



MASTER OF PHYSIOTHERAPY

(MPT Semester Pattern)

Regulations, 2019

(For the students admitted from the academic year 2019-2020)

**FACULTY OF MEDICINE AND HEALTH SCIENCES
SRM INSTITUTE OF SCIENCE AND TECHNOLOGY**

(Deemed to be University u/s 3 of UGC Act, 1956)

SRM NAGAR, KATTANKULATHUR

Kancheepuram District - 603 203

1. SHORT TITLE AND COMMENCEMENT

These regulations may be called "THE REGULATIONS FOR MASTER OF PHYSIOTHERAPY PROGRAM, (MPT in Short form), 2019 OF SRM INSTITUTE OF SCIENCE AND TECHNOLOGY", Kattankulathur, Kancheepuram District-603203.

The Regulation of MPT are prepared in compliance to Model curriculum Handbook Physiotherapy published by Ministry of Health and Family Welfare for Allied Health Section 2015-2016 and by the Bye-laws of SRM Institute of Science and Technology, passed in the date 20/03/2019, 40th Academic Council of the SRMIST hereby makes the following regulations.

These regulations shall come into force for the students admitted from the academic year 2019-2020. These regulations are subject to modifications as may be approved by the academic council SRMIST from time to time. Master of Physiotherapy program shall run on Choice Based Credit System (CBCS). It is an instructional package developed to suit the needs of students to keep pace with the developments in higher education and the quality assurance expected of it in the light of liberalization and globalization in higher education. UGC, subsequently, in its notification UGC No.F.1-1/2015 (Sec.) dated 10/4/15 has provided a set of Model curricula and syllabi for CBCS programs.

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2. SPECIALIZATIONS

MPT in Orthopedics
MPT in Neurology
MPT in Sports Physiotherapy
MPT in Cardio Pulmonary Sciences
MPT in Biomechanics
MPT in Obstetrics and Gynaecology
MPT in Pediatrics
MPT in Community Rehabilitation
MPT in Hand Rehabilitation

3. ELIGIBILITY FOR ADMISSION

Applicants must possess the following qualifications:

- 3.1 The Candidates should have passed the Bachelor of Physiotherapy (BPT) Degree from a recognized University in India (on campus full time course) accepted by the authorities of this University as equivalent thereto.
- 3.2 The candidates who have completed Bachelor of Physiotherapy (BPT) Degree in other country Universities should obtain eligibility/ Equivalent certificates from this University before admission.
- 3.3 The candidates should have completed six months of Compulsory Rotatory Internship program on or before 31st May of that academic year.
- 3.4 The Candidates who have passed Bachelor of Physiotherapy (BPT) from other than SRM Institute of Science and Technology shall obtain Migration Certificate from Parent University.
- 3.5 A candidate shall, at the time of admission, submit to the Head of the Institution, a Certificate of Medical Fitness from an authorized Medical Officer certifying that the candidate is fit to undergo the academic course.

4. REGISTRATION

A student admitted to the course shall register with SRM IST by remitting the prescribed fee along with the application form for registration duly filled in and forwarded to the SRM IST through the Head of the Institution.

5. DURATION OF THE COURSE

The duration of the program shall be 2 academic years comprising of 4 semesters. The maximum duration of the course is four years from the date of admission.

6. COMMENCEMENT OF COURSE

- 6.1. 1st semester will commence from 1st week of July and 3rd (Odd) semester from June in every academic year.
- 6.2. The 2nd and 4th (Even) semesters shall commence from December in every academic year

7. COURSE

Each Course (subject) shall be designed under Lectures / Tutorials / Laboratory or field work / Seminar / Practical training /Outreach activities / Assignments / Term paper or Report writing or a combination of some of these to meet effective teaching and learning needs.

8. TYPES OF COURSES

Courses in a programme may be of three kinds:

Core Course

Elective Course

Ability Enhancement Course (Foundation Courses)

8.1. Core Course: A course, which should compulsorily be studied by a student as a core requirement is termed as a Core course. There may be a **Core Course** in every semester. This is the course which is to be compulsorily studied by a student as a core requirement to complete the requirement of a programme in a said discipline of study.

8.2. Elective Course: Generally a course which can be chosen from a pool of courses and which may be very specific or specialized or advanced or supportive to the discipline/ subject of study or which provides an extended scope or which enables an exposure to some other discipline/subject/domain or nurtures the student's proficiency /skill is called an Elective Course.

8.3 Dissertation / Research Project: An Elective/Core course designed to acquire special / advanced knowledge, such as supplement study / support study to a project work, and a student will study such course on his/her own with an advisory support by a teacher / faculty member is called dissertation / project.

8.4 Ability Enhancement Courses (AEC): The Ability Enhancement (AE) Courses may be of two kinds: Ability Enhancement Compulsory Courses (AECC) and Skill Enhancement Courses (SEC).

"AECC" courses are the courses based upon the content that leads to Knowledge enhancement (i) Environmental Science and (ii) English/MIL Communication. These are mandatory for all disciplines. Skill Enhancement Courses (SEC): SEC courses are value-based and/or skill-based and are aimed at providing hands-on-training, competencies, skills, Indian and foreign languages etc. These courses may be chosen from a pool of courses designed to provide value-based and/or skill-based knowledge.

8.5 The students may choose one online courses (SWAYAM, NPTEL, Etc), during 4th semester.

9. CREDITS

9.1. Credits define the quantum of contents/syllabus prescribed for a course and determine the number of hours of instruction required per week. Thus, normally in each of the courses, credits will be assigned on the basis of the number of lectures/ tutorial laboratory work and other forms of learning required, to complete the course contents in a 15-20 week schedule:

1 credit = 1 hour of lecture per week (1 Credit course = 15 hours of lectures per semester)
3 credits = 3 hours of instruction per week (3 Credit course = 45 hours of lectures per semester)

9.2. Credits will be assigned on the basis of the lectures (L) / tutorials (T) / Clinical Training (CT) / laboratory work (P) / Research Project (RP) and other forms of learning in a 15-20 week schedule.

L - **One credit** for **one hour** lecture per week (1 credit course = 15 hours)

P/T - **One credit** for every **two hours** of laboratory or practical (1 credit course = 30 hours)

CR - **One credit** for every **three hours** of Clinical training/Clinical rotation/posting (1 credit course = 45 hours)

RP - **One credit** for every **two hours** of Research Project per week – Max Credit 20-25 (1 credit course = 30 hours)

- Each core course should be restricted to a maximum of 4 credits
- All electives should be restricted to a maximum of 3 credits
- Each ability enhancement course should be restricted to a maximum of 2 credits
- Projects should be restricted to a maximum of 20-25 credits

10. MEDIUM OF INSTRUCTION

The medium of instruction for all subjects shall be English.

11. WORKING DAYS IN EACH SEMESTER

Each semester shall consist of not less than 100 working days with span of 15 - 20 working weeks.

45 days of vacation in an academic year shall be given.

12. ATTENDANCE REQUIRED FOR ADMISSION TO EXAMINATIONS

12.1. A student is required to have a minimum of 80% of attendance in each course before admission to the examination.

12.2. A student lacking in the prescribed attendance and progress in any one course in the first appearance shall not be permitted for admission to the entire examinations.

13. CONDONATION OF LACK OF ATTENDANCE

Condonation of shortage of attendance upto a maximum of 10% in the prescribed eligible attendance for admission to the University examination rests with the discretionary powers of the Vice-Chancellor. For valid reasons, a student lacking in attendance may submit an application in the prescribed form and remit the stipulated fee 15 days prior to the commencement of the theory examinations. Heads of the Institution should satisfy themselves on the reasonableness of the student's request while forwarding the application with their endorsements to the Controller of Examinations who would obtain the Vice-Chancellor's approval for admission of the student to the University examination.

14. RE-ADMISSION AFTER BREAK OF STUDY

Break of the study and re admission will be done according to the Guidelines of SRM IST.

15. COMMENCEMENT OF EXAMINATION

Semester	Month of Examination
1 st Semester & 3 rd Semester	December
2 nd Semester & 4 th Semester	June

16. SUBJECTS AND SEMESTERS

Semester I & II - All the subjects will be common for all specializations.
Semester III & IV – Subjects will be specialization based.

17. INTERNAL ASSESSMENT MARKS

IA forms the formative assessment component of evaluation in CBCS. It is structured to elicit the student's domain knowledge, analytical and creativity skills.

The IA for each of the courses would have a total weightage as mentioned below which would be assessed in the pattern recommended for specific postgraduate programs.

The detailed schematic of the formative and summative assessments for each of the course(s) is indicated below.

17.1. The Internal Assessment marks for Theory for each 4 or 3 or 2 Credit Course shall be awarded as per the scheme given below

Internal Assessment (IA)	Average Marks (Max.)	Minimum 1 Assignment/ 1Seminar/ 1 journal club	Total Marks (Maximum)
First IA	20	10	30
Second IA			

17.2. The Internal Assessment marks for each Practical course shall be awarded as per the scheme given below

Internal Assessment (IA)	Average Marks (Maximum)	Practical Record Book	Total marks (Maximum)
First IA	20	10	30
Second IA			

17.3. The Internal Assessment Marks for Clinical Training shall be awarded as per the scheme given below

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Case presentation	
50	25	25	100

17.4. The knowledge of the student obtained in the Clinical Posting/Clinical Rotation will be evaluated at the end of each semester before the University Examinations. Students may be posted for clinical training in reputed external Institutions in the second year.

- (a) Internal assessment will be a combination of a variety of assessment tools such as class test, assignment, seminars, paper presentation etc. that would be suitable to the course. This requires an element of openness.
- (b) The students will be informed in advance about the nature of assessment and the procedures.
- (c) No repeat, reschedule and postponement of the assessment date will be permitted. Student shall compulsorily attend two Internal Assessments, failing which they shall not be allowed to appear for the end of semester examination.
- (d) In case of students who could not attend any of the continuous assessment tests due to medical reasons or any other genuine reasons, a separate test shall be conducted by the course teacher with approval of the Head of the Department.
- (e) Practical record books shall be considered for the award of grades in Practical courses.
- (f) Internal assessment of dissertation shall be submitted to the COE office by the HOD/ Principal 15 days prior to the commencement of the University examinations.

17.5. If a failed student does not appear for any "Improvement Mark Examinations" in the failed course(s) the internal marks awarded for the previous examination shall be carried over for his/her subsequent appearance.

- 17.6. A student who has failed in any course in the University examination due to low internal assessment marks shall be provided an opportunity to improve his / her internal assessment marks by conducting internal assessment as per clause 17.1 and 17.2 in theory and practical separately with proper approval obtained from the University officials. The attendance marks already secured by student shall be carried over.

18. SUBMISSION OF LOG BOOK

Students will be evaluated based on their records, in relevance to their practical classes and clinical training and included for end semester evaluation mark.

PRACTICAL/CLINICAL: Student's skill will be evaluated on live model or patient. At the time of practical examination, each student shall submit the practical workbook duly certified by the Head of the Department to the examiners as a bonafide record work done by the student.

19. EVALUATION OF UNIVERSITY EXAMINATIONS

Theory: The answer books will be valued by two examiners. One of the examiners will be from this University and the other will be from any other recognized Institution / University. The average of two marks secured by the student will be taken into account. If the difference between two marks exceeds 20 %, the answer scripts shall be valued by the third examiner. The average of the nearest two marks shall be considered for final marks.

Practical: Two examiners (Internal Examiner with 4 years of experience after post graduation, External examiner with 8 years of experience after post graduation) will evaluate the students.

Clinical Training: It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

Question Paper Pattern for 4/3/2 Credit Course	70 Marks / 3 Hours
VERY SHORT NOTES(Part A)	5X 2 = 10
SHORT NOTES (Part B)	5X 4 = 20
ESSAY (Part C)	4 X 10 = 40
Evaluation Pattern for 4/3/2 Credit Practical	70 Marks / 3 Hours
Long case	1 X30 = 30
Short case 1	1 X 20 = 20
Short case 2	1X 20 = 20

20. MARKS QUALIFYING FOR PASS

- 20.1. A student is declared to have passed in a subject if he /she secures a minimum of 50% marks in University theory and practical Examination separately and 50% in aggregate of University Exam theory / practical & internal assessment put together.
- 20.2. A student who fails to secure a pass in a particular course: it is mandatory that he / she shall register and reappear for the examination in that subject during the next semester. He/she should continue to register and reappear for the examination till he/she secures a pass. However, the internal assessment marks obtained by the student in the first attempt shall be retained and considered valid for all subsequent attempts.

21. RE-EVALUATION

There is no provision for reevaluation as per the regulations of this University.

22. DISSERTATION

Every student pursuing MPT programme is required to carry out work on a selected specialization under the guidance of a recognized postgraduate teacher. The results of such a work shall be submitted in the form of dissertation.

The dissertation is aimed to train a graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis search and review of literature getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, and comparison of results and drawing conclusions.

Every student should follow the prescribed schedule to present the proposed dissertation to the scientific committee of the institution, obtain Ethical Committee Clearance, carryout data collection, statistical analysis, dissertation writing and submission of the dissertation to the office and controller of examination three months before the commencement of the university examination. In each semester, dissertation carries 2 credits and 100 marks for internal assessment in the I, II, III semesters .

Every student has to submit a progress report at the end of each semester to the Dean through the guide to obtain the prescribed internal marks and credits. The final end semester university examination will be held for 50 marks as internal assessment and 50 marks as End semester Examination with an internal examination/guide and an external examiner. No change in the dissertation topic or guide shall be made without prior approval from the university.

The following is the framework of the dissertation that has to be in the following format

1. Introduction
2. Aim or objective of the study
3. Review of Literature
4. Methodology
5. Statistical Analysis
6. Results
7. Discussion
8. Conclusion
9. References
10. Annexures

Every student presenting himself/ herself for the examination for first time shall submit four hard copies of a dissertation not exceeding 2500 words, in the format prescribed by the college, consisting of the result of his/her own study of important investigations carried out by him/her under the guidance of a recognized teacher together with a review of recent advances pertinent to that theme.

Dissertation should be assessed by one internal examiner and one external examiner. It shall be assessed as accepted or rejected, with appropriate marks. In the event of discrepancy between internal and external examiners, the dissertation will be referred to a third examiner and his/ her verdict on the same will be taken as final.

A student who has submitted his/her dissertation once will not be required to submit a fresh dissertation if he/she re-appears for the examination in the same branch on a subsequent occasion, provided that the dissertation has been approved by the examiners.

23. GRADING

The total of the internal evaluation marks and final University examination marks in each course will be converted to a letter grade on to confirm as per the following scheme as recommended by UGC:

Mark Range	Letter Grade	Grade points
91 – 100	O (Outstanding)	10
81 – 90	A+ (Excellent)	9
71 – 80	A (very Good)	8
61 – 70	B+ (Good)	7
56 – 60	B (Above Average)	6
50 – 55	C (Average)	5
<50	F (Fail)	0
0	Ab (Absent)	0

A student obtaining Grade F (or) Ab shall be considered failed and will be required to reappear in the examination till get passed.

24. COMPUTATION OF SGPA AND CGPA

The UGC recommends the following procedure to compute the Semester Grade Point Average (SGPA) and Cumulative Grade Point Average (CGPA):

- The SGPA is the ratio of sum of the product of the number of credits with the grade points scored by a student in all the courses taken by a student and the sum of the number of credits of all the courses undergone by a student, i.e.,

$$SGPA (S_i) = SGPA = \frac{\sum_1^n C_i \times (GP)_i}{\sum_1^n C_i}$$

where C_i is the number of credits of the i th course and G_i is the grade point scored by the student in the i th course.

The CGPA is also calculated in the same manner taking into account all the courses undergone by a student over all the semesters of a programme, i.e.,

$$CGPA = \frac{\sum_1^n S_i \times (SGPA)_i}{\sum_1^n S_i}$$

where S_i is the SGPA of the i th semester and C_i is the total number of credits in that semester.

- The SGPA and CGPA shall be rounded off to 2 decimal points and reported in the transcripts.
- The credit earned from online course will not be considered for SGPA and CGPA

25. AWARD OF DEGREE

Every student of the programme who fulfills the following criteria will be eligible for the award of the degree provided

- He / She should have earned at least minimum credits of 84 as prescribed in course structure
- He / She should have cleared all internal and external evaluation components in every course
- He / She should have secured a minimum CGPA of 5.00 at the end of the MPT programme

26. AWARD OF CLASS

The class awarded to a student in the programme is decided by the final CGPA as per the following scheme:

Category	CGPA(From I -VIII semesters)	Class/Distinction
Students who successfully complete the program within the time duration of 4 semesters	≥ 5.0 & < 6.0	Second class
	≥ 6.0 & < 7.5	First class
	≥ 7.5 & < 10.0 (Without F or AB in any semester)	First class with distinction
	≥ 6.0 & < 7.5 (With F in any semester but obtained pass grade (O to C) subsequently) (complete the course after the regular course duration)	First class
	≥ 5.0 & < 6.0	Second class
Candidates who could not Successfully complete the program in normal duration but completed within the maximum duration.	≥ 6.0 & < 10	First class
	≥ 5.0 & < 6.0	Second class

27. UNIVERSITY EXAM QUESTION PAPER PATTERN

All the university theory examination will be conducted for 70 marks with 3 hours duration.

S.NO.	QUESTIONS	MARKS
PART A		
1	Very Short Notes(Part A) (1 Question from Each Unit) 1. 2. 3. 4. 5.	5×2=10 Marks
PART B		
2	Short Notes (1 Question from Each Unit) 6. 7. 8. 9. 10.	5×4=20 Marks
PART C		
3	Essays (Answer any FOUR from the following) (1 Question from Each Unit) 11. 12. 13. 14. 15.	4×10=40Marks
Total		70 Marks



Master of Physiotherapy
(MPT SEMESTER PATTERN)

CURRICULLUM AND SYLLABUS, 2019
(For the students admitted from the Academic Year 2019-2020)

FACULTY OF MEDICINE AND HEALTH SCIENCES
SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
(Deemed to be University u/s 3 of UGC Act, 1956)
SRM NAGAR, KATTANKULATHUR,
Kancheepuram District-603203.

1. OVERALL OBJECTIVES

A Postgraduate Course in Physiotherapy is to impart in-depth knowledge and skills to a student to become competent and independent in the physical diagnosis techniques in their speciality area, teaching physiotherapy students, conduct research process and develop the proper attitude required for evidence based Physiotherapy practice.

2. OBJECTIVES

At the completion of Master of Physiotherapy, the Postgraduate student will be able to:

1. Prepare the Post Graduate Student towards Professional autonomy, Promote Community Health through Professional Practice.
3. Indoctrinate clinical skills in Problem Solving, Patient Care including communication skills, clinical decision making, confidence, counseling and research.
4. Build appropriate Professional relationships in multi disciplinary setup to provide holistic care.
5. Design, implement and monitor appropriate therapeutic interventions.
6. Apply scientific principles to the concepts of health, illness and disability.
7. Develop social and moral values in patient care handling following bioethical principles.
8. Undertake independent research projects.
9. Develop Professional teaching skills and knowledge transfer to students and young Professionals.
10. Update with recent advances in professional practice and provide opportunities to think reason and practice to gain excellence in patient care.
11. Practice the concept of protection of rights of the community during referral as well as first contact practice.

**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY I SEMESTER**

COURSE CODE	CC*	AECC*	SEC*	CP*	RP*	CT*	TOTAL HOURS /SEM	L	T	P	C
MPT19101	Research Methodology & Biostatistics for Physiotherapists						45	2	1	-	3
MPT19102	Applied Anatomy, Kinesiology & Pathomechanics						60	3	1	-	4
MPT19103		Educational Technology for Physiotherapists					30	1	1	-	2
MPT19104		Ethics for physiotherapists					30	1	1	-	2
MPT19105	Physical and Functional Evaluation						60	3	1	-	4
MPT19106				Physical and Functional Evaluation			60	-	-	4	2
MPT19107					Research Project-I		60	-	-	4	2
MPT19108						Clinical training-I	180	-	-	12	4
TOTAL							525	10	5	20	23
								35 Hours/Week			

***CC=CORE COURSE, AECC=ABILITY ENHANCEMENT COMPULSORY COURSE, SEC=SKILL ENHANCEMENT COURSE, CP=CORE PRACTICAL, RP=RESEARCH PROJECT, CT=CLINICAL TRAINING, C=CREDIT**

**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY II SEMESTER**

COURSE CODE	CC*	AECC*	SEC*	CP*	RP*	CT*	TOTAL HOURS /SEM	L	T	P	C
MPT19201		Differential Diagnosis for Physiotherapists					30	1	1	-	2
MPT19202		Entrepreneurship for Physiotherapists					30	1	1	-	2
MPT19203		Evidence based practice for physiotherapists					30	1	1	-	2
MPT19204	Exercise Physiology						60	3	1	-	4
MPT19205	Electro diagnosis and Physical Agents						45	2	1	-	3
MPT19206				Electro diagnosis and Physical Agents			90	-	-	6	3
MPT19207					Research Project-II		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19208						Clinical training-II	180	-	-	12	4
TOTAL							525	8	5	22	22
								35 (HOURS/WEEK)			

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**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY III SEMESTER
MPT IN ORTHOPAEDICS**

COURSE CODE	CC*	AECC*	SEC*	CP*	RP*	CT*	TOTAL HOURS /SEM	L	T	P	C
MPT193E1			Yoga Therapy				30	2	-	-	2
MPT193E2			Pain Science and its Management								
MPT193E3			International Classification of Functioning, Disability and Health								
MPT19311			Musculoskeletal conditions of upper limb and lower limb & assessment				60	3	1	-	4
MPT19312			Orthopaedic physiotherapy goal planning and management				60	3	1	-	4
MPT19313				Physiotherapeutics I			90	-	-	6	3
MPT19314					Research Project-III		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19315						Clinical training -III	225	-	-	15	5
TOTAL							525	8	2	25	20
								35			
								(HOURS/WEEK)			

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**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY IV SEMESTER**

MPT IN ORTHOPAEDICS

COURSE CODE	CC*	AECC*	SEC*	CP*	RP*	CT*	TOTAL HOURS /SEM	L	T	P	C
MPT19411	Orthopaedic oriented geriatric and hand conditions and assessment						60	3	1	-	4
MPT19412	Physiotherapy treatment strategies for orthopaedic based geriatric and hand conditions						60	3	1	-	4
MPT19413				Physiotherapeutics II			120	-	-	8	4
MPT19414					Research Project-IV		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19415						Clinical training-IV	225	-	-	15	5
TOTAL							525	6	2	27	19
								35			
								(HOURS/WEEK)			

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**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY III SEMESTER
MPT IN NEUROLOGY**

COURSE CODE	CC*	AEC C*	SEC*	CP*	RP*	CT*	TOTAL HOURS /SEM	L	T	P	C
MPT193E1			Yoga Therapy				30	2	-	-	2
MPT193E2			Pain Science and its Management								
MPT193E3			International Classification of Functioning, Disability and Health								
MPT19321	Basic Sciences and Neurological Disorders and Assessment						60	3	1	-	4
MPT19322	Neurological Physiotherapy Goal Planning And Management						60	3	1	-	4
MPT19323				Physiotherapeutics I			90	-	-	6	3
MPT19324					Research Project-III		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19325						Clinical training-III	225	-	-	15	5
TOTAL							525	8	2	25	20
								35			
								(HOURS/WEEK)			

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**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY IV SEMESTER**

MPT IN NEUROLOGY

COURSE CODE	CC*	AECC*	SEC*	CP*	RP*	CT*	TOTAL HOURS /SEM	L	T	P	C
MPT19421	Basic Sciences And Neurological Disorders And Assessment – II						60	3	1	-	4
MPT19422	Neurological Physiotherapy Goal Planning And Management						60	3	1	-	4
MPT19423				Physiotherapeutics II			120	-	-	8	4
MPT19424					Research Project-IV		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19425					Clinical training-IV		225	-	-	15	5
TOTAL							525	6	2	27	19
								35			
								(HOURS/WEEK)			

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SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY III SEMESTER
MPT IN SPORTS PHYSIOTHERAPY

COURSE CODE	CC*	AECC*	SEC*	CP*	RP*	CT*	TOTAL HOURS /SEM	L	T	P	C
MPT193E1			Yoga Therapy				30	2	-	-	2
MPT193E2			Pain Science and its Management								
MPT193E3			International Classification of Functioning, Disability and Health								
MPT19331	Sports Physiotherapy Assessment For Upper And Lower Quadrant						60	3	1	-	4
MPT19332	Sports Physiotherapy Treatment For Upper And Lower Quadrant						60	3	1	-	4
MPT19333				Physiotherapeutics I			90	-	-	6	3
MPT19334					Research Project-III		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19335						Clinical training-III	225	-	-	15	5
TOTAL							525	8	2	25	20
							35 (HOURS/WEEK)				

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**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY IV SEMESTER**

MPT IN SPORTS PHYSIOTHERAPY

COURSE CODE	CC*	AECC*	SEC*	CP*	RP*	CT*	TOTAL HOURS/ SEM	L	T	P	C
MPT19431	Sports Physiotherapy Assessment For Spine And Pelvis						60	3	1	-	4
MPT19432	Sports Physiotherapy Treatment For Spine And Pelvis						60	3	1	-	4
MPT19433				Physiotherapeutics II			120	-	-	8	4
MPT19434					Research Project-IV		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19435						Clinical training-IV	225	-	-	15	5
TOTAL							525	6	2	27	19
								35			
								(HOURS/WEEK)			

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**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY III SEMESTER
MPT IN CARDIOPULMONARY SCIENCES**

COURSE CODE	CC*	AECC*	SEC*	CP*	RP*	CT*	TOTAL HOURS /SEM	L	T	P	C
MPT193E1			Yoga Therapy				30	2	-	-	2
MPT193E2			Pain Science and its Management								
MPT193E3			International Classification of Functioning, Disability and Health								
MPT19341	Fundamentals And Assessment of Cardiopulmonary Conditions						60	3	1	-	4
MPT19342	Advanced Treatment Strategies For Cardiopulmonary Conditions						60	3	1	-	4
MPT19343				Physiotherapeutics I			90	-	-	6	3
MPT19344					Research Project-III		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19345						Clinical training-III	225	-	-	15	5
TOTAL							525		2	25	20
								35 (HOURS/WEEK)			

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**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY IV SEMESTER**

MPT IN CARDIOPULMONARY SCIENCES

COURSE CODE	CC*	AEC C*	SEC*	CP*	RP*	CT *	TOTAL HOURS /SEM	L	T	P	C
MPT19441	Acute cardiorepiratory practice						60	3	1	-	4
MPT19442	Fitness and health promotion						60	3	1	-	4
MPT19443				Physiotherapeutics II			120	-	-	8	4
MPT19444					Research Project -IV		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19445						Clinical training-IV	225	-	-	15	5
TOTAL							525	6	2	27	19
								35			
								(HOURS/WEEK)			

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SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY III SEMESTER
MPT IN BIOMECHANICS

COURSE CODE	CC*	AECC*	SEC*	CP*	RP*	CT*	TOTAL HOURS /SEM	L	T	P	C
MPT193E1			Yoga Therapy				30	2	-	-	2
MPT193E2			Pain Science and its Management								
MPT193E3			International Classification of Functioning, Disability and Health								
MPT19351	Biomechanical Analysis of Upper and Lower Extremity Dysfunctions.						60	3	1	-	4
MPT19352	Biomechanical Treatment Approaches For Upper And Lower Extremity Dysfunctions.						60	3	1	-	4
MPT19353				Physiotherapeutics I			90	-	-	6	3
MPT19354					Research Project-III		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19355						Clinical training-III	225	-	-	15	5
TOTAL							525	8	2	25	20
								35			
								(HOURS/WEEK)			

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**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY IV SEMESTER**

MPT IN BIOMECHANICS

COURSE CODE	CC*	AECC*	SEC*	CP*	RP*	CT*	TOTAL HOURS/SEM	L	T	P	C
MPT19451	Biomechanical analysis of spine, posture and gait						60	3	1	-	4
MPT19452	Rehabilitation strategies for spine, posture and gait deviations						60	3	1	-	4
MPT19453				Physiotherapeutics II			120	-	-	8	4
MPT19454					Research Project-IV		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19455						Clinical training-IV	225	-	-	15	5
TOTAL							525	6	2	27	19
								35 (HOURS/WEEK)			

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SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY III SEMESTER
MPT IN OBSTETRICS AND GYNAECOLOGY

COURSE CODE	CC*	AECC*	SEC*	CP*	RP*	CT*	TOTAL HOURS/SEM	L	T	P	C
MPT193E1			Yoga Therapy				30	2	-	-	2
MPT193E2			Pain Science and its Management								
MPT193E3			International Classification of Functioning, Disability and Health								
MPT19361		Functional Diagnosis for Gynaecological related Conditions					60	3	1	-	4
MPT19362		Physiotherapy Practice in Gynaecological related Conditions					60	3	1	-	4
MPT19363				Physiotherapeutics I			90	-	-	6	3
MPT19364					Research Project-III		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19365						Clinical training -III	225	-	-	15	5
TOTAL							525	8	2	25	20
								35(HOURS/ WEEK)			

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**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY IV SEMESTER
MPT IN OBSTETRICS AND GYNAECOLOGY**

COURSE CODE	CC*	AEC C*	SEC*	CP*	RP*	CT*	TOTAL HOUR S/SEM	L	T	P	C
MPT19461							60	3	1	-	4
MPT19462							60	3	1	-	4
MPT19463				Physiotherapeutic II			120	-	-	8	4
MPT19464					Research Project-IV		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19465						Clinical training-IV	225	-	-	15	5
TOTAL							525	6	2	27	19
								35			
								(HOURS/WEEK)			

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SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY III SEMESTER
MPT IN PAEDIATRICS

COURSE CODE	CC*	AEC C*	SEC*	CP*	RP*	CT*	TOTAL HOURS/ SEM	L	T	P	C
MPT193E1			Yoga Therapy				30	2	-	-	2
MPT193E2			Pain Science and its Management								
MPT193E3			International Classification of Functioning, Disability and Health								
MPT19371		Basic Anatomy And Physiology With Assessment					60	3	1	-	4
MPT19372		Pediatric Based Neuro Science					60	3	1	-	4
MPT19373				Physiotherapeutics I			90	-	-	6	3
MPT19374					Research Project-III		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19375						Clinical training-III	225	-	-	15	5
TOTAL							525	8	2	25	20
								35 (HOURS/WEEK)			

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**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY IV SEMESTER**

MPT IN PAEDIATRICS

COURSE CODE	CC*	AEC C*	SEC*	CP*	RP*	CT*	TOTAL HOURS/ SEM	L	T	P	C
MPT19471	Paediatric Orthopedic Conditions						60	3	1	-	4
MPT19472	Paediatric Cardio Respiratory Conditions						60	3	1	-	4
MPT19473				Physiotherapeutics II			120	-	-	8	4
MPT19474					Research Project-IV		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19475						Clinical training-IV	225	-	-	15	5
TOTAL							525	6	2	27	19
								35 (HOURS/WEEK)			

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**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY III SEMESTER
MPT IN COMMUNITY REHABILITATION**

COURSE CODE	CC*	AECC*	SEC*	CP*	RP*	CT*	TOTAL HOURS/ SEM	L	T	P	C
MPT193E1			Yoga Therapy				30	2	-	-	2
MPT193E2			/Pain Science and its Management								
MPT193E3			International Classification of Functioning, Disability and Health								
MPT19381	Health care delivery system in developing countries						60	3	1	-	4
MPT19382	Advanced Geriatric physiotherapy and women's health						60	3	1	-	4
MPT19383				Physiotherapeutics I			90	-	-	6	3
MPT19384					Research Project-III		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19385						Clinical training-III	225	-	-	15	5
TOTAL							525	8	2	25	20
								35			
								(HOURS/WEEK)			

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**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY IV SEMESTER**

MPT IN COMMUNITY REHABILITATION

COURSE CODE	CC*	AECC*	SEC*	CP*	RP*	CT*	TOTAL HOURS/ SEM	L	T	P	C
MPT19481	Institutional And Community Based Rehabilitation						60	3	1	-	4
MPT19482	Industrial physiotherapy and ergonomics						60	3	1	-	4
MPT19483				Physiotherapeutics II			120	-	-	8	4
MPT19484					Research Project-IV		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19485						Clinical training-IV	225	-	-	15	5
TOTAL							525	6	2	27	19
								35 (HOURS/WEEK)			

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SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY III SEMESTER
MPT IN HAND REHABILITATION

COURSE CODE	CC*	AEEC*	SEC*	CP*	RP*	CT*	TOTAL HOURS /SEM	L	T	P	C
MPT193E1			Yoga Therapy				30	2	-	-	2
MPT193E2			/Pain Science and its Management								
MPT193E3			International Classification of Functioning, Disability and Health								
MPT19391		Functional Anatomy And Biomechanics Of Hand And Wrist					60	3	1	-	4
MPT19392		Hand And Wrist Pathologies					60	3	1	-	4
MPT19393				Physiotherapeutics I			90	-	-	6	3
MPT19394					Research Project-III		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19395						Clinical training-III	225	-	-	15	5
TOTAL							525	8	2	25	20
								35 (HOURS/WEEK)			

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**SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
SRM COLLEGE OF PHYSIOTHERAPY
MASTER OF PHYSIOTHERAPY IV SEMESTER**

MPT IN HAND REHABILITATION

COURSE CODE	CC*	AECC*	SEC*	CP*	RP*	CT*	TOTAL HOURS/SEM	L	T	P	C
MPT19491	Evaluation Strategies For Hand And Wrist						60	3	1	-	4
MPT19492	Physiotherapy Treatment Strategies For Hand And Wrist						60	3	1	-	4
MPT19493				Physiotherapeutics II			120	-	-	8	4
MPT19494					Research Project-IV		60	-	-	4	2
INTERNAL SUBJECTS											
MPT19495						Clinical training-IV	225	-	-	15	5
TOTAL							525	6	2	27	19
								35 (HOURS/WEEK)			

