

Ordinance/Regulations
Study & Evaluation Scheme
of
Master of Physiotherapy
(MPT)



[As per the guidelines given by National Commission for Allied and Healthcare Professions (NCAHP Act 2021) Physiotherapy Handbook Curriculum & Rules and Regulations and the CBCS guidelines given by UGC]



SWAMI VIVEKANANDA UNIVERSITY

Telinipara, Barasat-Barrackpore Road, Bara Kanthalia, WB - 700121

School of Allied Health Sciences

Department of Physiotherapy

Master of Physiotherapy (MPT)

<u>Study & Evaluation Scheme</u>			
<u>SUMMARY</u>			
<i>Institute Name</i>	<i>Department of Physiotherapy, Swami Vivekananda University, Kolkata</i>		
<i>Program</i>	<i>Master of Physiotherapy (MPT)</i>		
<i>Duration</i>	<i>Two Years full time (Four Semesters)</i>		
<i>Medium</i>	<i>English</i>		
<i>Minimum Required Attendance</i>	<i>75%</i>		
<i>Credits</i>	<i>118</i>		
Assessment:			
Evaluation	Internal	External	Total
Theory	40	60	100
Lab& Clinical Training	60	40	100
Duration of Examination	External	Internal	
	3 Hours	1.5 Hours	



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Program Structure-MPT

Introduction:

High quality physiotherapy education is essential for this post - modern era. People require rehabilitation in different aspects of life. A specialized physiotherapist is well equipped to cater to such needs. The curriculum is designed as such that the student can gain in depth mastery of the academic disciplines and applied functional areas as per the individual requirements of the patient population.

The Physiotherapy department offers MPT with four specializations viz., Orthopaedics, Cardiorespiratory, Neurology, Sports. The expansion of the hospitals in the present scenario requires candidates with strong professional attitudes. There is a massive demand for candidates who can fit into specified roles with adequate efficiency, and an MPT degree solves this demand-supply gap.

Course handouts for students will be provided in every course. A course handout is a thorough teaching plan of a faculty taking up a course. It is a blueprint which will guide the students about the pedagogical tools being used at different stages of the syllabus coverage and more specifically the topic-wise complete plan of discourse, that is, how the faculty members treat each and every topic from the syllabus and what they want the student to do, as an extra effort, for creating an effective learning. It may be a case study, a role-play, a classroom exercise, an assignment- home or field, or anything else which is relevant and which can enhance their learning about that particular concept or topic. Due to limited availability of time, most relevant topics will have this kind of method in course handout.

The Master of Physiotherapy course is a 2-year fulltime program with 4 Semesters leading to the degree that equips the student with analytical, evidence based and Hands on learning skills. The program is generic in nature and has a component of additional learning of one area leading to an elective in that area.

GRADUATE ATTRIBUTES:

- | No. | Attributes |
|-----|---|
| 1. | Physiotherapy Expert |
| 2. | Communicator |
| 3. | Researcher |
| 4. | Facilitator of learning and Lifelong Learner |
| 5. | Leader and team member |
| 6. | Manager and Entrepreneur |
| 7. | Professionalism, Employability and Accountability |
| 8. | Social Responsibility |



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MPT: Two-Year (4-Semester)			
Basic Structure: Distribution of Courses			
Sl.No.	Type of Course	Total Number of Courses	Total Credits
1	Core Course (CC)	9	27
2	Discipline Specific Course (DSC)	6	18
3	Skill-Enhancement Course (SEC)	4	35
4	Discipline Specific Elective Course (DSEC)	2	5
5	Ability Enhancement Course (AEC)	7	15
6	Ability Enhancement Compulsory Course (AECC)	1	3
7	Research Project Report (RP)	2	15
	SUBTOTAL	31	118

Choice Based Credit System (CBCS)

Choice Based Credit System (CBCS) is a versatile and flexible option for each student to achieve his/her target number of credits as specified by the UGC and adopted by our University.

The following is the course module designed for the MPT program:

Core Course (CC): Core courses of MPT program will provide a holistic approach to physiotherapy education, giving students an overview of the field, a basis to build and specialize upon. These core courses are the strong foundation to establish physiotherapy knowledge and provide broad multi-disciplined knowledge which can be studied further in depth during the elective phase.

The core courses will provide more practical-based knowledge, case-based lessons and collaborative learning models. It will train the students to analyze, decide, and develop an evidence-based rehabilitation program based on the individual needs of the patients with different conditions.

Skill Enhancement Course (SEC): This course provides value-based and/or skill-based knowledge.



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Ability Enhancement Compulsory Course (AECC): As per the guidelines of Choice Based Credit System (CBCS) for all Universities, including the private Universities, the **Ability Enhancement Compulsory Course (AECC)** is a course designed to develop the ability of students in effective professional communication learning through Medical Law and Ethics, the ability to teach through Educational Methodology and developing entrepreneur skills, promoting innovation and managerial skills.

Value Added Course (VAC): A value-added course is a non-credit course provided to the students outside the syllabus which is basically meant to enhance general ability of students in areas like soft skills, quantitative aptitude and reasoning ability - required for the overall development of a student and at the same time crucial for industry/corporate demands and requirements. The Value-Added Courses are aimed to be provided to the students within and across University. The student possessing these skills will definitely develop acumen to perform well during the recruitment process of any premier organization and will have the desired confidence to face the interview. Moreover, these skills are also essential in day-to-day life of the medical world.

Program/Discipline Specific Elective Course (DSEC): The discipline specific elective course is chosen to make students specialist or having specialized knowledge of a specific domain like Cardiorespiratory, Neurology, Orthopedics, Sports.

Discipline Specific Course (DSC): The discipline specific course is chosen to make students having knowledge of a specific domain of Physiotherapy like Exercise and Electrophysiology, Biomechanics, Physical and Functional Diagnosis etc.

Research Project Report (RP): In addition to learning research theory there will be mandatory individual research project. It will enable the students to demonstrate skill in conducting research, interpreting and utilizing the findings from health-related research which will provide hands on experience in addition to theory in health care settings.



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**MASTER OF PHYSIOTHERAPY
 I SEMESTER
 MPT IN ORTHOPEDICS**

Corse Code	CC/DCC	AEC/ AECC	SEC	DSEC	RP	Total Hours/ Sem	L	T	P	C
MPT101	Basic Medical Sciences					60	3	1	0	4
MPT102		Advanced Electrotherapy and Electrodiagnosis				45	2	1	0	3
MPT103	Research Methodology & Biostatistics					60	3	1	0	4
MPT104	Professional Ethics for Physiotherapists					45	2	1	0	3
MPT105	Principles of Physical and Functional Evaluation					30	2	0	0	2
MPT195	Principles of Physical and Functional Evaluation: Practical					60	0	0	4	2
MPT106		Seminar Presentation				60	0	0	4	2
MPT107			Clinical Training			450	0	0	20	10
Total						810	12	4	28	30
							Total Hours/ Week 44			

Core Course – CC, Discipline Specific Core Course – DCC, Discipline Specific Elective Course - DSEC, Dissertation/ Research Project – RP, Ability Enhancement Courses - AEC, Ability Enhancement Compulsory Courses – AECC, Skill Enhancement Courses - SEC



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MASTER OF PHYSIOTHERAPY
II SEMESTER
MPT IN ORTHOPEDICS

Corse Code	CC/DCC	AEC/ AECC	SEC	DSEC	RP	Total Hours/ Sem	L	T	P	C
MPT201	Medical and Surgical Conditions					45	3	0	0	3
MPT202	Applied Biomechanics & Kinesiology					45	3	0	0	3
MPT203	Exercise Physiology, Testing & Prescription					45	3	0	0	3
MPT204(O)	Principles and Fundamentals of Orthopedics Rehabilitation					60	3	1	0	4
MPT294(O)	Principles and Fundamentals of Orthopedics Rehabilitation - Practical					60	0	0	4	2
MPT205		Entrepreneurship and Management for Physiotherapists				30	2	0	0	2
MPT206		Evidence Based Seminar Presentation				60	0	0	4	2
MPT207			Clinical Training			450	0	0	20	10
Total						795	14	1	28	29
							Total Hours/ Week 43			



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MASTER OF PHYSIOTHERAPY
III SEMESTER
MPT IN ORTHOPEDICS

Corse Code	CC/DCC	AEC/AECC	SEC	DSEC	RP	Total Hours/ Sem	L	T	P	C
MPT301(O)	Applied Orthopedics Rehabilitation I					60	3	1	0	4
MPT391(O)	Applied Orthopedics Rehabilitation I - Practical					60	0	0	4	2
MPT302		Educational Methodology and Pedagogy				30	2	0	0	2
MPT303	Advanced Physiotherapeutic Management					45	2	1	0	3
MPT304				Finess & Health Promotion		30	2	0	0	2
MPT305		Evidence Based Seminar Presentation				60	0	0	4	2
MPT306					Research Project	75	0	5	0	5
MPT307			Clinical Training			450	0	0	20	10
Total						810	9	7	28	30
							Total Hours/ Week 44			

Core Course – CC, Discipline Specific Core Course – DCC, Discipline Specific Elective Course - DSEC, Dissertation/ Research Project – RP, Ability Enhancement Courses - AEC, Ability Enhancement Compulsory Courses – AECC, Skill Enhancement Courses - SEC



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 IV SEMESTER
 MPT IN ORTHOPEDICS**

Corse Code	CC/DCC	AEC/AECC	SEC	DSEC	RP	Total Hours/ Sem	L	T	P	C
MPT401(O)	Applied Orthopedics Rehabilitation II					60	3	1	0	4
MPT491(O)	Applied Orthopedics Rehabilitation II -Practical					60	0	0	4	2
MPT402				Geriatric Physiotherapy		45	3	0	0	3
MPT403		Women Health & Therapeutics				45	3	0	0	3
MPT404		Evidence Based Seminar Presentation				60	0	1	4	2
MPT405			Clinical Training			225	0	0	10	5
MPT406					Research Dissertation	450	0	0	20	10
Total						945	9	2	38	29
							Total Hours/ Week 49			

Core Course – CC, Discipline Specific Core Course – DCC, Discipline Specific Elective Course - DSEC, Dissertation/ Research Project – RP, Ability Enhancement Courses - AEC, Ability Enhancement Compulsory Courses – AECC, Skill Enhancement Courses - SEC



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I SEMESTER
MPT IN NEUROLOGY

Corse Code	CC/DCC	AEC/ AECC	SEC	DSEC	RP	Total Hours/ Sem	L	T	P	C
MPT101	Basic Medical Sciences					60	3	1	0	4
MPT102		Advanced Electrotherapy and Electrodiagnosis				45	2	1	0	3
MPT103	Research Methodology & Biostatistics					60	3	1	0	4
MPT104	Professional Ethics for Physiotherapists					45	2	1	0	3
MPT105	Principles of Physical and Functional Evaluation					30	2	0	0	2
MPT195	Principles of Physical and Functional Evaluation: Practical					60	0	0	4	2
MPT106		Seminar Presentation				60	0	0	4	2
MPT107			Clinical Training			450	0	0	20	10
Total						810	12	4	28	30
							Total Hours/ Week 44			

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II SEMESTER
MPT IN NEUROLOGY

Corse Code	CC/DCC	AEC/ AECC	SEC	DSEC	RP	Total Hours/ Sem	L	T	P	C
MPT201	Medical and Surgical Conditions					45	3	0	0	3
MPT202	Applied Biomechanics & Kinesiology					45	3	0	0	3
MPT203	Exercise Physiology, Testing & Prescription					45	3	0	0	3
MPT204(N)	Principles and Fundamentals of Neurology Rehabilitation					60	3	1	0	4
MPT294(N)	Principles and Fundamentals of Neurology Rehabilitation - Practical					60	0	0	4	2
MPT205		Entrepreneurship and Management for Physiotherapists				30	2	0	0	2
MPT206		Evidence Based Seminar Presentation				60	0	0	4	2
MPT207			Clinical Training			450	0	0	20	10
Total						795	14	1	28	29
							Total Hours/ Week 43			

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III SEMESTER

MPT IN NEUROLOGY

Corse Code	CC/DCC	AEC/AECC	SEC	DSEC	RP	Total Hours/Sem	L	T	P	C
MPT301(N)	Applied Neurology Rehabilitation I					60	3	1	0	4
MPT391(N)	Applied Neurology Rehabilitation I - Practical					60	0	0	4	2
MPT302		Educational Methodology and Pedagogy				30	2	0	0	2
MPT303	Advanced Physiotherapeutic Management					45	2	1	0	3
MPT304				Fitness & Health Promotion		30	2	0	0	2
MPT305		Evidence Based Seminar Presentation				60	0	0	4	2
MPT306					Research Project	75	0	5	0	5
MPT307			Clinical Training			450	0	0	20	10
Total						810	9	7	28	30
							Total Hours/ Week 44			

