunity for Athlete with Disability

UNIT II- SPECIAL OLYMPICS AND PARALYMPICS

2. Special Olympics Definition
3. Paralympics Definition, Eligibility
4. History of Classification ,Sports and Classes, Importants of Classification

UNIT III- MEDICAL TENT COVERAGE FOR ATHLETE WITH DISABILITY

1. Injury by Sport Injury by Disabilities
2. Athlete in Wheel Chair, Athlete with Amputation, Athlete with Visual Impairment , Athlete with Cerebral Palsy, Athlete with possible emergent Condition
3. Medical staffing Requirement, Suggested supplies, Prehabilitaion and Rehabilitation.

REFERENCES:

1. Physical Rehabilitation of Injured Athlete – Andrews J.R, Haulson GL.
2. The athlete Shoulder. Andrews J.R. WILR KE.
- 3 Frostic R.SP, Mohammed M, Ritchie. DA, Sports Injuries of Elbow.
4. Maitland G.D. Vertebral Manipulation.
5. Geraci. MC. Jr. Rehabilitation of Pelvis, hip, and thigh injuries in sports.
6. Mc Comell J, Patellofemoral Pain and Soft tissue injuries.
7. Sports Rehabilitation - MA Hutson (Churchill Livingstone).
8. Clinical Sports Medicine - Isani and Melone.

M.P.T Sports Physiotherapy: Two-Year (4-Semester) CBCS Programme							
Programme Structure						MARK	SPLIT
Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
	Semester – I						
MSPE405	Generic Elective Exercise and Elderly Population	E – 3	4	1	4	25	75

Objective: To Enhance knowledge about Various changes in changes and designing fitness protocol

Outcome: To utilize acquired Knowledge for beneficial of elderly population

UNIT 1. AGE SPECIFIC CHANGES AND DEMANDS

- Physical Changes ,Physiological Changes, Biochemical changes
- Risk factors ,Medical conditions
- Psychological,Social Factors and Nutrients

UNIT II AGE AND CONSIQUENCE

- Quality and Quality of Life Individual Difference
- Health related Quality of Life
- General fitness Evaluation

UNIT III EXERCISE

- Active Life Style and Sedentary Individuals
- Safety consideration During Exercise for Different Age, climatic condition, Nutritional requirement
- Exercise Prescription for different medical conditions- Diabetes, Hypertension, Cardiac and respiratory problems, Neurological problems .

REFERENCES

- Neurological Rehabilitation: Umphred, Darcy, A.
- Essential of Medical pharmacology by Tripathi
- Text book of Medical Pharmacology by PadmajaUdaykumar Exercise Physiology – Energy, Nutrition and Human Performance William D. McArdle
- Exercise Physiology - Theory and application to fitness and performance Scott K. Powers
- Human movements explained. Kim Jorus& Karen Barker
- Exercise prescription – Shankar
- Orthopaedic physical assessment – David J. Mager
- Physical Rehabilitation by – Susan-O-Survan
- Hamilton Bailey’s – Physical signs – Demonstration of Physical signs

Course Code	Course Title	Course Type	No. of Credit			Internal	External
			Theory	Practical	Total		
MSPP406	Practical V Sports Injury and Management II	P - 4	0	4	4	40	60

Objective: To Enhance knowledge about lower Limb Sports Injury and Rehabilitation

Outcome: To utilize acquired Knowledge in clinical Decision Making and further Treatment process

ON FIELD/ OFF FIELD TRAINING

- a. Students will undergo Field Training with Sportsmen.
- b. They will attend Sports medicine clinic.
- c. Field Training at various Stadiums of New Delhi.
- d. The students will accompany sports teams for National sporting competitions

ANNEXURE

CHANGES IN CURRICULUM FOR 2018 – 2020 BATCH

THEORY

1. MSPC 101 Topic is changed from Basic Science to Basic Medical Science,
Additional Unit comprise of Endocrine System were Added
2. MSPC 102. Sub topics were added un unit VII
3. MSPC104 Unit is concise and subtopic is elaborated in Unit IV
4. MSPS303 Unit 1 topic is changed from Basic Physiology to Basic Exercise
Physiology,subtopic were added in this unit. Subtopic were added in Unit II. Unit IV is
Changed to Unit V and Renamed from Physical Performance to Nutrition.
5. MSPS 304 Introduction topic were included in Unit I and unit I content is merged with Unit
III
6. MSPC 402 Sub topic were added in Unit II ,Unit III Renamed from Isokinetic
Rehabilitation to Current concept in Sports Rehabilitation and sub topic were included
Additionally.
7. MSPS 403 Unit were concise from 4 to 3 Units

PRACTICAL

1. Internal and external marks were changed as 40 for Internal and 50 for External.
2. MSPP106 Basic sports related topic for sports physiotherapist knowledge were
included.