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MARKS DISTRIBUTION

Course Code	Course Name	Internal	Theory		Practical		Total Marks	
			Passing Min	Maximum Marks	Pass Min	Maximum marks	Aggregated passing Minimum	Maximum total marks
SEMESTER I								
MPT19101	Research Methodology & Biostatistics for Physiotherapists	30	35	70	N/A	N/A	50	100
MPT19102	Applied Anatomy, Kinesiology & Pathomechanics	30	35	70	N/A	N/A	50	100
MPT19103	Educational Technology for Physiotherapists	30	35	70	N/A	N/A	50	100
MPT19104	Ethics for Physiotherapists	30	35	70	N/A	N/A	50	100
MPT19105	Physical and Functional Evaluation	30	35	70	N/A	N/A	50	100
MPT19106	Physical and Functional Evaluation	30	N/A	N/A	35	70	50	100
MPT19107	Research Project-I	100	N/A	N/A	N/A	N/A	50	100
MPT19108	Clinical Training - I	100	N/A	N/A	N/A	N/A	50	100

SEMESTER II

MPT19201	Differential Diagnosis for Physiotherapists	30	35	70	N/A	N/A	50	100
MPT19202	Entrepreneurship for Physiotherapists	30	35	70	N/A	N/A	50	100
MPT19203	Evidence based practice for physiotherapists	30	35	70	N/A	N/A	50	100
MPT19204	Exercise Physiology	30	35	70	N/A	N/A	50	100
MPT19205	Electrodiagnosis and Physical Agents	30	35	70	N/A	N/A	50	100
MPT19206	Electrodiagnosis and Physical Agents	30	N/A	N/A	35	70	50	100
MPT19207	Research Project-II	100	N/A	N/A	N/A	N/A	50	100
MPT19208	Clinical Training - II	100	N/A	N/A	N/A	N/A	50	100

MPT IN ORTHOPAEDICS SEMESTER III

MPT193E1	Yoga Therapy	30	35	70	N/A	N/A	50	100
MPT193E2	Pain Science and its Management	30	35	70	N/A	N/A	50	100

MPT193E3	International Classification of Functioning, Disability and Health	30	35	70	N/A	N/A	50	100
MPT19311	Musculoskeletal conditions of upper limb and lower limb & assessment	30	35	70	N/A	N/A	50	100
MPT19312	Orthopaedic physiotherapy goal planning and management	30	35	70	N/A	N/A	50	100
MPT19313	Physiotherapeutics I	30	N/A	N/A	35	70	50	100
MPT19314	Research Project-III	100	N/A	N/A	N/A	N/A	50	100
MPT19315	Clinical Training-III	100	N/A	N/A	N/A	N/A	50	100

MPT IN ORTHOPAEDICS SEMESTER IV

MPT19411	Orthopaedic oriented geriatric and hand conditions and assessment	30	35	70	N/A	N/A	50	100
MPT19412	Physiotherapy treatment strategies for orthopaedic based geriatric and hand conditions	30	35	70	N/A	N/A	50	100
MPT19413	Physiotherapeutics II	30	N/A	N/A	35	70	50	100
MPT19414	Research Project-IV	50	N/A	N/A	25	50	50	100
MPT19415	Clinical Training-IV	100	N/A	N/A	N/A	N/A	50	100

MPT IN NEUROLOGY SEMESTER III

MPT193E1	Yoga Therapy	30	35	70	N/A	N/A	50	100
MPT193E2	Pain Science and its Management	30	35	70	N/A	N/A	50	100
MPT193E3	International Classification of Functioning,	30	35	70	N/A	N/A	50	100

	Disability and Health							
MPT19321	Basic Sciences and Neurological Disorders and Assessment	30	35	70	N/A	N/A	50	100
MPT19322	Neurological Physiotherapy Goal Planning And Management	30	35	70	N/A	N/A	50	100
MPT19323	Physiotherapeutics I	30	N/A	N/A	35	70	50	100
MPT19324	Research Project-III	100	N/A	N/A	N/A	N/A	50	100
MPT19325	Clinical Training-III	100	N/A	N/A	N/A	N/A	50	100

MPT IN NEUROLOGY SEMESTER IV

MPT19421	Basic Sciences And Neurological Disorders And Assessment – II	30	35	70	N/A	N/A	50	100
MPT19422	Neurological Physiotherapy Goal Planning And Management	30	35	70	N/A	N/A	50	100
MPT19423	Physiotherapeutics II	30	N/A	N/A	35	70	50	100
MPT19424	Research Project-IV	50	N/A	N/A	25	50	50	100
MPT19425	Clinical Training-IV	100	N/A	N/A	N/A	N/A	50	100

MPT IN SPORTS PHYSIOTHERAPY SEMESTER III

MPT193E1	Yoga Therapy	30	35	70	N/A	N/A	50	100
MPT193E2	Pain Science and its Management	30	35	70	N/A	N/A	50	100
MPT193E3	International Classification of Functioning, Disability and Health	30	35	70	N/A	N/A	50	100

MPT19331	Sports Physiotherapy Assessment For Upper And Lower Quadrant	30	35	70	N/A	N/A	50	100
MPT19332	Sports Physiotherapy Treatment For Upper And Lower Quadrant	30	35	70	N/A	N/A	50	100
MPT19333	Physiotherapeutics I	30	N/A	N/A	35	70	50	100
MPT19334	Research Project-III	100	N/A	N/A	N/A	N/A	50	100
MPT19335	Clinical Training-III	100	N/A	N/A	N/A	N/A	50	100

MPT IN SPORTS PHYSIOTHERAPY SEMESTER IV

MPT19431	Sports Physiotherapy Assessment For Spine And Pelvis	30	35	70	N/A	N/A	50	100
MPT19432	Sports Physiotherapy Treatment For Spine And Pelvis	30	35	70	N/A	N/A	50	100
MPT19433	Physiotherapeutics II	30	N/A	N/A	35	70	50	100
MPT19434	Research Project-IV	50	N/A	N/A	25	50	50	100
MPT19435	Clinical Training-IV	100	N/A	N/A	N/A	N/A	50	100

MPT IN CARDIO PULMONARY SCIENCES SEMESTER III

MPT193E1	Yoga Therapy	30	35	70	N/A	N/A	50	100
MPT193E2	Pain Science and its Management	30	35	70	N/A	N/A	50	100
MPT193E3	International Classification of Functioning, Disability & Health	30	35	70	N/A	N/A	50	100
MPT19341	Fundamentals And Assessment of Cardiopulmonary	30	35	70	N/A	N/A	50	100

	Conditions							
MPT19342	Advanced Treatment Strategies For Cardiopulmonary Conditions	30	35	70	N/A	N/A	50	100
MPT19343	Physiotherapeutics I	30	N/A	N/A	35	70	50	100
MPT19344	Research Project-III	100	N/A	N/A	N/A	N/A	50	100
MPT19345	Clinical Training-III	100	N/A	N/A	N/A	N/A	50	100

MPT IN CARDIO PULMONARY SCIENCES SEMESTER IV

MPT19441	Acute cardiorespiratory practice	30	35	70	N/A	N/A	50	100
MPT19442	Fitness and health promotion	30	35	70	N/A	N/A	50	100
MPT19443	Physiotherapeutics II	30	N/A	N/A	35	70	50	100
MPT19444	Research Project-IV	50	N/A	N/A	25	50	50	100
MPT19445	Clinical Training-IV	100	N/A	N/A	N/A	N/A	50	100

MPT IN BIOMECHANICS SEMESTER III

MPT193E1	Yoga Therapy	30	35	70	N/A	N/A	50	100
MPT193E2	Pain Science and its Management	30	35	70	N/A	N/A	50	100
MPT193E3	International Classification of Functioning, Disability & Health	30	35	70	N/A	N/A	50	100
MPT19351	Biomechanical Analysis of Upper and Lower Extremity Dysfunctions.	30	35	70	N/A	N/A	50	100
MPT19352	Biomechanical Treatment Approaches For Upper And Lower Extremity Dysfunctions.	30	35	70	N/A	N/A	50	100
MPT19353	Physiotherapeutics I	30	N/A	N/A	35	70	50	100
MPT19354	Research Project-III	100	N/A	N/A	N/A	N/A	50	100
MPT19355	Clinical Training-III	100	N/A	N/A	N/A	N/A	50	100

MPT IN BIOMECHANICS SEMESTER IV								
MPT19451	Biomechanical analysis of spine, posture and gait	30	35	70	N/A	N/A	50	100
MPT19452	Rehabilitation strategies for spine, posture and gait deviations	30	35	70	N/A	N/A	50	100
MPT19453	Physiotherapeutics II	30	N/A	N/A	35	70	50	100
MPT19454	Research Project-IV	50	N/A	N/A	25	50	50	100
MPT19455	Clinical Training-IV	100	N/A	N/A	N/A	N/A	50	100

MPT IN OBSTETRICS AND GYNAECOLOGY SEMESTER III								
MPT193E1	Yoga Therapy	30	35	70	N/A	N/A	50	100
MPT193E2	Pain Science and its Management	30	35	70	N/A	N/A	50	100
MPT193E3	International Classification of Functioning, Disability & Health	30	35	70	N/A	N/A	50	100
MPT19361	Functional Diagnosis for Gynaecological related Conditions	30	35	70	N/A	N/A	50	100
MPT19362	Physiotherapy Practice in Gynaecological related Conditions	30	35	70	N/A	N/A	50	100
MPT19363	Physiotherapeutics I	30	N/A	N/A	35	70	50	100
MPT19364	Research Project-III	100	N/A	N/A	N/A	N/A	50	100
MPT19365	Clinical Training-III	100	N/A	N/A	N/A	N/A	50	100

MPT IN OBSTETRICS AND GYNAECOLOGY SEMESTER IV								
MPT19461	Functional Diagnosis in Obstetric related Conditions	30	35	70	N/A	N/A	50	100
MPT19462	Physiotherapy Practice in Obstetric related Conditions	30	35	70	N/A	N/A	50	100
MPT19463	Physiotherapeutics II	30	N/A	N/A	35	70	50	100

MPT19464	Research Project-IV	50	N/A	N/A	25	50	50	100
MPT19465	Clinical Training-IV	100	N/A	N/A	N/A	N/A	50	100

MPT IN PAEDIATRICS SEMESTER III

MPT193E1	Yoga Therapy	30	35	70	N/A	N/A	50	100
MPT193E2	Pain Science and its Management	30	35	70	N/A	N/A	50	100
MPT193E3	International Classification of Functioning, Disability and Health	30	35	70	N/A	N/A	50	100
MPT19371	Basic Anatomy And Physiology With Assessment	30	35	70	N/A	N/A	50	100
MPT19372	Pediatric Based Neuro Science	30	35	70	N/A	N/A	50	100
MPT19373	Physiotherapeutics I	30	N/A	N/A	35	70	50	100
MPT19374	Research Project-III	100	N/A	N/A	N/A	N/A	50	100
MPT19375	Clinical Training-III	100	N/A	N/A	N/A	N/A	50	100

MPT IN PAEDIATRICS SEMESTER IV

MPT19471	Paediatric Orthopedic Conditions	30	35	70	N/A	N/A	50	100
MPT19472	Paediatric Cardio Respiratory Conditions	30	35	70	N/A	N/A	50	100
MPT19473	Physiotherapeutics II	30	N/A	N/A	35	70	50	100
MPT19474	Research Project-IV	50	N/A	N/A	25	50	50	100
MPT19475	Clinical Training-IV	100	N/A	N/A	N/A	N/A	50	100

MPT IN COMMUNITY REHABILITATION SEMESTER III

MPT193E1	Yoga Therapy	30	35	70	N/A	N/A	50	100
MPT193E2	Pain Science and its Management	30	35	70	N/A	N/A	50	100

MPT193E3	International Classification of Functioning, Disability and Health	30	35	70	N/A	N/A	50	100
MPT19381	Health care delivery system in developing countries	30	35	70	N/A	N/A	50	100
MPT19382	Advanced Geriatric physiotherapy and women's health	30	35	70	N/A	N/A	50	100
MPT19383	Physiotherapeutics I	30	N/A	N/A	35	70	50	100
MPT19384	Research Project-III	100	N/A	N/A	N/A	N/A	50	100
MPT19385	Clinical Training-III	100	N/A	N/A	N/A	N/A	50	100

MPT IN COMMUNITY REHABILITATION SEMESTER IV

MPT19481	Institutional And Community Based Rehabilitation	30	35	70	N/A	N/A	50	100
MPT19482	Industrial physiotherapy and ergonomics	30	35	70	N/A	N/A	50	100
MPT19483	Physiotherapeutics II	30	N/A	N/A	35	70	50	100
MPT19484	Research Project-IV	50	N/A	N/A	25	50	50	100
MPT19485	Clinical Training-IV	100	N/A	N/A	N/A	N/A	50	100

MPT IN HAND REHABILITATION SEMESTER III

MPT193E1	Yoga Therapy	30	35	70	N/A	N/A	50	100
MPT193E2	Pain Science and its Management	30	35	70	N/A	N/A	50	100
MPT193E3	International Classification of Functioning, Disability and Health	30	35	70	N/A	N/A	50	100

SRM INSTITUTE OF SCIENCE AND TECHNOLOGY
MASTER OF PHYSIOTHERAPY

MPT19391	Functional Anatomy And Biomechanics Of Hand And Wrist	30	35	70	N/A	N/A	50	100
MPT19392	Hand And Wrist Pathologies	30	35	70	N/A	N/A	50	100
MPT19393	Physiotherapeutics I	30	N/A	N/A	35	70	50	100
MPT19394	Research Project-III	100	N/A	N/A	N/A	N/A	50	100
MPT19395	Clinical Training-III	100	N/A	N/A	N/A	N/A	50	100

MPT IN HAND REHABILITATION SEMESTER IV								
MPT19491	Evaluation Strategies For Hand And Wrist	30	35	70	N/A	N/A	50	100
MPT19492	Physiotherapy Treatment Strategies For Hand And Wrist	30	35	70	N/A	N/A	50	100
MPT19493	Physiotherapeutics II	30	N/A	N/A	35	70	50	100
MPT19494	Research Project-IV	50	N/A	N/A	25	50	50	100
MPT19495	Clinical Training-IV	100	N/A	N/A	N/A	N/A	50	100

SEMESTER - I

COURSE TITLE									
RESEARCH METHODOLOGY AND BIO STATISTICS FOR PHYSIOTHERAPISTS									
COURSE CODE: MPT19101									
COURSE CREDIT									
HOURS/WEEK			HOURS/SEMESTER						CREDITS
L	T	P	L	T	P	TOTAL HOURS			
2	1	-	30	15	-	45			3
LEARNING OUTCOMES:									
At the end of the semester the post graduate student should be able to									
<ol style="list-style-type: none"> 1. Understand the basic concepts of research methodology and biostatistics 2. Apply the knowledge of scientific evidences in clinical practice. 3. Critically analyze the evidences and will be able to interpret the data's for their future studies. 4. Evaluate the published articles and plan for further implications. 5. Frame and conduct new research studies for the establishment of the field. 									

UNITS	TITLE OF CONTENT	HOURS OF TEACHING /LEARNING
I	<p>INTRODUCTION TO RESEARCH</p> <p>The hallmarks of scientific research Concepts of applied and basic research Aim – framing, purpose, well designed aim, burden of illness Objectives – Framing, importance, types, characteristics, smart goal Need of the study – Epidemiological studies: Definition and scope , health and disease, uses of epidemiology Hypothesis- formulation , testing, types Literature review – source, need, importance, method</p>	9
II	<p>METHODOLOGY</p> <p>Research Design- Qualitative and Quantitative research designs, Experimental design, Non experimental design, Observational Study design, Meta analyses.</p> <p>Criteria – inclusion & Exclusion criteria- definition, impact, errors. Population- definition , population mean Sampling – definition , sampling frame, sample mean, sampling errors, sampling methods in health research- incidental sampling, random sapling</p>	9

UNITS	TITLE OF CONTENT	HOURS OF TEACHING /LEARNING
	<p>Sample size – determination, optimal sample size, standard error, acceptable standard error Variables- dependent variable, independent variable Errors in research – types Data collection- types: Qualitative, Quantitative, methods: observation, interview, questionnaire, etc. guidelines and merits & demerits of each methods, presentation of data, analysis , interpretation of data Measurements of variables- Nominal, ordinal, Interval, ratio, research reliability and validity- types</p>	
III	<p>BIostatISTICS – I Role of biostatistics in research Descriptive statistics, inferential statistics Types of data – qualitative data: nominal, ordinal – Quantitative : discrete, continuous Measures of central tendency- Mean, median, mode Measures of dispersion- range, average deviation, standard deviation Measures of variability Sample distribution and error Probability distribution : Discrete, continuous</p>	9
IV	<p>BIostatISTICS – II Parametric test- normal binomial, Poisson Z test, t test, F test Non parametric test – Chi SQUARE, f test Charts and diagrams Tests of significance- Correlation – correlation coefficient types Statistical significance Analysis Factor analysis, Cluster analysis, discriminate analysis Software available for statistics</p>	9
	<p>APPLICATIONS OF RESEARCH IN PHYSIOTHERAPY Need of research for physiotherapist : critical analysis, validating published articles and journals Randomized control trials Research ethics Framing a research question Writing a research proposal</p>	9

UNITS	TITLE OF CONTENT	HOURS OF TEACHING /LEARNING
V	Finance for research Writing up a research for publication Evidence based practice – levels of evidence, bias, source Plagiarism – five word rule Implication of research in practice Search engine : Web search, journals	

RECOMMENDED BOOKS

1. Carolyn M Hicks. Research methods for clinical therapist
2. Chris Little wood& Stephen Mary: Understanding physiotherapy research.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE							
APPLIED ANATOMY, KINESIOLOGY & PATHOMECHANICS							
COURSE CODE: MPT19102							
COURSE CREDIT							
HOURS/WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL HOURS	
3	1	-	45	15	-	60	
Learning Outcomes							
At the end of the semester the post graduate student should be able to							
<ol style="list-style-type: none"> 1. Sound knowledge of the anatomy of the musculoskeletal system in the body. 2. Advanced understanding of the relationship between structure and function of the musculoskeletal system of the healthy subjects. 3. Developing ability to analyze mechanisms underlying selected musculoskeletal conditions resulting from injury or disease processes. 4. Advanced understanding of the anatomy / applied anatomy basis for clinical testing of musculoskeletal structures. 5. The ability to critically evaluate research literature in the area of anatomy/applied anatomy, and apply this information towards understanding the mechanisms operating in musculoskeletal conditions resulting from injury or disease. 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING /LEARNING
1	<ol style="list-style-type: none"> 1. Foundation of human movement: Basic movement terminology; anatomical movement description, reference system: joint movement characteristics. 2. Introduction to skeletal consideration for movement; Biomechanical characteristics of bone; aspects of bone articulations. 3. Introduction to muscular consideration for movement: overview of gross structure of muscle, functional characteristics of muscle; factors that determine muscle force, aspects of strengthening 	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING /LEARNING
	<p style="text-align: center;">the muscles, outline of injury to skeletal muscles.</p> <p>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.</p>	
II	<p>1.Functional anatomy of the upper extremity 2. Functional anatomy of the lower extremity 3.Functional anatomy of the trunk 4.Mechanical analysis of human motion - force, velocity, momentum, leverage, kinetic and kinematics analysis.</p>	12
III	<p>1.Pathomechanics of Shoulder complex 2.Pathomechanics of Elbow complex 3.Pathomechanics of Wrist & Hand complex</p>	12
IV	<p>1. Pathomechanics of Spine 2. Pathomechanics of Temporomandibular joint 3. Respiratory mechanics</p>	12
V	<p>1.Pathomechanics of Pelvis & Hip complex 2.Pathomechanics of Knee complex 3.Pathomechanics of Ankle & Foot complex 4. Posture, Balance & Gait analysis</p>	12

RECOMMENDED BOOKS

1. Biomechanical Basis of Human Movement - Joe Hamill and Knutsen Publishers - Williams and Wilkins.
2. Scientific Basis of Human Movement - Gowitzke, Williams & Wilkins, Baltimore, 1988, 3rd Edition.
3. Clinical Biomechanics of Spine - White A.A. and Panjabi - J.B. Lippincot, Philadelphia.
4. Brunnstrom's Clinical Kinesiology - Laura K. Myth et al., Publishers - F.A. Davis.
5. Kinesiology of the Human Body under normal and pathological conditions Arthur Steindler.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE							
EDUCATIONAL TECHNOLOGY FOR PHYSIOTHERAPISTS							
COURSE CODE: MPT19103							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
1	1	-	15	15	-	30	
LEARNING OUTCOMES:							
At the end of the course the student will acquire the knowledge of							
<ul style="list-style-type: none"> • Managerial and management skills in planning, implementation and administration in clinical practice and academic activities. • Acquire skill of documentation and use of information technology in professional practice. • Define the major educational theories and illustrate their application in curriculum development. • Academic qualification in teaching area and must be familiar with the newest communication and teaching methods 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	EDUCATION: <ul style="list-style-type: none"> ➤ Education : aims, agencies of education, formal and informal education, major philosophies of education [Naturalism, Idealism, Pragmatism, Realism ➤ Education: reforms and national education policy, various educational commissions-reports. ➤ Trends in development of physiotherapy education in India. 	6
II	CONCEPTS OF TEACHING AND LEARNING <ul style="list-style-type: none"> ➤ Meaning and relationship between teaching and learning. ➤ Meaning and scope of Educational Psychology. ➤ Learning theories, Dynamics of behavior, Motivational process of learning, Perception, individual differences, intelligence personality. Competency based education [CBE] and outcome based education(OBE) PRINCIPLES AND METHODS OF TEACHING <ul style="list-style-type: none"> ➤ Blooms taxonomy of instructional objectives. 	6

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	<ul style="list-style-type: none"> ➤ Writing instructional objectives in behavioral terms. ➤ Unit planning, lesson planning, Lecturer, Demonstration discussions, seminar, assignment. ➤ Types of Teaching Aids. ➤ Principles of selection, preparation and use of Audio Visual Aids. 	
III	<p>CURRICULUM</p> <ul style="list-style-type: none"> ➤ Basis of curriculum formulation. ➤ Framing objectives for curriculum. ➤ Process of curriculum development and factors involved. ➤ Evaluation of curriculum differences. ➤ Curriculum planning-Integrated teaching, problem based learning, Evidence based medicine. ➤ Skill development-clinical skills, communication skills, counseling skills. 	6
IV	<p>MEASUREMENT AND EVALUATION</p> <ul style="list-style-type: none"> ➤ Nature of Educational Measurement- Meaning, process, Types of Tests. ➤ Construction of an achievement test and its analysis. ➤ Standardized test. ➤ Introduction of some standardize tools, important tests of Intelligence. ➤ Aptitude and personality. <p>Continuous and comprehensive evaluation.</p> <p>MANAGEMENT & ACCREDITATION OF PHYSIOTHERAPY EDUCATIONAL INSTITUTIONS</p> <ul style="list-style-type: none"> ➤ Planning, organizing, staffing, budgeting, recruitment, discipline, public relation, performance appraisal, welfare services, library services and hostel. ➤ Development and maintenance of standards and accreditation in physiotherapy education programs. ➤ Role of Indian physiotherapy council, state registration physiotherapy councils, Boards and University. ➤ Role of professional associations and unions. 	6
	GUIDANCE AND COUNSELLING	

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
V	<ul style="list-style-type: none"> ➤ Principles and concepts, guidance and counseling services of students and faculty. ➤ TEACHER PREPARATION ➤ Teacher-Roles and Responsibilities, functions, characteristics, competencies, qualities. ➤ Preparation of professional teacher. ➤ Organizing professional aspects of teacher preparation programs. ➤ Evaluation-Self and Peer. ➤ Critical Analysis of Various programs of teacher education in India 	6

RECOMMENDED BOOKS:

- Physical therapy Administration and management-Hickok, Robert J, Williams and Wilkins.
- Education Technologies in medical and health sciences education-Susan Bridges, Lap Kichan, Cindy E Hmelo-Silver Editors, Springer.
- Handbook of Clinical teaching-Watts naney, Churchill Livingstone.
- Pedagogy Physiotherapy Education-CS Ram.
- Communication skills in Clinical Practice-Sethuraman K R.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE: ETHICS FOR PHYSIOTHERAPISTS							
COURSE CODE:MPT19104							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
1	1	-	15	15	-	30	2
Learning Outcomes: At the end of the course the student should be able to <ol style="list-style-type: none"> 1. Approach and assess/evaluate patients with Ethical and professional conduct. 2. Practice Physiotherapy profession according to the Code of Ethics of National and International Regulatory Bodies. 3. Be well aware and informed about the Medico Legal considerations. 4. Apply Ethical Principles of ICMR guidelines in research. 5. Aware of publication ethics. 							

S.NO.	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	Professional Ethics and legal issues <ol style="list-style-type: none"> 1. The implications and confirmation to the rules of professional conduct. 2. Legal responsibility for their actions in the professional context and understanding liability and obligations in case of medico - legal action. 3. A wider knowledge of ethics relating to current social and medical policy in the provision of health care. 	6
II	<ol style="list-style-type: none"> 1. National and international professional bodies: as a professional association and education body - Difference between scientific association (Professional body) and statutory body. 2. The role of international health agencies such as WHO and WCPT. 	6
III	<ol style="list-style-type: none"> 1. Laws governing physiotherapy practice 2. Ethical issues in practice of physiotherapy-clinical, research and academics 3. Publication ethics: Author and publisher responsibilities, ICMJE and COPE guidelines, Authorship, simultaneous submission, disclosure, consent and permission, copyrights and 	6

S.NO.	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
	permission, plagiarism, conflict of interest, research fraud, salami slicing, retractions after publication, dealing with mistakes, advantages of publishing ethically.	
IV	<ol style="list-style-type: none"> 1. Scope of physiotherapy in hospital, community and industry 2. Standards of practice for physiotherapists and the criteria 3. History taking, assessment, tests, patient communication, documentation of findings, treatment organization and planning/ execution for intervention. 4. Future challenges in physiotherapy 	6
V	Helsinki declaration- Familiarity with the ICMR ethical guidelines for biomedical research- Institutional Ethics Committee- functions and powers-Informed consent- Familiarity with the guidelines for care and use of animals in Scientific research-animal substitution.	6

RECOMMENDED BOOKS

Ethical issues- APTA

Code of Ethics, IAP – Kavitha Raja, Fiddy Davis

ICMR guidelines

Committee on publication ethics (COPE) guidelines

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSICAL AND FUNCTIONAL EVALUATION							
COURSE CODE: MPT19105							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
Learning Outcomes:							
At the end of the course, the student will be able to							
<ol style="list-style-type: none"> 1. Analyze the assessment data to do clinical decision making. 2. Gain the skill to evaluate psychological factors and apply psychological element in treatment plan. 3. Differentiate and compare different evaluation methods to assess physical dysfunction and select appropriate one for assessment. 4. Organize a valuable functional assessment by judging the weight of various functional tools 5. Appraise the importance of environment factor on function. 6. Implement orthotic, prosthetic and wheel chair assessment. 7. Relate measurements with appropriate instruments. 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING / LEARNING
I	<p>Clinical Decision Making :</p> <p>International classification of functioning, disability & health (ICF), Physical therapy Diagnosis, Plan of Care, Goals and expected outcomes, Levels of participation Scale Collection and documentation of data. ,Documentation – written & Electronics, Analysis of data and identifying the problems ,Setting goals, Formulation and implementation of treatment plan including evaluation of treatment outcome Clinical decision making models. Foundation for clinical decision making Planning Effective Treatment.</p> <p>Clinical audit process – Assessment, treatment, reassessment & response to a treatment</p> <p>Diagnostic clinical prediction rules, Prognostic clinical prediction rules & interventional clinical prediction rules.</p>	12
II	<p>Psychological Aspect Of Physical Rehabilitation:</p> <p>Psychological factors associated with rehabilitation- personality factor, stressors & coping styles, Disability adjustment; Psychological sequelae of injury; subjectivity of disability and adjustment; stress in disease signs and symptoms associated with stress. Role theory; stages of adjustment; Signs of adjustment problems. Overview of psychological and social adaptation to illness. Injury/grief response models</p>	06

UNITS	TITLE OF CONTENT	HOURS OF TEACHING / LEARNING
III	<p>Physical Evaluation: Motor assessment, Instruments used to assess motor system – Hand held Dynamometry, isokinetic Dynamometry etc. Sensory evaluation – quantitative sensory test, specialized sensory testing instruments. Coordination evaluation - quantitative coordination test, specialized coordination testing instruments. Clinical test for sensory Interaction in balance, Sensory organization test, standard instruments of postural control and balance & static assessment of standing posture. Pain Assessment – Distinguish site and source of pain, Red flags signs and symptoms. Biomechanical overload and pain. Assessment of cognition, perception and vestibular functions. Gait Analysis. Kinematic qualitative and kinematic quantitative gait analysis. Kinetic gait analysis, Energy cost analysis during gait, Clinical gait assessment, 3D kinematic and kinetic analysis, angular kinematics and muscle activity. Motor control assessment: common motor control defects with specific procedures and tests used to assess motor control defects, the factors which influence the result of motor control assessment. Measurements in rehabilitation: principles, concept, nature of measurements, selection of instruments.</p>	17
IV	<p>Functional Evaluation: ICF Classification of Body Functioning and body structures, ICF Classification of Activity and Participation, Single and multi dimensional functional assessment instrument, Taxonomy of tasks – Functional mobility skills, Categories of motor skills. Activity based task analysis, Selective functional movement assessment, Functional Movement Screening and Assessment magnificent 7, Clinical gapping after performing functional screening Functional Testing Domains. Functional Kinetic chain Approach Joint by Joint Approach. Performance Evaluation Tests for endurance, agility, mobility, balances body composition, strength, speed and pain. Movement screening and specific function performance tests. Functional evaluation of faulty movement patterns, measures of motor learning and measures of motor performance.</p>	15
V	<p>Examination Of Environment: Examination of home, Examination of workplace, Examination of transportation facilities and examination of accessibility to community facilities. Measures to assess environment impact on function. Prosthetic assessment: Prosthetic assessment including dynamic and static checkouts, components with recent advancements. Orthotic Evaluation Types of orthotics; dynamic and static checkouts & orthotic gait analysis</p>	10

UNITS	TITLE OF CONTENT	HOURS OF TEACHING / LEARNING
	Wheel Chair: Components of wheel chair; assessment of wheel chair; measurement for wheel chair.	

RECOMMENDED BOOKS:

1. Susan B. O’Sullivan, Thomas J. Schmitz, George D. Fulk , Physical Rehabilitation ,6th edition, F.A. Davis Company Philadelphia.
2. Craig Liebenson , Functional training handbook , Wolters Kluwer Health, 2014.
3. Paul E. Glynn, P. Cody Weisbach, Clinical prediction rules : a physical therapy reference manual , Jones and Bartlen Publishers , 2011.
4. Brian Mackenzie ,101 Performance Evaluation Tests, Electric Word plc, 2005.
5. Leslie G. Portney, Mary P. Watkins, Foundations of Clinical Research Applications to Practice, 3rd Edition, F.A.Davis Company , 2015.
6. James R. Andrews, Gary L. Harrelson, Kevin E. Wilk, Physical rehabilitation of the injured athlete, 4th ed , Elsevier Inc , 2012.
7. Lori Thein Brody, Carrie M. Hall, Therapeutic exercise : moving toward function, 3rd ed., Lippincott Williams & Wilkins, a Wolters Kluwer, 2011.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSICAL AND FUNCTIONAL EVALUATION							
COURSE CODE: MPT19106							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	2
Learning Outcomes:							
At the end of the course, the student will be able to							
<ol style="list-style-type: none"> 1. Gain the skill to evaluate psychological factors and apply psychological element in treatment plan. 2. Implement different evaluation methods to assess physical dysfunction 3. Organize a valuable functional assessment to judge functional capacity. 4. Assess environment factors affecting functions. 5. Implement orthotic, prosthetic and wheel chair assessment. 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	Physical therapy Diagnosis, Plan of Care, Collection and documentation of data. , Analysis of data and identifying the problems ,Setting goals, evaluation of treatment outcome	10
II	Psychological sequelae of injury; signs and symptoms associated with stress. stages of adjustment; Signs of adjustment problems.	05
III	Physical Evaluation: Motor assessment, Sensory evaluation Coordination evaluation - postural control and balance assessment Pain Assessment –Assessment of cognition, perception and vestibular functions. Gait Analysis. Motor control assessment.	15
IV	Functional Evaluation: Single and multi dimensional functional assessment instrument, Activity based task analysis, Selective functional movement assessment, Functional Movement Screening and Assessment magnificent 7, Performance Evaluation Tests for endurance, agility, mobility, balances body composition, strength, speed and pain. Movement screening and specific function performance tests. Functional evaluation of faulty movement patterns.	15
V	Examination Of Environment: Examination of home,	15

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
	Examination of workplace, Examination of transportation facilities and examination of accessibility to community facilities. Prosthetic assessment: dynamic and static checkouts, Orthotic Evaluation dynamic and static checkouts & orthotic gait analysis Wheel Chair: assessment of wheel chair.	