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IV SEMESTER
MPT IN NEUROLOGY

Corse Code	CC/DCC	AEC/AECC	SEC	DSEC	RP	Total Hours/ Sem	L	T	P	C
MPT401(N)	Applied Neurology Rehabilitation II					60	3	1	0	4
MPT491(N)	Applied Neurology Rehabilitation II -Practical					60	0	0	4	2
MPT402				Geriatric Physiotherapy		45	3	0	0	3
MPT403		Women Health & Therapeutics				45	3	0	0	3
MPT404		Evidence Based Seminar Presentation				60	0	1	4	2
MPT405			Clinical Training			225	0	0	10	5
MPT406					Research Dissertation	450	0	0	20	10
Total						945	9	2	38	29
							Total Hours/ Week 49			

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 I SEMESTER
 MPT IN CARDIOPULMONARY**

Corse Code	CC/DCC	AEC/ AECC	SEC	DSEC	RP	Total Hours/ Sem	L	T	P	C
MPT101	Basic Medical Sciences					60	3	1	0	4
MPT102		Advanced Electrotherapy and Electrodiagnosis				45	2	1	0	3
MPT103	Research Methodology & Biostatistics					60	3	1	0	4
MPT104	Professional Ethics for Physiotherapists					45	2	1	0	3
MPT105	Principles of Physical and Functional Evaluation					30	2	0	0	2
MPT195	Principles of Physical and Functional Evaluation: Practical					60	0	0	4	2
MPT106		Seminar Presentation				60	0	0	4	2
MPT107			Clinical Training			450	0	0	20	10
Total						810	12	4	28	30
							Total Hours/ Week 44			

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Corse Code	CC/DCC	AEC/ AECC	SEC	DSEC	RP	Total Hours/ Sem	L	T	P	C
MPT201	Medical and Surgical Conditions					45	3	0	0	3
MPT202	Applied Biomechanics & Kinesiology					45	3	0	0	3
MPT203	Exercise Physiology, Testing & Prescription					45	3	0	0	3
MPT204(C)	Principles and Fundamentals of Cardiopulmonary Rehabilitation					60	3	1	0	4
MPT294(C)	Principles and Fundamentals of Cardiopulmonary Rehabilitation - Practical					60	0	0	4	2
MPT205		Entrepreneurship and Management for Physiotherapists				30	2	0	0	2
MPT206		Evidence Based Seminar Presentation				60	0	0	4	2
MPT207			Clinical Training			450	0	0	20	10
Total						795	14	1	28	29
							Total Hours/ Week 43			

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MPT IN CARDIOPULMONARY

Corse Code	CC/DCC	AEC/AECC	SEC	DSEC	RP	Total Hours/Sem	L	T	P	C
MPT301(C)	Applied Cardiopulmonary Rehabilitation I					60	3	1	0	4
MPT391(C)	Applied Cardiopulmonary Rehabilitation I - Practical					60	0	0	4	2
MPT302		Educational Methodology and Pedagogy				30	2	0	0	2
MPT303	Advanced Physiotherapeutic Management					45	2	1	0	3
MPT304				Fitness & Health Promotion		30	2	0	0	2
MPT305		Evidence Based Seminar Presentation				60	0	0	4	2
MPT306					Research Project	75	0	5	0	5
MPT307			Clinical Training			450	0	0	20	10
Total						810	9	7	28	30
							Total Hours/Week 44			

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 MPT IN CARDIOPULMONARY**

Corse Code	CC/DCC	AEC/AECC	SEC	DSEC	RP	Total Hours/Sem	L	T	P	C
MPT401(C)	Applied Cardiopulmonary Rehabilitation II					60	3	1	0	4
MPT491(C)	Applied Cardiopulmonary Rehabilitation II -Practical					60	0	0	4	2
MPT402				Geriatric Physiotherapy		45	3	0	0	3
MPT403		Women Health & Therapeutics				45	3	0	0	3
MPT404		Evidence Based Seminar Presentation				60	0	1	4	2
MPT405			Clinical Training			225	0	0	10	5
MPT406					Research Dissertation	450	0	0	20	10
Total						945	9	2	38	29
							Total Hours/Week 49			

Core Course – CC, Discipline Specific Core Course – DCC, Discipline Specific Elective Course - DSEC, Dissertation/ Research Project – RP, Ability Enhancement Courses - AEC, Ability Enhancement Compulsory Courses – AECC, Skill Enhancement Courses - SEC

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I SEMESTER MPT IN SPORTS

Corse Code	CC/DCC	AEC/ AECC	SEC	DSEC	RP	Total Hours/ Sem	L	T	P	C
MPT101	Basic Medical Sciences					60	3	1	0	4
MPT102		Advanced Electrotherapy and Electrodiagnosis				45	2	1	0	3
MPT103	Research Methodology & Biostatistics					60	3	1	0	4
MPT104	Professional Ethics for Physiotherapists					45	2	1	0	3
MPT105	Principles of Physical and Functional Evaluation					30	2	0	0	2
MPT195	Principles of Physical and Functional Evaluation: Practical					60	0	0	4	2
MPT106		Seminar Presentation				60	0	0	4	2
MPT107			Clinical Training			450	0	0	20	10
Total						810	12	4	28	30
							Total Hours/ Week 44			

Core Course – CC, Discipline Specific Core Course – DCC, Discipline Specific Elective Course - DSEC, Dissertation/ Research Project – RP, Ability Enhancement Courses - AEC, Ability Enhancement Compulsory Courses – AECC, Skill Enhancement Courses - SEC



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II SEMESTER
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Corse Code	CC/DCC	AEC/ AECC	SEC	DSEC	RP	Total Hours/ Sem	L	T	P	C
MPT201	Medical and Surgical Conditions					45	3	0	0	3
MPT202	Applied Biomechanics & Kinesiology					45	3	0	0	3
MPT203	Exercise Physiology, Testing & Prescription					45	3	0	0	3
MPT204(S)	Principles and Fundamentals of Sports Rehabilitation					60	3	1	0	4
MPT294(S)	Principles and Fundamentals of Sports Rehabilitation - Practical					60	0	0	4	2
MPT205		Entrepreneurship and Management for Physiotherapists				30	2	0	0	2
MPT206		Evidence Based Seminar Presentation				60	0	0	4	2
MPT207			Clinical Training			450	0	0	20	10
Total						795	14	1	28	29
							Total Hours/ Week 43			

Core Course – CC, Discipline Specific Core Course – DCC, Discipline Specific Elective Course - DSEC, Dissertation/ Research Project – RP, Ability Enhancement Courses - AEC, Ability Enhancement Compulsory Courses – AECC, Skill Enhancement Courses - SEC



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**MASTER OF PHYSIOTHERAPY
 III SEMESTER
 MPT IN SPORTS**

Corse Code	CC/DCC	AEC/AECC	SEC	DSEC	RP	Total Hours/Sem	L	T	P	C
MPT301(S)	Applied Sports Rehabilitation I					60	3	1	0	4
MPT391(S)	Applied Sports Rehabilitation I - Practical					60	0	0	4	2
MPT302		Educational Methodology and Pedagogy				30	2	0	0	2
MPT303	Advanced Physiotherapeutic Management					45	2	1	0	3
MPT304				Fitness & Health Promotion		30	2	0	0	2
MPT305		Evidence Based Seminar Presentation				60	0	0	4	2
MPT306					Research Project	75	0	5	0	5
MPT307			Clinical Training			450	0	0	20	10
Total						810	9	7	28	30
							Total Hours/Week 44			

Core Course – CC, Discipline Specific Core Course – DCC, Discipline Specific Elective Course - DSEC, Dissertation/ Research Project – RP, Ability Enhancement Courses - AEC, Ability Enhancement Compulsory Courses – AECC, Skill Enhancement Courses - SEC



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IV SEMESTER
MPT IN SPORTS

Corse Code	CC/DCC	AEC/AECC	SEC	DSEC	RP	Total Hours/Sem	L	T	P	C
MPT401(S)	Applied Sports Rehabilitation II					60	3	1	0	4
MPT491(S)	Applied Sports Rehabilitation II -Practical					60	0	0	4	2
MPT402				Geriatric Physiotherapy		45	3	0	0	3
MPT403		Women Health & Therapeutics				45	3	0	0	3
MPT404		Evidence Based Seminar Presentation				60	0	1	4	2
MPT405			Clinical Training			225	0	0	10	5
MPT406					Research Dissertation	450	0	0	20	10
Total						945	9	2	38	29
							Total Hours/Week 49			

Core Course – CC, Discipline Specific Core Course – DCC, Discipline Specific Elective Course - DSEC, Dissertation/ Research Project – RP, Ability Enhancement Courses - AEC, Ability Enhancement Compulsory Courses – AECC, Skill Enhancement Courses - SEC



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School of Allied Health Sciences

Department of Physiotherapy

Master of Physiotherapy (MPT)

Learning goals and objectives (LOs)/ Program Outcomes (POs) for Physiotherapy professionals

The learning goals and objectives of the undergraduate and graduate education program will be based on the performance expectations. They will be articulated as learning goals (why we teach this) and learning objectives (what the students will learn). Using the framework, students will learn to integrate their knowledge, skills and abilities in a hands-on manner in a professional healthcare setting. These learning goals are divided into nine key areas

- PO1 Independent Clinical care
- PO2 Communication
- PO3 Member of a multidisciplinary health team
- PO4 Ethics & accountability at all levels (clinical, professional, personal and social)
- PO5 Commitment to professional excellence
- PO6 Leadership & mentorship
- PO7 Social Accountability & responsibility
- PO8 Scientific attitude & scholarship (only at higher level- PhD)
- PO9 Lifelong learning

1. Independent Clinical Practice

Using a patient/family centered approach and best evidence, each student will learn to organize and implement the preventive, investigative and management plans; and will offer appropriate follow-up services. Program objectives should enable the students to:

- Apply the principles of basic science and evidence-based practice
- Develop competency for autonomous practice of physiotherapy as first hand practitioners.
- Prescribe and use relevant investigations, therapeutic interventions, assistive devices, home and work place modifications, support systems etc. as needed
- Identify the indications of physiotherapy for various disease, disorders and trauma and manage them in an appropriate manner with physiotherapeutic modalities.
- Assessment of patients and identifying the need for appropriate referral to other medical specialties.
- Provide care to patients – efficiently and in a cost-effective way – in a range of settings, and maintain foremost the interests of individual patients
- Identify the influence of biological, psychosocial, economic, and spiritual factors on patients' well-being and act in an appropriate manner
- Incorporate strategies for certain emergency care, health promotion and disease prevention with their patients



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2. Communication

The student will learn how to communicate with patients/clients, care-givers, other health professionals and other members of the community effectively and appropriately. Communication is a fundamental requirement in the provision of health care services. Program objectives should enable the students to:

- Provide sufficient information to ensure that the patient/client can participate as actively as possible and respond appropriately to the information

Clearly discuss the diagnosis with the patient, and decide appropriate treatment plans in a sensitive manner that is in the best interests of the patients and the society in general

- Explain the proposed healthcare service – its nature, purpose, possible positive and adverse consequences, its limitations, and reasonable alternatives wherever they exist
- Use effective communication skills to gather data and share information including attentive listening, open-ended inquiry, empathy and clarification to ensure understanding
- Appropriately communicate with, and provide relevant information to, other stakeholders including members of the healthcare team so that the team prioritizes and continuously refines its communication channels creating an environment of general and specific understanding.
- Use communication effectively and flexibly in a manner that is appropriate for the reader or listener
- Explore and consider the patient's ideas, beliefs and expectations during interactions with them, along with varying factors such as age, ethnicity, culture and socioeconomic background
- Develop efficient methods for all forms of written and verbal communication including accurate and timely record keeping
- Assess his/her own communication skills, develop self-awareness and be able to improve his/her relationships with others
- Possess skills to counsel for lifestyle changes and advocate health promotion

3. Membership of a multidisciplinary health team

The student will learn to put a high value on effective communication within the team, including transparency about aims, decisions, uncertainty and mistakes. Team-based health care is the provision of health services to individuals, families, and/or their communities by at least two health providers who work collaboratively to accomplish shared goals within and across settings to achieve coordinated, high quality care. Program objectives will aim at making the students learn to:



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- Recognise, clearly articulate, understand and support shared goals in the team that reflect patient and family priorities
- Possess distinct roles within the team; to have clear expectations for each member's functions, responsibilities, and accountabilities, which in turn optimises the team's efficiency and makes it possible for them to use division of labor advantageously, and accomplish more than the sum of its parts
- Develop mutual trust within the team to create strong norms of reciprocity and greater opportunities for shared achievement
- Communicate effectively so that the team prioritises and continuously refines its communication channels creating an environment of general and specific understanding

Recognise measurable processes and outcomes, so that the individual and team can agree on and implement reliable and timely feedback on successes and failures in both the team's functioning and the achievement of their goals. These can then be used to track and improve performance immediately and over the time.

4. Ethics and accountability

Students will understand core concepts of clinical ethics and law so that they may apply these to their practice as physicians. Program objectives should enable the students learn to:

- Describe and apply the basic concepts of clinical ethics to actual cases and situations
- Recognise the need to make health care resources available to patients fairly, equitably and without bias, discrimination or undue influence
- Demonstrate an understanding and application of basic legal concepts to the practice of physiotherapy
- Employ professional accountability for the initiation, maintenance and termination of patient-care provider relationships
- Demonstrate respect for each patient's individual rights of autonomy, privacy, and confidentiality

5. Commitment to professional excellence

The student will execute professionalism to reflect in his/her thought and action through a range of attributes and characteristics that include professional competence, appearance, image, confidence level, empathy, compassion, understanding, patience, manners, verbal and non-verbal communication, an anti-discriminatory and non-judgmental attitude, and appropriate physical contact to ensure safe, effective and expected delivery of healthcare. Program objectives will aim at making the students learn to:



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- Demonstrate distinctive, meritorious and high-quality practice that leads to excellence and that depicts commitment to competence, standards, ethical principles and values, within the scope/legal boundaries of practice
- Demonstrate the quality of being answerable for all actions and omissions to all, including service users, peers, employers, standard-setting/regulatory bodies or oneself

Demonstrate humanity in the course of everyday practice by virtue of having respect (and dignity), compassion, empathy, honour and integrity

- Ensure that self-interest does not influence actions or omissions, and demonstrate regards for service-users and colleagues

6. Leadership and mentorship

The student must learn to take on a leadership role where needed in order to ensure clinical outcomes and patient satisfaction. They must be able to respond in an autonomous and confident manner to predicted and unpredicted situations, and should be able to manage themselves and with other team members effectively. They must create and maximise opportunities for the improvement of the health seeking experience and delivery of healthcare services. Program objectives should enable the students learn to:

- Act as agents of change and be leaders in quality improvement and service development, so that they contribute and enhance peoples' wellbeing and their healthcare experience
- Systematically evaluate care; ensure the use of these findings to help improve peoples' experience and care outcomes, and to shape clinical treatment protocols and services
- Identify priorities and effectively manage time and resources to ensure the maintenance or enhancement of the quality of care
- Recognise and be self-aware of the effect their own values, principles and assumptions may have on their practice. They must take charge of their own personal and professional development and should learn from experience (through supervision, feedback, reflection and evaluation)
- Facilitate themselves and others in the development of their competence, by using a range of professional and personal development skills
- Work independently and in teams. They must be able to take a leadership role to coordinate, delegate and supervise physiotherapeutic healthcare safely, manage risk and remain accountable for the care given; actively involve and respect others' contributions to integrated person-centred care; yet work in an effective manner across professional and agency boundaries. They must know when and how to communicate with patients, care givers and if needed, refer them to other professionals and agencies, to respect the choices of service users and others, to promote shared decision-making, to deliver



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positive outcomes, and to coordinate smooth and effective transition within and between services and agencies.

7. Social Accountability and Responsibility

The students will recognise that the healthcare professionals need to be advocates within the health care system, to judiciously manage resources and to acknowledge their social accountability. They have a mandate to serve the community, region and the nation and will hence direct all research and service activities towards addressing their priority health concerns. Program objectives should enable the students learn to:

- Demonstrate knowledge of the determinants of health at local, regional and national levels and respond to the population' health needs
- Establish and promote innovative practice patterns by providing evidence-based care and testing new models of practice that will translate the results of research into practice, and thus will meet individual and community needs in a more effective manner
- Develop a shared vision of an evolving and sustainable health care system for the future by working in collaboration with and reinforcing partnerships with other stakeholders, including academic health centres, governments, communities and other relevant professional and non-professional organisations.

Advocate for the services and resources needed for optimal patient care

8. Scientific attitude and Scholarship

The student will utilise sound scientific and/or scholarly principles during interactions with patients and peers, educational endeavours, research activities and in all other aspects of their professional lives. Program objectives should enable the students to:

- Engage in ongoing self-assessment and structure their continuing professional education to address the specific needs of the population
- Practice evidence-based practice by applying principles of scientific methods
- Take responsibility for their educational experiences
- Acquire basic skills such as presentation skills, giving feedback, patient education and the design & dissemination of research knowledge; for their application to teaching encounters.

9. Lifelong learning

The student will learn to be committed to continuous improvement in skills and knowledge while harnessing modern tools and technology. Program objectives will aim at making the students being able to:



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- Perform objective self-assessments of their knowledge and skills; learn and refine existing skills; and acquire new skills
- Apply newly gained knowledge or skills to patient care
- Enhance their personal and professional growth and learning by constant introspection, mentor's guidance and by utilizing experiences
- Search (including through electronic means), and critically evaluate medical literature to enable its application to patient care
- Develop a research question and be familiar with basic, clinical and translational research in its application to patient care
- Identify and select an appropriate, professionally rewarding and personally fulfilling career pathway

Program Specific Outcomes (PSOs)

On completion of the program, the students will be:

PSO – 1 Remembering, retrieving and integrating the information on Orthopedics conditions, Neurological disabilities, Cardiorespiratory dysfunctions, sports injuries, and other general conditions.

PSO – 2 Understanding the professional ethics, functioning of hospital and other clinical setups, use it effectively in clinical practice to become an efficient worker, administrator and manager.

PSO – 3 Applying advanced concepts of physiotherapeutics, electrophysiology and biomechanics to build expertise in area-specific clinical intervention techniques and patient assessment.

PSO – 4 Demonstrating responsibility towards community health rehabilitation and communicate effectively with patients, caretakers, other healthcare professionals and students using important soft skills and clinical reasoning.

PSO – 5 Discovering the relevant physiotherapy research arenas and uphold Evidence Based Practice for further research and clinical work.

PSO – 6 Developing critical and analytical thinking to effectively assess and provisionally diagnose the patient and apply skills of advanced physiotherapy procedure and techniques.



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Eligibility

Candidates admitted into the Master of Physiotherapy the candidate must have passed Bachelor of Physiotherapy from any recognized University in India or abroad. The candidate should have obtained an aggregate of 50% in all subjects of Bachelor of Physiotherapy.

Candidates who have passed BPT other than Swami Vivekananda University, Kolkata, shall obtain migration certificate from the parent university & an eligibility certificate from this University by remitting the prescribed fees along with the application form, before seeking university registration.

Registration

A candidate admitted to the course in Swami Vivekananda University, Kolkata, should register with the University by remitting the prescribed fees along with the application form for registration duly filled in and forwarded to the Controller of Examination of this University through the Head of the Institution within the stipulated date.

Duration of the Course

The period of certified study for the Master of Physiotherapy is a full-time course extending over a period of two academic years with 4 semesters for the award of the degree. Each academic year shall comprise of two semesters viz. Odd and Even semesters. Odd semesters shall be from July/August to December and Even Semesters shall be from January to June.

Medium of Instruction

Medium of instruction for the subject of study and for the examination of the MPT course will be English.

Examinations and Evaluation

Registration for Examination

No student shall be admitted to any examination of the University, unless he has been duly enrolled/registered as a student for the prescribed number of courses. A student who fails to submit the registration form (every Semester) shall be deemed as an unregistered student and shall not be allowed to attend classes and take examinations even if he has paid the fees.



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Components of Evaluation

Unless provided otherwise in the Course and/ or Programme details, the components of Evaluation for each course shall be as under:

Theory Courses: *

(a) Continuous Assessment (CA)	40
(b) End-Semester Examination (ESE)	60

The components of evaluation of laboratory/ Practical Courses are distributed as follows:

Laboratory/ Practical Courses: **

(a) Continuous Assessment (CA)	60
(b) End-Semester Examination (ESE) :	40

There shall be one/two examiner(s) and one external examiner appointed by the University

The University shall follow the rules and regulations of the respective Councils for Assessment and Evaluation.



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CORSE STRUCTURE

Master of Physiotherapy (MPT)

Duration: 2 Years

Total Credit: 118

Total Marks: 3100

Semester 1									
Sl No	Course Type	Course Code	Course Name	Marks	L	T	P	Credits	Hours
1	CC	MPT101	Basic Medical Sciences	100	3	1	0	4	60
2	AECC	MPT102	Advanced Electrotherapy and Electrodiagnosis	100	2	1	0	3	45
3	CC	MPT103	Research Methodology & Biostatistics	100	3	1	0	4	60
4	CC	MPT104	Professional Ethics for Physiotherapists	100	2	1	0	3	45
5	CC	MPT105	Principles of Physical and Functional Evaluation	100	2	0	0	2	30
6	CC	MPT195	Principles of Physical and Functional Evaluation: Practical	100	0	0	4	2	60
7	AEC	MPT106	Seminar Presentation	100	0	0	4	2	60
8	SEC	MPT107	Clinical Training	100	0	0	20	10	450
Total				800	12	4	28	30	810



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Semester 2									
Sl No	Course Type	Course Code	Course Name	Marks	L	T	P	Credits	Hours
1	CC	MPT201	Medical and Surgical Conditions	100	3	0	0	3	45
2	CC	MPT202	Applied Biomechanics & Kinesiology	100	3	0	0	3	45
3	CC	MPT203	Exercise Physiology, Testing & Prescription	100	3	0	0	3	45
4a	DCC	MPT204(O)	Principles and Fundamentals of Orthopedics Rehabilitation	100	3	1	0	4	60
5a	DCC	MPT294(O)	Principles and Fundamentals of Orthopedics Rehabilitation - Practical	100	0	0	4	2	60
4b	DCC	MPT204(N)	Principles and Fundamentals of Neurology Rehabilitation	100	3	1	0	4	60
5b	DCC	MPT294(N)	Principles and Fundamentals of Neurology Rehabilitation - Practical	100	0	0	4	2	60
4c	DCC	MPT204(C)	Principles and Fundamentals of Cardiopulmonary Rehabilitation	100	3	1	0	4	60
5c	DCC	MPT294(C)	Principles and Fundamentals of Cardiopulmonary Rehabilitation - Practical	100	0	0	4	2	60
4d	DCC	MPT204(S)	Principles and Fundamentals of Sports Rehabilitation	100	3	1	0	4	60
5d	DCC	MPT294(S)	Principles and Fundamentals of Sports Rehabilitation - Practical	100	0	0	4	2	60
6	AEC	MPT205	Entrepreneurship and Management for Physiotherapists	100	2	0	0	2	30
7	AEC	MPT206	Evidence Based Seminar Presentation	100	0	0	4	2	60
8	SEC	MPT207	Clinical Training	100	0	0	20	10	450
Total				800	14	1	28	29	795



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Semester 3									
Sl No	Course Type	Course Code	Course Name	Marks	L	T	P	Credits	Hours
1a	DCC	MPT301(O)	Applied Orthopedics Rehabilitation I	100	3	1	0	4	60
2a	DCC	MPT391(O)	Applied Orthopedics Rehabilitation I - Practical	100	0	0	4	2	60
1b	DCC	MPT301(N)	Applied Neurology Rehabilitation I	100	3	1	0	4	60
2b	DCC	MPT391(N)	Applied Neurology Rehabilitation I - Practical	100	0	0	4	2	60
1c	DCC	MPT301(C)	Applied Cardiopulmonary Rehabilitation I	100	3	1	0	4	60
2c	DCC	MPT391(C)	Applied Cardiopulmonary Rehabilitation I - Practical	100	0	0	4	2	60
1d	DCC	MPT301(S)	Applied Sports Rehabilitation I	100	3	1	0	4	60
2d	DCC	MPT391(S)	Applied Sports Rehabilitation I - Practical	100	0	0	4	2	60
3	AEC	MPT302	Educational Methodology and Pedagogy	100	2	0	0	2	30
4	CC	MPT303	Advanced Physiotherapeutic Management	100	2	1	0	3	45
5	DSEC	MPT304	Fitness & Health Promotion	100	2	0	0	2	30
6	AEC	MPT305	Evidence Based Seminar Presentation	100	0	0	4	2	60
7	RP	MPT306	Research Project	100	0	5	0	5	75
8	SEC	MPT307	Clinical Training	100	0	0	20	10	450
Total				800	9	7	28	30	810