RECOMMENDED BOOKS:

1. Susan B. O'Sullivan, Thomas J. Schmitz, George D. Fulk , Physical Rehabilitation ,6th edition, F.A. Davis Company Philadelphia.
2. Brian Mackenzie ,101 Performance Evaluation Tests, Electric Word plc, 2005.
3. Lori Thein Brody, Carrie M. Hall, Therapeutic exercise : moving toward function, 3rd ed., Lippincott Williams & Wilkins, a Wolters Kluwer, 2011.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECHNIQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-I							
COURSE CODE: MPT19107							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDIT S
L	T	P	L	T	P	TOTAL	2
-	-	4	-	-	60	60	
Learning Outcomes:							
By the end of the course, the student							
1. Should undertake extensive literature search in reputed journals in their specialization.							
2. Formulate a research question.							
3. Design a research study.							
4. Present the proposed project in the scientific committee of the college for approval.							
5. The students have to submit the research proposal duly signed by the respective committee members at end of the course.							
6. The research work may be in the form of Reviews, Experimental, Non Experimental, Case series / Case studies.							

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
100	-	100

COURSE TITLE : CLINICAL TRAINING -I							
COURSE CODE: BPT19108							
COURSE CREDIT							
HOURS / WEEK			TOTAL HOURS /SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	12	-	-	180	180	4
Learning Outcomes:							
By end of the course the students will be able to							
1. Demonstrate the assessment techniques of various conditions							
2. Schedule the evidence based protocol for physiotherapy management according to their condition							
3. Explain the various treatment techniques at the various wards/ OPD in the hospital apart from their specialization.							

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

II SEMESTER

COURSE TITLE: DIFFERENTIAL DIAGNOSIS FOR PHYSIOTHERAPISTS							
COURSE CODE:MPT19201							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
1	1	-	15	15	-	30	2
LEARNING OUTCOMES:							
At the end of the semester the student should be able to							
<ul style="list-style-type: none"> • Acquire a thorough understanding of factors influencing learning including the learner and the environment. • Understand the differential diagnosis in physical therapy management, and able to differentiate the clinical patterns associated with various disorders. • Evaluate published case studies, research, and education related to differential diagnosis. 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	<ol style="list-style-type: none"> 1. Recognize, identify, and analyze signs, symptoms, and pain patterns associated with various systems of the body and the implications thereof, including identification of whether physical therapy is indicated or whether a client requires referral to appropriate healthcare practitioner. 2. Evaluate published case studies of physical therapy practice, research, and education related to differential diagnosis or pathological disorders. 3. Understand the standards for competency established by the American Physical Therapy Association (APTA) related to conducting a screening examination, Differential Diagnosis for Physical Therapists, consistent way to screen for systemic diseases and medical conditions that can mimic neuromuscular and musculoskeletal problems. 4. Understand Systems-based approach to the physical therapy screening interview provides a consistent way to screen for systemic disease and medical conditions that can mimic neuromuscular and musculoskeletal problems. 5. Formulate an introduction to the screening process 	6
II	<ol style="list-style-type: none"> 1. Verbalize or write a logical and appropriate line of questions for client assessment to obtain a history and to establish a working diagnosis. 2. Conduct an effective interview with mock patients resulting in the identification of the source of their clinical 	6

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	<p>problem(s).</p> <ol style="list-style-type: none"> 3. Demonstrate the Case examples and case studies that integrate screening information into the diagnosis process. 4. Examine Red flag histories, risk factors, clinical presentation, signs and symptoms, helpful screening clues, and guidelines for referral that brings attention to the important information a therapist needs to be aware of during the screening process. 5. Evolve resources that include printable screening tools and checklists, practice test questions, and more to enhance your learning. 	
III	<ol style="list-style-type: none"> 1. Modify performance of physical therapy examination and intervention either in a role playing situation or in a written case discussion based on recognition and incorporation of client individual and cultural differences. 2. Recognize and list signs and symptoms of emergency medical conditions and describe intervention including procedures for obtaining appropriate medical assistance. 3. Differentiate a viscerogenic causes of neuromusculoskeletal pain and dysfunction and System origins of neuromusculoskeletal pain and dysfunction 4. Draw connections among Cognitive processing and reasoning orientation approach to gather and analyze data, pose and solve problems, infer, hypothesize, and make clinical judgments. 5. Design a checklist for yellow and red flags for the above disorders 	6
IV	<ol style="list-style-type: none"> 1. Identify and differentiate between the clinical patterns associated with the following disorders <ol style="list-style-type: none"> a. cardiovascular conditions b. pulmonary conditions c. hematologic disorders d. gastrointestinal disorders e. renal or urologic disorders f. hepatic and biliary disorders g. endocrine and metabolic disorders <ol style="list-style-type: none"> i. diabetes ii. hypoglycemia h. metabolic bone diseases 	6

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	<p>i. cancer - with emphasis on benign, malignant, and metastatic</p> <p>ii. early warning signs</p> <p>j. neuromusculoskeletal disorders</p> <p>k. immunologic disorders</p> <p>l. dermatologic disorders</p> <p>m. peripheral vascular disorders</p> <p>n. sexually transmitted disease</p> <p>o. referred pain</p> <p>p. gynocological disorders</p> <p>2. For the above disorders, describe the appropriate type of intervention (including necessary modifications and procedures for referral to, and assistance from, other members of the healthcare community) and timing of the intervention.</p> <p>3. Formulate a screening method for dizziness.</p> <p>4. Evaluate systemic causes of joint pain.</p>	
V	<p>1. Describe the implications of the following factors on the client problems</p> <p>a. application of relative anatomical, physiological and developmental components</p> <p>b. principles of exercise physiology/exercise science</p> <p>c. principles of nutrition</p> <p>d. effects and potential side effects of pharmaceutical intervention</p> <p>e. necessary infectious control procedures.</p> <p>2. Given a case study, establish an appropriate physical therapy examination, evaluation, diagnosis, prognosis and intervention including procedures for obtaining appropriate referral to, and assistance from other members of the healthcare community.</p> <p>3. Create a patient assessment record form and family personal history sample.</p> <p>4. Analyze 5-Step screening model for differential diagnosis that includes past medical history, risk factor assessment, clinical presentation, associated signs and symptoms, and review of symptoms.</p>	6

RECOMMENDED BOOKS

1. Goodman and Snyder. Differential Diagnosis for Physical Therapists,- screening for referral, Elsevier.
2. Goodman and Snyder. Differential Diagnosis, 4th edition, W. B. Saunders.
3. Boissonnault, Primary Care for the PT – Examination & Triage, Elsevier.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE: ENTREPRENEURSHIP FOR PHYSIOTHERAPISTS							
COURSE CODE: MPT19202							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
1	1	-	15	15	-	30	
Learning Outcomes:							
On completion of the course, the student should be able to:							
1. Apply methods for improvement through entrepreneurship and innovation and develop an entrepreneurial and/or innovative idea within health care							
2. Identify opportunities and constraints in health care improvement							
3. Define specific problems and develop a project plan for improvement							
4. Develop and analyze an entrepreneurial and/or innovative idea in health care							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
1	Theories and models of health care improvements Theories and models of innovation and entrepreneurship for	6

	idea development and idea feasibility analysis	
II	Patient safety regulations Ethics regulations	6
III	Healthcare economics and reimbursement. Behavioural economics Advances in digital health and health information technology.	6
IV	Accelerators, incubators, and other startup resources Patents and the fundamentals of intellectual property Role of angel, seed, and venture capital investors	6
V	Interprofessional collaboration and teamwork Change management Diversity	6

RECOMMENDED BOOKS

1. Revitalizing Entrepreneurship Education: Adopting a critical approach in the classroom edited by Karin Berglund, Karen Verduyn
2. Entrepreneurs: Talent, Temperament and Opportunity, 3rd edition- Bill Bolton, John Thompson

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE: EVIDENCE BASED PRACTICE FOR PHYSIOTHERAPISTS							
COURSE CODE: MPT19203							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
1	1	-	15	15	-	30	2
LEARNING OUTCOMES:							
At the end of the semester the post graduate student should be able to							
<ul style="list-style-type: none"> • Review and critically appraise the literature effectively and efficiently. • To distinguish high- from low-quality studies. • Acquire the knowledge about how to interpret results from systematic reviews, and how to recognize flaws in study design or in methodology. 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	EVIDENCE BASED PRACTICE Define evidence based practice and describe the steps of evidence based medicine. Enumerate the different purpose for searching the scientific biomedical literature. Explain Background and Foreground questions. Describe the difference between background and foreground questions. Rephrase the Issue arising in Patients Care as Correct clinical Question (PICO question)	6
II	CLINICAL REASONING Define clinical question. How to search for the best available evidence How to critically Appraise the Evidence	6
III	EVALUATION AND APPLICATION 1. Integration and Application of Evidence Based Practice for physiotherapists, Evaluate the performances of Evidence Based Practice. Conduct Efficient searching of clinical evidence using the most appropriate terms and other tools (filters, operations and clinical queries) in database available through the internet, in accordance with the type of evidence of interest (pub med, Cochrane library, national guidelines clearinghouse) Save and Retrieve the full text of materials from evidence searches.	6
IV	CRITICS 1. Critically appraise the most common types of clinical research paper (interventions, harm, diagnostic test and systemic reviews).Apply the Evidence to the Individual pattern	6
V	RESEARCH 1. Definition and kinds of scientific documents-Research Paper, Review paper, Book,Reviews,Thesis,Conference and Project Reports for scientific community and for funding agencies 2. Publication-Role of Author, Guide and Co-authors	6

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	3. Practical Application in Research process selection and statement of problems and Hypothesis, Identifying the assumption and Limitations of the Study. 4. Structure, Style and Contents <ul style="list-style-type: none"> • Style manuals • Citations • Footnotes • Reference • Evaluation of research • Significance of Report writing. • Structure of Thesis and content – Preparing Abstracts 	

RECOMMENDED BOOKS:

1. Research for Physiotherapist - Hicks C. Churchill & Livingstone Edinburgh, 1995 Ed.
2. An Introduction to Biostatistics - A Manual for students in Health Sciences. P.SS Sundar Rao J. Richard.
3. Introduction to Research in Health Sciences - Polgar S., Churchill Livingstone, London, 1988.
4. Elements of Research in Physical Therapy - Currier D.P., Williams & Wilkins, Baltimore 1990 Eds.
5. Hand Book of Research Method - Sproull, Scarecrow Press, 1998.
6. Physical Therapy Research - Domholdt, WB Saunders, Philadelphia, 1993.
1. 7.Guyatt G, Rennie D, Maede MO,Cook DJ ,eds. Users' Guides to the Medical Literature: A Manual for Evidence –Based Clinical Practice .2nd Ed.New York,NY:McGraw-Hill:2008.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE: EXERCISE PHYSIOLOGY							
COURSE CODE: MPT19204							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4

LEARNING OUTCOMES:

At the end of the course the post graduate student should able to

- Understand the factors influencing learning including the learner and the environment.
- Acquire knowledge of exercise physiology including exercise metabolism.
- Acquire knowledge of the cardio respiratory response to exercise, energy, and nutrition.
- Critically evaluate and synthesize research and professional literature relating to a chosen topic in the muscle/exercise physiology to analyze and interpret electro diagnostic procedures.

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	<p>1 Muscle Physiology Muscle and its contraction - Architecture of skeletal muscles, sliding filament theory, types of muscle fibres, mechanical efficiency of muscle contraction, force - velocity, motor unit, muscle fatigue - blood supply, prolonged exercise.</p> <p>2. Blood & Circulation Cardiac cycle - pressure during cardiac cycle, Haemodynamics mechanical work and pressure, hydrostatic pressure, flow and resistance, Venous - capillary structure and transport mechanisms, filtration & osmosis, vascularization of skeletal muscles, regulation of circulation during exercise, cardiac output & O₂ updates - stroke volume, blood pressure.</p> <p>3. Physical Performance Aerobic processes intensity & duration of exercise, prolonged exercise, muscular stress involved in exercise. Anaerobic Processes: Power & capacity of high energy breakdown. Lactate Production - distribution & disappearance, effect of metabolism on tissue & blood pH, Anaerobic threshold, maximal aerobic power, maximal anaerobic power.</p>	12
II	<p>1. Respiration Lung compliance airway resistance, pulmonary ventilation at rest and during exercise, diffusion in lung tissues, gas pressure - ventilation & perfusion - regulation of breathing - Exercise, High air pressures - Breath holding diving, Physical Fitness tests Test of maximal aerobic power - measurement of oxygen uptake, Treadmill tests, Bicycle ergo meter test, step-test,</p>	12

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	maximal oxygen uptake in various sports. Evaluation of anaerobic power, Exercise electrocardiogram. Approaches to clinical exercise testing, The Balke protocol, The Bruce protocol, Scandinavian protocol, Triangular protocol, Walking protocol, Wingate test, Maximal oxygen uptake , the stage I test,stage2, 3 and 4 tests, Indications and contraindications to exercise testing	
III	1. Physical Training Training principles, continuous vs. intermittent exercise training methods & biological long-term effects of training. Disuse, isometric strength training, dynamic strength training. Training of aerobic power, training of anaerobic power, cardiopulmonary adaptation to aerobic training, and Peripheral adaptation to aerobic training. Endurance training, Retraining, recovery after exercise, Mechanical efficiency technique, body composition, stretching, psychological aspects, muscle soreness, contra-indications to physical training.	12
IV	1. Energy Transfer Introduction to energy transfer, energy transfer in the body-phosphate bond energy, energy released from food, energy transfer in exercise, systems of energy delivered and utilization. 2. Nutrition & Physical Performance Nutrition in general digestion, energy metabolism & factors governing the selection of fuel for muscular exercises, food for the athletes, Energy balance, regulation of food intake, ideal body weight, obesity, slimming diets, optional supply of Nutrients. 3. Applied Work Physiology Factors affecting sustained physical work, assessment of work load in relation to work capacity, Assessment of maximal aerobic power measurement of oxygen uptake in a typical work situation, Assessment of load exerted on specific muscles, Classification of work, Daily rates of	12

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	energy expenditure, energy expenditure during specific activities like sleeping, sedentary work, house work, light industry, manual labor.	
V	<p>1. Factors affecting performance High altitude - limiting factors, oxygen transport, adaptation of high altitude, high gas pressure, pressure effects, nitrogen, oxygen, carbon dioxide metabolism in sports, tobacco smoking - circulatory effects, respiratory effects, metabolic effects, smoking habits among athletes, alcohol & Exercise - Neuromuscular function, aerobic & anaerobic power, metabolic effects, caffeine, Doping and "THE WILL TO WIN".</p> <p>2. Fatigue & Deconditioning General Physical fatigue, local muscular fatigue, cardiac rhythm in humans, shift work, effect of menstruation, Deconditioning</p>	12

RECOMMENDED BOOKS:

1. Samson Wright's Applied Physiology Cyril A.Keele, Eric Neil and Normal Joels.
2. Sports Physiology Mc Arde. Katch.Katch Publisher - Lea & Febiger
3. Sports Physiology Edward L .Fox CBS College Publishing

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE: ELECTRO DIAGNOSIS AND PHYSICAL AGENTS							
COURSE CODE: MPT19205							
HOURS/WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
2	1	-	30	15	-	45	3
LEARNING OUTCOMES:							
On Completion of the semester the student should be able to							
1. Acquire the up to date knowledge of Production / biophysics, the Physiological & therapeutic effects of various Electrical Currents, Thermal Agents, and Ultrasound& Electro-Magnetic Radiations & Potential Risk Factors on prolonged exposure.							
2. Acquire the knowledge about various Pharmaco Therapeutic agents to be used in combination with various Electrotherapeutic modes, with appropriate clinical decision & reasoning in the management of Pain, Tissue healing / Wound care and skin conditions.							
3. Train the undergraduate students in this subject at pre-clinical level.							
4. Develop expertise in the skill of using various electrical currents for the purpose of Electrodiagnostic& be able to interpret the same with appropriate clinical reasoning.							
5. Interpret the E.M.G. and Nerve Conduction Studies and Evoked Potentials with appropriate clinical reasoning.							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	ADVANCED ELECTROTHERAPEUTICS: Recent concept of Physiological and Therapeutic Effects of Low, Medium and High Frequency Currents, Cellular response to environmental and manmade Electromagnetic field, Risk factors of prolonged exposure, Safety measures and Infection control Measures.	9
II	Principles of combinations of drugs with Therapeutic Currents, Ultrasound, Advanced Electrotherapeutics in the management of Pain including neuropathic, Musculoskeletal, Psychosomatic pain, Pain modulation – Afferent pain transmission and role of central nervous system	9
III	Advanced Electro Therapeutics in Tissue healing, Wound care, Management of Scars keloids, Muscle Plasticity & Integumentary Conditions. Biofeedback – Principles and Applications. Electro-Physiology and Electro diagnosis, Muscle plasticity in response to electrical stimulation	9

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
IV	ELECTROPHYSIOLOGY Physiology of Resting Membrane Potential, Action Potential, Propagation of action Potential , Classification – a) Muscle fiber b) Nerve fiber c) Motor unit ,Synapse and Synaptic Transmission, Transmission at Neuro Muscular Junction ,Propagation of nerve impulses, Physiology of Muscle Contraction , Electrical excitability of muscle and nerve and propagation of nerve impulse. Reflex – Classification and Properties	9
V	Sensations – Path ways and Classification, Type of Nerve injury and Wallerian Degeneration, Electro Diagnosis with Therapeutic Currents – S.D. curve, Faradic Galvanic Test, Tests for Sensory & Pain Threshold & Pain tolerance. Electromyography – a) Instrumentation, Electrodes b) E.M.G.- Normal and Abnormal, Nerve Conduction - a) Sensory/Motor b) “F” Wave c) “H” Reflex d) Blink Reflex	9

RECOMMENDED BOOKS:

1. Manual of nerve conduction velocity techniques – De Lisa, Raven press, New York, 1982
2. Electrodiagnosis in diseases of nerve and muscle – Kimura J, F A Davis Philadelphia
3. Electrotherapy explained- principles & Practice. Alex Ward, Ann Reed, John Low. 4th edition.
4. Physical Agents. Cameroon.
5. The Neurological Examination - Dejong's Armin F. Haerer, Publisher Lippincott Raven.
6. Bio-Feed Back - A Practitioners Guide - Kerb D, Guiford Press.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : ELECTRODIAGNOSIS AND PHYSICAL AGENTS							
COURSE CODE: MPT19206							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	3
-	-	6	-	-	90	90	
Learning Outcomes:							
At the end of the course, the student will be able to							
<ul style="list-style-type: none"> • Analyze the Effects of Electrotherapeutic Modality in the restoration of Physical functions. • Interpret the Electromyography and Nerve Conduction velocity study in various Neuropathic and Myopathic Conditions. • Expertise in usage of various types of Current in Tissue Healing and pain Reduction 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/LEARNING
I	Electro diagnostic procedures Qualitative and Quantitative Test – FG test, SD Curve Advanced Techniques for pain relief , reduction of oedema , warmed Healing and hyper hydrosis	18
II	Techniques of application of various types of current , Didynamic Currents, Russian currents, interferential current, sinusoidal Currents	18
III	Techniques and Applications of Actinotherapy , ultrasonic therapy, Cryotherapy, Moist Heat	18
IV	Analyse and Interpret of E.M.G.- Normal and Abnormal, Nerve Conduction - a) Sensory/Motor b) “F” Wave c) “H” Reflex d) Blink Reflex	18
V	Analyse and interpret Evoked Potentials Motor, visual, brain stem auditory evoked potentials.	18

RECOMMENDED BOOKS:

1. Manual of nerve conduction velocity techniques – De Lisa, Raven press, New York, 1982
2. Electrodiagnosis in diseases of nerve and muscle – Kimura J, F A Davis Philadelphia
3. Physical Agents. Cameroon.
4. The Neurological Examination - Dejong's Armin F. Haerer, Publisher Lippincott Raven.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECNQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

**COURSE TITLE : RESEARCH PROJECT-II
COURSE CODE: MPT19207**

COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	2
Learning Outcomes:							
By the end of the course, the student							
<ol style="list-style-type: none"> 1. Should obtain Institutional Ethical Committee Clearance. 2. Start the data collection. 							

1. The student should prepare Informed consent forms(in English and Tamil), Assent form & Informed parent consent form (for children), patient assessment sheet .
2. Should present in prescribed format to the Institutional Ethical Committee to obtain approval.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
100	-	100

COURSE TITLE : CLINICAL TRAINING -II							
COURSE CODE: BPT19208							
COURSE CREDIT							
HOURS / WEEK			TOTAL HOURS /SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	12	-	-	180	180	
Learning Outcomes:							
By end of the course the students will be able to							
1. Demonstrate the assessment techniques of various conditions							
2. Schedule the evidence based protocol for physiotherapy management according to their condition							
3. Explain the various treatment techniques at the various wards/ OPD in the hospital apart from their specialization.							

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

SEMESTER III

COURSE TITLE : YOGA THERAPY							
COURSE CODE: MPT193E1							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
2	-	-	30	-	-	30	2
<p>LEARNING OUTCOMES:</p> <p>At the end of the course the student will acquire the knowledge to</p> <ul style="list-style-type: none"> • Identify Indian heritage, culture. Identify key anatomical structures in the human body and basic exercises for the same • Apply yoga meditation practices for emotional development and wellbeing • Identify educational and intellectual development methods using five sense realization and transformation • Demonstrate human values and emotions through understanding about life, naturopathy and food habits • Impact self and society by peaceful coexistence with self-introspection and balanced diet charts • Demonstrate yoga exercises and postures to stretch and strengthen the body and mind 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	Physical Body Understanding of Structure and functions of Human Body Importance of Physical Exercises and various Medical systems Life-force and Philosophy of Kaya Kalpa Mind and its functions and Meditation Practices functions of mind Yoga Practice: Simplified Physical Exercises Physical exercises practice Hand exercises Leg exercises Breathing exercises Eye exercises Kapalabathi Makarasana Body massage Acupressure History of Yoga	6

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
II	<p>Introduction of human body and its systems Definition of Anatomy and Physiology and importance in Yogic Practices Respiratory System Digestive System Classification of Asanas and its Mechanism, Cultural Asana(standing, sitting, supine position) Meditative Asana and Relaxative Asana, , Circulatory System Introduction of Kriya, Bandha and Mudra: Importance of Kriya and its scientific approach, Importance of BANDHA and its scientific approach, Importance of MUDRA and its scientific approach. Effect of Asanas on various Systems. Purpose of life Modern life yoga modern life style importance of physical health Physical structure combination of five elements three forms of body Endocrine System Nervous System Difference between Asana and Exercise. Difference between Pranayama and deep breathing Kaya Kalpa Exercises Kaya kalpa Exercise practice AswiniMudhra MoolaBandha Ojas Breath</p>	6
III	<p>Introduction to Patanjali Yoga Sutra Concentration (Samadhi Pada) Practices (SadhanaPada) Progressing (VibhutiPada) Liberation (KaivalyaPada) Types of concentration 1) gross (vitarka), 2) subtle (vichara), 3) bliss accompanied (ananda), and 4) with I-ness (asmitta) Definition and meaning of yoga Different ways to achieve Raj Yog, Disturbance inYogic</p>	

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	<p>Practices Asanaa Pranayama Kriyas. Nadanusandhan – Charwak – Budha – Mahavir Swami Vivekanand PanchikaranPrakriya PanchKosh Theory Nandha Bhakti – Kundalani AsthaSidhi Metaphysics of Saikhya& its' relationship with Yoga Darshana of Patanjali, Philosophical Foundations & Practices of Patanjali'sYogas, Patanjali Yoga Sutra's importance & relevance and Yoga Samanvaya; Concept of mind – eastern and western perspective; psychology principles and methods in Patanjali Yoga sutra Efforts and commitment: bhava = objective existence, becoming pratyayah = cause, cognitive principle, content of mind, cognition videha = bodiless, disembodied and prakriti = creative cause, subtlest material cause, nature and layanam = dissolved, merged into</p>	6
IV	<p>Factors affecting teaching, Principles of teaching, Need and importance of teaching practice, Maxims of teaching Presentation technique, Technical preparation, Personal preparation Modern concept and teaching Aids class management Modern concept meaning and need, Steps of class management Meaning of tournaments and competition and its importance, Eligibility rules University of Yoga, Organisation and administration of Yoga competition, Audio visual Aids. Meaning of lesson plan and its importance Principles of lesson plan, Demonstration in Yoga and its types, Importance of demonstration. Braches of Yoga: Hatha Yoga, Raja Yoga, Karma Yoga, Bakthi Yoga, Jnana Yoga, Tantra Yoga Chakras activation: Sahasrara, Ajna Vishuddha, Anahatha</p>	6

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	Manipuraha, Swathishathana Moolathara Types of Yoga: Ashtanga yoga, Bikram yoga Hatha yoga, Iyengar yoga Jivamukti yoga, Kripalu yoga Kundalini yoga, Power yoga Sivananda, Viniyoga Yin Yoga: the ankles, knees, hips The whole back, neck, shoulders Risks and side effects Stretches after practicing Yoga Practicals	
V	Pranayam and Shudhikriyas, Practical: Teaching Practice Practice of teaching of five lesson plan on any skill (Three asanas, one Pranayama and one Kriya) on lesson format with chart and Viva-voce. Asanas: [Definition, Merits & Demerits]. Forward Bending Asanas: ArdhaKurmasan, Vekasan, Sasangasan, Paschimottanasan, PadaHastasan, Halasan, NaviAsan, Back Bending Asanas: Bhujangasan, Ustrasan, Dhanurasan, ArdhaChandrasan SuptaBajrasan, PurnaBhujangasan, SetuBandhyanasan, Chakrasan Or Ardha Chakrasan, SayanaSukhasan, Naukasan, Makarasan, Balancing Asanas: Brikshasan, Utkatasan, UtthitaPadmasan, TirjakSarbangasan, Bhadrasan, Angusthasan, Tula Dandasana, Sirsasan, Mayurasana Others i.e. Lying, Side Bending, Sitting, Spinal Twisting, Mixing Etc. & Also, ArdhaMatsyendrasan, AakarnaDhanurasan, UtthitaPaschimottanasan, ParswaChandrasan BaddhaKonasan, SayanaPaschimottanasan, Jasthasan, Singhasan, BirBhadrasan Seven Chakras Surya Namaskar Dhyanasana: Bajrasan, Padmasan, PabanMuktasan , Gomukhasan	6

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	Salavasan, Matsyasan, EkaPadaSalavasan or Ardha – Salavasan, UtthanPadasan, Sarbanganas, UpaBistwaPabanmuktasan SayanaPadmasan, UtthitaPadasan ByStages Arthachakrasana, Arthakattichakrasana, Padahastasana Vibarithakarani, Sarvanga asana Arthahalasana, Halasana, Navasana Salabasana, Artthaviruchakasana	

RECOMMEND BOOKS

1. SadhguruJaggiVasudev, Inner Engineering – A yogi's guide to joy, 2016
2. Shri Shri Ravi Shankar, The Art of stress-free Living, 2011
3. Swami RamdevJi Yoga Its Philosophy and Practice, 20083
4. YogirajVethathiri Maharishi, Yoga for Modern Age, Tenth edition, Vethathiri Publications, 2007
5. YogirajVethathiri Maharishi, Simplified Physical Exercises, Forty Second edition, Jan-2014

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PAIN SCIENCE AND ITS MANAGEMENT							
COURSE CODE: MPT193E2							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
2	-	-	30	-	-	30	2
LEARNING OUTCOMES:							
At the end of the course the student will acquire the knowledge to							
<ul style="list-style-type: none"> • Review the fundamental concepts of pain including the science, nomenclature and experience of pain, and pain's impact on the individual and society. • Analyze the impact of pain on society. • Evaluate and determine appropriate assessment and management for pain and associated conditions. • Reflect the cultural, institutional, societal, and regulatory influences affect assessment and management of pain. 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	Multidimensional Nature of Pain: - epidemiology of pain; Current theories of the anatomical, physiological, and psychological basis of pain and pain relief; Definition of pain and the multidimensional nature of the pain experience; Impact of age, gender, family, culture, spirituality, and the environment on the pain experience; Role and responsibilities of the physical therapist in pain management and the integration of physical therapy into the interdisciplinary team into an holistic management strategy H. Pain across the life span (physiological and psychosocial factors, implications for assessment, measurement, and intervention); Basic science.	6
II	Pain Assessment and Measurement: - acute and chronic pain and the implications for assessment and management of the patient; validated tools in the acute pain phase to prevent the onset of chronicity; biopsychosocial approach for assessment of pain and disability; assessment measures for primary domains including: 1. Sensory 2. Affective 3. Cognitive 4. Physiological 5. Behavioral; Recognize strengths and	6

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	limitations of commonly used measures for different pain dimensions: 1. Self-report measures as "accepted standard" not gold standard 2. Physical performance measures including Functional Capacity Evaluations; Modify pain assessment strategies; monitor and review the effectiveness of treatment/management and modify treatment and management strategies appropriately; the need to refer to relevant health professional in a timely manner	
III	Management of Pain: - integrate the patient assessment into an appropriate management plan using the concepts and strategies of clinical reasoning; principles of an effective therapeutic patient/professional relationship to reduce pain, promote optimal function and reduce disability through the use of active and where appropriate, passive pain management approaches; the need to involve family members and significant others including employers where ever appropriate; person-centered perspective to formulate collaborative intervention strategies; Understand appropriate pharmacology and its limitations in the management of chronic pain; the scope and evidence of contemporary therapeutic educational styles (e.g. biomedical, psychological, neuroscience) and models; Behavioral management; Exercise; Reintegration into work; neurophysiological mechanisms and the associated effects of therapeutic intervention; clinical application and current evidence for the each intervention in the management of different pain conditions	6
IV	Clinical Condition Low back and neck pain, Arthritis, Headache and Migraine, Cancer pain, Fibromyalgia, Myofascial pain, Neuropathic pain, Complex regional pain syndromes, Temporomandibular disorder, Tendinopathies , Adhesive capsulitis, Sprains, Postoperative pain, Pelvic floor pain	6
V	Evidence based approach and current practice in pain management	6

RECOMMENDED BOOKS

1. Physical therapy Administration and management-Hickok, Robert J, Williams and Wilkins.
2. Education Technologies in medical and health sciences education-Susan Bridges, Lap Kichan, Cindy E Hmelo-Silver Editors, Springer.
3. Handbook of Clinical teaching-Watts naney, Churchill Livingstone.
4. Pedagogy Physiotherapy Education-CS Ram.
5. Communication skills in Clinical Practice-Sethuraman K R.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE: INTERNATIONAL CLASSIFICATION OF FUNCTIONING, DISABILITY AND HEALTH (ICF) COURSE CODE: MPT193E3							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
2	-	-	30	-	-	30	2
Learning Outcomes:							
1. At the end of the semester the postgraduate student should be able to analyze patient problems, to focus on specific targets, and to relate the salient disabilities to relevant and modifiable variables.							

UNITS.	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	Traditional model Consequences of disease model NAGI model International Classification of Impairments Disability and Handicap Model (ICIDH – 1)	6
II	National Center for Medical Rehabilitation Research Model 1 & 2 (NCMRR) Components of Health	6
III	International Classification of Functioning, Disability and Health (ICF / ICIDH - 2)	6
IV	History and development of the ICF The ICF and the WHO family of international classifications Components of the ICF	6
V	ICF coding Benefits of Using ICF	6

RECOMMENDED BOOKS

International Classification of Functioning, Disability and Health (ICF)

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPT IN ORTHOPAEDICS							
III SEMESTER							
COURSE TITLE : MUSCULOSKELETAL CONDITIONS OF UPPER LIMB AND LOWER LIMB & ASSESSMENT							
COURSE CODE:MPT19311							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
LEARNING OUTCOMES:							
At the end of the course the postgraduate student will be able to							
<ol style="list-style-type: none"> 1. Identify, discuss & analyze, the Musculoskeletal Dysfunction in terms of Biomechanical, Kinesiology & Biophysical basis & correlate the same with the provisional diagnosis, routine radiological & Electrophysiological investigations & arrive at appropriate Functional diagnosis with clinical reasoning. 2. Perform an appropriate subjective and physical examination, with development of suitable analytical skills to evaluate data obtained 3. Develop clinical reasoning that incorporates theoretical concept with evidence-based practice in the field of musculoskeletal physiotherapy. 4. Document patients with scale, outcome measures and assess the progression. 5. Apply recent Technique/ approaches to treat & train patients with musculoskeletal deficit in children, adults & geriatrics. 6. Impart knowledge for training the under graduate students. 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	Musculoskeletal system: <ul style="list-style-type: none"> ➤ Embryology of musculoskeletal system. ➤ Architecture of bone. ➤ Gross anatomy of bone, joints, muscles and nerves. ➤ Dermatomes & Myotomes. ➤ Joint play movements. ➤ Skeletal growth and development (normal & Pathological) ➤ Types of muscle contraction, nerve – muscle pathology. 	12
II	Paediatric Orthopaedic conditions .congenital deformities.	12
III	<ul style="list-style-type: none"> ➤ General Orthopaedic Physiotherapy Assessment ➤ Assessment of posture, role of physiotherapy in scoliosis unit. Clinical symptomatology, 	12

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	<p style="text-align: center;">pathophysiology and pathomechanics of musculoskeletal conditions</p> <p>➤ Fractures</p> <ul style="list-style-type: none"> • General principles • Stress shearing / shielding devices. • Fracture healing (normal & Pathological) • Upper Quarter Fractures • Lower Quarter fractures 	
IV	<p>Dislocation Acromioclavicular joint., sternoclavicular joint. Recurrent dislocation of shoulder., elbow, wrist & phalanx. Recurrent dislocation of patella. Hip, ankle, dislocation.</p>	12
V	<p>Soft Tissue Injuries [injury & repair, clinical presentation, evaluation & general principles of rehabilitation management] Upper limb. -Sprains of shoulder. Bursitis. Tendonitis. Snapping & winged scapula. Tennis elbow. Tenosynovitis. Carpel tunnel syndrome. Dupuytren's contracture. VIC. Reflex Sympathetic Dystrophy. Periarthritis of shoulder. Thoracic outlet syndrome. Shoulder hand syndrome. Lower Limb.- Tendonitis ,Fat pad inflammation. Baker's cyst. ACL, PCL. Meniscal injury. Chondromalacia patella. Deltoid Fibrosis, Trigger Finger & Thumb, Quadriceps Fibrosis, Bursitis around the knee, Plantar Fascitis, Calcaneal Spur, IT Syndrome, TMJ dysfunction, Gait.</p>	12

RECOMMENDED BOOKS:

1. .Donatelli R. and wooden M.J. Ed Orthopaedic Physical Therapy Churchill, Livingston 1989.
2. .Grieve G.P.(ed) Modern Manual Therapy of the Vertebral Column, Churchill, Livingstone, 1986.
3. Grieve G. P. Common Vertebral Joint Problems, 2nd edn Churchill, Livingstone, 1988.
4. Jayson M.I.V. (ed) The Lumbar Spine and Back Pain, 3rd edn Churchill, Livingstone, 1987.
5. Kirkaldy- Willis W. H. (ed) Managing low back pain, 2nd edn Churchill, Livingstone, 1988.
6. Mangine, R.E. Physical Therapy of the Knee, Churchill, Livingstone, 1988.