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Semester 4									
Sl No	Course Type	Course Code	Course Name	Marks	L	T	P	Credits	Hours
1a	DCC	MPT401(O)	Applied Orthopedics Rehabilitation II	100	3	1	0	4	60
2a	DCC	MPT491(O)	Applied Orthopedics Rehabilitation II - Practical	100	0	0	4	2	60
1b	DCC	MPT401(N)	Applied Neurology Rehabilitation II	100	3	1	0	4	60
2b	DCC	MPT491(N)	Applied Neurology Rehabilitation II - Practical	100	0	0	4	2	60
1c	DCC	MPT401(C)	Applied Cardiopulmonary Rehabilitation II	100	3	1	0	4	60
2c	DCC	MPT491(C)	Applied Cardiopulmonary Rehabilitation II - Practical	100	0	0	4	2	60
1d	DCC	MPT401(S)	Applied Sports Rehabilitation II	100	3	1	0	4	60
2d	DCC	MPT491(S)	Applied Sports Rehabilitation II - Practical	100	0	0	4	2	60
3	DSEC	MPT402	Geriatric Physiotherapy	100	3	0	0	3	45
4	AEC	MPT403	Women Health & Therapeutics	100	3	0	0	3	45
5	AEC	MPT404	Evidence Based Seminar Presentation	100	0	1	4	2	60
6	SEC	MPT405	Clinical Training	100	0	0	10	5	225
7	RP	MPT406	Research Dissertation	100	0	0	20	10	450
Total				700	9	2	38	29	945



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DETAILED SYLLEBUS

Master of Physiotherapy (MPT)

Duration: 2 Years

Total Credit: 118

Total Marks: 3100

Semester I

Semester 1									
Sl No	Course Type	Course Code	Course Name	Marks	L	T	P	Credits	Hours
1	CC	MPT101	Basic Medical Sciences	100	3	1	0	4	60
2	AECC	MPT102	Advanced Electrotherapy and Electrodiagnosis	100	2	1	0	3	45
3	CC	MPT103	Research Methodology & Biostatistics	100	3	1	0	4	60
4	CC	MPT104	Professional Ethics for Physiotherapists	100	2	1	0	3	45
5	CC	MPT105	Principles of Physical and Functional Evaluation	100	2	0	0	2	30
6	CC	MPT195	Principles of Physical and Functional Evaluation: Practical	100	0	0	4	2	60
7	AEC	MPT106	Seminar Presentation	100	0	0	4	2	60
8	SEC	MPT107	Clinical Training	100	0	0	20	10	450
Total				800	12	4	28	30	810



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Course Code:	MPT101	Course Name:	Basic Medical Sciences	L	T	P	C
Year:	I	Semester:	I	3	1	0	4
Module	Contents						Hours
1	ANATOMY Micro structure for various soft tissue structures like Ligaments, Muscle, bone, cartilage, articular cartilage tendon and disc. Anatomy of human body. Muscles, Fascia, Lymphatics. Joints and its Classification						15
2	PHYSIOLOGY Cell and its function. Electrophysiology, Membrane potential. Muscle Physiology, Contraction of skeletal muscle. Human body's various systems and their physiology. Effects of ageing.						20
3	PATHOLOGY Human body's various systems and their pathological changes due to normal or abnormal pathology.						10
4	PHARMACOLOGY Pharmacology and its components on the human body like Pharmacokinetics, Pharmacodynamics and Pharmacomechanism.						8
5	RADIOLOGY Imaging Techniques in various conditions Ultrasonography, X-rays, CT scan, MRI scanning, Bone Scan, Dexa Scan						7
Total Hours							60

Text Books:

1. Guyton: Textbook of physiology
2. Chatterjee: Textbook of physiology.
3. Principles of anatomy and physiology by Tortora; 8th edition; Harper & Row Pub.
4. Anatomy & Physiology by Ross & Wilson's, 8th edition, Churchill Livingston.
5. Harsh Mohan, textbook of pathology, JP Medical Pub

Reference Books:

1. Gray's Anatomy



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2. Pharmacology in Rehabilitation. Ciccone
3. Clinical Anatomy – Snell
4. Boyd's Textbook of Pathology – A.C. Ritchie
5. Textbook of Medical Physiology - Guyton - Mosby.
6. Pathologic Basis of Diseases - Robbins, Kotran and Kumar - W.B. Saunders.
Text of Pathology / Mohan, Harsh
7. Pathology illustrated /by Peter S. Macfarlane, Robin
8. Pathology: implication for the physical therapist / by Catherine Cavallaro DGoodmann and Willams G. Boissonn
9. Essential of medical Pharmacology / K.D. Tripathy
10. Pharmacology drug action & reaction
11. Text of Pharmacology, Seth, SD



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Course Code:	MPT102	Course Name:	Advanced Electrotherapy and Electrodiagnosis	L		T		P		C	
Year:	I	Semester:	I	2	1	0	3				
Module	Contents									Hours	
1	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									10	
2	ADVANCED ELECTRO THERAPEUTIC IN THE MANAGEMENT OF PAIN, AND VARIOUS OTHER CONDITIONS INCLUDING DIAGNOSIS 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									12	
3	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.									8	
4	ELECTRO THERAPEUTIC MODALITIES Recent advances, critical evaluation and current status of different electrotherapeutic modalities like pulsed and continuous diathermy, pulsed and continuous microwave diathermy, Ultrasonic Therapy, LASER, Thermotherapy, Cryotherapy, Infra-Red, etc. In musculoskeletal, neuromuscular, sports and cardiovascular rehabilitation, Shockwave Diathermy, Matrix rhythm.									8	
5	PRINCIPLES OF COMBINATION OF THERAPY Currents with Pharmaco – Therapeutics with special reference to Musculo-skeletal, / neuropathic & psychosomatic pain and various other conditions.									7	
Total Hours									45		

Text Books:

1. Manual of nerve conduction velocity techniques – De Lisa, Raven press, New York, 1982



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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.

Reference Books:

1. Clinical Neurophysiology – U K Mishra
2. Electro Diagnosis in Diseases of Nerve and Muscle – Jun Kimura
3. Fundamental of Neurophysiology – R F Schmidt



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Course Code:	MPT103	Course Name:	Research Methodology & Biostatistics	L	T	P	C
Year:	I	Semester:	I	3	1	0	4
Module	Contents						Hours
1	INTRODUCTION TO RESEARCH 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						8
2	METHODOLOGY Research Design- Qualitative and Quantitative research designs, Experimental design, non-experimental design, Observational Study design, Meta analyses. 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 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						15
3	METHODS OF SEARCHING DATABASE. Citing the sources: plagiarism, writing the references & bibliography, APA, Harvard and Vancouver Style of citation. Introduction to Mendeley reference manager Reporting Guidelines: SPIRIT, STROBE, CONSORT etc.						10
4	BIOSTATISTICS Biostatistics- introduction and application in Physiotherapy, Types of data, collection, Measurement and scaling techniques, Graphical representation, measure of central tendency, variation, and association. 2. Processing and analysis of data and Interpretation.						12



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	3. Probability and standard distributions the binominal distribution, the normal distribution, Skewness, kurtosis. 4. Karl Pearson & Spearman’s Correlation & correlation coefficient.	
5	INFERENTIAL STATISTICS: a. Steps of hypothesis testing. Testing of Hypotheses Procedure, Null and alternative hypothesis, b. Level of significance, Degrees of freedom, type I & type II errors. c. T-test: for dependent and independent samples. d. Chi-square test: Properties, Testing the goodness of fit, independence of e. two variables. f. Analysis of variance: Assumptions, applications and g. procedure of one way & two-way ANOVA. Introduction to SPSS software.	15
Total Hours		60

Text Books:

1. Rehabilitation research – Elizabeth Domholt.
2. Research for physiotherapist-Carolin Hicks
3. Methods in Bio-Statistics, by B.K. Mahajan,6 Ed. 1997

Reference Books:

1. Darlene – Documenting functional outcomes in physical therapy.
2. Diana-Research for health professionals.
3. Elements of Health Statistics: Rao. N. S. N.
4. An introduction of Biostatistics: Sunder Rao. P. S. S.
5. Research in Physical Therapy- Christoper E. Bork
6. Nursing Research: Principles and methods- Denis E. Polit



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Course Code:	MPT104	Course Name:	Professional Ethics for Physiotherapists	L	T	P	C
Year:	I	Semester:	I	2	1	0	3
Module	Contents						Hours
1	PROFESSIONAL ETHICS AND LEGAL ISSUES The implications and confirmation to the rules of professional conduct. Legal responsibility for their actions in the professional context and understanding liability and obligations in case of medico - legal action. A wider knowledge of ethics relating to current social and medical policy in the provision of health care.						8
2	ETHICS OF VARIOUS ORGANIZATIONS Need of Council Act for regulation of Professional Practice, Self-Regulatory role of Professional Association. World Confederation of Physical therapists (WPT) American Physical Therapy Association (APTA) National Commission for Allied and Healthcare Professions (NCAHP) Act, 2021 Regulation of different governing bodies. Ethics documents for physiotherapists Laws affecting physiotherapy practice						10
3	GENDER INCLUSIVE SOCIETY AND HUMAN RIGHTS Medical ethics versus Medical Law – definition and goals PT Laws and Legal concepts. Medico legal aspects of physical therapy, liability, informed consent, negligence, malpractice, licensure, consumer protection act. Law of disability & discrimination, Confidentiality of the Patient ‘s status. Introduction to code of conduct and basic principles of medical ethics						10
4	Scope of physiotherapy in hospital, community and industry Standards of practice for physiotherapists and the criteria History taking, assessment, tests, patient communication, documentation of findings, treatment organization and planning/ execution for intervention. Future challenges in physiotherapy						7
5	ETHICAL ISSUES IN PRACTICE OF PHYSIOTHERAPY Clinical, research and academics PUBLICATION ETHICS: Author and publisher responsibilities, ICMJE and COPE guidelines, Authorship, simultaneous submission, disclosure, consent and permission, copyrights and permission, plagiarism, conflict of interest, research fraud, salami slicing, retractions after publication, dealing with mistakes, advantages of publishing ethically.						10



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Total Hours	45
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Text Books:

1. Hospital administration and human resource management by R.C.Goyal, edition.
2. Physical Therapy Ethics by Donald L.Gabard, Mike W.Martin, F.A. Davis,2003.
3. Physical Therapy Administration & Management by Hick RobertJ.

Reference Books:

1. Ethical issues- APTA Code of Ethics, IAP – Kavitha Raja, Fiddy Davis
2. ICMR guidelines Committee on publication ethics (COPE) guidelines



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Course Code:	MPT105	Course Name:	Principles of Physical and Functional Evaluation	L		T		P		C	
Year:	I	Semester:	I	2	0	0	0	2			
Module	Contents									Hours	
1	ICF & SOAP FORMAT OF ASSESSMENT Clinical examination in general and detection of movement dysfunction. Emerging assessment in physiotherapy field. Principles of pathological investigations and imaging techniques related to neuromuscular, skeletal and cardiopulmonary disorders with interpretation. Developmental screening, motor learning –motor control assessment. Anthropometric measurements.									6	
2	PHYSICAL FITNESS ASSESSMENT Range of motion, Muscle strength, endurance and skills, Body composition and energy consumption, Fitness test for sports. Evaluation Methods, Special tests and Scales used in Musculoskeletal, Neurological and Cardiopulmonary disorders. Evaluation results of EMG, Biofeedback, NCV, EEG, Evoked Potentials. Biophysical measurements, physiotherapy modalities, techniques and approaches.									7	
3	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. Adaptive functional devices to improve movement dysfunction, Physical disability evaluation and disability diagnosis. Gait analysis and diagnosis, Exercise ECG testing and monitoring, Pulmonary function tests and Spirometry									8	
4	RADIOLOGICAL IMAGING & INTERPRETATION Introduction to Radiology Importance of Radiology in Physiotherapy X-ray reading and interpretation of Chest, fractures and dislocations. X-Rays of different stages of fracture healing									6	



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	C.T scan, M.R.I. and X-rays interpretations of different medical conditions.	
Total Hours		30

Text 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.

Reference Books:

1. Bhargava SK. Diagnostic Radiology. Pee Pee Publishers. 2021
2. Pradeep HN. C Ramamohan’s Handbook of Medical Radiography. Paras Medical Publishers. 2022
3. Sharma AD. A Textbook of Radiological Anatomy & Surface marking with clinical perspective. JBD Publications. First edition, 2022



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Course Code:	MPT195	Course Name:	Principles of Physical and Functional Evaluation: Practical	L	T	P	C
Year:	I	Semester:	I	0	0	4	2
Module	Contents						Hours
1	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
2	PSYCHOLOGICAL SEQUELAE OF INJURY signs and symptoms associated with stress. stages of adjustment; Signs of adjustment problems.						5
3	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
4	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
5	EXAMINATION OF ENVIRONMENT Examination of home, 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.						15
Total Hours							60

Text 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.



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3. Lori Thein Brody, Carrie M. Hall, Therapeutic exercise: moving toward function, 3rd ed., Lippincott Williams & Wilkins, a Wolters Kluwer, 2011.