7. Travell J. G. and Simons, D.G. Myofascial pain and Dysfunction. The Trigger Point manual, Williams and Wilkins, 1983.
8. Myofascial Pain & Dysfunction - Travell, Williams & Wilkins, Baltimore, 1983.
9. Physical Therapy of the Low Back - Tuomoy, Churchill, Livingstone, London, 1994.

JOURNALS

1. Journal of orthopaedics and sports physical therapy
2. Journal of American physical therapy

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPT IN ORTHOPAEDICS							
SEMESTER III							
COURSE TITLE ORTHOPAEDIC PHYSIOTHERAPY GOAL PLANNING AND MANAGEMENT							
COURSE CODE:MPT19312							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
LEARNING OUTCOMES:							
At the end of the course the post graduate student will be able to							
<ol style="list-style-type: none"> 1. Identify, discuss & analyze, the Musculoskeletal Dysfunction in terms of Biomechanical, Kinesiology & Biophysical basis & correlate the same with the provisional diagnosis, routine radiological & Electrophysiological investigations & arrive at appropriate Functional diagnosis with clinical reasoning. 2. Perform an appropriate subjective and physical examination, with development of suitable analytical skills to evaluate data obtained 3. Document patients with scale, out come measures and asses the progression. 4. Impart knowledge for training the under graduate students. 							

UNITS	TITLE OF CONTENT	HOURS
I	<ul style="list-style-type: none"> ➤ Special test for Upper limb. ➤ Special test for Lower limb ➤ Muscle Grading. ➤ Dermatomes & Myotomes. ➤ Normal & Abnormal Pelvic Tilts. ➤ Assessment of limb length. ➤ Posture (static and dynamic). ➤ Functional assessment. ➤ Balance and coordination assessment. 	12
II	<p>Advanced investigative procedure</p> <ul style="list-style-type: none"> ➤ X-RAY ➤ CT ➤ MRI ➤ NCV <p>Electrotherapeutic Agents</p>	
III	<ul style="list-style-type: none"> ➤ Internal and external fixations ➤ Distraction and limb reconstruction Correction of bone deformities and joint contractures . ➤ Physiotherapy management for soft tissue injury ➤ Physiotherapy management for Nerve injuries 	12

UNITS	TITLE OF CONTENT	HOURS
	➤ Sensory Re-Education	
IV	<ul style="list-style-type: none"> ➤ Physiotherapy Management of cervical & thoracic spine disorders ➤ Physiotherapy Management of upper limb fractures. ➤ Physiotherapy Management of lower limb fractures ➤ Fracture disease & Management 	12
V	<ul style="list-style-type: none"> ➤ Physiotherapy management for upper limb amputations ➤ Physiotherapy management for lower limb amputations 	12

RECOMMENDED BOOKS:

1. David J. Magee. orthopedic physical assessment . saunders publication
2. Ronald C. Evans .Illustrated orthopedic physical assessment .Mosby
3. Gait Analysis - Perry J. Black Thorofare, Newjersy 1992
4. Ministry of Social Justice and Empowerment Govt of India Disability Evaluation

JOURNALS

1. Journal of orthopaedics and sports physical therapy
2. Journal of American physical therapy.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSIOTHERAPEUTICS I							
COURSE CODE: MPT19313							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	6	-	-	90	90	3
<p>Learning Outcomes:</p> <p>At the end of the practical session the student will be able to</p> <ul style="list-style-type: none"> • Perform the Physical evaluation of musculoskeletal dysfunctions. • Distinguish and Interpret between normal abnormal findings in Orthopaedic conditions and to perform the differential diagnosis to arrive Physical diagnosis. • Formulate a physiotherapy treatment plan and to perform appropriate Physiotherapy techniques on models /patients. 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	General orthopaedic assessment, Assesment and Physiotherapy management for upper limb fractures and lower limb fractures.	18
II	Assessment of dermatomes and myotomes,physiotherapy Evaluation in vertebral fractures, Management of spinal cord injuries..	18
III	Physiotherapy Evaluation of soft tissue injuries,Sports injuries. Special test for various upper limb and lower limb and spinal disorders.	18
IV	Pre and post operative management for various joint replacement surgeries. Tendon transfer protocols.	18
V	Electrotherapeutic agents. Interpret the normal & common abnormal physical findings, (in brief) X ray and Computerized Tomography, Magnetic Resonance Imaging, Nerve Conduction Velocity test	18

RECOMMENDED BOOKS:

1. Donatelli R. and wooden M.J. Ed Orthopaedic Physical Therapy Churchill, Livingston 1989.
2. Grieve G.P.(ed) Modern Manual Therapy of the Vertebral Column, Churchill, Livingstone, 1986.
3. Grieve G. P. Common Vertebral Joint Problems, 2nd edn Churchill, Livingstone, 1988.
4. Jayson M.I.V. (ed) The Lumbar Spine and Back Pain, 3rd edn Churchill, Livingstone, 1987.
5. Kirkaldy- Willis W. H. (ed) Managing low back pain, 2nd edn Churchill, Livingstone, 1988.
6. Mangine, R.E. Physical Therapy of the Knee, Churchill, Livingstone, 1988.
7. Travell J. G. and Simons, D.G. Myofascial pain and Dysfunction. The Trigger Point manual, Williams and Wilkins, 1983.
8. Myofascial Pain & Dysfunction - Travell, Williams & Wilkins, Baltimore, 1983.
9. Physical Therapy of the Low Back - Tuomoy, Churchill, Livingstone, London, 1994.
10. David J. Magee. Orthopedic physical assessment . saunders publication

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECNIQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-III							
COURSE CODE: MPT19314							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	
Learning Outcomes:							
By the end of the course, the student							
1. Should complete data collection.							
2. Should tabulate the data collected and perform statistical analysis and interpretation.							

1. The student should undertake data collection systematically according to the research methodology.
2. Tabulate the obtained data and perform statistical analysis and interpretation of the results.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
100	-	100

COURSE TITLE : CLINICAL TRAINING -III
COURSE CODE: MPT19315

COURSE CREDIT							
HOURS / WEEK			TOTAL HOURS / SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	15	-	-	225	225	5

Learning Outcomes:
By end of the course the students will be able to

1. Demonstrate the assessment techniques of various conditions
2. Schedule the evidence based protocol for physiotherapy management according to their condition
3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

MPT IN ORTHOPAEDICS						
SEMSTER IV						
COURSE TITLE ORTHOPAEDIC ORIENTED GERIATRIC AND HAND						
CONDITIONS AND ASSESSMENT						
COURSE CODE:MPT19411						
COURSE CREDIT						
HOURS/ WEEK			HOURS/SEMESTER			CREDITS
L	T	P	L	T	P	TOTAL
3	1	-	45	15	-	60
LEARNING OUTCOMES:						
The post graduate student will be able to						
<ol style="list-style-type: none"> 1. Identify, discuss & analyze, the Musculoskeletal Dysfunction in terms of Biomechanical, Kinesiology & Biophysical basis & correlate the same with the provisional diagnosis, routine radiological & Electrophysiological investigations & arrive at appropriate Functional diagnosis with clinical reasoning. 2. Perform an appropriate subjective and physical examination, with development of suitable analytical skills to evaluate data obtained 3. Document patients with scale, out come measures and asses the progression. 4. Impart knowledge for training the under graduate students. 						

UNITS	TITLE OF CONTENT	HOURS
I	<ul style="list-style-type: none"> ➤ Classifications of elderly ➤ Age related changes in various systems of body. ➤ Diabetics & Geriatrics Patients. ➤ Arthritis in Elderly. ➤ Ageing of the musculoskeletal system. ➤ Stroke, Parkinson Disease 	12
II	<ul style="list-style-type: none"> ➤ Rheumatoid Arthritis in Elderly ➤ Pathological Fractures in Elderly ➤ Osteoporosis ➤ Vertebral fractures & Stress Fractures ➤ Falls in Elderly ➤ Cardio pulmonary Conditions in Elderly 	12
III	<ul style="list-style-type: none"> ➤ Anatomy of Hand ➤ Functions of Hand – Motor & sensory ➤ Hand injuries ➤ Tendon injuries To Evaluate RA Hand. ➤ Disability of Hand. ➤ Special Test for Hand Conditions. ➤ Hand Disability Evaluation ➤ Nerve injury assessment. 	12
IV	<ul style="list-style-type: none"> ➤ Detailed aspects of various conditions ➤ Crush injuries 	12

UNITS	TITLE OF CONTENT	HOURS
	<ul style="list-style-type: none"> ➤ Nerve injuries – leprosy, Burns, Fractures, Joint injuries. ➤ Burns ➤ Rheumatoid Hand ➤ Spastic Hand ➤ Reconstruction and Reimplantation Surgery of Hand <ul style="list-style-type: none"> ➤ Nerve graft ➤ Nerve suture ➤ Neurotization Surgeries. 	
V	<ul style="list-style-type: none"> ➤ General Geriatric Assessment ➤ Fall Assessment ➤ Exercise testing & prescription for geriatric population ➤ To Evaluate the Disability for Geriatric Population ➤ Sensory Assessment for Geriatrics ➤ Balance & Coordination Assessment ➤ Stroke Assessment ➤ Parkinson Assessment ➤ Functional Assessment 	12

RECOMMENDED BOOKS:

1. Textbook of Human Embryology - Rani Kumar K. International Pvt Ltd, 31-Jan-2008 - Embryology, Human.
2. Hand pain & Impairment R. Calliet (F.A.DAVIS & CO)
3. Rehabilitation of Hand surgery, & therapy – Hunter, Mackin, Callahan.
4. Concepts in Hand rehabilitation – Barbar g, Stanley, Sussan M. Tribuzi

JOURNALS:

- 1 Journal of orthopaedics and sports physical therapy
- 2 Journal of American physical therapy

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPT IN ORTHOPAEDICS SEMESTER IV COURSE TITLE PHYSIOTHERAPY TREATMENT STRATEGIES FOR ORTHOPAEDIC BASED GERIATRIC AND HAND CONDITIONS. COURSE CODE:MPT19412							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	4
3	1	-	45	15	-	60	
LEARNING OUTCOMES:							
<ol style="list-style-type: none"> 1. The post graduate student should be able to 2. Identify, discuss & analyze, the Musculoskeletal Dysfunction in terms of Biomechanical, Kinesiology & Biophysical basis & correlate the same with the provisional diagnosis, routine radiological & Electrophysiological investigations & arrive at appropriate Functional diagnosis with clinical reasoning. 3. Perform an appropriate subjective and physical examination, with development of suitable analytical skills to evaluate data obtained 4. Develop clinical reasoning that incorporates theoretical concept with evidence-based practice in the field of musculoskeletal physiotherapy. 5. Document patients with scale, out come measures and asses the progression. 6. Use recent Techniques/ approaches to treat & train patients with musculo-skeletal deficit in children, adults & geriatrics. 7. Impart knowledge for training the under graduate students. 							

UNIT	TITLE OF CONTENT	HOURS
I	<ul style="list-style-type: none"> ➤ Principles of Geriatric Rehabilitation ➤ .Physiotherapy management for Arthritis in Elderly. ➤ .Stroke Rehabilitation 	12
II	<ul style="list-style-type: none"> ➤ Parkinson's rehabilitation ➤ Prescription of Exercises ➤ Fall Prevention ➤ Balance & Coordination training for geriatrics 	12
III	<ul style="list-style-type: none"> ➤ Parkinsons rehabilitation ➤ Prescription of Exercises ➤ Fall Prevention ➤ Balance & Coordination training for geriatrics 	12
IV	<ul style="list-style-type: none"> ➤ Cardiopulmonary deconditioning Exercises ➤ sensory re-education of hand ➤ Functional re-education of hand Management for Stress & Vertebral fractures. ➤ Rehabilitation after tendon reconstruction surgery ➤ Rehabilitation after nerve graft, nerve suture and 	12

UNIT	TITLE OF CONTENT	HOURS
	neurotization surgeries	
V	<ul style="list-style-type: none"> ➤ Principles of different approaches such as maitland, mckenzie, cyriax, kaltenborn, mulligan ➤ Clinical reasoning and different clinical diagnosis based on different approaches such as maitland, mckenzie , cyriax, kaltenborn, mulligan ➤ Neural Mobilization – Buttler Approach. Muscle energy techniques. 	12

RECOMMENDED BOOKS:

1. Hand pain &impairment R.Calliet(F.A.DAVIS & CO)
2. Rehabilitation of hand surgery, & therapy – Hunter , Mackin, Callahan
3. Concepts in hand rehabilitation – Barbarg , Stanley, Sussan m. Tribuzi
4. Vertebral Manipulation - Maitland, G.D. Boston, Butter Worth & Co. Boston 1997.
5. Peripheral Manipulation - Maitland G.D. Boston, Butter worth & Co. Boston 1997.
6. Mechanical Diagnosis and Therapy - Robin Mckenzie.

JOURNALS:

1. Journal of orthopaedics and sports physical therapy
2. Journal of American physical therapy

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSIOTHERAPEUTICS II							
COURSE CODE: MPT19413							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	8	-	-	120	120	
<p>Learning Outcomes: At the end of the practical session the student will be able to</p> <ul style="list-style-type: none"> • Perform the Physical evaluation of Geriatric and musculoskeletal conditions. • Distinguish and Interpret between normal abnormal findings in geriatric musculoskeletal and hand conditions and to perform the differential diagnosis and to arrive at a Physical diagnosis. • Formulate a patient treatment plan and to perform appropriate Physiotherapy techniques on models /patients. 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	Geriatrics assessment, Fall assessment, balance and coordination assessment scales. Assessment of posture, postural dysfunctions, Gait, and its deviations and its management.	28
II	Physiotherapy management for amputations and gait deviations after Amputation. Sensory reeducation, Functional reeducation.	24
III	Orthosis and prosthesis and their prescription frameworks. Orthopaedic implant- Designs, materials, Indications, post-operative assessment and training.	20
IV	Manual therapy-soft tissue manipulations, mobilization, neural mobilization. (Cyriax, Maitland, Butler, McKenzie, Kaltenborn, Mulligan). Advanced physiotherapy management techniques.	28
V	Kinetics and kinematics analysis for various functional activities. Functional assessment for Gait, posture, ADL, Ergonomics..	20

RECOMMENDED BOOKS:

1. Donatelli R. and wooden M.J. Ed Orthopaedic Physical Therapy Churchill, Livingston 1989.

2. Grieve G.P.(ed) Modern Manual Therapy of the Vertebral Column, Churchill, Livingstone, 1986.
3. Grieve G. P. Common Vertebral Joint Problems, 2nd edn Churchill, Livingstone, 1988.
4. Jayson M.I.V. (ed) The Lumbar Spine and Back Pain, 3rd edn Churchill, Livingstone, 1987.
5. Kirkaldy- Willis W. H. (ed) Managing low back pain, 2nd edn Churchill, Livingstone, 1988.
6. Mangine, R.E. Physical Therapy of the Knee, Churchill, Livingstone, 1988.
7. Travell J. G. and Simons, D.G. Myofascial pain and Dysfunction. The Trigger Point manual, Williams and Willkins, 1983.
8. Myofascial Pain & Dysfunction - Travell, Williams & Wilkins, Baltimore, 1983.
9. Physical Therapy of the Low Back - Tuomoy, Churchill, Livingstone, London, 1994.
10. David J. Magee. Orthopedic physical assessment. saunders publication

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECNIQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-IV							
COURSE CODE: MPT19414							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	2
Learning Outcomes:							
By the end of the course, the student should							
<ol style="list-style-type: none"> 1. Collect and analyze the data and/or designing and validating the design; 2. Draw conclusions and give recommendations. 3. Demonstrate an understanding of the ethical issues associated with practitioner research. 							

1. The students have to submit the research project duly signed by the respective Guide and Head of the Institution three months before the University Examination.
2. The research work may be in the form of Reviews, Experimental, Non Experimental, Case series / Case studies

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
50	50	100

UNIVERSITY EXAMINATION

The End semester examination will be conducted with one Internal examiner and one external examiner

WRITTEN EXAMINATION (50 MARKS)

S.NO.	QUESTIONS	MARKS
1	Presentation	25 Marks
2	Viva	25marks

COURSE TITLE : CLINICAL TRAINING -IV							
COURSE CODE: MPT19415							
COURSE CREDIT							
HOURS / WEEK			TOTAL HOURS /SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	15	-	-	225	225	5
Learning Outcomes:							
By end of the course the students will be able to							
1. Demonstrate the assessment techniques of various conditions							
2. Schedule the evidence based protocol for physiotherapy management according to their condition							
3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.							

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

MPT IN NEUROLOGY							
SEMESTER III							
COURSE TITLE BASIC SCIENCES AND NEUROLOGICAL DISORDERS AND ASSESSMENT							
COURSE CODE:MPT19321							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
LEARNING OUTCOMES:							
At the end of the course the post graduate student should be able to							
<ul style="list-style-type: none"> • Demonstrate knowledge of the terms about neurological conditions • Correlate the clinical manifestations to the organ of dysfunction of the nervous system • Understand the conservative & surgical management of the Neurological conditions relevant to Neuro physiotherapy. • Identify common causes of neurological conditions. • Develop a basic knowledge of the educational statementing process and the role of the physiotherapist within framework. • Analyze the key elements of the family-centered practice. • Perform assessment and treatment planning including integration and interpretation of patient problems and effective goal setting. 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	CNS an overview, Growth and development of nervous system, Spinal cord, brainstem. Cerebellum and fourth ventricle Diencephalon and third ventricle Cerebrum, Basal nuclei, Brainstem and its connection, Inferior Colliculi, Epithalamus, Thalamus, Meninges, Internal capsule, Auditory radiation, Pyramidal system, anatomic integration, Neuromuscular, Junction, Extra pyramidal systems Meninges, cerebrospinal fluid and Fluid compartments and fluid balance in the CNS, Reticular formation and limbic system Sensory system, spinal cord and its connection, Autonomic nervous system.	12
II	Peripheral nerves and ganglia, receptors and effectors, dermatomes and muscular activity, functional components and distribution of cranial nerves, Blood supply of the brain, Somatic motor and sensory pathways, Special senses and	12

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	their neural pathways Orientation and Introduction, Physical basis, normal result & common abnormal responses, (in brief) Skull X ray, Computerized Tomography, Magnetic Resonance Imaging, Intracranial Pressure monitoring, Evoked Potentials.EMG/ NCV, Lumbar puncture, Common Laboratory tests in Neurological disorders.	
III	Principles of Paediatric Neurological Assessment, Neural control of locomotion, balance, co-ordination. Evaluation of A.N.S dysfunction with reference to psychophysiological testing. Assessment of Neonatal reflex, Developmental mile stones, High risk infant assessment and intervention Evaluation scales and outcome measures in paediatrics, Musculoskeletal assessment, Developmental and neurological assessment, Assessment of functional capacities.	12
IV	Introduction, etiology, Patho physiology, Clinical presentation, conservative medical management & complications of the following clinical conditions: Congenital & hereditary Disorders, Disorders of cerebral circulation, Head Injury, Spinal Cord Injury, Disorders of Peripheral nerves, Disorders of cranial nerves, Disorders of muscles, Oncology / Hematology, Metabolic and endocrine disorders, Behavioral and learning problems in paediatrics	12
V	General Principles of neurosurgery, Disorders of CSF Fluid & circulation, Cerebral malformations, Spasticity management, Surgical repair of peripheral Nerves, Muscle lengthening/ Release	12

RECOMMENDED BOOKS:

1. Stroke Patient - Principles of Rehabilitation - John Stone (Churchill Livingstone).
2. Motor Relearning Programme for Stroke - Carr & Shephered
3. Adult Hemiplegia: Evaluation and Treatment - Bobath & Bobath
4. Snell's Neuroanatomy: Richard Snell

5. Textbook of Clinical Neuroanatomy: Singh, Vishram
6. Clinical Neurophysiology (Mishra V.K.).
7. The neural basis of motor control by Black I., Churchill , Living stone 1987
8. Neurological Rehabilitation- Darcy Umphred
9. A Jean Ayres, Sensory Integration And The Child- 25th Edition
10. Motor Relearning Programme- Carr And Shepered
11. Physical Therapy For Children- Susan K.Campbell.
12. Pediatric Physical Therapy- Tecklin.
13. Treatment of Cerebral Palsy and Motor Delay- Sofia Levit.
14. Cardio Pulmonary Rehabilitation- Elizabeth Dean

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPT IN NEUROLOGY							
SEMESTER III							
COURSE TITLE NEUROLOGICAL PHYSIOTHERAPY GOAL PLANNING AND MANAGEMENT							
COURSE CODE:MPT19322							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
LEARNING OUTCOMES:							
At the end of the course the post graduate student should be able to							
<ul style="list-style-type: none"> • Recognize the key importance of neurological conditions. • Identify and describe key elements of the acquisition of locomotion skill. • Sensorimotor systems and the processing of sensory informations. • Describe key elements of motor development during infancy such as postural control, transitions between postures, acquisition of upper limb dexterity. • Identify social, economic, environmental, biological and emotional determinants of child. • Formulate a treatment approach to facilitate motor skill acquisition in a child with developmental delay. • Be an effective member of team based approach to patient care and to take a leadership role in the team as appropriate. • Enumerate treatment procedures and management for appropriate conditions. 							

UNITS	TITLE OF CONTENT	HOURS
I	Theories of motor control and theories of motor learning, its application in physiotherapy.	12
II	Neuro-psychological functions. Perception testing and training, Pathophysiology and Management of tonal abnormalities (Spasticity, Rigidity, Hypotonia)	12
III	Physiotherapy in preterm infants, Management of developmental milestones.	12
IV	Clinical decision making for the Management of Paediatric conditions (Neuropathy and Myopathy, Clinical decision making for the Management of Paediatric conditions (Neuropathy and Myopathy)	12
V	Common facilitatory and inhibitory techniques, Treatment approaches in neurological rehabilitation: Bobath, NDT, SI,	

UNITS	TITLE OF CONTENT	HOURS
	Brunnstrom, Roods, Hippotherapy,PNF, Vojta, MRP, Robotics in paediatrics, Evidence for different neurological approaches, MFR Musculoskeletal treatment concept applied to neurology.	

RECOMMENDED BOOKS:

1. Stroke Patient - Principles of Rehabilitation - John Stone (Churchill Livingstone).
2. Motor Relearning Programme for Stroke - Carr & Shepered
3. Adult Hemiplegia: Evaluation and Treatment - Bobath & Bobath
4. Snell's Neuroanatomy: Richard Snell
5. Textbook of Clinical Neuroanatomy: Singh, Vishram
6. Clinical Neurophysiology (Mishra V.K.).
7. The neural basis of motor control by Black I., Churchill , Living stone 1987
8. Neurological Rehabilitation- darcy Umphred
9. A Jean Ayres, Sensory Integration And The Child- 25th Edition
10. Motor Relearning Programme- Carr And Shepered
11. Physical Therapy For Children- Susan K.Campbell.
12. Pediatric Physical Therapy- Tecklin.
13. Treatment of Cerebral Palsy and Motor Delay- Sofia Levit.
14. Cardio Pulmonary Rehabilitation- Elizabeth Dean

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSIOTHERAPEUTICS - I							
COURSE CODE: MPT19323							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	6	-	-	90	90	3
Learning Outcomes:							
At the end of the practical session the student will be able to							
<ul style="list-style-type: none"> • Perform the Physical evaluation of Paediatric Neurological conditions • Distinguish and Interpret between normal abnormal findings in Neurological disorder and to perform the differential diagnosis and to arrive at Physical diagnosis. • Formulate treatment protocol and to perform Physiotherapy management and Neurological physiotherapeutic techniques in neurologically ill Patients 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	Orientation and interpret the Physical basis, normal result & common abnormal responses, (in brief) Skull X ray, Computerized Tomography, Magnetic Resonance Imaging, Intracranial Pressure monitoring, Evoked Potentials.EMG/ NCV, Lumbar puncture, Common Laboratory tests in Neurological disorders	18
II	Evaluation of Neonatal reflex, Assessment scales and outcome measures in pediatrics, musculoskeletal assessment, Developmental and neurological assessment.	18
III	Evaluation of tonal abnormalities (Spasticity, Rigidity, Hypotonic) Various scales and tools	18
IV	Assessment of functional capacities of pediatric and Adult Neurological Disorders. Cranial Nerve Assessment	18
V	Evaluation Of Bladder and Bowel, Balance and Coordination	18

RECOMMENDED BOOKS:

1. Motor Relearning Programme- Carr And Shepered
2. Physical Therapy For Children- Susan K.Campbell.
3. Pediatric Physical Therapy- Tecklin.
4. Treatment of Cerebral Palsy and Motor Delay- Sofia Levit.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECHNIQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-III							
COURSE CODE: MPT19324							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	2
Learning Outcomes:							
By the end of the course, the student							
1. Should complete data collection.							
2. Should tabulate the data collected and perform statistical analysis and interpretation.							

1. The student should undertake data collection systematically according to the research methodology.
2. Tabulate the obtained data and perform statistical analysis and interpretation of the results.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
100	-	100

COURSE TITLE : CLINICAL TRAINING -III							
COURSE CODE: MPT19325							
COURSE CREDIT							
HOURS / WEEK			TOTAL HOURS /SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	15	-	-	225	225	5
Learning Outcomes:							
By end of the course the students will be able to							
<ol style="list-style-type: none"> 1. Demonstrate the assessment techniques of various conditions 2. Schedule the evidence based protocol for physiotherapy management according to their condition 3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization. 							

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

MPT IN NEUROLOGY SEMSTER IV PAPER III COURSE TITLE BASIC SCIENCES AND NEUROLOGICAL DISORDERS AND ASSESSMENT - II COURSE CODE:MPT19421							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
LEARNING OUTCOMES:							
<p>At the end of the course the post graduate student should be able to</p> <ul style="list-style-type: none"> • Articulate their knowledge and understanding in oral and individuals who deliver solving abilities in both the clinical and theoretical aspects of neurology. • Do assessment and treatment planning including integration and interpretation of patient problems. • Perform programming and execution of movement. • Identification of appropriate condition and its diagnostic procedure. • Access and reflect on ethical challenges when caring for neurological patients. • Identify a patient's medical needs and assess barriers in accessing care. 							

UNITS	TITLE OF CONTENT	HOURS
I	<p>I.Motor impairment Assessment; Motor club assessment, Rivermead motor assessment, Motricity index, Trunk control test, Trunk Impairment Scale ,Motor assessment scale, Modified ashworth scale for spasticity, Isometric muscle strength, Motor neuron disease/ Amyotrophic lateral sclerosis, Dynamometer</p> <p>Sensory evaluation ,Coordination evaluation and treatment, Reflex assessment, voluntary control, posture, gait, Basic knowledge of pharmacological drugs in neurological conditions</p> <p>II. Measures of focal disability; Standing balance, Functional ambulation categories, Hauser ambulation index, Timed walking test, Rivermead mobility index, Nine hole peg test, Action research arm test, Franchay arm test</p> <p>Activities of daily living and extended ADL tests; Barthel ADL index, Katz ADL index, Nottingham ten point ADL</p>	12

UNITS	TITLE OF CONTENT	HOURS
	<p>index, Rivermaid ADL scale, Northwick park index of independence in ADL, Kenny self care evaluation, Nottingham extended ADL index, Frenchay activity index</p> <p>III.Cerebro vascular disease: Stroke syndrome, ischaemic stroke infarction, thrombo- embolic stroke, Hemorrhagic stroke, Transient ischaemic attack, arterio- venous malformation of the brain, intracranial hemorrhage, Syringomyelia, multiple sclerosis, myasthenia gravis</p>	
II	<p>Degenerative disease of the brain: Parkinson's disease, motor neurone disease, amyotrophic lateral sclerosis, progressive bulbar palsy, Alzheimer's disease.</p> <p>Polyneuropathy: Post infective Polyneuropathy (gullian bare syndrome) diabetic neuropathy, hereditary sensory neuropathy.</p>	12
III	<p>I.Spinal Cord Injury – Traumatic and Non Traumatic , Disorders of spinal cord: Compression of spinal cord, neoplasm of the vertebral column, inter vertebral disc prolapsed, extra dural or epidural abscess.</p> <p>Analysing and evaluating various levels of spinal cord injuries</p> <p>II.Multiple sclerosis;Kurtzke multiple sclerosis rating scale, An illness severity for multiple sclerosis</p> <p>Stroke scales; Mathew stroke scale,National institute of health stroke scale,Canadian neurological scale, Orgogozo score,hemispheric stroke scale, clinical classification of scale Clinical classification of stroke (Bamford),Allen score for prognosis of stroke,Guy's hospital score for haemorrhage</p> <p>III.Head injury; Galveston orientation and amnesia test, Rappaport disability rating scale</p> <p>Parkinson's disease; Parkinson's disease impairment index, disability index, Hoehn and Yahr Classification , Unified Parkinson's diseases rating scale</p> <p>Spinal cord injury;Frankel's scale, Motor index and sensory indices, American spinal cord injury association assessment chart, Pain assessment and evaluation.</p>	12
IV	<p>Intracranial neoplasms, Gliomas, meningiomas, neuromas, angiomas, cranio, pharyngiomas, pituitary adenomas, medical and surgical</p>	12

UNITS	TITLE OF CONTENT	HOURS
	management, Pyogenic infections of CNS: Meningitis, brain abscess, tuberculosis, neurosyphilis, viral encephalitis, substance sclerosing encephalitis, AIDS Metabolic disorders of brain: Hypoencephalopathy, hypoglycaemic encephalopathy, Hepatic encephalopathy	
V	Disorders of motor unit (Neuromuscular disease), Disorders of muscle (Myopathies), Disorders of the peripheral nervous system, Disorders of the anterior horn cell (Neuronopathies) Other associated manifestations, Abnormalities in communications, Abnormalities in swallowing, Abnormalities of bladder and bowel functions, Learning disorders, Visual dysfunction, Cognitive and perceptual dysfunction	12

RECOMMENDED BOOKS:

1. Stroke Patient - Principles of Rehabilitation - John Stone (Churchill Livingstone).
2. Motor Relearning Programme for Stroke - Carr & Sheperd
3. Adult Hemiplegia: Evaluation and Treatment - Bobath & Bobath
4. Snell's Neuroanatomy: Richard Snell
5. Textbook of Clinical Neuroanatomy: Singh, Vishram
6. Clinical Neurophysiology (Mishra V.K.).
7. The neural basis of motor control by Black I., Churchill, Living stone 1987
8. Neurological Rehabilitation- Darcy Umphred
9. A Jean Ayres, Sensory Integration And The Child- 25th Edition
10. Motor Relearning Programme- Carr And Sheperd
11. Physical Therapy For Children- Susan K.Campbell.
12. Pediatric Physical Therapy- Tecklin.
13. Treatment of Cerebral Palsy and Motor Delay- Sofia Levit.
14. Cardio Pulmonary Rehabilitation- Elizabeth Dean

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPT IN NEUROLOGY							
SEMESTER IV							
COURSE TITLE NEUROLOGICAL PHYSIOTHERAPY GOAL PLANNING AND MANAGEMENT							
COURSE CODE:MPT19422							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
LEARNING OUTCOMES:							
At the end of the course the post graduate student should be able to							
<ul style="list-style-type: none"> • Describe the Mechanisms of plasticity, learning and recovery of function after injury. • Describe the physiology and mechanism behind adult neurological conditions • Description of physical therapy importance in Spinal cord injury. • Description of Higher cortical Functions and their disorders following Brain injury. • Analyze fitness and prescription of exercises for Spinal cord injury population. • Enumerate various recent advanced techniques in adult neurological conditions. 							