Reference Books:

1. Bhargava SK. Diagnostic Radiology. Pee Pee Publishers. 2021
2. Pradeep HN. C Ramamohan's Handbook of Medical Radiography. Paras Medical Publishers. 2022
3. Sharma AD. A Textbook of Radiological Anatomy & Surface marking with clinical perspective. JBD Publications. First edition, 2022



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Course Code:	MPT106	Course Name:	Seminar Presentation	L	T	P	C
Year:	I	Semester:	I	0	0	4	2
Contents							Hours
MPT- Students has to prepare minimum 2 long case and 2 short cases during their seminar presentation during due course of time. These will serve as platform for students to integrate various components of patient management and debate contentious issues on the efficacy of physiotherapy techniques. Students will give presentations on topic provided to them.							60
For the Presentation, each student will be assessed in a 20 minutes time (15 min for presentation & 5 min for discussion)							



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**Format for Evidence Based Clinical Case/ Seminar Presentation Evaluation
(Master of Physiotherapy Program)**

Name of candidate:

Program:

Semester:

Topic of Presentation:

Date:

Sl. No.	Parameters	Maximum marks	Obtained marks
1.	Body Language/voice modulation	10	
2.	Selection of the topic	5	
3.	Knowledge of the Topic/case	15	
4.	Content of the presentation	10	
5.	Recent development	5	
6.	Confidence & Attitude	10	
7.	Design of presentation (appropriate font, type, size, colour, matter per slide etc.)	10	
8.	Completes the presentation within allocated time	10	
9.	Quiz & ability to defend content of presentation	25	
Total		100	

Evaluator:

Name:

Designation:

Department:

Student shall be evaluated in the above-mentioned format by the team of faculty members for presentation. Student should have the copy of this format which should be provided to each



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member of the team of evaluators during every presentation. The average marks of each cycle shall be considered for final.

Course Code:	MPT107	Course Name:	Clinical Training	L	T	P	C
Year:	I	Semester:	I	0	0	20	10
Contents							Hours
<p>Clinical training is a mode through which students apply their classroom knowledge; all formal and practical "real-life" learning experiences and skills in clinical environment. Experiences would include those of short and long duration (eg, part-time, full-time, internships) and provide a variety of learning experiences through rotations in different units or departments within the same practice setting or health care system) to include comprehensive care of patients across the life span and related activities.</p> <p>Each student will be under the supervision of a clinical supervisor at clinical education site who shall instruct and supervise students during their clinical posting sessions. Clinical supervisors are responsible for facilitating clinical learning experiences and assessing student's performance in cognitive, psychomotor, and affective domains as related to graduate-level clinical practice and academic and clinical performance expectations. The student shall acquire practical skills mentioned in syllabus for that particular semester during clinical training hours.</p> <p>The students will start their clinical training from the first semester and it will go on till their fourth semester. In each semester, they will be posted for a minimum of four months in the departments related to their courses being learned in respective semesters. The student will be formally evaluated at the end of semester through viva voce examinations by internal and external examiners.</p>							450



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Format of Clinical Posting Assessment Form for Evaluation (Master of Physiotherapy Program)

Name of candidate:

Program:

Semester:

Topic of Presentation:

Date:

Sl. No.	Parameters	Maximum marks	Obtained marks
1.	Punctuality	10	
2.	Interaction with colleagues and supporting staff	10	
3.	Maintenance of case records	10	
4.	Presentation of case during rounds	10	
5.	Investigation works up	10	
6.	Bedside Manners	10	
7.	Rapport with patients	10	
8.	Treatment approach & technique	10	
9.	Discipline	10	
10.	Overall quality of clinical work	10	
Total		100	

Evaluator:

Name:

Designation:

Department:



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The students of Post Graduate Physiotherapy program must spend above mentioned allotted time period in the hospital based clinical training for specified clinical experiences to meet the objectives of the training program. This period of practical and theoretical experience will enable the students to acquire competency and experience to perform as an independent practice and will enable to adjust to the real practical life in different units in the hospital settings.



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Semester II

Semester 2									
Sl No	Course Type	Course Code	Course Name	Marks	L	T	P	Credits	Hours
1	CC	MPT201	Medical and Surgical Conditions	100	3	0	0	3	45
2	CC	MPT202	Applied Biomechanics & Kinesiology	100	3	0	0	3	45
3	CC	MPT203	Exercise Physiology, Testing & Prescription	100	3	0	0	3	45
4a	DCC	MPT204(O)	Principles and Fundamentals of Orthopedics Rehabilitation	100	3	1	0	4	60
5a	DCC	MPT294(O)	Principles and Fundamentals of Orthopedics Rehabilitation - Practical	100	0	0	4	2	60
4b	DCC	MPT204(N)	Principles and Fundamentals of Neurology Rehabilitation	100	3	1	0	4	60
5b	DCC	MPT294(N)	Principles and Fundamentals of Neurology Rehabilitation - Practical	100	0	0	4	2	60
4c	DCC	MPT204(C)	Principles and Fundamentals of Cardiopulmonary Rehabilitation	100	3	1	0	4	60
5c	DCC	MPT294(C)	Principles and Fundamentals of Cardiopulmonary Rehabilitation - Practical	100	0	0	4	2	60
4d	DCC	MPT204(S)	Principles and Fundamentals of Sports Rehabilitation	100	3	1	0	4	60
5d	DCC	MPT294(S)	Principles and Fundamentals of Sports Rehabilitation - Practical	100	0	0	4	2	60
6	AEC	MPT205	Entrepreneurship and Management for Physiotherapists	100	2	0	0	2	30
7	AEC	MPT206	Evidence Based Seminar Presentation	100	0	0	4	2	60
8	SEC	MPT207	Clinical Training	100	0	0	20	10	450
Total				800	14	1	28	29	795



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Course Code:	MPT201	Course Name:	Medical and Surgical Conditions	L		T		P		C	
Year:	I	Semester:	II	3	0	0	0	0	0	3	
Module	Contents									Hours	
1	MUSCULOSKELETAL TRAUMA & DISORDERS: Brief about Trauma of the Upper Limb, Trauma of the Lower Limb, Trauma of the Spine. Brief about Disorders of the Upper Limb, Disorders of the Lower Limb, Disorders of the Spine. Brief about Metabolic Disorders of the Bone. Brief about bone tumors.									9	
2	NEUROLOGICAL TRAUMA & DISORDERS: Brief about Traumatic injury of brain & spinal cords. Brief about Traumatic injury of upper limb and lower limb nerve. Brief about disease of brain, spinal cord and nerves. Brief about disease neuromuscular disorders.									9	
3	CARDIOVASCULAR TRAUMA & DISORDERS: Brief about Obstructive Pulmonary Diseases, restrictive pulmonary diseases. Brief about cardiovascular disorders. Brief about cardiovascular disease of new born and children. Brief about cardiothoracic surgeries.									9	
4	SPORTS INJURIES: Brief about common sports injuries (contact & non contact) of upper limb & lower limb. Brief about common sports injuries of head, spine chest and abdomen. Brief about Female athletes & their special concerns. Brief about disabled athletes and their special concerns.									9	
5	LABORATORY, IMAGING AND ELECTRODIAGNOSTIC STUDIES: Laboratory and imaging studies used in musculoskeletal disease and trauma. Laboratory, imaging studies and electro diagnostic studies used in neurological disease and trauma. Laboratory and imaging studies used in cardiopulmonary disease. Laboratory and imaging studies used in sports injuries.									9	
Total Hours									45		

Text Books:



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1. Current Diagnosis & treatment in Orthopaedics by Harry Skinner
2. Essential of Musculoskeletal Care by Walter Green
3. Orthopaedics Imaging: A Practical Approach by Adam Greenspan
4. Principles of Neurology; Adam & Victor 5. Brain's Clinical Neurology. R Bannister

Reference Books:

1. Saunder's Manual for Neurologic Practice. Randolph Evans, Elsevier
2. Starkey, C., & Ryan, J. L. Evaluation of Orthopedic and Athletic Injuries; F. A. Davis.
3. Arnheim, D. D, & Prentice, W. E. Principles of Athletic Training, 10th Ed. Brown & Benchmark.
4. Principles and Practice of Medicine. Davidson



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Course Code:	MPT202	Course Name:	Applied Biomechanics & Kinesiology	L	T	P	C
Year:	I	Semester:	II	3	0	0	3
Module	Contents						Hours
1	Forces, Equilibrium, levers – laws – mechanical advantage, Material properties of bones and soft tissues.						4
2	Applied mechanics in the evaluation procedures – movement & functional analysis. Gravity, balance & equilibrium.						4
3	Kinetics / Kinematics of extremity and spinal joints, (including T. m. joint) Posture gait, A.D.L and exercises.						6
4	Biophysics of connective tissue – ligament, Cartilage, tendon, muscle, neural tissues & vessels, – Response to mechanical loading.						5
5	Applied mechanics in physiological & pathological deviations (pathomechanics / Patho kinetics) of spinal & extremity disorders (functional & static)						6
6	Applied mechanics in exercise prescription with clinical reasoning.						6
7	Analysis of functional hazards related to Environment /Industry - & clinical reasoning for the appropriate Ergonomic advice.						6
8	Applied mechanics in the application of Prostheses, Orthoses, & mobility aids – materials, designs & biomechanical compatibility.						8
Total Hours							45

Text Books:

1. Measurement of Joint motion - A guide to Goniometry - Cynthia C. Norkin
2. Joint Structure and Function- Levangie Pamela K
3. Fundamentals of Biomechanics- Knudson Duane

Reference Books:

- 1 Basic Biomechanics of The Musculoskeletal System- Nordin Margareta



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Course Code:	MPT203	Course Name:	Exercise Physiology, Testing & Prescription	L		T		P		C	
Year:	I	Semester:	II	3	0	0	0	0	3		
Module	Contents									Hours	
1	PRINCIPLES OF EXERCISE PHYSIOLOGY a. Sources of Energy, Energy Transfer b. Role of Aerobic and Anaerobic mechanism during exercises. c. Acute effects of High, Burst and Short duration exercises. d. Acute effect of Steady level exercise on following parameters – Blood flow, Heart rate, Blood Pressure, Pulse Rate, Respiration Rate, Acid Base Balance, Body Temperature, Fluid-Electrolyte Balance and Substrate Utilization.									5	
2	PHYSIOLOGY OF MOVEMENT Responses and Adaptations of various systems to Exercise and Training. Environmental influence on Performance. Special Aids to Performance and Conditioning									6	
3	ENERGY CONSUMPTION, NUTRITION AND CALORIC BALANCE: a. Body composition assessment, physique, performance, and physical activity, b. Over-weight, obesity and weight control. c. Energy sources d. RDA by ICMR Guidelines e. Diet for Pediatric, lactating mothers and geriatric population.									7	
4	CONSIDERATIONS OF AGE AND GENDER IN EXERCISE AND TRAINING. Exercise prescription for health and fitness with special emphasis to cardiovascular disease, Obesity, cancer and Diabetes.									10	
5	FATIGUE ASSESSMENT AND SCIENTIFIC ORGANIZATION OF WORK-REST REGIMES TO CONTROL FATIGUE. Energy Expenditure: a. Expenditure during rest, confinement during illness and various levels of Physical b. Exercises, factors influencing energy uptake and substrate utilization. c. Measurement of Human energy expenditure, individual differences d. Measurement of energy capacities. e. Energy expenditure during walking, jogging, running and swimming.									10	
6	PRINCIPLES OF HEALTH BEHAVIOUR CHANGE Channels for Delivering Behavioral Programs Factors Associated with Regular Physical Activity Participation Behavioral Strategies to Enhance Physical Activity Participation Health Counseling Skills Health Fitness Program Development and Operation Policies and Procedure for Program Safety and Compliance Legal Consideration									7	



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Total Hours	45
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Text Books:

1. Exercise Testing & Prescription by David C. Neiman, Mc. Graw Hill.
2. Katch: Exercise physiology, energy nutrition and human performan
3. Scott K Powers: Theory and application to fitness and performance.

Reference Books:

1. Axen: Illustrated principles of exercise physiology.
2. Frank: Exercise physiology for health care professionals.
3. Tudor Hale: Exercise physiology – a thematic approach.
4. George Brooks: Exercise physiology -Human bioenergetics and its application.