UNIT	TITLE OF CONTENT	HOURS
I	Traumatic spinal cord injuries. (ICU management, Coma stimulation, Restoration of motor control, Rehabilitation and community integration), Transfers , Gait training, Complications of high lesion and incomplete spinal lesion. ,Wheel chair and orthotic support system ,Skin care,Spinal cord injury in children ,Sports Rehabilitation for Adult spinal cord injuries.	12
II	Physical therapy management of Traumatic Brain Injury, demyelinating, inflammatory, infectious, degenerative and metabolic diseases of the nervous system, Motor neuron diseases, neuromuscular junction disorders, Brain tumor.	12
III	Cognitive disorders and its rehabilitation, Oromotor rehabilitation, Vestibular disorders and its rehabilitation, Bladder and Bowel dysfunction and its rehabilitation. Rehabilitation following disorders of Special Senses, Speech. Language and Perception. Community based rehabilitation for neurological dysfunction.	12

UNIT	TITLE OF CONTENT	HOURS
IV	Motor learning and motor control training techniques , Functional electrical stimulation Biofeedback methods Learning skills, A.D.L. and functional activities , Aids and appliances in neurological disorders. Prescriptions, Testing and training , Application of Electro physiology and Electro diagnostic procedures in myogenic & neurogenic conditions	12
V	Recent advances in neurological physiotherapy, perceptual, cognitive, vestibular-Rehabilitation Assistive Technologies and its role in Neurorehabilitation.	12

RECOMMENDED BOOKS:

1. Stroke Patient - Principles of Rehabilitation - John Stone (Churchill Livingstone).
2. Motor Relearning Programme for Stroke - Carr & Shepered
3. Adult Hemiplegia: Evaluation and Treatment - Bobath & Bobath
4. Snell's Neuroanatomy: Richard Snell
5. Textbook of Clinical Neuroanatomy: Singh, Vishram
6. Clinical Neurophysiology (Mishra V.K.).
7. The neural basis of motor control by Black I., Churchill , Living stone 1987
8. Neurological Rehabilitation- darcy Umphred
9. A Jean Ayres, Sensory Integration And The Child- 25th Edition
10. Motor Relearning Programme- Carr And Shepered
11. Physical Therapy For Children- Susan K.Campbell.
12. Pediatric Physical Therapy- Tecklin.
13. Treatment of Cerebral Palsy and Motor Delay- Sofia Levit.
14. Cardio Pulmonary Rehabilitation- Elizabeth Dean

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSIOTHERAPEUTICS II							
COURSE CODE: MPT19423							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	8	-	-	120	120	4
LEARNING OUTCOMES:							
At the end of the practical session the student will be able to							
<ul style="list-style-type: none"> • Perform the Physical evaluation of Adult Neurological conditions • Distinguish and Interpret between normal abnormal findings in Neurological disorder and to perform the differential diagnosis and to arrive at Physical diagnosis. • Formulate treatment protocol and to perform Physiotherapy management and advanced Neurological physiotherapeutic techniques in neurologically ill Patients 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	Evaluation of Motor impairment , Sensory Assessment, Assessment Motor control	24
II	Evaluation of Hemiplegic, Neuromuscular Junction Disorders, Conditions.	24
III	Evaluation and Assessment of Traumatic Brain Injury ,Multiple Sclerosis	24
IV	Evaluation of levels of Spinal cord Injury, Aids and Appliances used in adults and Paediatric Neurological conditions	24
V	Interpret the Electro diagnostic procedures in myogenic & neurogenic conditions	24

RECOMMENDED BOOKS:

1. Stroke Patient - Principles of Rehabilitation - John Stone (Churchill Livingstone).
2. Motor Relearning Programme for Stroke - Carr & Shepherd
3. Adult Hemiplegia: Evaluation and Treatment - Bobath & Bobath

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL

30	70	100
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**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECHNIQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-IV							
COURSE CODE: MPT19424							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	2
Learning Outcomes:							
By the end of the course, the student should							
1. Collect and analyze the data and/or designing and validating the design;							
2. Draw conclusions and give recommendations.							
3. Demonstrate an understanding of the ethical issues associated with practitioner research							

1. The students have to submit the research project duly signed by the respective Guide and Head of the Institution three months before the University Examination.
2. The research work may be in the form of Reviews, Experimental, Non Experimental, Case series / Case studies

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
50	50	100

UNIVERSITY EXAMINATION

The End semester examination will be conducted with one Internal examiner and one external examiner

WRITTEN EXAMINATION (50 MARKS)

S.NO.	QUESTIONS	MARKS
1	Presentation	25 Marks
2	Viva	25marks

COURSE TITLE : CLINICAL TRAINING -IV							
COURSE CODE: MPT19425							
COURSE CREDIT							
HOURS / WEEK			TOTAL HOURS /SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	15	-	-	225	225	5
Learning Outcomes:							
By end of the course the students will be able to							
1. Demonstrate the assessment techniques of various conditions							
2. Schedule the evidence based protocol for physiotherapy management according to their condition							
3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.							

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

**MPT IN SPORTS PHYSIOTHERPHY
SEMESTER III**

COURSE TITLE: SPORTS PHYSIOTHERAPY ASSESSMENT FOR UPPER AND LOWER QUADRANT							
COURSE CODE: MPT19331							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
Learning Outcomes:							
At the end of the course the Post graduate student will be able to							
<ul style="list-style-type: none"> ➤ Demonstrate sufficient understanding of knowledge in sports physiotherapy. ➤ Take history from the patient, perform relevant on field examination. ➤ Perform assessment of players with upper and lower quadrant injuries. ➤ Master Self directed learning, recognizing continuous educational needs, use appropriate learning resources and critically analyze relevant published literature in order to practice evidence based physiotherapy. ➤ Understand recent advances in the speciality and carry out efficient management for all types of sports emergency and thus train the sports persons for the events and injury prevention. ➤ Apply evidence based knowledge to patient management of upper and lower quadrant. ➤ Appreciate the importance of the team approach to patient management. 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING LEARNING
I	<ul style="list-style-type: none"> ➤ Shoulder complex assessment. ➤ Elbow complex assessment. ➤ Wrist & Hand complex Assessment. 	12
II	<ul style="list-style-type: none"> ➤ Assessment and diagnosis of Hip. ➤ Assessment and diagnosis of Knee. 	12
III	<ul style="list-style-type: none"> ➤ Injuries to Patella. ➤ Repeated strain injury to knee complex. ➤ Injuries to lower leg and ankle. 	12
IV	<ul style="list-style-type: none"> ➤ Common running injuries ➤ Hip ➤ Knee ➤ Ankle & Foot 	12
V	<ul style="list-style-type: none"> ➤ Swimming injuries. 	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING LEARNING
	<ul style="list-style-type: none"> ➤ Cycling injuries. ➤ Common running injuries. 	

RECOMMENDED BOOKS:

1. Clinical Sports Medicine by Peter Brukner and Karim Khan.4th edition.
2. Sports Injury, Assessment & Rehabilitation David C. Reid.
3. Exercise Physiology - Mc Ardle Katch, Katch.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPT IN SPORTS PHYSIOTHERPHY

SEMESTER III							
COURSE TITLE Sports Physiotherapy Treatment for Upper and Lower Quadrant COURSE CODE:MPT19332							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDIT S
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
<p>Learning Outcomes: At the end of the course the Post graduate student will be able to</p> <ul style="list-style-type: none"> ➤ Take history from the patient, perform relevant on field examination and plan the physiotherapy management for the benefit of the sports persons. ➤ Plan physiotherapy management for athletes with upper and lower quadrant injuries. ➤ Be a self directed learner, recognize continuing educational needs, use appropriate learning resources, and critically analyze relevant published literature in order to practice evidence based physiotherapy. Understand recent advances in the speciality and carry out efficient management for all types of sports emergency and thus train the sports persons for the events and injury prevention. ➤ Apply evidence based knowledge to patient management ➤ Appreciate the importance of the team approach to patient management 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING / LEARNING
I	<ul style="list-style-type: none"> ➤ Functions of Hand. ➤ Common Upper Limb Injuries and Rehabilitation. ➤ DOPING and Steroids in Sports. ➤ DOPING Test. 	12
II	<ul style="list-style-type: none"> ➤ Shoulder complex Injury & Rehab. ➤ Elbow complex Injury & Rehab. ➤ Wrist & Hand complex Injuries & Rehab. 	12
III	<ul style="list-style-type: none"> ➤ Different types of foot. ➤ Rehabilitation of Hip. ➤ Rehabilitation of Knee. ➤ Ankle and foot Rehab. 	12
IV	<ul style="list-style-type: none"> ➤ Basic life support and Advance Life Support. ➤ Automated External Defibrillator. ➤ Rules – Regulations of individual sports and Track Events. ➤ On field Decision Making for sports Injuries. 	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING / LEARNING
V	<ul style="list-style-type: none"> ➤ Ortho kinetic & Ortho kinematic of lower limb. ➤ Concepts of motor control. ➤ Fitness Activity and sports supplement intake ➤ Sports Nutrition and Diet 	12

RECOMMENDED BOOKS

1. Clinical Sports Medicine by Peter Brukner and Karim Khan.4th edition.
2. Sports Injury, Assessment & Rehabilitation David C. Reid.
3. Exercise Physiology - Mc Ardle Katch, Katch.
4. Kinesiology of the Human Body under normal and pathological conditions Arthur Steindler.
5. Sports Medicine: Prevention Evaluation Management and Rehabilitation. Steven Roy.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE							
PHYSIOTHERAPEUTICS-I							
COURSE CODE:MPT19333							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	6	-	-	90	90	3
Learning Objectives:							
At the end of the session the student will be able to							
<ul style="list-style-type: none"> • Perform the physical evaluation of sports injuries. • Distinguish and interpret between normal and abnormal findings in sports injury conditions and to perform the differential diagnosis and arrive at a physical diagnosis. • Formulate a patient treatment plan and training protocol and to perform appropriate physiotherapy management techniques on models / patients. 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING LEARNING
I	Sports Physiotherapy Practical for Upper and Lower Quadrant 1. Shoulder complex Rehabilitation. 2. Elbow complex Rehabilitation. 3. Wrist & Hand complex Rehabilitation.	18
II	1. Hip injury Rehabilitation. 2. Knee injury Rehabilitation.	18
III	1. Analysis the different types of foot abnormality. 2. Rehabilitation for common sports injuries. 3. Rehabilitation for foot ball players injuries 4. Ankle and foot Rehabilitation.	18
IV	1. Advance sports specific exercise protocol. 2. Pain Management. 3. Rehabilitation protocol for common running injuries. 4. Treatment plan for On field sports Injuries.	18
V	1. Flexibility Test for Upper limb. 2. Flexibility Test for Upper limb 3. Upper limb Plyometrics. 4. Upper limb Plyometrics.	18

RECOMMENDED BOOKS

1. Clinical Sports Medicine by Peter Brukner and Karim Khan.4th edition.
2. Sports Injury, Assessment & Rehabilitation David C. Reid.
3. Exercise Physiology - Mc Ardle Katch, Katch.
4. Kinesiology of the Human Body under normal and pathological conditions Arthur Steindler.
5. Sports Medicine: Prevention Evaluation Management and Rehabilitation. Steven Roy.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECNQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-III							
COURSE CODE: MPT19334							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	2
Learning Outcomes:							
By the end of the course, the student							
<ol style="list-style-type: none"> 1. Should complete data collection. 2. Should tabulate the data collected and perform statistical analysis and interpretation. 							

1. The student should undertake data collection systematically according to the research methodology.
2. Tabulate the obtained data and perform statistical analysis and interpretation of the results.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
100	-	100

COURSE TITLE : CLINICAL TRAINING -III								
COURSE CODE: MPT19335								
COURSE CREDIT								
HOURS / WEEK			TOTAL HOURS /SEMESTER					CREDITS
L	T	P	L	T	P	TOTAL		
-	-	15	-	-	225	225		5
Learning Outcomes:								
By end of the course the students will be able to								
1. Demonstrate the assessment techniques of various conditions								
2. Schedule the evidence based protocol for physiotherapy management according to their condition								
3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.								

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

MPT IN SPORTS PHYSIOTHERPHY

SEMESTER IV							
COURSE TITLE SPORTS PHYSIOTHERAPY ASSESSMENT FOR SPINE AND PELVIS							
COURSE CODE:MPT19431							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
Learning Oucomes:							
At the end of the course the Post graduate student will be able to							
<ul style="list-style-type: none"> ➤ Demonstrate sufficient understanding of knowledge in sports physiotherapy. ➤ Take history from the patient, perform relevant on field examination and plan the physiotherapy management for the benefit of the sports persons. ➤ Perform assessment of players with spine and pelvic conditions and injuries. ➤ Recognize continuing educational needs, use appropriate learning resources, and critically analyze relevant published literature in order to practice evidence based physiotherapy. Understand recent advances and carry out efficient management for all types of sports emergency and thus train the sports persons for the events and injury prevention. ➤ Critically analyze relevant published research literature and use them appropriately to influence sports physiotherapy practice. ➤ Do critical thinking, problem solving and analytical skills, good written and verbal communication with patients and other health professionals. 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING LEARNING
I	➤ Assessment of Core stability and motor control in the sport activities in involving spine	12
II	➤ Analyses of Patho-Mechanics of injury of spine and pelvis and develop screening and plan preventing and conditioning programs.	12
III	<ul style="list-style-type: none"> ➤ Analysis of Exercise physiology and prevention of athletic injuries. ➤ Planning the sports specific Warm up and cool down protocol. 	12
IV	➤ Assessment for Special groups: Physiotherapy management for female, disabled, younger & older athlete.	12
V	<ul style="list-style-type: none"> ➤ Assessment for Neural mobilization ➤ Assessment for Trigger release. 	12

RECOMMENDED BOOKS

1. Sports Medicine: Prevention Evaluation Management and Rehabilitation. Steven Roy.

2. Clinical Sports Medicine by Peter Brukner and Karim Khan.4th edition.
3. Sports Injury, Assessment & Rehabilitation David C. Reid.
4. Exercise Physiology - Mc Ardle Katch, Katch.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPT IN SPORTS PHYSIOTHERPHY

SEMESTER IV							
COURSE TITLE SPORTS PHYSIOTHERAPY TREATMENT FOR SPINE AND PELVIS							
COURSE CODE: MPT19432							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
<p>Learning outcomes: At the end of the course the Post graduate student will be able to</p> <ul style="list-style-type: none"> ➤ Demonstrate sufficient understanding of knowledge in sports physiotherapy. ➤ Understand recent advances in this speciality and carry out efficient management for all types of sports emergency and thus train the sports persons for the events and injury prevention. ➤ Critically analyze relevant published research literature and use them appropriately to influence sports physiotherapy practice. ➤ Do critical thinking, problem solving and analytical skills, using good written and verbal communication with patients and other health professionals. ➤ Apply evidence based knowledge to patient management of spine and pelvic conditions and injuries. ➤ Appreciate the importance of the team approach to patient management 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING LEARNING
I	<ul style="list-style-type: none"> ➤ Applied anatomy and biomechanics of sports injury in the lumbar spine pelvis, hip and groin. ➤ Biomechanics of sports injuries in distance running, sprinting, jumping, rowing, football, skiing, court sports and cycling. ➤ Test for individual sports performance ➤ Sports Specific Drills 	12
II	<ul style="list-style-type: none"> ➤ Specific physiotherapy for injuries including manual therapy and exercise for rehabilitation ➤ Therapeutic modalities and procedure. ➤ Sports Rehabilitation for special peoples and Geriatrics populations ➤ Types of sports ground Flooring 	12
III	<ul style="list-style-type: none"> ➤ Productive and supportive equipments. ➤ Emergency care and first aid. ➤ Taping and strapping Techniques ➤ Kinesiology Taping Techniques 	12
IV	<ul style="list-style-type: none"> ➤ Treatment of athletic injuries. ➤ Sports Massage, Sports Psychology 	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING LEARNING
	➤ Female Athletic Triad	
V	<ul style="list-style-type: none"> ➤ Injury rehabilitation-goals, types of exercise and special forms of exercise. ➤ Special groups: Physiotherapy management for female, disabled, younger & older athlete. ➤ Upper Limb and Lower Limb Manipulation and Mobilization Techniques ➤ Spin and Pelvis Manipulation and Mobilization Techniques 	12

RECOMMENDED BOOKS

1. Clinical Sports Medicine by Peter Brukner and Karim Khan.4th edition.
2. Sports Injury, Assessment & Rehabilitation David C. Reid.
3. Exercise Physiology - Mc Ardle Katch, Katch.
4. Kinesiology of the Human Body under normal and pathological conditions Arthur Steindler.
5. Sports Medicine: Prevention Evaluation Management and Rehabilitation. Steven Roy.
6. Sports Injury, Assessment & Rehabilitation David C. Reid.
7. Exercise Physiology - Mc Ardle Katch, Katch.
8. Kinesiology of the Human Body under normal and pathological conditions Arthur Steindler.
9. Sports Medicine: Prevention Evaluation Management and Rehabilitation. Steven Roy

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE :							
PHYSIOTHERAPEUTICS-II							
COURSE CODE: MPT19433							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	6	-	-	90	90	3
LEARNING OUTCOMES:							
At the end of the session the student will be able to							
<ul style="list-style-type: none"> • Perform the physical evaluation of sports injuries. • Distinguish and interpret between normal and abnormal findings in sports injury conditions and to perform the differential diagnosis and arrive at a physical diagnosis. • Formulate a patient treatment plan and training protocol and to perform appropriate physiotherapy management techniques on models / patients. 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING LEARNING
I	SPORTS PHYSIOTHERAPY PRACTICAL FOR SPINE AND PELVIS 1. Assessment and treatment Protocol sports injury in the lumbar spine pelvis, hip and groin. 2. Assessment and treatment Protocol sports injuries in distance running, sprinting, jumping, rowing, football, skiing, court sports and cycling. 3. Special Test for individual sports Injuries. 4. Sports Specific Treatment for Spine and Pelvis.	24
II	1. Specific physiotherapy manual therapy and exercise rehabilitation. 2. Therapeutic modalities and procedure. 3. Sports Rehabilitation for special peoples and Geriatrics populations 4. Clinical assessment and rationale of radiological investigations along with differential diagnosis.	24
III	1. Analysis and classification of sports and sports specific injuries and its management. 2. Demonstrate Tapping and strapping Techniques 3. Demonstrate Kinesiology Taping Techniques	24
IV	1. Treatment planning of common athletic injuries. 2. Demonstrate Sports Massage, Sports Psychology	24

UNITS	TITLE OF CONTENT	HOURS OF TEACHING LEARNING
	3. Sports fitness.	
V	1. Posture Analysis. 2. Post operative Management and Re training 3. Muscle energy Techniques 4. Demonstrate Spin and Pelvis Manipulation and Mobilization Techniques	24

RECOMMENDED BOOKS

1. Clinical Sports Medicine by Peter Brukner and Karim Khan.4th edition.
2. Sports Injury, Assessment & Rehabilitation David C. Reid.
3. Exercise Physiology - Mc Ardle Katch, Katch.
4. Kinesiology of the Human Body under normal and pathological conditions Arthur Steindler.
5. Sports Medicine: Prevention Evaluation Management and Rehabilitation. Steven Roy.
6. Sports Injury, Assessment & Rehabilitation David C. Reid.
6. Exercise Physiology - Mc Ardle Katch, Katch.
7. Kinesiology of the Human Body under normal and pathological conditions Arthur Steindler.
8. Sports Medicine: Prevention Evaluation Management and Rehabilitation. Steven Roy

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

UNIVERSITY EXAMINATION PRACTICAL EXAMINATION (70 MARKS)

S.NO.	TECNIQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-IV							
COURSE CODE: MPT19434							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	2
Learning Outcomes:							
By the end of the course, the student should							
1. Collect and analyze the data and/or designing and validating the design;							
2. Draw conclusions and give recommendations.							
3. Demonstrate an understanding of the ethical issues associated with practitioner research.							

1. The students have to submit the research project duly signed by the respective Guide and Head of the Institution three months before the University Examination.
2. The research work may be in the form of Reviews, Experimental, Non Experimental, Case series / Case studies

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
50	50	100

UNIVERSITY EXAMINATION

The End semester examination will be conducted with one Internal examiner and one external examiner

WRITTEN EXAMINATION (50 MARKS)

S.NO.	QUESTIONS	MARKS
1	Presentation	25 Marks
2	Viva	25marks

COURSE TITLE : CLINICAL TRAINING -IV								
COURSE CODE: MPT19435								
COURSE CREDIT								
HOURS / WEEK			TOTAL HOURS /SEMESTER					CREDITS
L	T	P	L	T	P	TOTAL		
-	-	15	-	-	225	225		5
Learning Outcomes:								
By end of the course the students will be able to								
1 Demonstrate the assessment techniques of various conditions								
2 Schedule the evidence based protocol for physiotherapy management according to their condition								
3 Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.								

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

MPT IN CARDIOPULMONARY SCIENCES

SEMESTER - III							
COURSE TITLE: FUNDAMENTALS AND ASSESSMENT OF CARDIOPULMONARY CONDITIONS							
COURSE CODE: MPT19341							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDIT S
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
Learning Outcomes:							
<ol style="list-style-type: none"> 1. At the end of the semester, the post graduate student should be able to 2. Associate the anatomy and physiology of the cardiorespiratory and vascular systems with the disorders affecting the systems. 3. Perform patient assessment and evaluate the cardiorespiratory and vascular conditions on the basis of appropriate principles. 4. Interpret relevant laboratory, radiological and cardio respiratory investigations. 5. Synthesize the clinical presentation of various cardiorespiratory and vascular conditions and apply in the patient evaluation. 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING LEARNING
I	<ol style="list-style-type: none"> 1. Development of cardio-vascular, pulmonary system, difference between adult and pediatric system 2. Anatomy, physiology of cardiovascular, pulmonary systems 3. Physiology of microcirculation and oedema 4. Applied anatomy of respiratory muscle 5. Respiratory muscle physiology 6. Breathing mechanism in normal and diseased 7. Applied anatomy of cardio-vascular and pulmonary system 8. Applied physiology of cardio-vascular and pulmonary system 	12
II	<ol style="list-style-type: none"> 1. Normal and abnormal responses of cardiovascular and pulmonary system during rest and exercise. 2. Exercise physiology compared with abnormal exercise physiology 3. Age related changes in cardiovascular and pulmonary system 4. Oxygen transport system 	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING LEARNING
	5. Cardiovascular and pulmonary manifestations of systemic conditions	
III	1. Clinical evaluation and assessment of cardiovascular and respiratory dysfunction 2. Skills of physiotherapeutic function, measurement and documentation 3. SOAP format 4. History taking 5. Cardinal signs 6. Inspection, Palpation 7. Percussion 8. Auscultation relevant to cardiopulmonary sciences Basic principles and concepts of 1. Pulmonary Function tests 2. Arterial blood gas analysis 3. Imaging of the heart 4. Electrocardiogram identification 5. Multisystem assessment and laboratory investigations 6. Outcome measures: Functional performance- 2MWT, 3MWT, 6MWT, 12MWT, modified shuttle test, step test, Quality of life measures	12
IV	Review of cardiopulmonary disease: Medical and surgical management 1. COPD 2. Restrictive Lung Disorder 3. Supportive lung disease 4. Occupational lung disease 5. Chest wall deformities 6. Lung cancer 7. Sleep apnoea 8. Pleural diseases 9. Neuromuscular and other diseases of chest wall	12
V	Review of cardiovascular conditions- medical and surgical management 1. Congenital heart diseases 2. Acquired heart disease 3. Coronary artery disease 4. Systemic Hypertension 5. Diseases of myocardium	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING LEARNING
	6. Pericardial disease 7. Tumors of the heart 8. Peripheral Vascular Disorders	

RECOMMENDED BOOKS

- Cardio pulmonary physical therapy by Scott Irwin
- Cardiovascular and Pulmonary Physical Therapy- Evidence to Practice- Donna Frownfelter, PT,
- Webber B and Pryor J (2008) Physiotherapy for respiratory and cardiac problems. Churchill Livingstone, London. ISBN 0-443-04471-6
- Cardiopulmonary Rehabilitation - Barbara.
- Egan's Fundamentals of Respiratory care by Robert Wilkins

JOURNAL

1. American physical therapy Association journal Journal of chartered society of physiotherapy
2. Physiotherapy (Canada).

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPT IN CARDIOPULMONARY SCIENCES

SEMESTER – III							
COURSE TITLE: ADVANCED TREATMENT STRATEGIES FOR CARDIOPULMONARY CONDITIONS							
COURSE CODE: MPT19342							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
Learning Outcomes:							
At the end of the semester, the post graduate student should be able to							
<ol style="list-style-type: none"> Analyse and apply appropriate evidence based chest physical therapy techniques to patients suffering from various cardiorespiratory and vascular disorders. Evaluate, synthesize and create appropriate pulmonary and cardiac rehabilitation protocol for individual patients. Evaluate, synthesize and create appropriate cardiovascular and pulmonary physical therapy protocol for special patients like the infant, children, elderly, and hyperventilation patients. 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING LEARNING
I	<ol style="list-style-type: none"> Maximising outcomes: Relating interventions to an individual's needs Mobilization and exercise: Physiological basis for assessment, evaluation and training Body positioning and various systemic changes Airway Pharmacology Airway clearance techniques- Principles, Indications and Contraindications of chest physiotherapy techniques <ol style="list-style-type: none"> Active cycle of breathing technique Postural drainage Percussion Vibration and shaking Manual hyperinflation Autogenic drainage Positive expiratory pressure High -frequency chest wall oscillation Intrapulmonary Percussive ventilation Acoustic airway clearance 	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING LEARNING
	11. Suctioning	
II	Facilitating airway clearance with coughing techniques <ol style="list-style-type: none"> 1. Cough pump 2. Complications 3. Cough evaluation 4. Assisted coughing techniques Facilitating ventilator patterns and breathing strategies <ol style="list-style-type: none"> 1. Positioning concerns 2. Breathing exercises 3. Teaching breathing control to patients with primary and secondary pulmonary dysfunction 4. Diaphragm and posture 5. Repatterning technique 6. Mobilizing the thorax 7. Facilitating accessory muscles in ventilation Physiotherapy to increase lung volume <ol style="list-style-type: none"> 1. Lung expansion therapy 2. Incentive spirometry 3. Continuous positive airway pressure 4. Intermittent positive pressure breathing Physiotherapy to decrease the work of breathing <ol style="list-style-type: none"> 1. Handling breathlessness 2. Relaxed positions, relaxation 3. Breathing reeducation 4. Exercise and pacing 5. Non invasive ventilation Adjuncts to chest physiotherapy <ol style="list-style-type: none"> 1. Aerosol therapy 2. Nebulization 3. Humidification 	12
III	<ol style="list-style-type: none"> 1. Respiratory muscle fatigue 2. Respiratory muscle training- Assessment, training methods in health and disease 3. Cardiovascular and pulmonary physical therapy- Acute medical and surgical conditions 4. Cardiovascular and pulmonary physical therapy- chronic medical and surgical conditions 	12
IV	Pulmonary Rehabilitation <ol style="list-style-type: none"> 1. Goals and outcomes 	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING LEARNING
	2. Structure 3. Patient evaluation procedures 4. Treatment intervention 5. Physical conditioning 6. VO2 Max Assessment 7. Skeletal muscle dysfunction evaluation 8. Effects of Pulmonary Rehabilitation- long term and short term effects on respiratory system Cardiac rehabilitation- phases, 1. Standards for cardiac rehabilitation 2. Inpatient programs 3. Hospital and home based programs 4. Community based programs 5. Exercise prescription 6. Patient education 7. Beneficial effects of aerobic exercise for patients with CAD	
V	Cardiovascular and pulmonary physical therapy- Special cases 1. Infants and children 2. Hyperventilation syndrome 3. Elderly people with cardiorespiratory disease 4. Palliative respiratory physiotherapy 5. PVD Rehabilitation 6. Chest trauma-Management 7. The transplant patient 8. Body mechanics: positioning and moving patients	12

RECOMMENDED BOOKS

1. Cardio pulmonary physical therapy by Scott Irwin
2. Cardiovascular and Pulmonary Physical Therapy- Evidence to Practice- Donna Frownfelter, PT,
3. Hough's Cardiorespiratory care, 5th edition- Alexandra Hough
4. Heart disease and rehabilitation- Michael L. Pollock, Donald H. Schmidt
5. Egan's Fundamentals of Respiratory care by Robert Wilkins
6. Essentials of cardiopulmonary physical therapy, 4th edition- Ellen Hillegass

JOURNALS

1. Physiotherapy (Canada)
2. Journal of sports Journal of chartered society of physiotherapy
3. Archives of environmental health
4. Cardiopulmonary physical therapy

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSIOTHERAPEUTICS I							
COURSE CODE: MPT19343							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	6	-	-	90	90	3
Learning Outcomes:							
At the end of the semester, the post graduate student should be able to							
1 Associate the anatomy and physiology of the cardiorespiratory and vascular systems with the disorders affecting the systems.							
2 Perform patient assessment and evaluate the cardiorespiratory and vascular conditions on the basis of appropriate principles.							
3 Interpret relevant laboratory, radiological and cardio respiratory investigations.							
4 Synthesize							
5 the clinical presentation of various cardiorespiratory and vascular conditions and plan appropriate physiotherapy techniques/ care on the model/ patient.							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	1. Assessment of cardio-vascular, pulmonary system- History, Vital signs, Inspection, Palpation, Percussion and Auscultation. 2. Investigations- Chest X-ray, Pulmonary Function Test, Arterial Blood gas analysis, Electrocardiogram, Multisystem assessment and laboratory investigations, ECHO 3. Demonstration of various Outcome measures: Functional performance- 2MWT, 3MWT, 6MWT, 12MWT, modified shuttle test, step test, Quality of life measures 4. Goal setting-Short term and long term	18
II	1. Explain Breathing exercises, Relaxed positions, Teaching breathing control to patients with primary and secondary pulmonary dysfunction, Re-patterning technique, Facilitation ventilatory patterns and demonstrate-Positioning concerns 2. Mobilization of thorax 3. Demonstrate techniques to increase lung volume and to decrease the work of breathing	18
III	Demonstration of Airway clearance techniques 1. Active cycle of breathing technique 2. FET 3. Assisted coughing technique	18

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
	4. Postural drainage 5. Percussion 6. Vibration and shaking 7. Manual hyperinflation 8. Autogenic drainage 9. Positive expiratory pressure 10. High -frequency chest wall oscillation 11. Intrapulmonary Percussive ventilation 12. Incentive spirometry 13. Flutter 14. Acapella 15. RC-cornet Demonstration of Various aerosol therapy and Nebulization methods	
IV	1. Pulmonary Rehabilitation- Assessment, and exercise prescription and physiotherapy management of various pulmonary conditions	18
V	1. Cardiac rehabilitation- Assessment, and exercise prescription and physiotherapy management of various cardiac conditions 2. Assessment and management of peripheral vascular system	18

RECOMMENDED BOOKS

1. Cardio pulmonary physical therapy by Scott Irwin
2. Cardiovascular and Pulmonary Physical Therapy- Evidence to Practice- Donna Frownfelter, PT,
3. Webber B and Pryor J (2008) Physiotherapy for respiratory and cardiac problems. Churchill Livingstone, London. ISBN 0-443-04471-6
4. Cardiopulmonary Rehabilitation - Barbara.
5. Egan's Fundamentals of Respiratory care by Robert Wilkins

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

UNIVERSITY EXAMINATION PRACTICAL EXAMINATION (70 MARKS)

S.NO.	TECHNIQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-III							
COURSE CODE: MPT19344							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	2
Learning Outcomes:							
By the end of the course, the student							
<ol style="list-style-type: none"> 1. Should complete data collection. 2. Should tabulate the data collected and perform statistical analysis and interpretation. 							

1. The student should undertake data collection systematically according to the research methodology.
2. Tabulate the obtained data and perform statistical analysis and interpretation of the results.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
100	-	100

COURSE TITLE : CLINICAL TRAINING -III							
COURSE CODE: MPT19345							
COURSE CREDIT							
HOURS / WEEK			TOTAL HOURS /SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	15	-	-	225	225	5
Learning Outcomes:							
By end of the course the students will be able to							
1. Demonstrate the assessment techniques of various conditions							
2. Schedule the evidence based protocol for physiotherapy management according to their condition							
3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.							

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

MPT IN CARDIOPULMONARY SCIENCES

SEMESTER IV

COURSE TITLE: ACUTE CARDIORESPIRATORY PRACTICE							
COURSE CODE:MPT19441							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
Learning Outcomes:							
At the end of the semester, the post graduate student should be able to							
1. Analyse and apply appropriate evidence based chest physical therapy techniques to patients suffering from various cardiorespiratory and vascular disorders in the Intensive care unit.							
3. Monitor, evaluate and synthesize the information derived from the various monitoring systems, ventilators and equipments in the ICU.							
4. Develop understanding and working knowledge of the sophisticated and routine equipments and emergency procedures used in Cardio Respiratory patients.							
5. Assess, respond and resuscitate individuals suffering from cardiorespiratory arrest.							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	Comprehensive management of individuals in the intensive care unit 1. Specialised expertise of ICU physiotherapist 2. Goals and general basis of management 3. Treatment prescription in the ICU 4. Non clinical aspects of the management of the patient in the ICU 5. End-of – life issues Emergency cardiovascular Life support 1. Causes and prevention of sudden death 2. Basic Life Support 3. Advanced Cardiovascular Life Support	12
II	Airway management 1. Suctioning 2. Establishing an artificial airway 3. Airway maintenance 4. Extubation or decannulation 5. Bronchoscopy Medical gas therapy 1. Oxygen therapy 2. Hyperbaric Oxygen therapy	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
	3. Other Medical gas therapies	
III	<p>Monitoring the patient in ICU</p> <ol style="list-style-type: none"> 1. Principles of monitoring 2. Pathophysiology and monitoring 3. Monitoring of various systems 4. Holter monitoring 5. Trouble shooting <p>Mechanical ventilators</p> <ol style="list-style-type: none"> 1. Physiology of ventilator support 2. Initiating and adjusting invasive ventilator support 3. Modes of ventilation 4. Discontinuing ventilator support <p>Non invasive ventilation</p> <ol style="list-style-type: none"> 1. History and development 2. Indications 3. Selecting appropriate patients 4. Equipments used 5. Management and complications 	12
IV	<p>Intensive care management of individuals with primary cardiovascular and pulmonary dysfunction</p> <ol style="list-style-type: none"> 1. Cardiovascular and pulmonary failure 2. Obstructive lung disease 3. Status asthmaticus 4. Restrictive lung disease 5. Myocardial Infarction 6. Open heart surgery 	12
V	<p>Intensive care management of individuals with secondary cardiovascular and pulmonary dysfunction</p> <ol style="list-style-type: none"> 1. Neuromuscular conditions 2. Obesity 3. Musculoskeletal trauma 4. Head injury 5. Spinal cord injury 6. Burns 7. Organ transplantation 	12

RECOMMENDED BOOKS

1. Cardio pulmonary physical therapy by Scott Irwin
2. Cardiovascular and Pulmonary Physical Therapy- Evidence to Practice- Donna Frownfelter, PT,
3. Webber B and Pryor J (2008) Physiotherapy for respiratory and cardiac problems. Churchill Livingstone, London. ISBN 0-443-04471-6
4. Chest physiotherapy in the intensive care unit-Colin F. Mackenzie, P. Cristina Imle
5. Egan's Fundamentals of Respiratory care by Robert Wilkins

JOURNALS

1. Physical therapy (CANADA)
2. American physical therapy Association journal
3. Journal of Chartered society of physiotherapists.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPT IN CARDIOPULMONARY SCIENCES

SEMESTER IV							
COURSE TITLE: FITNESS AND HEALTH PROMOTION							
COURSE CODE: MPT19442							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
Learning Outcomes:							
At the end of the semester the post graduate student should be able to							
1. Analyse, interpret and evaluate normal people in community for their general overall fitness.							
2. Analyse interpret and evaluate patients for their general fitness							
3. Plan appropriate fitness counselling depending upon individual variations.							
4. Develop awareness and contribute in reach outs for health promotion in the community.							

UNITS.	TITLE OF CONTENT	HOURS OF TEACHING / LEARNING
I	1. Normal and abnormal responses of cardiovascular and pulmonary system during rest and exercise. 2. Exercise physiology compared with abnormal exercise physiology 3. Patient evaluation, low level exercise testing, maximal exercise testing 4. Programme planning and implementation – principles	12
II	FITNESS: 1. Fitness-Definition, types and classification. 2. Scientific basics of exercise programs. 3. Factors affecting fitness (genetic, hereditary, diseases progression occupational stress). 4. Benefits of fitness training	12
III	PRINCIPLES AND METHODS OF FITNESS TESTING 1 Testing principles in different population-trained and untrained 2 Various testing methods-Reliability, validity, cross-cultural variations 3 Interpretation of tests and prescription considerations	12
IV	PRINCIPLES AND METHODS OF FITNESS TRAINING Exercise prescription for health promotion 1. Training principles-FITT, overload, specificity,	12

UNITS.	TITLE OF CONTENT	HOURS OF TEACHING / LEARNING
	progression 2. Training methods-aerobic/anaerobic, continuous/ interval, low/high intensity, plyometrics, circuit training, fartlek training 3. Selection, application and progression in each method of training	
V	NUTRITION AND FITNESS 1. Energy fuels-sources, metabolism and release mechanisms 2. Nutrition requirement in training and progression 3. Carbohydrate loading and sports nutrition FITNESS TESTING & TRAINING IN SPECIAL POPULATION- Heart failure 1. Pacemaker implantation 2. diabetes mellitus 3. obesity 4. IHD 5. COPD 6. HTN	12

RECOMMENDED BOOKS

1. Exercise Physiology and Physical Education in Athletics - Fox and Mathews
2. Exercise testing and exercise prescription ,David C.Nieman
3. Clinical Nutrition – Anthia
4. Food for sport - N.J.Smith
5. Encyclopaedia `of ` sports` Sciences` and` Medicine`

JOURNALS

1. Physiotherapy (Canada)
2. Journal of sports physical therapy
3. Journal of chartered society of physiotherapy
4. Archives of environmental health

SCHEME OF EXAMINATION

IA			FINAL EXAM						TOTAL	
30			70						100	
COURSE TITLE : PHYSIOTHERAPEUTICS II										
COURSE CODE: MPT19443										
COURSE CREDIT										
HOURS / WEEK			HOURS/SEMESTER						CREDITS	
L	T	P	L	T	P	TOTAL				

-	-	8	-	-	120	120	4
<p>Learning Outcomes: At the end of the semester, the post graduate student should be able to</p> <ol style="list-style-type: none"> 1. Analyse and apply appropriate evidence based chest physical therapy techniques to patients suffering from various cardiorespiratory and vascular disorders in the Intensive care unit. 2. Monitor, evaluate, synthesize the information derived from the various monitoring systems, ventilators and equipments in the ICU. 3. Develop understanding and working knowledge of the sophisticated and routine equipments and emergency procedures used in Cardio Respiratory patients. 4. Assess, respond and resuscitate individuals suffering from cardiorespiratory arrest. 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	<ol style="list-style-type: none"> 1. Assessment of patients in the intensive care unit, ventilator dependent patients 2. Monitoring systems 3. Goal setting-Short term and long term 4. Physiotherapy management technique in ICU 	24
II	<ol style="list-style-type: none"> 1. Basic and advanced artificial airways 2. Mechanical ventilators assessment and demonstration-Initiating and adjusting invasive ventilator support-Modes of ventilation-Weaning from ventilator support 3. Demonstration of Oxygen therapy Unit 4. Demonstration of aerosol therapy, humidification, Suctioning 5. Intermittent Positive Pressure Breathing 6. Intercostal drainage 7. Manual hyperinflation 	24
III	<ol style="list-style-type: none"> 1. Chest physiotherapy techniques, Breathing strategies, Airway clearance used in Primary and secondary cardiopulmonary conditions 2. Early mobilization 	24
IV	<ol style="list-style-type: none"> 1. Assessment and physiotherapy management of patients pulmonary, cardiac and general surgery 2. Demonstrate Emergency cardiovascular Life support Basic Life Support Advanced Cardiovascular Life Support 	24
V	1. Fitness-assessment and test, interpretation	24

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
	2. Fitness training - Training principles-FITT, overload, specificity, progression- calculation - Demonstrate various Training methods-aerobic/anaerobic, continuous/ interval, low/high intensity, plyometrics, circuit training, fartlek training Selection, application and progression in each method of training	

RECOMMENDED BOOKS

1. Cardio pulmonary physical therapy by Scott Irwin
2. Cardiovascular and Pulmonary Physical Therapy- Evidence to Practice- Donna Frownfelter, PT,
3. Webber B and Pryor J (2008) Physiotherapy for respiratory and cardiac problems. Churchill Livingstone, London. ISBN 0-443-04471-6
4. Chest physiotherapy in the intensive care unit-Colin F. Mackenzie, P. Cristina Imle
5. Egan's Fundamentals of Respiratory care by Robert Wilkins

JOURNALS

1. Physical therapy (CANADA)
2. American physical therapy Association journal
3. Journal of Chartered society of physiotherapists.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECHNIQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-IV							
COURSE CODE: MPT19444							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	2
Learning Outcomes:							
By the end of the course, the student should							
1 Collect and analyze the data and/or designing and validating the design;							
2 Draw conclusions and give recommendations.							
3 Demonstrate an understanding of the ethical issues associated with practitioner research.							

1. The students have to submit the research project duly signed by the respective Guide and Head of the Institution three months before the University Examination.
2. The research work may be in the form of Reviews, Experimental, Non Experimental, Case series / Case studies

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
50	50	100

UNIVERSITY EXAMINATION

The End semester examination will be conducted with one Internal examiner and one external examiner

WRITTEN EXAMINATION (50 MARKS)

S.NO.	QUESTIONS	MARKS
1	Presentation	25 Marks
2	Viva	25marks

COURSE TITLE : CLINICAL TRAINING -IV							
COURSE CODE: MPT19445							
COURSE CREDIT							
HOURS / WEEK			TOTAL HOURS /SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	15	-	-	225	225	5
Learning Outcomes:							
By end of the course the students will be able to							
1. Demonstrate the assessment techniques of various conditions							
2. Schedule the evidence based protocol for physiotherapy management according to their condition							
3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.							

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

MPT IN BIOMECHANICS

SEMESTER III									
COURSE TITLE : BIOMECHANICAL ANALYSIS OF UPPER AND LOWER EXTREMITIES									
COURSE CODE: MPT19351									
COURSE CREDIT									
HOURS/WEEK			HOURS/SEMESTER						CREDITS
L	T	P	L	T	P	TOTAL			
3	1	-	45	15	-	60			
LEARNING OUTCOMES:									
At the end of the course the post graduate student should be able to									
<ol style="list-style-type: none"> 1. Demonstrate clear knowledge of kinesiology, and proficiency in evaluation of upper extremity and lower extremity conditions. 2. Precisely compute various orthotics and prosthetics in view of biomechanical aspect. 3. Apply the biomechanical frame work of evaluation in clinical practice. 5. Appraise and judge in clinical decision making 6. Design a proper treatment protocol and involve in further research studies. 									

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	<ol style="list-style-type: none"> 1. Anatomical concepts of kinesiology 2. Biomechanics of bone and joint 3. Biology & mechanics of voluntary muscle, musclemeridians 	12
II	<ol style="list-style-type: none"> 1. Principles of kinetics-Linear and angular kinetics 2. Principles of kinematics-Linear & angular kinematics 	12
III	<ol style="list-style-type: none"> 1. Pathomechanics of paralysis of the shoulder muscles 2. Paralysis of the thoracoscapular muscles of the shoulder girdle complex 3. Paralysis of the scapulohumeral muscles 4. Paralysis of the thoracohumeral muscles 5. Normal mechanics of wrist and finger function 6. Paralysis of wrist flexors and extensors 7. Paralysis of finger flexors and extensors 8. Paralysis of interossei and thenar muscles of hand 9. Paralysis of wrist and finger extensors & reconstruction surgeries 10. Analysis of the arm movements under open kinetic chain conditions 11. Movement of the upper extremity in a closed kinematic 	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
	chain mechanism	
IV	1. The Pathomechanics of muscle ,fatigue and contracture 2. The Pathomechanics of the static disabilities of the hip joint 3. The Pathomechanics of coxa vara 4. The Pathomechanics of coxa valga 5. The Pathomechanics of the dysplasia of the hip joint 6. The Pathomechanics of the paralytic hip joint 7. The Pathomechanics of the paralytic knee joint 8. The Pathomechanics of static deformities of the knee joint 9. The Pathomechanics of the static deformities of foot and ankle 10. The Pathomechanics of the paralytic foot and ankle	12
V	Biomechanical approach to treatment & rehabilitation of upper & lower limb conditions—regarding stretching , strengthening, taping, Orthosis, etc	12

RECOMMENDED BOOKS

- 1 Biomechanical Basis of Human Movement - Jose Hamill and Knutsen, Publishers Williams & Wilkins.
- 2 Gait Analysis - Perry J. Black Thorofare, Newjersy 1992.
- 3 Clinical Biomechanics of Spine White A.A. and Punjabi - J.B. Lippincot, Philadelphia
- 4 Kinesiology of Human Body Under Normal and Pathological conditions Arthur Steindler.
- 5 Kinesiology Of Musculoskeletal System.Foundations For Physical Rehabilitation. Donald.A.Neumann.
- 6 Kinesiology –The Mechanics AndPathomechanics Of Human Movement.Carol.A.Oatis.
- 7 .Concepts In Hand Rehabilitation-Barbarg.Stanley,Susanm.Tribuzi.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPT IN BIOMECHANICS

SEMESTER III

MPTIN BIOMECHANICS

COURSE TITLE Biomechanical Treatment approaches for upper and lower extremity dysfunctions.

COURSE CODE:MPT19352

COURSE CREDIT

HOURS/WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4

LEARNING OUTCOMES

At the end of the course, the student will be able to

1. Apply the biomechanical frame work of treatment in clinical practice for upper and lower limb conditions.
2. Critically analyze the evidences and be able to formulate a proper treatment plan.
3. Appraise and judge in clinical decision making
4. Design a proper treatment protocol and involve in further research studies.

UNITS	TITLE OF CONTENT	HOURS OF TEACHING /LEARNING
I	<ol style="list-style-type: none"> 1. Management based on key concepts of kinesiology 2. Treatment considerations applied to Biomechanics of bone and joint disorders. 3. Treatment approaches based Biology & mechanics of voluntary muscle, muscle meridians 	12
II	<ol style="list-style-type: none"> 1. Principles of kinetics - Linear and angular kinetics and its clinical applications in management of body dysfunctions associated forces applied to body segments. 2. Management Principles of kinematics - Linear & angular kinematics regarding movement function and dysfunction. 	12
III	<ol style="list-style-type: none"> 1. Treatment of Weakness and tightness of the shoulder musculature. 2. Management of weakness and tightness of the axioscapular muscles of the shoulder girdle complex. 3. Management of Weakness of the scapula-humeral muscles 4. Management consideration on weakness and tightness of the axio-humeral muscles 5. Management of Normal wrist hand and finger dysfunctions 6. Treatment of Paralysis of wrist flexors and extensors 7. Management of weakness and tightness of interossei and thenar muscles of hand 8. Post surgical management of wrist and finger extensors & reconstruction surgeries 9. Treatment considerations and exercise prescription on Upper limb and lower limb under open kinetic chain conditions. 10. Treatment considerations and exercise prescription on Upper limb and lower limb under closed kinetic chain conditions. 	12
IV	<ol style="list-style-type: none"> 1. Management of muscle, fatigue and contracture 2. The Pathomechanics and treatment approaches of the static disabilities of the hip joint 3. Biomechanical approach of management of coxavara 4. Biomechanical approach of management of coxavalga 5. Biomechanical approach of management of the dysplasia of the 	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING /LEARNING
	hip joint 6. Management of the paralytic hip joint 7. Treatment considerations of the paralytic knee joint 8. Treatment considerations on the static deformities of the knee joint 9. Management approaches to the static deformities of foot and ankle 10. Treatment and management of the paralytic foot and ankle	
V	Management & rehabilitation of upper & lower limb conditions– regarding (Strengthening, stretching, Orthotics and prosthetics and Robotics)	12

RECOMMENDED BOOKS

1. Biomechanical Basis of Human Movement - Joe Hamill and Knutsen, Publishers Williams & Wilkins.
2. Gait Analysis - Perry J. Black Thorofare, Newjersey 1992.
3. Clinical Biomechanics of Spine White A.A. and Punjabi - J.B. Lippincot, Philadelphia
4. Kinesiology of Human Body Under Normal and Pathological conditions Arthur Steindler.
5. Kinesiology Of Musculoskeletal System. Foundations For Physical Rehabilitation. Donald.A.Neumann.
6. Kinesiology –The Mechanics and Pathomechanics Of Human Movement. Carol. A. Oatis.
7. Concepts In Hand Rehabilitation-Barbarg. Stanley, Susanm. Tribuzi.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSIOTHERAPEUTICS I							
COURSE CODE: MPT19353							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	6	-	-	90	90	3
Learning Outcomes:							
At the end of the semester, the post graduate student should be able to							
<ul style="list-style-type: none"> • Perform the Physical evaluation of biomechanical dysfunctions. • Distinguish and Interpret between normal and abnormal Biomechanical changes and to perform the differential diagnosis to arrive at Physical diagnosis. • Formulate a patient treatment plan and to perform appropriate Physiotherapy management techniques on models /patients. 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/
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		LEARNING
I	Levers, Pulley systems –practical demonstrations with mechanical models. Forces, vectors study with mechanical models. Behaviour of materials..	18
II	Types of forces and movements produced. Newton's law, Applied to human body. Goniometry principles. Moment arm and torque applied to human body.	18
III	Demonstration classes on upper limb joints and muscle action with skeletal model. Landmarks for muscle and ligamentous attachments. Practicals on muscle excursion.	18
IV	Demonstration classes on lower limb joints and muscle action with skeletal model. Landmarks for muscle and ligamentous attachments. Practicals on muscle excursion	18
V	Biomechanical assessment for upper limb and lower limb and treatment approaches for upper limb and lower limb dysfunction	18

RECOMMENDED BOOKS

1. Biomechanical Basis of Human Movement - Joe Hamill and Knutsen, Publishers Williams & Wilkins.
2. Gait Analysis - Perry J. Black Thorofare, Newjersy 1992.
3. Clinical Biomechanics of Spine White A.A. and Punjabi - J.B. Lippincot, Philadelphia

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

UNIVERSITY EXAMINATION PRACTICAL EXAMINATION (70 MARKS)

S.NO.	TECNIQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-III							
COURSE CODE: MPT19354							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	2
Learning Outcomes:							
By the end of the course, the student							
1. Should complete data collection.							
2. Should tabulate the data collected and perform statistical analysis and interpretation.							

1. The student should undertake data collection systematically according to the research methodology.
2. Tabulate the obtained data and perform statistical analysis and interpretation of the results.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
100	-	100

COURSE TITLE : CLINICAL TRAINING -III							
COURSE CODE: MPT19355							
COURSE CREDIT							
HOURS / WEEK			TOTAL HOURS /SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	15	-	-	225	225	5
Learning Outcomes:							
By end of the course the students will be able to							
1. Demonstrate the assessment techniques of various conditions							
2. Schedule the evidence based protocol for physiotherapy management according to their condition							
3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.							

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

MPTIN BIOMECHANICS							
II YEAR MPT IV SEMESTER							
COURSE TITLE : BIOMECHANICAL ANALYSIS OF SPINE, POSTURE AND GAIT COURSE CODE:MPT19451							
COURSE CREDIT							
HOURS/WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
LEARNING OUTCOMES							
At the end of the course, the post graduate student should be able to							
1. Have clear knowledge of posture, gait and spine evaluation and ergonomic analysis.							
2. Demonstrate precise idea of orthotics and prosthetics in view of biomechanical aspect.							
3. Apply the biomechanical frame work of evaluation in clinical practice.							
4. Appraise and judge in clinical decision making							
5. Design a proper treatment protocol and involve in further research studies							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/LEARNING
I	1. Posture Analysis, Internal, External forces influencing posture. 2. Postural deviations. 3. Gait Analysis. 4. The Pathomechanics of the Lumbosacral junction 5. The general conditions affecting mobility and stability of the lumbosacral area 6. The Pathomechanics of lumbosacralgia	12
II	1. The Pathomechanics of scoliosis 2. The normal & pathological mechanics of the pelvis 3. The Pathomechanics of the pelvis 4. The Pathomechanics of the fixed pelvic obliquity.	12
III	Biomechanical approach to treatment & Rehabilitation of Spinal conditions (congenital,acquired)– Splinting,Orthoses,Stretching,Strengthening,etc.	12
IV	1. Methods of kinetics & kinematic investigations, Anthropometric measurements. 2. Functional & movement analysis-Principles & methods. 3. Functional analysis: Sit to stand, squatting, walking, running, sprinting, jumping.	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
	4. Neural control of locomotor functions. 5. Phases of Gait, temporal and spatial parameters, determinants of gait. 6. Pathological gait and gait deviations. 7. Applied mechanics in the application of Prosthesis, orthoses and mobility aids.	
V	1. Ergonomics; alterations at work place and industry. Ergonomics with reference to tool, environment, seating	12

RECOMMENDED BOOKS

1. Biomechanical Basis of Human Movement - Joe Hamill and Knutsen, Publishers Williams & Wilkins.
2. Gait Analysis - Perry J. Black Thorofare, Newjersy 1992.
3. Clinical Biomechanics of Spine White A.A. and Punjabi - J.B. Lippincot, Philadelphia
4. Kinesiology of Human Body Under Normal and Pathological conditions Arthur Steindler.
5. Kinesiology Of Musculoskeletal System. Foundations For Physical Rehabilitation. Donald.A. Neumann.
6. Kinesiology –The Mechanics And Pathomechanics Of Human Movement. Carol.A. Oatis.
7. Concepts In Hand Rehabilitation- Barbag. Stanley, Susanm. Tribuzi

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPTIN BIOMECHANICS SEMESTER-IV COURSE TITLE: REHABILITATION STRATEGIES FOR SPINE, POSTURE AND GAIT DEVIATIONS COURSE CODE:MPT19452							
COURSE CREDIT							
HOURS/WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
LEARNING OUTCOMES							
At the end of the course, the post graduate student should be able to							
<ol style="list-style-type: none"> 1. Apply the biomechanical frame work of treatment approach in posture, gait and spine conditions and ergonomical modification. 2. Critically analyze the evidences and be able to formulate a proper treatment plan. 3. Appraise and judge in clinical decision making 4. Design a proper treatment protocol and involve in further research studies.. 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	<ol style="list-style-type: none"> 1. Management of Postural disorders with respect of Internal, External forces influencing posture. 2. Gait reeducation and Gait training 3. Management of the Lumbo-sacralgia, sacroillitis, LBP 4. Treatment approaches regarding mobility and stability of the lumbosacral area 	12
II	<ol style="list-style-type: none"> 1. The management of scoliosis 2. Treatment of pelvic dysfunctions 	12
III	Clinical approach to treatment & Rehabilitation of Spinal conditions (congenital, acquired)– Splinting, Orthoses, Stretching, Strengthening, etc.	12
IV	<ol style="list-style-type: none"> 1. Clinical considerations applied to kinetics & kinematic investigations, Anthropometric measurements. 2. Functional & movement training-Principles & methods. 3. Functional training: Sit to stand, squatting, walking, running, sprinting, jumping. 4. Management consideration on Neural control of locomotor functions. 5. Phases of Gait, temporal and spatial parameters, 	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/LEARNING
	determinants of gait. 6. Pathological gait and gait deviations Rehabilitation 7. Prosthetic, orthotic and mobility aids application.	
V	1. Ergonomics interventions; at workplace and industry. Ergonomics with reference to tool, environment, seating, lighting and protective measures	12

RECOMMENDED BOOKS

1. Biomechanical Basis of Human Movement - Joe Hamill and Knutsen, Publishers Williams & Wilkins.
2. Gait Analysis - Perry J. Black Thorofare, Newjersy 1992.
3. Clinical Biomechanics of Spine White A.A. and Punjabi - J.B. Lippincot, Philadelphia
4. Kinesiology of Human Body Under Normal and Pathological conditions Arthur Steindler.
5. Kinesiology Of Musculoskeletal System. Foundations For Physical Rehabilitation. Donald.A. Neumann.
6. Kinesiology –The Mechanics And Pathomechanics Of Human Movement. Carol.A. Oatis.
7. Concepts In Hand Rehabilitation- Barbarg, Stanley, Susanm. Tribuzi

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSIOTHERAPEUTICS II							
COURSE CODE: MPT19453							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER			CREDITS	
L	T	P	L	T	P		TOTAL
-	-	8	-	-	120	120	4
LEARNING OUTCOMES:							
At the end of the semester, the post graduate student should be able to							
<ul style="list-style-type: none"> • Perform the Biomechanical evaluation of disorders related to spine and gait . • Distinguish and Interpret between normal abnormal Biomechanical changes related to spine and gait and to perform the differential diagnosis and to arrive at Physical diagnosis. • Formulate a patient treatment plan and to perform appropriate Physiotherapy management techniques on models /patients. 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	Postural analysis using plumbline .Goniometry and pelvimeters. Motion sensors, Video based postural analysis. Force plates and perturbation tests.	24
II	Pathological and functional spinal deformity analysis.	24
III	Postural correction principles-Splints, Orthoses and prosthesis. Postural training exercises for various postural dysfunctions of spine..	24
IV	Anthropometric assessment- and its biomechanical implications.	24
V	Components of gait, video based demonstration . Gait Analysis. Prerequisites for gait performance – practicals. Pathological gait-Clinical observation-Biomechanical implications. Running gait and stair gait analysis. New trends related to gait analysis.	24

RECOMMENDED BOOKS:

1. Biomechanical Basis of Human Movement - Joe Hamill and Knutsen, Publishers Williams & Wilkins.
2. Gait Analysis - Perry J. Black Thorofare, Newjersy 1992.
3. Clinical Biomechanics of Spine White A.A. and Punjabi - J.B. Lippincot, Philadelphia
4. Kinesiology of Human Body Under Normal and Pathological conditions Arthur Steindler.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECHNIQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-IV							
COURSE CODE: MPT19454							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	2
Learning Outcomes:							
By the end of the course, the student should							
1. Collect and analyze the data and/or designing and validating the design;							
2. Draw conclusions and give recommendations.							
3. Demonstrate an understanding of the ethical issues associated with practitioner research.							

1. The students have to submit the research project duly signed by the respective Guide and Head of the Institution three months before the University Examination.
2. The research work may be in the form of Reviews, Experimental, Non Experimental, Case series / Case studies

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
50	50	100

UNIVERSITY EXAMINATION

The End semester examination will be conducted with one Internal examiner and one external examiner

WRITTEN EXAMINATION (50 MARKS)

S.NO.	QUESTIONS	MARKS
1	Presentation	25 Marks
2	Viva	25marks

COURSE TITLE : CLINICAL TRAINING -IV									
COURSE CODE: MPT19455									
COURSE CREDIT									
HOURS / WEEK			TOTAL HOURS /SEMESTER						CREDITS
L	T	P	L	T	P	TOTAL			
-	-	15	-	-	225	225			

Learning Outcomes:

By end of the course the students will be able to

1. Demonstrate the assessment techniques of various conditions
2. Schedule the evidence based protocol for physiotherapy management according to their condition
3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

MPT IN OBSTETRICS AND GYNAECOLOGY

SEMESTER III							
COURSE TITLE - FUNCTIONAL DIAGNOSIS FOR GYNAECOLOGICAL RELATED CONDITIONS							
COURSE CODE:MPT19361							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
LEARNING OUTCOMES:							
At the end of the course the student will acquire the knowledge to							
<ul style="list-style-type: none"> • Review the relevant basic sciences in relation to physiotherapy management for gynaecology related conditions • Evaluate and apply advanced assessment skill and examination procedures for patients with women's health needs • Understand and take into account the influence of patients cultural, religious and socio-economic backgrounds on their health and well-being 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	Basic anatomy and neurophysiology of breast development, pelvis and pelvic organs; biomechanics and movement science related to trunk-pelvic-hip complex including respiration; age-specific changes and related dysfunction; exercise science in menopause and female athlete	18
II	Knowledge of pathology and pathophysiology of bladder and bowel dysfunction; breast cancer; injury and diseases of pelvic girdle and its contents; infertility; abortion	6
III	Understanding the Clinical manifestation of urological, gynaecological and gastrointestinal conditions related to Pelvic Floor Dysfunction; medical, surgical, non-surgical and pharmacological interventions for gynaecological infections / conditions; contraception and family planning methods.	12
IV	Evaluation of psychosexual dimensions of women's health through validated tests / scales with reference to pain and dyspareunia in various pelvic floor disorders.	6
V	Evidence based clinical examination: History, Frequency/volume chart, bladder /bowel diaries, Assessment of cognitive status, cardiorespiratory examination, sacral neurologic examination for sensory and motor function and appropriate reflex activity, abdominal examination, posture analysis, joint integrity in relation to the lumbo pelvic hip complex, Perineal and Pelvic floor Assessment	18

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	for pain, motor function and muscle performance; test to demonstrate incontinence; soft tissue assessment through validated procedures including vaginal examinations, tests, Instruments/ scales	

RECOMMENDED BOOKS:

1. Physiotherapy in Obstetrics &Gynaecology – Polden& Mantle, Jaypee Brothers, New Delhi, 1994.
2. Obstetrics &Gynaecologic physical therapy – Wilder Elnine, Churchill, Livingstone, New York, 1988.
3. Women’s Health – Sapsford, Publisher Lippincott.
4. Evidence – Based Physical Therapy for the pelvic floor: Bridging Science and Clinical Practice (2007)- 2nd edition- Kari Bo Professor PT Ph D, Barry BerghmansPh D.
5. Heal Pelvic Pain: The proven stretching, strengthening, and nutrition program for relieving pain, incontinence and I.B.S and other symptom without surgery (Amy stein 2008)
6. Pelvic Floor Essential: Ebook (SueCroft,2014)
7. Pelvic Floor Recovery: A physiotherapy guide for gynaecological repair surgery (2011) - Sue Croft.
8. A women’s guide to pelvic health: Expert Advice for women of all ages – John Hoplrus (2012).
9. Talli Yehuda Rosenbaum et al., (2007) - Pelvic floor involvement in male and female sexual dysfunction and the role of pelvic floor rehabilitation in treatment: A Literature Review.-international society for sexual medicine.
10. Maria Teresa Filocamo et al.,(2005) Effectiveness of early pelvic floor rehabilitation treatment for post-prostatectomy incontinence – European urology48(5),734-738,2005

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPT IN OBSTETRICS AND GYNAECOLOGY

SEMESTER - III							
COURSE TITLE PHYSIOTHERAPY PRACTICE IN GYNAECOLOGICAL RELATED CONDITIONS							
COURSE CODE:MPT19362							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
LEARNING OUTCOMES:							
At the end of the course the student will acquire the knowledge to							
<ul style="list-style-type: none"> • Evaluate and treat all pelvic floor muscles dysfunctions including urinary, bowel and sexual disorders in all populations; use adjunctive therapies such as electrical stimulation, manometry and biofeedback devices; recognize the need to refer to other health care professionals. • Determine the appropriate management related to advance physiotherapy practice in gynaecological health needs • Apply an evidence based approach to physiotherapy practice in the management of women's health • Evaluate the role of other healthcare professionals involved in women's health in a healthcare settings • Employ a holistic and patient-centered approach in pelvic health physiotherapy management 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	Critical interpretation of the data and creation of physiotherapy diagnosis through well-structured clinical reasoning skills using various methods including musculoskeletal and vaginal examinations. Set short and long term rehabilitation goals and establish a individualized management plan addressing their dysfunction.	12
II	Evaluation of application of interventions like therapeutic exercises, body mechanics, postural stabilization, relaxation strategies, coordination training, neuromuscular reeducation, activities of daily living, manual therapy (myofascial release of PFM, scars, etc), electrotherapeutic modalities (biofeedback, electrical stimulation), physical agents (heat, cold, ultrasound, dilators), other modalities for physiotherapy related gynaecological problems in	12

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	adolescent, adult and geriatric population including athletes.	
III	Specialized training strategies for treating lymphedema, osteoporosis; pre and post operative physiotherapy care for gynaecological surgeries.	12
IV	Evaluation and reflection of augmented pelvic floor muscle training; Progressive Pelvic floor muscle Strength training; Aerobic and anaerobic exercise training in women's health	12
V	Application of proper infection control techniques during treatment procedures; decision making in cultural, ethical, legal issues and obtaining valid informed consent in women's health physiotherapy practice. Reflect an effective holistic and patient-centred approach for communication, counselling and health education – including wellness, bladder training, PFM training, self-care, and sexual activities, in womens health. Evaluation of current research and evidence based practice in pelvic health physiotherapy.	12

RECOMMENDED BOOKS:

1. Physiotherapy in Obstetrics &Gynaecology – Polden& Mantle, Jaypee Brothers, New Delhi, 1994.
2. Obstetrics &Gynaecologic physical therapy – Wilder Elnine, Churchill, Livingstone, New York, 1988.
3. Women's Health – Sapsford, Publisher Lippincott.
4. Evidence – Based Physical Therapy for the pelvic floor: Bridging Science and Clinical Practice (2007)- 2nd edition- Kari Bo Professor PT Ph D, Barry BerghmansPh D.
5. Heal Pelvic Pain: The proven stretching, strengthening, and nutrition program for relieving pain, incontinence and I.B.S and other symptom without surgery (Amy stein 2008)
6. Pelvic Floor Essential: Ebook (SueCroft,2014)
7. Pelvic Floor Recovery: A physiotherapy guide for gynaecological repair surgery (2011) - Sue Croft.
8. A women's guide to pelvic health: Expert Advice for women of all ages – John Hoplrus (2012).
9. Talli Yehuda Rosenbaum et al., (2007) - Pelvic floor involvement in male and female sexual dysfunction and the role of pelvic floor rehabilitation in treatment: A Literature Review.-international society for sexual medicine.

10. Maria Teresa Filocamo et al.,(2005) Effectiveness of early pelvic floor rehabilitation treatment for post-prostatectomy incontinence – European urology48(5),734-738,2005

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSIOTHERAPEUTICS I								
COURSE CODE: MPT19363								
COURSE CREDIT								
HOURS / WEEK			HOURS/SEMESTER					CREDITS
L	T	P	L	T	P	TOTAL		
-	-	6	-	-	90	90		3

Learning Outcomes:

At the end of the practical session the student will be able to

- Perform the Physical evaluation of Gynaecological conditions.
- Distinguish and Interpret between normal abnormal findings in Gynecological conditions and to perform the differential diagnosis and to arrive at Physical diagnosis.
- Formulate a patient treatment plan and to perform appropriate Physiotherapy management techniques on models /patients.

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	Assesment and Physiotherapy manangement for Gynecological conditions like infections, endometriosis ,dysmenorhea,Pre menstrual disorders.Ftness testing and exercise prescription in gynecologicalconditions(Infertility,PCOD,Obesity)	18
II	Interpret urodynamic,radiological and electromyograhical investigations for Gynecological disorders. Scales for incontinence,Physiotherapeutic assessment and management for urinary incontinence,Manual Grading of strength of a pelvic floor contraction..	18
III	Vaginal Examination,assessment scales to grade prolapse,Physiotherapy management for genital displacement and prolapse.	18
IV	Pre and post operative management for gynecological surgeries.	18
V	Physiotherapy management for anorectal dysfunction, levator ani syndrome, coccydynia, vulvodynia, vaginismus, dyspareunia	18

RECOMMENDED BOOKS:

1. Physiotherapy in Obstetrics &Gynaecology – Polden& Mantle, Jaypee Brothers, New Delhi, 1994.
2. Obstetrics &Gynaecologic physical therapy – Wilder Elnine, Churchill, Livingstone, New York, 1988.
3. Women’s Health – Sapsford, Publisher Lippincott.
4. Evidence – Based Physical Therapy for the pelvic floor: Bridging Science and Clinical Practice (2007)- 2nd edition- Kari Bo Professor PT Ph D, Barry Berghmans Ph D

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECNIQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-III							
COURSE CODE: MPT19364							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	2
Learning Outcomes:							
By the end of the course, the student							
1. Should complete data collection.							
2. Should tabulate the data collected and perform statistical analysis and interpretation.							