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Course Code:	MPT204(O)	Course Name:	Principles and Fundamentals of Orthopedics Rehabilitation	L	T	P	C
Year:	I	Semester:	II	3	1	0	4
Module	Contents						Hours
1	BASIC ORTHOPEDICS Normal structure, function and biomechanical behaviour of musculoskeletal tissues, Reaction of musculoskeletal tissues to ageing, injury, disease and disorders.						5
2	PHYSIOTHERAPY ASSESSMENT OF MUSCULOSKELETAL CONDITIONS Functional assessment Disability Evaluation Radiology in Musculoskeletal conditions						10
3	MANAGEMENT OF REGIONAL ORTHOPEDIC CONDITIONS Clinical symptomatology, pathophysiology, principles of diagnosis, investigation, medical, surgical and physiotherapy management of the Orthopedics conditions						10
4	DISABILITY AND REHABILITATION Disability, Handicap, Disability studies, Introduction to disability studies, Legal and ethical issues in disability studies, Amputation, Functional Limitation and Rehabilitation, Orthotics for orthopaedic physiotherapist, Assistive technology in orthopaedic physiotherapist						10
5	PHYSIOTHERAPY MANAGEMENT OF GENERAL ORTHOPEDIC CONDITIONS Clinical symptomatology, pathophysiology, principles of diagnosis, investigation, medical, surgical and physiotherapy management of the Orthopedics conditions						15
6.	SPECIAL CONSIDERATION OF ORTHOPEDIC CONDITIONS REHABILITATION Community based rehabilitation in musculoskeletal disorders. Musculoskeletal issues in geriatric population. Recent Advances in Musculoskeletal Disorders						10
Total Hours							60

Text Books:

1. Outline of Fractures—John Crawford Adams.
2. Orthopaedic Physical Assessment by David Magee.
3. Outline of Orthopedics — John Crawford Adams.



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4. Clinical Orthopaedic Rehabilitation 2nd edition Brotzman

Reference Books:

1. Apley's textbook of orthopedics and fractures by Apley's 7th edition B/H publications.
2. Orthopaedics: Principles & Their application by Turek's.
3. Physical Therapy of the Shoulder by Donatelli R.
4. Managing low back pain. Kirkaldy- Willis



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Course Code:	MPT294(O)	Course Name:	Principles and Fundamentals of Orthopedics Rehabilitation - Practical	L	T	P	C
Year:	I	Semester:	II	0	0	4	2
Module	Contents						Hours
1	FUNDAMENTALS OF MUSCULOSKELETAL EXAMINATION The topic will cover basic concepts of Physical examination of the patient with musculoskeletal dysfunction. Fundamental examination skills and knowledge will be covered, including issues related to screening, review of systems, history, physical examination and clinical decision-making , Administration of musculoskeletal assessment tools on patient Groups, Assessment of Gait and posture						8
2	PRACTICAL DEMONSTRATION AND CLINICAL APPLICATION OF: Fractures. Dislocations. Amputations. Cumulative trauma disorders						14
3	PRACTICAL ASPECT OF ASSESSMENT AND CLINICAL APPLICATION OF FOLLOWING DISEASES: Degenerative conditions. Inflammatory disorders and allied conditions. Metabolic, hormonal, neoplastic and infective conditions of bones and joints.						12
4	PRACTICAL ASPECT OF ASSESSMENT AND CLINICAL APPLICATION OF FOLLOWING DISEASES: Peripheral nerve lesions. Paediatric musculoskeletal disorders. Regional soft tissue injuries.						12
5	PRACTICAL ASPECT OF MOBILITY IN ORTHOPEDIC CONDITIONS REHABILITAION External aids, appliances, adaptive self-help devices; prescription, biomechanical compatibility, check-out and training Orthopaedic implants-designs, materials, indications, post-operative assessment and training. Physiotherapy following arthroplasty and soft tissue repairs. Management of pathological gaits.						14
Total Hours							60

Text Books:



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1. David J Magee Orthopedic physical assessment
2. S Brent brotzman. Kevin e wilk clinical orthopaedic rehabilitation
3. Kessler, management of common musculoskeletal disorders.
4. Positional Release technique- Leon Chaitou
5. Neurodynamics mobilization technique- Buttler. 6. Muscle Energy techniques- Leon Chaitou

Reference Books:

1. Apley's textbook of orthopedics and fractures by Apley's 7th edition B/H publications.
2. Orthopaedics: Principles & Their application by Turek's.
3. Physical Therapy of the Shoulder by Donatelli R.
4. Managing low back pain. Kirkaldy- Willis



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Course Code:	MPT204(N)	Course Name:	Principles and Fundamentals of Neurology Rehabilitation	L	T	P	C
Year:	I	Semester:	II	3	1	0	4
Module	Contents						Hours
1	INTRODUCTION Growth & Development of central Nervous system. Reflex Aging of Nervous system Physiology & anatomy of Nervous system- Review Physiology of Motor Control						10
2	1. Foundations for Clinical Practice. 2. Movement Development across the Life Span. 3. The Limbic System: Influence over Motor Control and Learning. 4. Psycho-social aspects of Adaptation and Adjustment during various phases of neurological Disability. 5. Interventions for Neurological Disabilities. Documentation of Neurological condition.						10
3	1. Motor Control: Physiology, Issues and Theories 2. Motor Learning and Recovery of Function 3. Neuroplasticity: Physiological Basis of Motor Learning and Recovery of function. 4. Constraints on Motor Control: An Overview of Neurologic Impairments 5. A Conceptual Framework for Clinical Practice						10
4	1. Disorders of Vision and Visual-Perceptual Dysfunction. 2. Electrical Stimulation and EMG. 3. Pain Management. Bladder and Bowel Dysfunction.						10
5	1. Neurological and neurosurgical ICUs 2. Early Intervention Services 3. Assistive Technology 4. The Burn Unit Paediatrics Unit						10
6.	1. Beyond the CNS: Neurovascular Entrapment Syndromes. 2. Neuromuscular diseases 3. Head Injury 4. Spinal Cord Injury Balance and Vestibular Disorders						10
Total Hours							60



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Text Books:

1. Neurological Rehabilitation. D. A. Umphred
2. Neurological Physiotherapy: by Edward Susan

Reference Books:

1. Brunnstrom's Movement Therapy in Hemiplegia. A Neurophysiological Approach. K Sawner
2. Adult Hemiplegia: Evaluation and Treatment. B Bobath
3. Orthopaedic Physical Assessment. Magee



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Course Code:	MPT294(N)	Course Name:	Principles and Fundamentals of Neurology Rehabilitation - Practical	L	T	P	C
Year:	I	Semester:	II	0	0	4	2
Module	Contents						Hours
1	Assessment and Examination of Neurological condition						8
2	PRACTICAL DEMONSTRATION & CLINICAL APPLICATION: Motor Control: Physiology, Issues and Theories Motor Learning and Recovery of Function Neuroplasticity: Physiological Basis of Motor Learning and Recovery of function. Constraints on Motor Control: An Overview of Neurologic Impairments Integration of assessment based on ICF guidelines of WHO A Conceptual Framework for Clinical Practice						14
3	PRACTICAL DEMONSTRATION & CLINICAL APPLICATION: Disorders of Vision and Visual-Perceptual Dysfunction. Electrical Stimulation and EMG. Pain Management. Bladder and Bowel Dysfunction						12
4	PRACTICAL DEMONSTRATION & CLINICAL APPLICATION: Neurological and neurosurgical ICUs Early Intervention Services Assistive Technology The Burn Unit Paediatrics Unit						12
5	PRACTICAL DEMONSTRATION & CLINICAL APPLICATION: Beyond the CNS: Neurovascular Entrapment Syndromes. Neuromuscular diseases Head Injury Spinal Cord Injury Balance and Vestibular Disorders						14
Total Hours							60

Text Books:

1. Neurological Rehabilitation. D. A. Umphred
2. Neurological Physiotherapy: by Edward Susan

Reference Books:



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1. Brunnstrom's Movement Therapy in Hemiplegia. A Neurophysiological Approach. K Sawner
2. Adult Hemiplegia: Evaluation and Treatment. B Bobath
3. Orthopaedic Physical Assessment. Magee



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Course Code:	MPT204(C)	Course Name:	Principles and Fundamentals of Cardiorespiratory Rehabilitation	L	T	P	C
Year:	I	Semester:	II	3	1	0	4
Module	Contents						Hours
1	OVERVIEW OF ANATOMY OF CARDIOPULMONARY SYSTEM: Development of cardio pulmonary system. Anatomy of upper and lower respiratory tract. Anatomy of bony thorax & chest wall, Heart, Lungs, Pleura, Pericardium, Blood vessels						10
2	OVERVIEW OF PHYSIOLOGY OF CARDIOPULMONARY SYSTEM: Cardiac cycle. Cardiac reflexes. Biomechanics of respiration & Hemodynamic. Regulation of respiration, blood pressure, body temperature etc. Mechanics of breathing – work of breathing, airway resistance, lung compliance. Respiratory muscle – efficiency, endurance, training, fatigue, weakness. Ventilation & perfusion. Cough reflex, stretch reflex.						15
3	BASIC OUTLINE ASSESSMENT OF CARDIOPULMONARY SYSTEM: History & Subjective assessment. Inspection of chest wall. Palpation of chest wall: Diaphragmatic excursion, work of accessory muscles, Oedema, pain, chest expansion and tracheal deviation. Auscultation of chest wall: breathe sounds, heart sounds (normal and abnormal), landmarks, its interpretation Evaluation of peripheral vascular disease Pre operative Evaluation of cardio pulmonary Diseases and surgeries. Laboratory Investigations: Principles, analysis and guidelines for interpretation of ABG, PFT. Principles, analysis and guidelines for interpretation of Treadmill test, Exercise Tolerance test and VO2 max ECG, ECHO, angiography, Doppler study, chest radiography, Bacteriological and cytological tests. MUGA test. Tests for cardio respiratory endurance testing: Maximal; intermediate and sub maximal. Evaluation of Ventilator Dependent Patient:						15



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	<p>Assessment of ventilators. Respiratory rate, Respiratory pattern, Pulse rate, Temperature, Blood Pressure. Fluid and electrolyte balance. Chest tube drainage and fluid collection system. Arterial blood gas analysis. ECG monitoring – Halter monitoring. Electroencephalogram. Intra-arterial lines, Pulmonary artery balloon flotation catheter, Intravenous lines, Central venous pressure, Intra-aortic balloon counter pulsations, Intra cranial Pressure</p>	
4	<p>PRINCIPLES OF CHEST PHYSIOTHERAPY TECHNIQUES: Bronchial hygiene, Postural Drainage, ACBT, Autogenic drainage, respiratory PNF techniques, Forced expiratory techniques, chest mobility exercise, coughing techniques biofeedback, aerosol therapy, ACAPALA. Incentive spirometry, humidifiers, nebulizers, intermittent positive pressure breathing, PEEP, BiPAP, CPAP, AMBU bag etc. Cough assistive devices: Flutter Device, Suctions</p>	10
5	<p>OUTLINE OF CLINICAL CONDITIONS: Definitions, path physiology, Clinical features, investigations, medical, surgical and PT management of– a. pulmonary diseases in premature babies, neonatal distress, birth asphyxia, broncho pulmonary dysphasia, Nickity Wilson syndrome, Meconium aspiration. b. COPD, Asthma, cystic fibrosis, Immunological deficits, bronchiectasis, lung abscess, pneumonia, interstitial lung diseases, Restated lung diseases, lung cancer, pulmonary tuberculosis, Occupational lung disorders, fracture ribs, pneumothorax, haemothorax, empyema, pleural effusion, pulmonary oedema, pulmonary embolism etc. c. Congenital heart diseases – persistent ductus arteriosus, coarctation of aorta, atrial septal defect, ventricular septal defect, transposition of great vessels, tetralogy of Fallot. d. Coronary artery diseases and its manifestations, Valvular diseases, Rheumatic heart disease, Diseases of myocardium. e. Peripheral vascular disease. f. Burns, cardiopulmonary complications in burns. g. Metabolic conditions like obesity, Diabetes Meletus, Dyslipidaemia.</p>	10
Total Hours		60

Text Books:



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1. Cardiovascular and Pulmonary Physical Therapy By Donna frownfelter & Elizabeth dean.
2. Diagnosis and Management of acute respiratory failure By Farokherach Udawadia.
3. Physiotherapy in Respiratory care By Alexandra Hough.
4. Physiotherapy for Respiratory and cardiac problems – adults and pediatrics By Jenifer Pryor & S. Ammani Prasad.
5. Cardio pulmonary physical therapy by Donna frownfelter.
6. Principles of cardio pulmonary physical therapy by Asbury & Petty.
7. Cardio pulmonary physical therapy by Helen Hillgas, (Saunders).
8. PT for RT & cardiac problems by Weber.
9. Physiotherapy in respiratory care by Hough a Jaypee Publishers, Baltimore
10. Cardiopulmonary symptoms in physiotherapy by Cohen M, Churchill, Livingstone, London
11. Physical rehabilitation: assessment and treatment by O’Sullivan, F.A Davis, Philadelphia
12. Clinical application of ventilatory support by Kinky Churchill, Livingstone, New York

Reference Books:

1. Cardiopulmonary symptoms in physiotherapy practice – Cohen M., Churchill Livingstone, London 1988.
2. Pulmonary rehabilitation: guidelines to success by Bodkins, Butterworth, Boston.
3. Cardiac rehabilitation by Amundsen lord, Churchill, Livingstone, London.
4. Physical therapy of the cancer patient by Mc Garyex Charles, Churchill, Livingstone, New York.
5. Multidisciplinary approach to breathing disorder by Leon.
6. Clinical Exercise testing by Jones.
7. Pulmonary rehabilitation. The Obstructive and Paralytic Conditions by John.
8. Coronary artery disease essentials of prevention and Rehabilitation Program by Peter.
9. Pulmonary Rehabilitation by John Hodgkin (Elsevier).