1. The student should undertake data collection systematically according to the research methodology.
2. Tabulate the obtained data and perform statistical analysis and interpretation of the results.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
100	-	100

COURSE TITLE : CLINICAL TRAINING -III								
COURSE CODE: MPT19365								
COURSE CREDIT								
HOURS / WEEK			TOTAL HOURS /SEMESTER					CREDITS
L	T	P	L	T	P	TOTAL		
-	-	15	-	-	225	225		5
Learning Outcomes:								
By end of the course the students will be able to								
1. Demonstrate the assessment techniques of various conditions								
2. Schedule the evidence based protocol for physiotherapy management according to their condition								
3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.								

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

MPT IN OBSTETRICS AND GYNAECOLOGY

SEMESTER IV							
COURSE TITLE - FUNCTIONAL DIAGNOSIS FOR OBSTERTICS RELATED CONDITIONS							
COURSE CODE:MPT19461							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
LEARNING OUTCOMES:							
At the end of the course the student will acquire the knowledge to							
<ul style="list-style-type: none"> • Review the relevant basic sciences in relation to physiotherapy management for Obstetrics related conditions • Determine relevant treatment strategies for women's health needs • Synthesize and create a beneficial design for safe exercise for this precise population • Appraise the role of pelvic floor physiotherapists in a community based rehabilitation towards women's health. 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	Foundation sciences on embryology, pregnancy, childbirth and puerperium; normal function and dysfunction; high risk pregnancies; Intra uterine devices; diagnostic test for pregnancy; breast milk composition and storage; breastfeeding problems	12
II	Knowledge of vaginal delivery, assisted deliveries including water birth and caeserean sections under anaesthesia; Critical discussion on Preconception, antenatal, postnatal and post-operative assessment including episiotomy and caeserean section.	12
III	Advanced clinical reasoning for physiotherapy management of postnatal conditions under the context of musculoskeletal, neurological and circulatory disorders.	12
IV	Basic application and interpretation of clinical tests, imaging procedure and urodynamics; Evaluation of psychosexual dimensions of women's health through validated tests / scales in antenatal and postnatal period.	12
V	Assess for red flags and analyze the importance of proper referral to other health care providers in the health team;	12

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	adhering to proper infection control techniques during examination procedures; analyzing and decision making in cultural, ethical, legal issues and obtaining valid informed consent in women's health physiotherapy practice; Evaluation of current and evidence based research in same context	

RECOMMENDED BOOKS:

1. Obstetrics &Gynaecology – Polden& Mantle, Jaypee Brothers, New Delhi, 1994.
2. Obstetrics &Gynaecologic physical therapy – Wilder Elnine, Churchill, Livingstone, New York, 1988.
3. Women's Health – Sapsford, Publisher Lippincott.
4. Evidence – Based Physical Therapy for the pelvic floor: Bridging Science and Clinical Practice (2007)- 2nd edition- Kari Bo Professor PT Ph D, Barry BerghmansPh D.
5. Heal Pelvic Pain: The proven stretching, strengthening, and nutrition program for relieving pain, incontinence and I.B.S and other symptom without surgery (Amy stein 2008)
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7. Pelvic Floor Recovery: A physiotherapy guide for gynaecological repair surgery (2011) - Sue Croft.
8. A women's guide to pelvic health: Expert Advice for women of all ages – John Hopliurus (2012).
9. Talli Yehuda Rosenbaum et al., (2007) - Pelvic floor involvement in male and female sexual dysfunction and the role of pelvic floor rehabilitation in treatment: A Literature Review.-international society for sexual medicine.
10. Maria Teresa Filocamo et al.,(2005) Effectiveness of early pelvic floor rehabilitation treatment for post-prostatectomy incontinence – European urology48(5),734-738,2005
11. J Bogaert et al.,(2018)The effect of stabilization exercise on low back pain and pelvic girdle pain in pregnant women.-Annals of Physical and rehabilitation Medicine 61, e157-e158.
12. Mei- chen Du etal., (2018) Effect of physical exercise during pregnancy on maternal and infant outcomes in overweight and obese pregnant women: A meta- analysis.
13. ArgyroSyngelaki et al., (2018) Diet and exercise for preeclampsia prevention in overweight and obese pregnant women: systematic review and meta- analysis.- The Journal Of Maternal- Fetal .& Neonatal Medicine.

14. Margie H Davenport et al., (2018) Impact of prenatal exercise on both prenatal and postnatal anxiety and depressive symptoms: A systematic review and meta-analysis – Br J sports Med 52 (21).
15. Sally K. Hinman et al.,(2015) Exercise in pregnancy : A clinical review – Sports Health (SAGE)
16. Rebecca Gourley Stephenson et al., (2000) Obstetric and gynaecological care in physical therapy

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPT IN OBSTETRICS AND GYNAECOLOGY

SEMESTER - IV							
COURSE TITLE PHYSIOTHERAPY PRACTICE IN OBSTERTICS RELATED CONDITIONS							
COURSE CODE:MPT19462							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
LEARNING OUTCOMES:							
At the end of the course the student should be able to							
<ul style="list-style-type: none"> • utilize advanced knowledge and clinical reasoning skills to determine the appropriate physiotherapy management in women's health • Appraise the current practice, current trend and evidence based research • Employ a holistic and patient-centered approach within the overall physiotherapy management of women's health • Portfolio planning and critical reflection skills in antenatal and postnatal health care needs 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	Perform an appropriate evaluation and interpretation of musculoskeletal dysfunction or pain among perinatal, natal, postnatal population including high risk pregnancy and in athletic population.	12
II	Develop functional goals for pregnancy related musculoskeletal impairments based on a systematic interview and examination of the patient.	12
III	Develop an appropriate plan of care for physical therapy intervention for pregnancy induced physical and mental problems including patients with a high risk pregnancy or traumatic injury during pregnancy; Physiotherapy management for episiotomy and post caeserian section. Discussion on psychosexual dimensions of women's health related to continence/pelvic floor dysfunction.	12
IV	Structured Application of pregnancy and parenting education programs that includes pregnancy care, coping strategies for labour, breastfeeding class, pelvic floor awareness, postnatal care and parent craft classes with adhering to ACOG guidelines for exercise prescription	12

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	during pregnancy.	
V	Select and perform selected interventions that incorporates rehabilitation for pelvic floor and abdominals, hands on techniques for myofascial syndromes, general resistance training, and aerobics, kinesiology and rigid taping techniques to address pain and dysfunction related to the coccyx, rib cage, diaphragm, posture, and abdominal soft tissue.	12

RECOMMENDED BOOKS:

1. Physiotherapy in Obstetrics &Gynaecology – Polden& Mantle, Jaypee Brothers, New Delhi, 1994.
2. Obstetrics &Gynaecologic physical therapy – Wilder Elnine, Churchill, Livingstone, New York, 1988.
3. Women’s Health – Sapsford, Publisher Lippincott.
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7. Pelvic Floor Recovery: A physiotherapy guide for gynaecological repair surgery (2011) - Sue Croft.
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9. Talli Yehuda Rosenbaum et al., (2007) - Pelvic floor involvement in male and female sexual dysfunction and the role of pelvic floor rehabilitation in treatment: A Literature Review.-international society for sexual medicine.
10. Maria Teresa Filocamo et al.,(2005) Effectiveness of early pelvic floor rehabilitation treatment for post-prostatectomy incontinence – European urology48(5),734-738,2005
11. J Bogaert et al.,(2018)The effect of stabilization exercise on low back pain and pelvic girdle pain in pregnant women.-Annals of Physical and rehabilitation Medicine 61, e157-e158.
12. Mei- chen Du etal., (2018) Effect of physical exercise during pregnancy on maternal and infant outcomes in overweight and obese pregnant women: A meta- analysis.

13. ArgyroSyngelaki et al., (2018) Diet and exercise for preeclampsia prevention in overweight and obese pregnant women: systematic review and meta- analysis.- The Journal Of Maternal- Fetal .& Neonatal Medicine.
14. Margie H Davenport et al., (2018) Impact of prenatal exercise on both prenatal and postnatal anxiety and depressive symptoms: A systematic review and meta-analysis – Br J sports Med 52 (21).
15. Sally K. Hinman et al.,(2015) Exercise in pregnancy : A clinical review – Sports Health (SAGE)
16. Rebecca Gourley Stephenson et al., (2000) Obstetric and gynaecological care in physical therapy

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSIOTHERAPEUTICS II							
COURSE CODE: MPT19463							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	8	-	-	120	120	
Learning Outcome:							
At the end of the practical session the student will be able to							
<ul style="list-style-type: none"> • Perform the Physical evaluation of Obstetric conditions. • Distinguish and Interpret between normal abnormal findings in Obstetric conditions and to perform the differential diagnosis and to arrive at Physical diagnosis. • Formulate a patient treatment plan and to perform appropriate Physiotherapy management techniques on models /patients. 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	Pre conception Assessment, To evaluate maternal musculoskeletal disorder and adaptation of the mother to the changes. Physical fitness Assessment, Postural assessment during pregnancy, Antenatal physiotherapy management- Assessment, exercises protocol.	24
II	Physiotherapy management for Labor, TENS in Labor. Coping up Strategies in labor, Breathing exercise in labor	24
III	Post operative physiotherapy evaluation and management for cesarean section.	24
IV	Physiotherapy assessment and treatment for post natal period-Episiotomy, Breast engorgement, Diastasis recti, Postural dysfunctions.	24
V	Physiotherapy Management of gestational diabetes mellitus, high risk pregnancies, Relaxation techniques, visualization, imagery, massage, Breathing.	24

RECOMMENDED BOOKS:

1. Evidence – Based Physical Therapy for the pelvic floor: Bridging Science and Clinical Practice (2007)- 2nd edition- Kari Bo Professor PT Ph D, Barry BerghmansPh D.
2. Heal Pelvic Pain: The proven stretching, strengthening, and nutrition program for relieving pain, incontinence and I.B.S and other symptom without surgery (Amy stein 2008)
3. Pelvic Floor Essential: Ebook (SueCroft, 2014)
4. Pelvic Floor Recovery: A physiotherapy guide for gynaecological repair surgery (2011) - Sue Croft.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECNIQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-IV							
COURSE CODE: MPT19464							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	2
Learning Outcomes:							
By the end of the course, the student should							
<ol style="list-style-type: none"> 1. Collect and analyze the data and/or designing and validating the design; 2. Draw conclusions and give recommendations. 3. Demonstrate an understanding of the ethical issues associated with practitioner research. 							

1. The students have to submit the research project duly signed by the respective Guide and Head of the Institution three months before the University Examination.
2. The research work may be in the form of Reviews, Experimental, Non Experimental, Case series / Case studies

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
50	50	100

UNIVERSITY EXAMINATION

The End semester examination will be conducted with one Internal examiner and one external examiner

WRITTEN EXAMINATION (50 MARKS)

S.NO.	QUESTIONS	MARKS
1	Presentation	25 Marks
2	Viva	25marks

COURSE TITLE : CLINICAL TRAINING -IV							
COURSE CODE: MPT19465							
COURSE CREDIT							
HOURS / WEEK			TOTAL HOURS /SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	15	-	-	225	225	5
Learning Outcomes:							
By end of the course the students will be able to							
1. Demonstrate the assessment techniques of various conditions							
2. Schedule the evidence based protocol for physiotherapy management according to their condition							
3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.							

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

**MPT IN PAEDIATRICS
SEMESTER - III**

COURSE TITLE BASIC ANATOMY AND PHYSIOLOGY WITH ASSESSMENT							
COURSE CODE MPT19371							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
LEARNING OUTCOMES:							
At the end of course post graduate student should be able to							
<ul style="list-style-type: none"> • Demonstrate knowledge of the terms about pediatrics • Identify key milestone of motor development across infancy and childhood. • Identify common causes of developmental motor delay. • Describe key members of a multidisciplinary pediatric team and their roles. • Develop a basic knowledge of the educational statementing process and the role of the physiotherapist within framework. • Critique some commonly applied tests of infant and child motor development. • Formulate a treatment approach to facilitate motor skills acquisition in a child with developmental delay. • Analyze the key elements of the family-centered practice. 							

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	BASIC ANATOMY AND PHYSIOLOGY WITH ASSESSMENT 1. Describe the Neonatal anatomy and physiology. 2. Assess the Motor development in normal child, assessment and testing of child development. 2 (i) Developmental testing: an overview 2 (ii) Abilities and reflexes of newborn 2 (iii) Variation in the general pattern of development 2 (iv) Variations in individual fields of development 2 (v) Assessment of maturity	12
II	1. Identification of Factors to be considered in pediatric assessment- list of pediatric assessment tools categorized such as 1(i) Body Structure/ Function 1(ii) Activity 1(iii) Participation 1(iv) Personal/ Contextual	12

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	2. Describe about the Pathophysiology in neonatal conditions. 3. Electrophysiological studies behind pediatrics. 4. Clinical decision making and management.	
III	1. Overview of growth and development. 2. Principles of laboratory for differential diagnosis. 3. Enumerate the Motor learning process- theory and techniques. 4. Describe the methods Sensory integration. 5. Integrated approaches in management of pediatric disorders.	12
IV	Develop the basic knowledge about the causes and conditions of: 1. Movement disorder. 2. Bowel/bladder disorder. 3. Oromotor disorder 4. Metabolic disorder 5. Progressive locomotor disorder 6. Perceptual disorder.	12
V	Demonstrate a well- developed problem solving ability in pediatric physiotherapy. 1. Infections and its conditions. 2. Early intervention 3. Mother and child care 4. CBR in pediatric condition. 5. Physical therapy in public schools. 6. Gravitational insecurity.	12

RECOMMENDED BOOKS:

1. Physical Therapy For Children- Susan K.Campbell.
2. Pediatric Physical Therapy- Tecklin.
3. Treatment Of Cerebral Palsy And Motor Delay- Sofia Levit.
4. Neurological Rehabilitation- Umphred
5. Textbook Of Pediatrics- Gupta
6. Cardio Pulmonary Rehabilitation- Elizabeth Dean
7. Motor Relearning Programme- Carr And Shepered
8. A Jean Ayres, Sensory Integration And The Child- 25th Edition
9. Cardiopulmonary Physical Therapy- Irwin And Tecklin, Mosby.
10. Recent Advances about Cardiac Conditions.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPT IN PAEDIATRICS

COURSE TITLE PAEDIATRIC BASED NEUROSCIENCES							
COURSE CODE MPT19372							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER			CREDITS	
L	T	P	L	T	P		TOTAL
3	1	-	45	15	-	60	4
LEARNING OUTCOMES:							
At the end of course post graduate student should be able to							
<ul style="list-style-type: none"> • Recognize the key importance of child health in neurological conditions. • Identify and describe key elements of the acquisition of locomotion skill. • Describe about early intervention for high risk infants. • Describe key elements of motor development during infancy such as postural control, transitions between postures, acquisition of upper limb dexterity. • Identify social, economic, environmental, biological and emotional determinants of child. • Take detailed history, perform complete physical assessment including neuro developmental and behavioral assessment and anthropometric measurements of the child and frame appropriate advanced pediatric physiotherapy care. • Formulate a treatment approach to facilitate motor skill acquisition in a child with developmental delay. • Enumerate treatment procedures and management for appropriate conditions. 							

UNITS	TITLE OF CONTENT	HOURS
I	PEDIATRIC BASED NEURO SCIENCE 1. Basic and applied neuro anatomy and neuro physiology 2. Maturation, pathophysiological and recovery process in the CNS. 3. Neural tube defects 4. Genetic disorders- Marfans syndrome, Downs syndrome, Trisomy 21, and single gene disorder.	12
II	Development of knowledge about the 1. High risk infants 2. .Brachial plexus injury 3. .Developmental coordination disorder 4. Guillian barre syndrome	12

UNITS	TITLE OF CONTENT	HOURS
	5. Cerebral palsy	
III	Describe about the conditions such as 1. Developmental anomalies- spina bifida, hydrocephalus, craniovertebral junction anomalies. 2. Viral infection of CNS- poliomyelitis, encephalitis, encephalomyelitis, neurosyphilus, rabies, HIV. 3. Juvenile diabetes and obesity.	12
IV	Demonstrate about the integrated approaches in management of pediatric conditions: I. Sensory stimulation for activation and inhibition II. Reflex creeping and other reflex reactions III. Sensory integration IV. Neuro Developmental therapy- Bobath V. Temple fay VI. Reflex integration VII. PNF VIII. Muscle education and braces IX. Conductive education X. Adjective therapy XI. Systems/based task/oriented approach	12
V	Describe about the treatment procedures and management of: I. Motor training and motor development II. Abnormal postural corrections. III. Development of hand functions. IV. General consideration related surgeries. V. Neuromuscular system Impairments.	12

RECOMMENDED BOOKS:

1. Physical Therapy For Children- Susan K.Campbell.
2. Pediatric Physical Therapy- Tecklin.
3. Treatment Of Cerebral Palsy And Motor Delay- Sofia Levit.
4. Neurological Rehabilitation- Umphred
5. Textbook Of Pediatrics- Gupta
6. Cardio Pulmonary Rehabilitation- Elizabeth Dean
7. Motor Relearning Programme- Carr And Shepered
8. A Jean Ayres, Sensory Integration And The Child- 25th Edition
9. Cardiopulmonary Physical Therapy- Irwin And Tecklin, Mosby.

10. Recent Advances about Cardiac Conditions.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSIOTHERAPEUTICS I								
COURSE CODE: MPT19373								
COURSE CREDIT								
HOURS / WEEK			HOURS/SEMESTER					CREDITS
L	T	P	L	T	P	TOTAL		
-	-	6	-	-	90	90		3
<p>Learning Outcomes:</p> <p>At the end of the semester, the post graduate student should be able to</p> <ol style="list-style-type: none"> 1. Analyze and apply appropriate evidence based physiotherapy approaches and techniques to pediatric patients suffering from various neurological, musculoskeletal, developmental and systemic disorders. 2. Assess, evaluate, decide and plan appropriate treatment plan/protocol for children with different neurological and physical disorders. 3. Develop an understanding and working knowledge of handling, advising and correcting the abnormal patterns in pediatric cases. 4. Restore or promote functional abilities in children with various developmental, neurological and physical abnormalities. 								

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	<ol style="list-style-type: none"> 1. Assessment, evaluation and handling of pediatric patients in clinical settings 2. Evaluation of normal and abnormal reflexes 3. Counseling of parents of children with genetic disorders 4. Physiotherapy treatment planning for age appropriate pediatric patients 	18
II	<ol style="list-style-type: none"> 1. Assessment and evaluation of functional capabilities in pediatric cases 2. Assessment and management of High Risk Infants, DCD, GBS, CP, etc. 3. Evaluation and treatment planning for balance and coordination disorders in pediatric population. 4. Application of EMG and ES in pediatric patients and do's and don't's. 	18
III	<ol style="list-style-type: none"> 1. Identifying normal and abnormal growth patterns of development in children. 2. Motor learning strategies and techniques of application. 3. Application of sensory integration techniques. 4. Assessment and management of developmental 	18

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
	anomalies, CNS infections. 5. Principles of neurodevelopmental approaches 6. Exercise prescription and management of childhood obesity and juvenile diabetes.	
IV	1. Identification and establishing diagnosis in systemic disorders. 2. Physiotherapy approaches in management of pediatric patients like PNF, reflex integration, muscle education and braces, system based or tasked based oriented approaches. 3. Prevention of secondary complications resulting due to the primary illness. 4. Principles of treatment approaches and its application on the patient.	18
V	1. Handling and care technique of child and mother. 2. Early management of underlying and secondary conditions. 3. Managing infections in pediatric patients. 4. Do's and don'ts before and after surgeries in pediatric cases. 5. Assessment and treatment planning in neuromuscular conditions.	18

RECOMMENDED BOOKS:

1. Physical Therapy For Children- Susan K.Campbell.
2. Pediatric Physical Therapy- Tecklin.
3. Treatment Of Cerebral Palsy And Motor Delay- Sofia Levit

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECHNIQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-III								
COURSE CODE: MPT19374								
COURSE CREDIT								
HOURS / WEEK			HOURS/SEMESTER					CREDITS
L	T	P	L	T	P	TOTAL		
-	-	4	-	-	60	60		2
Learning Outcomes:								
By the end of the course, the student								
<ol style="list-style-type: none"> 1. Should complete data collection. 2. Should tabulate the data collected and perform statistical analysis and interpretation. 								

1. The student should undertake data collection systematically according to the research methodology.
2. Tabulate the obtained data and perform statistical analysis and interpretation of the results.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
100	-	100

COURSE TITLE : CLINICAL TRAINING -III								
COURSE CODE: MPT19375								
COURSE CREDIT								
HOURS / WEEK			TOTAL HOURS /SEMESTER					CREDITS
L	T	P	L	T	P	TOTAL		
-	-	15	-	-	225	225		5
Learning Outcomes:								
By end of the course the students will be able to								
1. Demonstrate the assessment techniques of various conditions								
2. Schedule the evidence based protocol for physiotherapy management according to their condition								
3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.								

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

MPT IN PEDIATRICS

COURSE TITLE PAEDIATRIC ORTHOPAEDIC CONDITIONS

SEMESTER - IV

COURSE CODE MPT19471

COURSE CREDIT

HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4

LEARNING OUTCOMES:

At the end of course post graduate student should be able to

- Understand Description of basic orthopedic conditions- traumatic injuries, congenital anomalies.
- Recognize the exam findings and treatment guidelines for orthopedic and musculoskeletal conditions.
- Identify the appropriate condition and its diagnostic procedure.
- Access and reflect on ethical challenges when caring for pediatric patients.
- Identify a patient's medical needs and assess barriers in accessing care.
- Prescribe exercises, orthosis and prosthetic devices for pediatric conditions.
- Enumerate treatment procedures for sports injuries

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	Describe in detail about the ORTHOPEDIC CONDITIONS: <ul style="list-style-type: none"> • Types of fractures and its management • Limb length deficiency • CTEV • CDH • Amputation 	12
II	Describe and identify <ul style="list-style-type: none"> • Traumatic head injury • Juvenile rheumatic arthritis • Osgood's Schatters Disease • Osteogenesis imperfecta congenital 	12
III	Describe and identify the <ol style="list-style-type: none"> 1. Musculoskeletal conditions: <ul style="list-style-type: none"> • Muscular dystrophy • Congenital muscular torticollis • Peripheral nerve injuries 	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
IV	Write in detail and discuss about the 1. Burns- classification, pathophysiology and physiotherapy management 2. Pediatric oncology- etiology and types, signs and symptoms, PT managements 3. Pediatric surgeries.	12
V	Enumerate the conditions in sports injuries and its management 1. Wheel chair prescriptions 2. Rehabilitation approaches- CBR, IBR 3. Orthotics and prosthetics 4. Management of congenital locomotor conditions.	12

RECOMMENDED BOOKS:

1. Physical Therapy For Children- Susan K.Campbell.
2. Pediatric Physical Therapy- Tecklin.
3. Treatment Of Cerebral Palsy And Motor Delay- Sofia Levit.
4. Neurological Rehabilitation- Umphred
5. Textbook Of Pediatrics- Guptha

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

**MPT IN PEDIATRICS
SEMESTER - IV**

COURSE TITLE :PAEDIATRIC CARDIORESPIRATORY CONDITIONSCOURSE							
COURSE CODE: MPT19472							
COURSE CREDIT							
HOURS/ WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
LEARNING OUTCOMES:							
At the end of course post graduate student should be able to							
<ul style="list-style-type: none"> • Describe the key elements about cardio-pediatric conditions. • Describe the physiology and mechanism behind pediatric conditions • Describe physical therapy importance in cardio-respiratory conditions. • Identify tools to assess cardiac conditions such as deformities of chest, breathlessness etc. • Analyse fitness and prescription of exercises for school children and for special pediatric population. • Assess importance of ICU management in pediatrics. • Enumerate various recent advanced techniques in cardiac – respiratory management. 							

UNIT	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	CARDIO RESPIRATORY CONDITIONS 1. Growth and development: respiratory system 2. Respiratory muscle physiology and its mechanism. 3. Cardio and thoracic surgeries 4. Circulatory system- fetal circulation 5. Physiology of asphyxia	12
II	Identification of Conditions requiring mechanical ventilation:- 1. High risk infants 2. Pulmonary conditions- asthma, cystic fibrosis, infant respiratory distress. 3. Cardiac conditions- cardiovascular structural defects. 4. Syndrome- bronchopulmonary dysplasia.	12
III	Describe in detail about 1. Sports and fitness in pediatrics. 2. Analysis of fitness and exercise prescription for special pediatric population.	12

UNIT	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
	3. Physical therapy in public schools.	
IV	1. Cardio respiratory assessment of neonatal and infants and related pediatric disorder. 2. Neonatal ICU 3. Pediatric ICU 4. Complications of low birth weight 5. CPR- pediatric and infant	12
V	1. Mother and child care 2. Post-operative management 3. Recent advance approaches in cardiopulmonary diseases. 4. Adaptive equipment for physically challenged children.	12

RECOMMENDED BOOKS:

1. Physical Therapy For Children- Susan K.Campbell.
2. Pediatric Physical Therapy- Tecklin.
3. Treatment Of Cerebral Palsy And Motor Delay- Sofia Levit.
4. Neurological Rehabilitation- Umphred
5. Textbook Of Pediatrics- Gupta
6. Cardio Pulmonary Rehabilitation- Elizabeth Dean
7. Motor Relearning Programme- Carr And Shepered
8. A Jean Ayres, Sensory Integration And The Child- 25th Edition
9. Cardiopulmonary Physical Therapy- Irwin And Tecklin, Mosby.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSIOTHERAPEUTICS - II							
COURSE CODE: MPT19473							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	8	-	-	120	120	4

Learning Outcomes:

At the end of the semester, the post graduate student should be able to

1. Analyze and apply appropriate evidence based physiotherapy approaches and techniques to pediatric patients suffering from various cardiovascular disorders.
2. Assess, evaluate, decide and plan appropriate treatment plan/protocol for children with different cardiorespiratory disorders.
3. Develop an understanding and working knowledge of handling, advising and correcting the abnormal patterns in pediatric cases.
4. Restore or promote functional abilities in children with various developmental, neurological and physical abnormalities.

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	<ol style="list-style-type: none"> 1. Assessment and management of orthopedic and cardiorespiratory conditions in pediatric cases. 2. Short term and long term management of TBI. 3. Strategies to improve cardiorespiratory functions in pediatric population. 4. Assessment and management of Asphyxia. Assessment and management of cardiothoracic surgeries. 	24
II	<ol style="list-style-type: none"> 1. Assessment and management of corrective strategies in acquired and congenital conditions like torticollis, muscular dystrophies, etc. 2. Management of High Risk Infant in ICU and application of mechanical ventilator. 3. Early identification and management of cardiovascular defects 4. Early identification and management of respiratory conditions 	24
III	<ol style="list-style-type: none"> 1. Assessment and management of burns in pediatric cases. 2. Assessment and management of pediatric oncogenic cases 3. Pre and post-operative management of pediatric surgeries 4. Fitness assessment and testing in pediatrics for sports. 5. Exercise prescription and physiotherapy approaches application in public schools. 	24
IV	<ol style="list-style-type: none"> 1. Neonatal ICU and pediatric ICU management. 2. Principles of prescribing orthosis, prosthesis and wheel chairs. 3. Principles and Application techniques of CPR in infants and pediatric population. 4. CBR and IBR basics and motives. 	24
V	<ol style="list-style-type: none"> 1. Do's and don'ts and advices for child and mother care. 2. Post-operative management of pediatric cases. 3. Advance Physiotherapy application in cardiac conditions in pediatric cases. 4. Use and prescription of adaptive equipment in physically challenged children. 	24

RECOMMENDED BOOKS:

1. Neurological Rehabilitation- Umphred
2. Textbook Of Pediatrics- Guptha
3. Cardio Pulmonary Rehabilitation- Elizabeth Dean
4. Motor Relearning Programme- Carr And Shepered
5. A Jean Ayres, Sensory Integration And The Child- 25th Edition

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECHNIQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-IV							
COURSE CODE: MPT19474							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	2
Learning Outcomes:							
By the end of the course, the student should							
<ol style="list-style-type: none"> 1. Collect and analyze the data and/or designing and validating the design; 2. Draw conclusions and give recommendations. 3. Demonstrate an understanding of the ethical issues associated with practitioner research. 							

1. The students have to submit the research project duly signed by the respective Guide and Head of the Institution three months before the University Examination.
2. The research work may be in the form of Reviews, Experimental, Non Experimental, Case series / Case studies

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
50	50	100

UNIVERSITY EXAMINATION

The End semester examination will be conducted with one Internal examiner and one external examiner

WRITTEN EXAMINATION (50 MARKS)

S.NO.	QUESTIONS	MARKS
1	Presentation	25 Marks
2	Viva	25marks

COURSE TITLE : CLINICAL TRAINING -IV							
COURSE CODE: MPT19475							
COURSE CREDIT							
HOURS / WEEK			TOTAL HOURS /SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	5
-	-	15	-	-	225	225	

Learning Outcomes:
By end of the course the students will be able to

1. Demonstrate the assessment techniques of various conditions
2. Schedule the evidence based protocol for physiotherapy management according to their condition
3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

MPT IN COMMUNITY REHABILITATION

SEMESTER - III							
COURSE TITLE : HEALTH CARE DELIVERY SYSTEM IN DEVELOPING COUNTRIES							
COURSE CODE: MPT19381							
COURSE CREDIT							
HOURS/WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	
At the end of the course, the student should be able to							
<ul style="list-style-type: none"> • Understand the professional responsibility and ethical principles in relation to individuals and community, both locally and internationally. • Evaluate and synthesize the research and professional literature. • Understand the significance and value of their knowledge to the wider community. 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	HEALTH CARE DELIVERY SYSTEM INTRODUCTION 1. Health problems of developed and developing countries 2. Concepts of health and disease, types of epidemiology and uses of epidemiology 3. Health planning in india including national health policy and national health programs 4. Role of international health organization, non-governmental organization, private voluntary organization and organized sector in health care delivery 5. Population growth problems, birth rates, death rates, age specific mortality rate	12
II	1. Major nutritional problems, etiology, manifestations and prevention 2. Family welfare and planning, reproductive and child health 3. Communicable and non communicable diseases 4. Air , water pollution 5. Noise and radiation pollution	12
III	1. Principles and methods of health education 2. Risk factors affecting health promotion and longevity 3. Community physiotherapist in health education and health promotion 4. Effective communication with the individual, family	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
	and community 5. Evaluate health education programme	
IV	1. Community physiotherapist in natural and man-made disasters and disaster management 2. Need of health economics and methods of economic analysis in health 3. Definition and types of medical records, importance of medical record 4. Quality control and management- principles and methods 1. 5. Inventory control and purchase management	12
V	1. Medico social problems, beliefs and practices related to acute and chronic diseases 2. Barriers of health care delivery system 3. Health problems associated in urbanization and industrialization 4. Society and family role in health and disease influence . 5. Socio economic status of health care delivery	12

RECOMMENDED BOOKS:

1. Industrial Therapy - Key G.L. Mosby St. Louis, 1987.
2. Social & Preventive Medicine by Park & Park.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPT IN COMMUNITY REHABILITATION

SEMESTER III COURSE TITLE : ADVANCED GERIATRIC PHYSIOTHERAPY AND WOMEN'S HEALTH COMMUNITY REHABILITATION COURSE CODE : MPT19382							
COURSE CREDIT							
HOURS/WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	4
At the end of the course, the student should be able to <ul style="list-style-type: none"> • Describe the professional responsibility and ethical principles in relation to individuals and geriatricand women community, both locally and internationally. • Evaluate and synthesize the research and professional literature. • Explain the significance and value of their knowledge to the wider community. 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	1. ADVANCED GERIATRIC PHYSIOTHERAPY AND WOMENS HEALTH 2. Theories of aging and demograph of aging population 3. Principles of geriatric rehabilitation, socio economic status of old age 4. Physiological changes associated with ageing 5. Moral values, quality of life in geriatrics 6. Ethical and legal issues in geriatric physiotherapy	12
II	1. Evidence based physiotherapy in geriatric care 2. Cultural and psychological variations and its influence on geriatric rehabilitation 3. Holistic and palliative physiotherapy case in old age 4. Decision making in treatment options and informed consent 5. International and national policies on aging and old age care	12
III	1. Causes of fall, fall risk assessment and prevention of fall in geriatrics 2. Postural awareness and postural correction and training in older adults 3. Orthosis and assistive mobility devices in old age	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
	4. Appropriate wheel chair prescription and training in geriatric population 5. Environmental modification techniques in improve quality of life in old age	
IV	1. Principles and methods of physical fitness and endurance in old age 2. Exercise testing and exercise prescription as per FITT principles in elderly 3. The frail and institutionalized elderly 4. Psychometric approaches in stress management in geriatrics 5. Public awareness to the various forms of impairment and disability in the community	12
V	1. Pre natal, natal, post natal physiotherapy management 2. Breast feeding techniques and physiotherapy management of breast cancer 3. Pelvic floor dysfunction and evidence based physiotherapy 4. Female athlete 5. Post menopausal problems and its management	12

RECOMMENDED BOOKS:

1. Physiotherapy in Obstetrics & Gynaecology - Polden & Mantle, Jaypee Brothers, New Delhi, 1994.
2. Obstetrics & Gynaecologic Physical Therapy - Wilder Elnine, Churchill, Livingstone, New York, 1988

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSIOTHERAPEUTICS - I									
COURSE CODE: MPT19383									
COURSE CREDIT									
HOURS / WEEK			HOURS/SEMESTER						CREDITS
L	T	P	L	T	P	TOTAL			3
-	-	6	-	-	90	90			
Learning Outcomes:									

At the end of the practical session the student will be able to

- Understand the professional responsibility and ethical principles in relation to individuals and community, both locally and internationally.
- Evaluate and synthesize the research and professional literature.
- Describe the significance and value of their knowledge to the wider community.

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	<ol style="list-style-type: none"> 1. Assessment of Health problems of developed and developing countries through the elaborate demonstration of concepts of health and disease, types of epidemiology and uses of epidemiology 2. Assessment on the Role of international health organization, non-governmental organization, private voluntary organization and organized sector in health care delivery 3. Demonstration of Population growth problems, birth rates, death rates, age specific mortality rate 4. Demonstration and analysis of Health planning in India 5. Demonstration on community based treatment on the Principles of geriatric rehabilitation, socio economic status of old age 	18
II	<ol style="list-style-type: none"> 1. Demonstrate with models on Communicable and non communicable diseases, 2. Assessment on Major nutritional problems, etiology, manifestations and prevention 3. Demonstration of Cultural and psychological variations on the community basics and its influence on geriatric rehabilitation 4. Strategies on Holistic and palliative physiotherapy case in old age 5. Demonstration of quality of life in geriatrics on various community basis 	18
III	<ol style="list-style-type: none"> 1. Demonstration of the need of Community physiotherapist in health education and health promotion 2. Assessment and demonstration of Effective communication with the individual, family and community and its advantages 3. Demonstration of donning and doffing of various 	18

	<p>Orthosis and assistive mobility devices in old age population in the community</p> <p>4. Demonstration of Environmental modification techniques in improve quality of life in old age population in the community</p> <p>5. Demonstration of Different wheel chair modifications and Appropriate wheel chair prescription and training in geriatric population</p>	
IV	<p>1. Demonstration of analysis of medical records and explaining the importance of medical record</p> <p>2. Demonstration of the strategies to rehabilitate The frail and institutionalized elderly</p> <p>3. Assessment on Public awareness to the various forms of impairment and disability in the community</p> <p>4. Demonstration on various International and national policies on aging and old age care</p> <p>5. Explaining the techniques on various stress management in geriatrics</p>	18
V	<p>1. Assessing the awareness on Breast feeding techniques and physiotherapy management of breast cancer among community</p> <p>2. Analyzing the Barriers of health care delivery system</p> <p>3. Demonstration of the barriers towards establishing evidence based physiotherapy in community</p> <p>4. Explaining the Society and family role in health and disease influence</p> <p>5. Demonstration of Socio economic status of health care delivery</p>	18

RECOMMENDED BOOKS:

1. Industrial Therapy - Key G.L. Mosby St. Louis, 1987.
2. Social & Preventive Medicine by Park & Park.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECNQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks

2	VIVA	25 Marks
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COURSE TITLE : RESEARCH PROJECT-III							
COURSE CODE: MPT19384							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	2
-	-	4	-	-	60	60	
Learning Outcomes:							
By the end of the course, the student							
1. Should complete data collection.							
2. Should tabulate the data collected and perform statistical analysis and interpretation.							

1. The student should undertake data collection systematically according to the research methodology.
2. Tabulate the obtained data and perform statistical analysis and interpretation of the results.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
100	-	100

COURSE TITLE : CLINICAL TRAINING –III
COURSE CODE: MPT19385
COURSE CREDIT

HOURS / WEEK			TOTAL HOURS /SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	15	-	-	225	225	5

Learning Outcomes:

By end of the course the students will be able to

1. Demonstrate the assessment techniques of various conditions
2. Schedule the evidence based protocol for physiotherapy management according to their condition
3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

MPT IN COMMUNITY REHABILITATION

SEMESTER - IV		
COURSE TITLE : INDUSTRIAL AND COMMUNITY BASED REHABILITATION		
COURSE CODE : MPT19481		
COURSE CREDIT		
HOURS/WEEK	HOURS/SEMESTER	CREDITS

L	T	P	L	T	P	TOTAL	4
3	1	-	45	15	-	60	
<p>At the end of the course the student,</p> <ol style="list-style-type: none"> 1. Will understand the professional responsibility and ethical principles in relation to individuals and community, both locally and internationally. 2. Will have an ability to evaluate and synthesize the research and professional literature. 3. Will have an understanding of the significance and value of their knowledge to the wider community. 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	<p>INSTITUTIONAL AND COMMUNITY BASED REHABILITATION</p> <ol style="list-style-type: none"> 1. Principles of institutional based rehabilitation 2. Management of institutional based rehabilitation 3. Implementation of institutional based rehabilitation in urban , semi urban and rural areas 4. Proactive, coordinated and preventive case delivered by a team 5. Population based models and disease specific integrated case models 	12
II	<ol style="list-style-type: none"> 1. Meaning, scope, basic principles and strategies of community based rehabilitation 2. CBR is a context specific program as in different socio cultural and economic conditions 3. Different term approaches and referral systems in cbr 4. Building and use of existing resources of CBR Development of referral and resources directory 	12
III	<ol style="list-style-type: none"> 1. Global, national and local legislations concerning disability and development 2. Poverty, disability and developmental programs 3. Schemes and concessions for persons with disabilities 4. Advocacy and rights of persons with disabilities 5. Techniques used in persons with disability in the community 	12
IV	<ol style="list-style-type: none"> 1. Screening for identifying disabilities and tools used in CBR 2. Role of community in the prevention of disability 3. Prevention and incidence of disability as per the last 	12

	<p>census data</p> <p>4. Assessing the needs of persons with disability and family using need assessment tools</p> <p>5. Guidance and counseling to persons with disability and their family</p>	
V	<p>1. Identification of behavioural problems and application of appropriate teaching and learning strategies</p> <p>2. Sustaining social relationship with friends, parents, spouse and community members</p> <p>3. Independence and management of daily living skills and mobility</p> <p>4. Identifying trades and need for recreational training</p> <p>5. Planning for placements, developing linkages, record keeping and report writing</p>	12

RECOMMENDED BOOKS:

1. Industrial Therapy - Key G.L. Mosby St. Louis, 1987.
2. Social & Preventive Medicine by Park & Park.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPT IN COMMUNITY REHABILITATION

<p>COURSE TITLE : INDUSTRIAL PHYSIOTHERAPY AND ERGONOMICS</p> <p>SEMESTER - IV</p> <p>COURSE CODE : MPT19482</p>							
COURSE CREDIT							
HOURS/WEEK			HOURS/SEMESTER				CREDITS 4
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	
<p>At the end of the course, the postgraduate student should be able to</p> <ol style="list-style-type: none"> 1. Describe the professional responsibility and ethical principles in relation to individuals and community, both locally and internationally. 							

2. Evaluate and synthesize the research and professional literature.
3. Describe the significance and value of their knowledge to the wider community.

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	<ol style="list-style-type: none"> 1. Present status of occupational health nationally and internationally, occupational health policy in India 2. Occupational health and safety, principles and functions 3. Worker care spectrum in industrial therapy 4. Principles of first aid and industrial hospital 5. Notifiable occupational disease in India as per factories act 1948 	12
III	<ol style="list-style-type: none"> 1. Biomedical waste rules, ESIC Act 2. Workman's compensation act, ICO conventions 3. Shift work in industry, womens at work 4. Team building, concepts and practices 5. Multidisciplinary team work in ergonomics 	12
IV	<ol style="list-style-type: none"> 1. Pre placement physical evaluation and clinical examination 2. Work conditioning and work hardening 3. Work site modification and training 4. Job Demand analysis and job placement analysis 5. Biomechanical analysis of work site and worker 	12
V	<ol style="list-style-type: none"> 1. Common injuries in industries and its prevention 2. Fitness training to industrial workers 3. Cumulative trauma disorders in work place 4. Pain evaluation and management 5. Relaxation methods to release stress in industrial workers 	12

RECOMMENDED BOOKS:

1. Industrial Therapy - Key G.L. Mosby St. Louis, 1987.
2. Social & Preventive Medicine by Park & Park.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSIOTHERAPEUTICS II							
COURSE CODE: MPT19483							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	8	-	-	120	120	4
Learning Outcome:							
At the end of the practical session the student will be able to							
<ul style="list-style-type: none"> • Understand the professional responsibility and ethical principles in relation to individuals and community, both locally and internationally. • Evaluate and synthesize the research and professional literature. Have an understanding of the significance and value of their knowledge to the wider community. 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	<ol style="list-style-type: none"> 1. Various methods of enhancing the quality of life for people with disabilities and their families; meet their basic needs in institutional based rehabilitation 2. Management of institutional based rehabilitation 3. Implementation of institutional based rehabilitation in urban , semi urban and rural areas 4. Population based models and disease specific integrated case models 5. Worker care spectrum in industrial therapy 6. Principles of first aid and industrial hospital 	24
II	<ol style="list-style-type: none"> 1. 1.strategies of community based rehabilitation 2. planning CBR program in different socio cultural and economic conditions 3. CBR for Occupational lung diseases 4. Psychology in occupational health, well being programme 	24
III	<ol style="list-style-type: none"> 1. disability and developmental programs in CBR 2. demonstrate various Techniques used in persons with disability in the community . 3. Team building, concepts and practices 4. Multidisciplinary team work in ergonomics 	24

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
IV	<ol style="list-style-type: none"> 1. Screening for identifying disabilities and tools used in CBR 2. Assessing the needs of persons with disability and family using need assessment tools 3. Guidance and counseling to persons with disability and their family 4. Pre placement physical evaluation and clinical examination 5. Implementation of Work conditioning and work hardening 6. Work site modification and training 7. Job Demand analysis and job placement analysis 8. Biomechanical analysis of work site and worker 	24
V	<ol style="list-style-type: none"> 1. Identification of behavioural problems and application of appropriate teaching and learning strategies 2. Sustaining social relationship with friends, parents, spouse and community members 3. recreational training 4. Planning for placements, developing linkages, report writing 5. Fitness training to industrial workers 6. Pain evaluation and management 7. Relaxation methods to release stress in industrial workers 	24

RECOMMENDED BOOKS:

1. Industrial Therapy - Key G.L. Mosby St. Louis, 1987.
2. Social & Preventive Medicine by Park & Park.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECNIQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-IV

COURSE CODE: MPT19484							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	2
Learning Outcomes:							
By the end of the course, the student should							
<ol style="list-style-type: none"> 1. Collect and analyze the data and/or designing and validating the design; 2. Draw conclusions and give recommendations. 3. Demonstrate an understanding of the ethical issues associated with practitioner research. 							

1. The students have to submit the research project duly signed by the respective Guide and Head of the Institution three months before the University Examination.
2. The research work may be in the form of Reviews, Experimental, Non Experimental, Case series / Case studies

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
50	50	100

UNIVERSITY EXAMINATION

The End semester examination will be conducted with one Internal examiner and one external examiner

WRITTEN EXAMINATION (50 MARKS)

S.NO.	QUESTIONS	MARKS
1	Presentation	25 Marks
2	Viva	25marks

COURSE TITLE : CLINICAL TRAINING -IV								
COURSE CODE: MPT19485								
COURSE CREDIT								
HOURS / WEEK			TOTAL HOURS /SEMESTER					CREDITS
L	T	P	L	T	P	TOTAL		5
-	-	15	-	-	225	225		
Learning Outcomes:								
By end of the course the students will be able to								
1. Demonstrate the assessment techniques of various conditions								
2. Schedule the evidence based protocol for physiotherapy management according to their condition								
3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.								

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

MPT IN HAND REHABILITATION							
SEMESTER - III							
COURSE TITLE : FUNCTIONAL ANATOMY AND BIOMECHANICS OF HAND AND WRIST							
COURSE CODE:MPT19391							
COURSE CREDIT							
HOURS/WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	
LEARNING OUTCOMES:							
<p>On completion of the course, the students should be able to</p> <ol style="list-style-type: none"> 1) Understand the musculoskeletal conditions pertaining to hand conditions. 2) Perform appropriate assessment and implement treatment plan based on the assessment. 3) Rationalize various approaches for hand rehabilitation based on etiology of disease to progress with rehabilitation. 							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	<ol style="list-style-type: none"> 1. Embryology of Hand 2. Structure of hand 3. Surface anatomy of hand. 4. Physiology: hand and wrist from spinal root level.- developmental physiology of hand 5. Applied anatomy, physiology and biomechanics of tendons. 6. Flexor tendons and Extensor tendon 7. Joints and Soft tissue structures around hand 8. Motor functions of median, radial, ulnar nerve. 9. Lymphatic system of the hand 	12
II	<ol style="list-style-type: none"> 1. Normal mechanics of wrist and finger function 2. Functions of hand 3. Pathomechanics of wrist and hand. 4. Position of function and immobilization. 5. Arches of hand and its biomechanical importance 6. Mechanism for finger flexion & Mechanism for finger extension. 	12
III	<ol style="list-style-type: none"> 1. Fracture of carpal bones 2. Fracture of metacarpal bones 3. Fracture of phalanges. 4. Hand trauma. 5. Amputations of Hand 	12

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
IV	1. Hand burns 2. Arthritic conditions of the hand 3. Leprosy hand and deformities 4. Nerve injuries around wrist and hand	12
V	1. Spastic hand. 2. Soft tissue injuries 3. Hand surgeries 4. Sports injuries of hand	12

RECOMMENDED BOOKS:

1. Kinesiology Of Musculoskeletal System. Foundations For Physical Rehabilitation. Donald.A.Neumann.
2. Kinesiology –The Mechanics And Pathomechanics Of Human Movement. Carol. A. Oatis.
3. Hand Pain & Impairmentr. Calliet (F.A.Davis & Co) 1. Rehabilitation Of The Hand: Surgery And Therapy-Hunter, Mackin, Callahan.
4. Concepts In Hand Rehabilitation-Barbarg. Stanley, Susanm. Tribuzi.
5. Kinesiology –The Mechanics And Pathomechanics Of Human Movement. Carol. A. Oatis
6. The Hand : Principles& Techniques Of Splint Making In Rehabilitation-Barr N R.(Butter Worths) 1. Concepts In Hand Rehabilitation- Barbarg. Stanley, Susanm. Tribuzi
7. Hand Rehabilitation-Toubiana

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

MPT IN HAND REHABILITATION							
SEMESTER - III							
COURSE TITLE -HAND AND WRIST PATHOLOGIES							
COURSE CODE:MPT19392							
COURSE CREDIT							
HOURS/WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	
LEARNING OUTCOMES:							
On completion of the course, the students should be able to							
1. Gain knowledge of various Diagnostic tools.							
2. Gain knowledge about the Disability Evaluation.							

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	Basics of imaging in hand and wrist disorders 1. X-RAY 2. CT SCAN 3. MRI 4. NCV	12
II	1. Assessment and evaluation of wrist and hand. 2. Sensory & Motor Assessment	12
III	1. Architecture of hand 2. Assessment of strength power and endurance. 3. Specific scales and outcome measures of pain, movement, ROM, Flexibility & joint mobility.	12
IV	1. Disability Evaluation of hand. 2. Types of Deformity	12
V	1. Pulse points Assessment	12

RECOMMENDED BOOKS:

1. Kinesiology Of Musculoskeletal System. Foundations For Physical Rehabilitation. Donald. A. Neumann.
2. Kinesiology –The Mechanics And Pathomechanics Of Human Movement. Carol. A. Oatis.
3. Hand Pain & Impairmentr. Calliet (F.A.Davis & Co) 1. Rehabilitation Of The Hand : Surgery And Therapy-Hunter, Mackin, Callahan.
4. Concepts In Hand Rehabilitation-Barbarg. Stanley, Susanm. Tribuzi.
5. Kinesiology –The Mechanics And Pathomechanics Of Human Movement. Carol.A. Oatis

6. The Hand : Principles & Techniques Of Splint Making In Rehabilitation-Barr N R.(Butter Worths) 1. Concepts In Hand Rehabilitation-Barbarg. Stanley, Susanm. Tribuzi
7. Hand Rehabilitation-Toubiana

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSIOTHERAPEUTICS I								
COURSE CODE: MPT19393								
COURSE CREDIT								
HOURS / WEEK			HOURS					CREDITS
L	T	P	L	T	P	TOTAL		3
-	-	6	-	-	90	90		
Learning Outcomes:								
At the end of the practical session the student will be able to								
<ol style="list-style-type: none"> 1. Perform the analysis and physical evaluation of anatomy and biomechanics of hand 2. Distinguish and Interpret between normal / abnormal findings in Hand conditions and to perform the differential diagnosis and to arrive at Physical diagnosis. 3. Analyse and apply the clinical dysfunctions due to pathology in hand that leads to disability 4. Formulate treatment protocol and to perform Physiotherapy management 								

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	Orientation and interpret the Physical basis, normal result & common abnormal responses, (in brief) hand and wrist X ray, Computerized Tomography, Magnetic Resonance Imaging, Nerve Conduction Velocity test	18
II	Physiotherapy assessment in Pre and post operative Tendon Transfer	18
III	Physiotherapy assessment of various types of Wrist and hand Fracture	18
IV	Functional assessment of hand, splinting technique, Stretching of various positions of hand and wrist	18
V	Orthopedic Implants designs, Post operative Assessment in hand and wrist.	18

RECOMMENDED BOOKS

1. Kinesiology Of Musculoskeletal System. Foundations For Physical Rehabilitation. Donald.A .Neumann.
2. Kinesiology –The Mechanics And Pathomechanics Of Human Movement.Carol.A.Oatis.
3. Hand Pain & Impairment. Calliet (F.A.Davis & Co) 1. Rehabilitation Of The Hand : Surgery And Therapy-Hunter, Mackin, Callahan.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECHNIQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-III							
COURSE CODE: MPT19394							
COURSE CREDIT							
HOURS / WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
-	-	4	-	-	60	60	
Learning Outcomes:							
By the end of the course, the student							
1. Should complete data collection.							
2. Should tabulate the data collected and perform statistical analysis and interpretation.							

1. The student should undertake data collection systematically according to the research methodology.
2. Tabulate the obtained data and perform statistical analysis and interpretation of the results.

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
100	-	100

COURSE TITLE : CLINICAL TRAINING -III									
COURSE CODE: MPT19395									
COURSE CREDIT									
HOURS / WEEK			TOTAL HOURS /SEMESTER						CREDITS
L	T	P	L	T	P	TOTAL			5
-	-	15	-	-	225	225			
Learning Outcomes:									
By end of the course the students will be able to									
1. Demonstrate the assessment techniques of various conditions									
2. Schedule the evidence based protocol for physiotherapy management according to their condition									
3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.									

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

MPT IN HAND REHABILITATION									
SEMESTER - IV									
COURSE TITLE: EVALUATION STRATEGIES FOR HAND AND WRIST									
COURSE CODE:MPT19491									
COURSE CREDIT									
HOURS/WEEK			HOURS/SEMESTER						CREDITS
L	T	P	L	T	P	TOTAL			4
3	1	-	45	15	-	60			
LEARNING OUTCOMES:									
On completion of the course, the students should be able to									
1) Gain knowledge of physiotherapy protocol for various tendon injuries.									
2) Gain knowledge of physiotherapy protocol for Burns.									
3) Use various Splinting techniques for Hand Conditions.									

UNITS	TITLE OF CONTENT	HOURS OF TEACHING/ LEARNING
I	<ol style="list-style-type: none"> 1. Post operative management for flexor tendon injuries 2. Post operative management for Extensor tendon injuries. 	12
II	<ol style="list-style-type: none"> 1. Arthroscopy procedures advanced surgical techniques in hand and its physiotherapy management. 2. Physiotherapy management in arthritic hand 3. Physiotherapy management in burns hand 4. Physiotherapy management in soft tissue injuries of hand 	12
III	<ol style="list-style-type: none"> 1. Physiotherapy management after nerve palsies. 2. Physiotherapy management in sports injuries around hand 3. Bracing 4. Splinting techniques of hand. 	12
IV	<ol style="list-style-type: none"> 1. Position of anti contracture 2. Stretching methods 3. Various Hand strengthening techniques. 	12
V	<ol style="list-style-type: none"> 1. Ergonomic advice related to hand conditions. 2. Tendon gliding exercises. 	12

RECOMMENDED BOOKS:

1. Kinesiology Of Musculoskeletal System. Foundations For Physical Rehabilitation. Donald.A.Neumann.
2. Kinesiology –The Mechanics And Pathomechanics Of Human Movement.Carol.A.Oatis.
3. Hand Pain & Impairmentr.Calliet (F.A.Davis & Co) 1. Rehabilitation Of The Hand:Surgery And Therapy-Hunter, Mackin, Callahan.
4. Concepts In Hand Rehabilitation-Barbarg.Stanley,Susanm.Tribuzi.
5. Kinesiology –The Mechanics And Pathomechanics Of Human Movement. Carol.A.Oatis
6. The Hand : Principles& Techniques Of Splint Making In Rehabilitation-Barr N R.(Butter Worths) 1.Concepts In Hand Rehabilitation-Barbarg.Stanley,Susanm.Tribuzi
7. Hand Rehabilitation-Toubiana

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
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30	70	100
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MPT IN HAND REHABILITATION							
SEMESTER - IV							
COURSE TITLE-PHYSIOTHERAPY TREATMENT STRATEGIES FOR HAND AND WRIST							
COURSE CODE:MPT19492							
COURSE CREDIT							
HOURS/WEEK			HOURS/SEMESTER				CREDITS
L	T	P	L	T	P	TOTAL	
3	1	-	45	15	-	60	
LEARNING OUTCOMES:							
On completion of the course, the students should be able to							
1) Acquire knowledge of Occupational Hand Disorders.							
2) Assess and plan physiotherapy treatment for Entrapment Neuropathies of Hand.							
3) Assess and plan physiotherapy treatment for Repetitive strain injuries.							
UNITS	TITLE OF CONTENT					HOURS OF TEACHING/ LEARNING	
I	1. 1.Tendon repairs 2. Repetitive strain injuries 3. 3.Congenital hand deformities 4. 4.Osteoarthritis digits					12	
II	Occupational hand disorders and its 1. computer operators 2. Musicians 3. Hand arm vibration syndrome.					12	
III	Defense injuries – cut injuries, bruises					12	
IV	Compressive neuropathies – Carpel tunnel syndrome, Pronator teres syndrome					12	
V	Tumours					12	

RECOMMENDED BOOKS:

1. Kinesiology Of Musculoskeletal System. Foundations For Physical Rehabilitation. Donald.A.Neumann.
2. Kinesiology –The Mechanics And Pathomechanics Of Human Movement. Carol.A.Oatis.
3. Hand Pain & Impairment Calliet (F.A.Davis&Co) 1. Rehabilitation Of The Hand : Surgery And Therapy-Hunter, Mackin, Callahan.
4. Concepts In Hand Rehabilitation-Barbarg.Stanley,Susanm.Tribuzi.
5. Kinesiology –The Mechanics And Pathomechanics Of Human Movement.Carol.A.Oatis

6. The Hand : Principles & Techniques Of Splint Making In Rehabilitation-Barr N R.(Butter Worthy) 1.Concepts In Hand Rehabilitation-
Barbarg.Stanley,Susanm.Tribuzi
7. Hand Rehabilitation-Toubiana

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
30	70	100

COURSE TITLE : PHYSIOTHERAPEUTICS II						
COURSE CODE: MPT19493						
COURSE CREDIT						
HOURS / WEEK			HOURS/SEMESTER			CREDITS
L	T	P	L	T	P	TOTAL
-	-	8	-	-	120	120
						4
Learning Outcome:						
At the end of the practical session the student will be able to						
Perform the Physical evaluation of Entrapment Neuropathies and Occupational Related Injuries / conditions						
Distinguish and Interpret between normal and abnormal findings in various hand Conditions and to perform the differential diagnosis and to arrive at Physical diagnosis.						
Formulate treatment protocol and to perform Physiotherapy management and advanced physiotherapeutic techniques in various Hand Conditions.						

UNITS	TITLE OF THE CONTENT	HOURS OF TEACHING/ LEARNING
I	Evaluation of Motor impairment , Sensory Assessment, Assessment Motor control in wrist and hand	24
II	Assessment and Evaluation of Occupational hand disorders	24
III	Analysis and Classification of Entrapments and Repetitive Strain Injury	24
IV	Aids and Appliances used in adults and Pediatric Hand Conditions	24
V	Physiotherapy Assessment of various hand conditions Tendon repairs, Repetitive starin injuries ,Congenital hand deformities, Osteoarthritis digits	24

RECOMMENDED BOOKS:

1. Concepts In Hand Rehabilitation-Barbarg.Stanley,Susanm.Tribuzi.
2. Kinesiology –The Mechanics And Pathomechanics Of Human Movement.Carol.A.Oatis
3. The Hand : Principles& Techniques Of Splint Making In Rehabilitation-Barr N R.(Butter Worths) 1.Concepts In Hand Rehabilitation-Barbarg. Stanley, Susanm.Tribuzi
4. Hand Rehabilitation-Toubiana

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
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30	70	100
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**UNIVERSITY EXAMINATION
PRACTICAL EXAMINATION (70 MARKS)**

S.NO.	TECNQUES	MARKS
1	ASSESSMENT TREATMENT TECHNIQUES	45Marks
2	VIVA	25 Marks

COURSE TITLE : RESEARCH PROJECT-IV								
COURSE CODE: MPT19494								
COURSE CREDIT								
HOURS / WEEK			HOURS/SEMESTER				CREDITS	
L	T	P	L	T	P	TOTAL		2
-	-	4	-	-	60	60		
Learning Outcomes:								
By the end of the course, the student should								
1. Collect and analyze the data and/or designing and validating the design;								
2. Draw conclusions and give recommendations.								
3. Demonstrate an understanding of the ethical issues associated with practitioner research.								

1. The students have to submit the research project duly signed by the respective Guide and Head of the Institution three months before the University Examination.
2. The research work may be in the form of Reviews, Experimental, Non Experimental, Case series / Case studies

SCHEME OF EXAMINATION

IA	FINAL EXAM	TOTAL
50	50	100

UNIVERSITY EXAMINATION

The End semester examination will be conducted with one Internal examiner and one external examiner

WRITTEN EXAMINATION (50 MARKS)

S.NO.	QUESTIONS	MARKS
1	Presentation	25 Marks
2	Viva	25marks

COURSE TITLE : CLINICAL TRAINING -IV								
COURSE CODE: MPT19495								
COURSE CREDIT								
HOURS / WEEK			TOTAL HOURS /SEMESTER					CREDITS
L	T	P	L	T	P	TOTAL		5
-	-	15	-	-	225	225		

Learning Outcomes:
By end of the course the students will be able to

1. Demonstrate the assessment techniques of various conditions
2. Schedule the evidence based protocol for physiotherapy management according to their condition
3. Explain the various treatment techniques at the various wards/ OPD in the hospital in their specialization.

It will be evaluated as Internal Assessment taking into consideration the maintenance of clinical logbook, clinical postings in the various departments, and prescribed case presentation in the particular semester. Details enclosed in Annexure I along with the model evaluation format.

SCHEME OF EXAMINATION

Clinical Cases Log Book	Assessment of Skills		Total
	Clinical work	Min 6 Case presentation	
50	25	25	100

RESEARCH PROJECT/DISSERTATION

Every student pursuing MPT degree course is required to carry out work on a selected specialization under the guidance of a recognized postgraduate teacher. The results of such a work shall be submitted in the form of dissertation.

The dissertation is aimed to train a graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, comparison of results and drawing conclusions.

Every student should follow the prescribed schedule to present the proposed dissertation to the scientific committee of the institution before the end of I Semester, obtain Ethical Committee Clearance and carryout data collection in the II Semester, complete statistical analysis before the end of III Semester, dissertation writing and submission of the dissertation to the office of controller of examination three months before the commencement of the university examination. In each semester dissertation carries 2 credits.

Every student has to submit a progress report at the end of each semester to the Dean through the guide to obtain the prescribed internal marks and credits. The final end semester university examination will be held for 50 marks as internal assessment and 50 marks as End semester Examination with an internal examination/guide and an external examiner. No change in the dissertation topic or guide shall be made without prior approval from the university.

The following is the framework of the dissertation that has to be in the following format

1. Introduction
2. Hypotheses
3. Aim of the study
4. Need for the study
5. Review of Literature
6. Methodology
7. Inclusion criteria
8. Exclusion criteria
9. Procedure
10. Outcome measures
11. Statistical Analysis
12. Results
13. Discussion
14. Conclusion
15. References
16. Annexures

Every Student presenting himself for the examination for first time shall submit three hard copies of a dissertation not exceeding 2500 words, in the format prescribed by the college, consisting of the result of his/her own study of important investigations carried out by him/her under the guidance of a recognized teacher together with a review of recent advances pertinent to that theme.

Dissertation shall be assessed by one internal Examiner and one external examiner. It shall be assessed as accepted or rejected, with marks awarded for a maximum of 50 marks in Internal Assessment and 50 marks in the University Examination. In the event of discrepancy between internal and external examiners, the dissertation will be referred to a third examiner and his/ her verdict on the same will be taken as final.

A student who has submitted his/her dissertation once will not be required to submit a fresh dissertation if he/she re-appears for the examination in the same branch on a subsequent occasion, provided that the dissertation has been approved by the examiners.

SCHEDULE	MASTER OF PHYSIOTHERAPY (M.P.T)
Commencing Month	July
Guide Allotment	July
Protocol Presentation	October
Ethical Clearance	February
Mid Review Meeting	April
Final Submission	3 months before the commencement of MPT IV Semester University Examination

APPENDIX-I

- Teaching Activities – UG Teaching
- Learning Activities : Self Learning, Use of computers & library apart from classroom teaching
- Participation in departmental activities;

a)	Journal Club*	-Minimum One per semester
b)	Seminars	- Minimum two per semester
c)	Case Presentation	-Minimum 6 cases per Semester
d)	Community work, camps / field visits	- Minimum One per semester (followed by reflective writing)
e)	Dissertation work	-Minimum 240 hours in two years
f)	Participation in International and National conferences/ presentation of paper	-Minimum 2 in two years

*Minimum 1 journal club will be conducted in the core course in each semester as follows:

- I semester – Physical and Functional Evaluation
- II semester – Electrodiagnosis and Physical agents
- III & IV semester – Any elective course

TABLE - 1
MODEL CHECK-LIST FOR EVALUATION OF JOURNAL CLUB
PRESENTATIONS

Name of the Student :

Name of Faculty / Observer :

Date :

Sl. No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
	Article chosen was					
1.	Extent of understanding the scope & objectives of the paper by the					
2.	Whether cross references have been consulted					
3.	Whether other relevant publications consulted					
4.	Ability to respond to questions on the paper / subject					
5.	Audio – Visual aids used					
6.	Ability to defend the paper					
7.	Clarity of presentation					
8.	Any other observation					
9.	Total Score					

TABLE - 2
MODEL CHECK-LIST FOR EVALUATION OF SEMINAR PRESENTATIONS

Name of the Student :

Name of Faculty / Observer :

Date :

Sl. No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Whether other relevant publications consulted					
2.	Whether cross references have been consulted					
3.	Completeness of preparation					
4.	Clarity of presentation					
5.	Understanding of subject					
6.	Ability of answer questions					
7.	Time scheduling					
8.	Appropriate use of Audio – Visual					
9.	Overall performance					
10.	Any other observations					
Total Score						

TABLE - 3
MODEL CHECK-LIST FOR EVALUATION OF CLINICAL WORK

Name of the Student :

Name of Faculty / Observer :

Date :

Sl. No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Regularity of attendance					
2.	Punctuality					
3.	Interaction with colleagues and supportive staff					
4.	Maintenance of case records					
5.	Presentation of cases during rounds					
6.	Involvement in patient management					
7.	Bedside manners					
8.	Rapport with patients					
9.	Treatment approaches & techniques					
10.	Overall quality of ward work					
	Total Score					

TABLE - 4
EVALUATION FOR CASE PRESENTATION

Name of the Student :

Name of Faculty / Observer :

Date :

Sl. No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Completeness of History					
2.	Whether all relevant points elicited					
3.	Clarity of presentation					
4.	Logical order					
5.	Mentioned all positive and negative points of importance					
6.	Accuracy of general physical examination					
7.	Whether all physical signs noted or interpreted					
8.	Special test or differential diagnosis done					
9.	Investigations required logically from history & findings					
10.	Investigations required Special investigation					
11.	AIMS					
12.	MEANS					
13.	Treatment Techniques					
14.	Others					
	Total Score					

TABLE - 5
MODEL CHECK-LIST FOR EVALUATION OF TEACHING SKILL PRACTICE

Name of the Student :

Name of Faculty / Observer :

Date :

Sl. No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Communication of the purpose of the talk					
2.	Evokes audience interest in the subject					
3.	The introduction					
4.	The sequence of ideas					
5.	The use of practical examples & / or illustrations					
6.	Speaking style (enjoyable, monotonous, etc., -Specify)					
7.	Attempts audience participation					
8.	Summary of the main points at the end					
9.	Asks questions					
10.	Answer questions asked by the audience					
11.	Rapport of speaker with his audience					
12.	Effectiveness of the talk					
13.	Uses Audio visual aids appropriately					
	Total Score					

TABLE - 6
MODEL CHECK LIST FOR DISSERTATION PRESENTATION

Name of the Student :

Name of Faculty / Observer :

Date :

Sl. No	Items for observation during presentation	Poor 0	Below Average 1	Average 2	Good 3	Very Good 4
1.	Interest shown in selecting a topic					
2.	Appropriate review of literature					
3.	Discussion with guide & other faculty					
4.	Quality of protocol					
5.	Preparation of proforma					
	Total Score					

TABLE - 7
CONTINUOUS EVALUATION OF DISSERTATION WORK BY GUIDE

Name of the Student :

Name of Faculty / Observer :

Date :

Sl. No	Points to be considered	Poor 0	Below Average 1	Average 2
1.	Interest shown in selecting a topic			
2.	Appropriate review of literature			
3.	Discussion with guide & other faculty			
4.	Quality of protocol			
5.	Preparation of proforma			
	Total Score			