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Course Code:	MPT294(C)	Course Name:	Principles and Fundamentals of Cardiorespiratory Rehabilitation - Practical	L	T	P	C
Year:	I	Semester:	II	0	0	4	2
Module	Contents						Hours
1	PRACTICAL DEMONSTRATION AND CLINICAL APPLICATION: Assessment, Mobilization and Exercises (Strengthening, Conditioning and Endurance), Applying and Evaluating Bronchial Hygiene Therapy, Techniques for Facilitating Ventilatory Pattern, Respiratory Muscle Training.						10
2	PRACTICAL DEMONSTRATION AND CLINICAL APPLICATION: Ventilator, Humidification and Aerosol Therapy, Physiotherapy in the Intensive Care Unit, Respiratory Therapy Equipment and Adjuncts to Cardiopulmonary Therapy, Body Positioning, Airway Clearance Techniques.						10
3	PRACTICAL ASPECT OF ASSESSMENT AND CLINICAL APPLICATION OF FOLLOWING DISEASES: Congenital Heart Disease, Cardiomyopathy, Peripheral Vascular Disease, Hemodynamic Performance of CTVS Patients, Heart Transplant.						20
4	PRACTICAL ASPECT OF ASSESSMENT AND CLINICAL APPLICATION OF FOLLOWING DISEASES: Respiratory Failure, Supplemental Oxygen and Oxygen Delivery Devices in Chronic Respiratory Disease, Pathophysiology of Paralytic-Restrictive Pulmonary Syndromes. Pre and Post Operative Blood Gas Exchange, Diseases of the Pleura, Obstructive Pulmonary Diseases, Restrictive Pulmonary Diseases, Interstitial and Infiltrative Pulmonary Disorders, Pulmonary Disorders Due to Systemic Inflammatory Disease, Pulmonary Vascular Diseases.						10
5	INTENSIVE CARE FOR CRITICALLY ILL PATIENTS 1. Assessment of critically ill patient: introduction, medical and chart interview with patients and family, physical examination, neurological system; cardiovascular system; respiratory system; renal system; haematological/ immunological system; gastrointestinal system; musculoskeletal system 2. Treatment of acute respiratory conditions: airway clearance techniques; weaning from mechanical ventilation; positioning; breathing exercises; patient education; paediatric consideration. 3. Non-invasive ventilation: berating sleep and respiratory failure; indication for non-invasive ventilation; practical issues in the application of non-invasive ventilation; non-invasive ventilation in children						10



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	4. Physiotherapy intervention during non-invasive ventilation 5. Implication for physiotherapy in mechanically ventilated patients: intubation weaning 6. Musculoskeletal problems 7. Patient groups with specific needs: e.g. systemic inflammatory syndrome, sepsis, ARDS, inhalation burn, trauma, neurological conditions requiring intensive care 8. Physiotherapy techniques used in intensive care: gravity assisted, manual or mechanical hyperinflation, suctioning of intubated patients, manual techniques, intermittent positive pressure berating, periodic continuous positive pressure ventilation 9. Basic Life support (BLS) and Advanced cardiac life support (ACLS), Defibrillators & Cardiopulmonary resuscitations.	
Total Hours		60

Text Books:

1. Principles and Practice of Cardiopulmonary Physiotherapy. D Frown felter, E Dean
2. Respiratory Care. Shapiro
3. Clinical Practice in Respiratory Care. J Fink, Ge Hunt
4. Physiotherapy for Respiratory and Cardiac Problems. J Pryor, A Prasad

Reference Books:

1. Cardiopulmonary Physical Therapy. S Irwin, Sadowsky
2. Chest Physiotherapy in the ICU. Mackenzie



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Course Code:	MPT204(S)	Course Name:	Principles and Fundamentals of Sports Rehabilitation	L		T		P		C	
Year:	I	Semester:	II	3	1	0	4				
Module	Contents									Hours	
1	SPORTS PHYSIOTHERAPY: Concept of Physical fitness, stages of soft tissue healing. Biomechanics & Pathomechanics of running, throwing and swimming and its clinical importance. Measurement of fitness components and sports skills, flexibility endurance									6	
2	SPORTS NUTRITION, DRUGS USED IN SPORTS Electrotherapy in sports injuries Sports psychology. Sports nutrients supplements and various types of sports drinks Drugs used in sports and Athletic Drug Abuse National Anti-Doping Agency guidelines									3	
3	SPORTS FITNESS AND FLEXIBILITY Pre-exercise evaluation, On & Off Field evaluation with demonstrations. Prevention and rehabilitation of sports injuries to the ligaments and soft tissues. Sports in Special category age groups and gender									6	
4	PHYSIOLOGICAL RESPONSES, CHANGES & ADAPTATIONS TO VARIOUS EXERCISES - aerobic exercises & anaerobic exercises in Pulmonary, Cardiovascular, Neuromuscular system, Hormones Sports specific training and cross training.									8	
5	PHYSIOTHERAPY ASSESSMENT TO MEASURE THE ATHLETE'S FITNESS level like Agility and Special Test in Sports. Plyometrics of Upper Limb and Lower Limb Physiotherapy strategies and athlete's education to maintain the Physical fitness and prevention of the injuries. Physiotherapy Treatment guidelines for Sports injuries.									4	
	MEDICAL PROBLEMS IN ATHLETE Sporting emergencies & first aid -Shock management, Internal and External bleeding, Splinting, Stretcher use-Handling and transfer, Management of Cardiac arrest, Acute asthma, epilepsy, drowning, burn, Medical management of mass participation. Heat stroke and Heat illness, Female Athletic Triad, Second wind phenomenon, DOMS.									10	



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	<p>Spine– PIVD, Kissing spine, cervical whiplash injuries, facet joint syndrome, SI joint dysfunction Hip– muscle strain, piriformis syndrome, ITB syndrome, osteitis pubis Knee- menisci, cruciate, collateral, osteochondritis, chondromalacia patellae, biceps femoris tendonitis, swimmers knee, patello-femoral pain syndrome Leg & ankle– shin splint, achilles tendonitis & rupture, TA bursitis, ankle sprain, plantar fasciitis, turf toe syndrome, Tennis leg Head & face– maxillo-facial injuries, helmet compression syndrome Shoulder- instability of shoulder, rotator cuff injury, biceps tendonitis and rupture, pectoralis major rupture, scapular dyskinesis and acromio-clavicular joint injuries Elbow– tennis elbow, golfer ‘s elbow Wrist and hand– carpal tunnel syndrome, gamekeeper‘ s thumb</p>	
Total Hours		60

Text Books:

1. Athletic Injuries & Rehabilitation – Zachazewski James E., Magee David J.
2. Zuluaga et al: Sports Physiotherapy, W.B. Saunders.
3. Brukner and Khan: Clinical Sports Medicine, Mc Graw Hill.
4. Reed: Sports Injuries – Assessment and Rehabilitation, W.B. Saunders.
5. A.G. Sinha, Principle and Practices of Therapeutic Massage. Jaypee Brothers
6. Mc Ardle, Katch, Katch: Exercise Physiology Edition IV.
7. Therapeutic Exercise by Kisner& Colby, 4th Edition; Jaypee Publication
8. Claytons Electrotherapy 10th Ed. – Sarah & Bazin – W.B. Saunders
9. Joint structure and function- Cynthia Norkins, 4th Edition, Jaypee Publication
10. Greenman‘ s Principles Of Manual Medicine, Lisa A. De Stefano, D.O.

Reference Books:

1. Kuprian: Physical Therapy for Sports, W.B. Saunders.
2. Bates: Aquatic Exercise Therapy, W.B. Saunders.
3. Maitland's Vertebral Manipulation. Geoff Maitland, Elly Hengeveld and Kevin Banks Butterworth-Heinemann; 7thedition.2005
4. Maitland's Peripheral Manipulation. Elly Hengeveld and Kevin Banks. Butterworth-Heinemann; 4th edition2005.
5. Sports Biomechanics: The Basics: Optimizing Human Performance. Anthony Blazevisch. A&C Black, 2nd Edition edition 2010.



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Course Code:	MPT294(S)	Course Name:	Principles and Fundamentals of Sports Rehabilitation - Practical	L		T		P		C	
Year:	I	Semester:	II	0	0	4	2				
Module	Contents									Hours	
1	SPORTS INJURY ASSESSMENT AND MANAGEMENT Techniques for assessing common sports injuries. Hands-on practice in diagnosing musculoskeletal injuries. Training in using tools like ultrasound or manual muscle testing.									15	
2	BIOMECHANICS AND MOVEMENT ANALYSIS Analyzing athletic movements to prevent injury and improve performance. Using technology like motion capture or gait analysis systems. Application of biomechanics principles in sports settings.									10	
3	THERAPEUTIC EXERCISE AND REHABILITATION Designing exercise programs tailored to individual athletes. Rehabilitation techniques for recovering from injuries. Practical sessions on flexibility, strength training, and conditioning.									15	
4	TAPING AND BRACING TECHNIQUES Learning various taping methods for injury prevention and recovery on various limbs. Hands-on practice with different types of sports braces and supports. Understanding when and how to apply these techniques in real-world scenarios.									10	
5	EMERGENCY CARE IN SPORTS Training in first aid and CPR specifically for sports scenarios. Handling acute sports injuries on the field. Simulation of emergency situations in a sports setting.									10	
Total Hours									60		

Text Books:

1. Athletic Injuries & Rehabilitation – Zachazewski James E., Magee David J.
2. Zuluaga et al: Sports Physiotherapy, W.B. Saunders.
3. Brukner and Khan: Clinical Sports Medicine, McGraw Hill.
4. Reed: Sports Injuries – Assessment and Rehabilitation, W.B. Saunders.
5. A.G. Sinha, Principle and Practices of Therapeutic Massage. Jaypee Brothers, New
6. Therapeutic Exercise by Kisner & Colby, 4th Edition; Jaypee Publication
7. Joint structure and function- Cynthia Norkins, 4th Edition, Jaypee Publication

Reference Books:



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1. Kuprian: Physical Therapy for Sports, W.B. Saunders
2. Bates: Aquatic Exercise Therapy, W.B. Saunders.
3. Sports Biomechanics: The Basics: Optimizing Human Performance. Anthony Blazevisch. A&C Black, 2nd Edition 2010.
4. Sports Biomechanics: Reducing Injury Risk and Improving Sports Performance. Routledge; 2nd edition. 2011
5. An Introduction to Biomechanics of Sport and Exercise. James Watkins. Churchill Livingstone; 1 edition (August 10, 2007)
6. Basic Biomechanics of the Musculoskeletal System. Margareta Nordin and Victor H. Frankel. LWW; Fourth North American Edition edition. 2012.
7. Apley's textbook of orthopedics and fractures by Apley's 7th edition B/H publications.



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Course Code:	MPT205	Course Name:	Entrepreneurship and Management for Physiotherapists	L	T	P	C
Year:	I	Semester:	II	2	0	0	2
Module	Contents						Hours
1	INTRODUCTION a. Management process planning, organization, direction, controlling. Decision-making. b. Quantitative methods of management: relevance of statistical and/ or techniques in management c. Introduction to entrepreneurship – approaches to entrepreneurship						6
2	PERSONNEL MANAGEMENT a. Staffing Recruitment selection, Performance analysis and appraisal, Collective bargaining. b. Job satisfaction Discipline. Marketing a. Market segmentation, Channels of distribution. b. Promotion, Consumer behaviour, marketing research production, planning. c. Pricing licenser. Total Quality Management a. Basis of quality management, quality assurance program in hospitals. b. medical audit and international quality system.						6
3	HOSPITAL ADMINISTRATION a. Introduction: Branches of administration, Nature and scope of administration. b. Principles of hospital administration and its applications to physiotherapy. c. Planning and organization: Planning cycle, Principles of organizational charts, Resource and quality management, Planning change –innovation. d. Financial issues including budget and income generation. e. Hospital administration: Organization, Staffing, Information, Communication, Coordination, Cost of services, Monitoring and evaluation. f. Organization of physiotherapy department: Planning, Space, Manpower, Other basic resources g. Material management: Pharmacy, Hospital waste disposal. h. Quality assurance: Hospital acquired infection, Quality assurance through record review and medical audit. i. Public relations in hospital and human resource management.						6
4	PHYSIOTHERAPY PROFESSION AND STAFF ROLES a. Physiotherapy: Definition and Development. b. Physiotherapy practice in India and their demands. c. Physiotherapy services in rural and urban areas. Entrepreneurship and stress; entrepreneurial ego, motivations Entrepreneurship ventures – stages of discovery, evaluation, exploitation, innovations and types, franchising – hybrid ventures						6



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5	DOCUMENTATION, ASSESSMENT & INTERPRETATION: a. History taking, assessment, tests, Patient communication, documentation of findings, organization and planning/execution for intervention. b. Documentation of rehabilitation assessment and management using International Classification of Functioning Disability and Health (ICF). c. Standardized tests and scales used in various types of cases for assessment and interpretation in Physiotherapy practice.	6
Total Hours		30

Text Book:

1. Hospital administration and human resource management by R.C. Goyal, 4th edition

Reference Books:

1. Physical Therapy Ethics by Donald L. Gabard, Mike W. Martin, F.A. Davis, 2003.
2. Physical Therapy Administration & Management by Hick Robert J



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Course Code:	MPT206	Course Name:	Evidence Based Seminar Presentation	L	T	P	C
Year:	I	Semester:	II	0	0	4	2
Contents							Hours
MPT- Students has to prepare minimum 2 long case and 2 short cases during their Evidence Based Seminar Presentation during due course of time. These will serve as platform for students to integrate various components of patient management and debate contentious issues on the efficacy of physiotherapy techniques. Students will give presentations on topic provided to them. For the Presentation, each student will be assessed in a 20 minutes time (15 min for presentation & 5 min for discussion)							60



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**Format for Evidence Based Clinical Case/ Seminar Presentation Evaluation
(Master of Physiotherapy Program)**

Name of candidate:

Program:

Semester:

Topic of Presentation:

Date:

Sl. No.	Parameters	Maximum marks	Obtained marks
1.	Body Language/voice modulation	10	
2.	Selection of the topic	5	
3.	Knowledge of the Topic/case	15	
4.	Content of the presentation	10	
5.	Recent development	5	
6.	Confidence & Attitude	10	
7.	Design of presentation (appropriate font, type, size, colour, matter per slide etc.)	10	
8.	Completes the presentation within allocated time	10	
9.	Quiz & ability to defend content of presentation	25	
Total		100	

Evaluator:

Name:

Designation:

Department:

Student shall be evaluated in the above-mentioned format by the team of faculty members for presentation. Student should have the copy of this format which should be provided to each member of the team of evaluators during every presentation. The average marks of each cycle shall be considered for final.



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Course Code:	MPT207	Course Name:	Clinical Training	L	T	P	C
Year:	I	Semester:	II	0	0	20	10
Contents							Hours
<p>Clinical training is a mode through which students apply their classroom knowledge; all formal and practical "real-life" learning experiences and skills in clinical environment. Experiences would include those of short and long duration (eg, part-time, full-time, internships) and provide a variety of learning experiences through rotations in different units or departments within the same practice setting or health care system) to include comprehensive care of patients across the life span and related activities.</p> <p>Each student will be under the supervision of a clinical supervisor at clinical education site who shall instruct and supervise students during their clinical posting sessions. Clinical supervisors are responsible for facilitating clinical learning experiences and assessing student's performance in cognitive, psychomotor, and affective domains as related to graduate-level clinical practice and academic and clinical performance expectations. The student shall acquire practical skills mentioned in syllabus for that particular semester during clinical training hours.</p> <p>The students will start their clinical training from the first semester and it will go on till their fourth semester. In each semester, they will be posted for a minimum of four months in the departments related to their courses being learned in respective semesters. The student will be formally evaluated at the end of semester through viva voce examinations by internal and external examiners.</p>							450



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Format of Clinical Posting Assessment Form for Evaluation (Master of Physiotherapy Program)

Name of candidate:

Program:

Semester:

Topic of Presentation:

Date:

Sl. No.	Parameters	Maximum marks	Obtained marks
1.	Punctuality	10	
2.	Interaction with colleagues and supporting staff	10	
3.	Maintenance of case records	10	
4.	Presentation of case during rounds	10	
5.	Investigation works up	10	
6.	Bedside Manners	10	
7.	Rapport with patients	10	
8.	Treatment approach & technique	10	
9.	Discipline	10	
10.	Overall quality of clinical work	10	
Total		100	

Evaluator:

Name:

Designation:

Department:



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The students of Post Graduate Physiotherapy program must spend above mentioned allotted time period in the hospital based clinical training for specified clinical experiences to meet the objectives of the training program. This period of practical and theoretical experience will enable the students to acquire competency and experience to perform as an independent practice and will enable to adjust to the real practical life in different units in the hospital settings.



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Semester III

Semester 3									
Sl No	Course Type	Course Code	Course Name	Marks	L	T	P	Credits	Hours
1a	DCC	MPT301(O)	Applied Orthopedics Rehabilitation I	100	3	1	0	4	60
2a	DCC	MPT391(O)	Applied Orthopedics Rehabilitation I - Practical	100	0	0	4	2	60
1b	DCC	MPT301(N)	Applied Neurology Rehabilitation I	100	3	1	0	4	60
2b	DCC	MPT391(N)	Applied Neurology Rehabilitation I - Practical	100	0	0	4	2	60
1c	DCC	MPT301(C)	Applied Cardiopulmonary Rehabilitation I	100	3	1	0	4	60
2c	DCC	MPT391(C)	Applied Cardiopulmonary Rehabilitation I - Practical	100	0	0	4	2	60
1d	DCC	MPT301(S)	Applied Sports Rehabilitation I	100	3	1	0	4	60
2d	DCC	MPT391(S)	Applied Sports Rehabilitation I - Practical	100	0	0	4	2	60
3	AEC	MPT302	Educational Methodology and Pedagogy	100	2	0	0	2	30
4	CC	MPT303	Advanced Physiotherapeutic Management	100	2	1	0	3	45
5	DSEC	MPT304	Fitness & Health Promotion	100	2	0	0	2	30
6	AEC	MPT305	Evidence Based Seminar Presentation	100	0	0	4	2	60
7	RP	MPT306	Research Project	100	0	5	0	5	75
8	SEC	MPT307	Clinical Training	100	0	0	20	10	450
Total				800	9	7	28	30	810



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Course Code:	MPT301(O)	Course Name:	Applied Orthopedics Rehabilitation I	L	T	P	C
Year:	II	Semester:	III	3	1	0	4
Module	Contents						Hours
1	REVIEW OF PHYSIOTHERAPY ASSESSMENT OF MUSCULOSKELETAL CONDITIONS 2. Functional assessment. 3. Disability Evaluation. 4. Radiology in Musculoskeletal conditions.						
2	Clinical symptomatology, pathophysiology, principles of diagnosis, investigation, medical, surgical and Physiotherapy management of the following musculoskeletal conditions: 1. Fractures. 2. Dislocations. 3. Amputations. 4. Cumulative trauma disorders.						
3	SOFT TISSUE INJURIES AND REHABILITATION [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.						
4	PHYSIOTHERAPY AND REHABILITATION ON NEEUROLOICAL CONDITIONS IN ORTHOPEDICS Clinical symptomatology, pathophysiology, principles of diagnosis, investigation, medical, surgical and Physiotherapy management of the following musculoskeletal conditions: 1. Peripheral nerve lesions. 2. Paediatric musculoskeletal disorders. 3. Regional soft tissue injuries.						
5	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,						



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	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-cantered perspective to formulate collaborative intervention strategies; Understand appropriate pharmacology and its limitations in the management of chronic pain. Clinical Conditions Like, 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	
Total Hours		60

Text Books:

1. Outline of Fractures—John Crawford Adams.
2. Orthopaedic Physical Assessment by David Magee.
3. Outline of Orthopedics — John Crawford Adams.
4. Clinical Orthopaedic Rehabilitation 2nd edition Brotzman S

Reference Books:

1. Apley’s textbook of orthopedics and fractures by Apley’s 7th edition B/H publications.
2. Orthopaedics: Principles & Their application by Turek’s.
3. Physical Therapy of the Shoulder by Donatelli R.
4. Managing low back pain. Kirkaldy- Willis



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Course Code:	MPT391(O)	Course Name:	Applied Orthopedics Rehabilitation I - Practical	L		T		P		C	
Year:	II	Semester:	III	0	0	4	2				
Module	Contents									Hours	
1	ADMINISTRATION OF ORTHOPEDICS ASSESSMENT TOOLS ON PATIENT GROUPS									8	
2	ASSESSMENT OF GAIT AND POSTURE Posture Assessment and Analysis Posture Correction Techniques Gait Training and Rehabilitation									7	
3	REHABILITATION EXERCISES FOR VARIOUS MUSCULOSKELETAL DISORDERS AND PHYSIOTHERAPY MANAGEMENT OF THE FOLLOWING CONDITIONS: 1. Fractures. 2. Dislocations. 3. Amputations. 4. Cumulative trauma disorders.									15	
4	SOFT TISSUE INJURIES AND REHABILITATION Principles of Soft Tissue Rehabilitation Physiotherapy management according to the phases/stages of the injury Tendon and Ligament Rehabilitation Advanced Techniques in Soft Tissue Rehabilitation									15	
5	DEMONSTRATION OF PAIN MANAGEMENT OF IN VARIOUS ORTHOPEDICS CONDITIONS									15	
Total Hours									60		

Text Books:

1. Outline of Fractures—John Crawford Adams.
2. Orthopaedic Physical Assessment by David Magee.
3. Outline of Orthopedics — John Crawford Adams.
4. Clinical Orthopaedic Rehabilitation 2nd edition Brotzman

Reference Books:

1. Apley’s textbook of orthopedics and fractures by Apley’s 7th edition B/H publications.
2. Orthopaedics: Principles & Their application by Turek’s.
3. Physical Therapy of the Shoulder by Donatelli R.
4. Managing low back pain. Kirkaldy- Willis



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Course Code:	MPT301(N)	Course Name:	Applied Neurology Rehabilitation I	L		T		P		C	
Year:	II	Semester:	III	3	1	0	4				
Module	Contents									Hours	
1	NEUROLOGICAL ASSESSMENT: Higher mental function, Pain, Cranial nerve, Sensory & Motor assessment, Coordination & Balance, Posture, Gait, Bladder & bowel, Functional, Oromotor, Vestibular assessment. Evaluation of ANS dysfunction. Neonatal and Pediatric Assessment 2. Radiology in neurological sciences. 3. Outcome measures used in various disorders.									10	
2	PHYSIOTHERAPY MANAGEMENT OF THE NEUROLOGICAL DISORDERS Clinical symptomatology, Pathophysiology, Principles of clinical neurodiagnosis, investigation and Medical, Surgical and physiotherapy management of the neurological disorders: Stroke Spinal Cord injury Head injury Disorders of PNS Degenerative diseases Neuropathy- Polyneuropathy, Diabetic Neuropathy									15	
3	INTRACRANIAL NEOPLASM: Surgical management and Physiotherapy management of the following- Gliomas Meningiomas Neuromas Angiomas Pituitary-Adenomas									10	
4	PYOGENIC & VIRAL INFECTIONS OF CNS Clinical features, pathophysiology, medical management & P.T management Meningitis Neurosyphilis Poliomyelitis Encephalitis AIDS									15	
5	DISORDERS OF MUSCLE Aetiology, classification, signs & symptoms, medical management, PT management of the following-									10	



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	Myasthenia gravis, Dermatomyositis, Eaton-Lambert Syndrome.	
6	NEUROPHYSIOLOGY OF NERVE CONDUCTION STUDIES AND ELECTROMYOGRAPHY Instrumentation of Electrical stimulator, EMG, SFEMG, NCS (Nerve Conduction Studies). Electrical study of reflexes (H- reflex, Axon reflex, F- response, Blink reflex, Jaw jerk, Tonic Vibration Reflex). Evoked potentials (SSEP, MEP, BAERA, and VER). Interpretation of neurophysiologic responses in Neuropathy, myopathy and neuromuscular disorders.	
Total Hours		60

Text Books:

1. Neurological Rehabilitation. D. A. Umphred
2. Neurological Physiotherapy: by Edward Susan

Reference Books:

1. Brunnstrom's Movement Therapy in Hemiplegia. A Neurophysiological Approach. K Sawner
2. Adult Hemiplegia: Evaluation and Treatment. B Bobath
3. Orthopaedic Physical Assessment. Magee



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Course Code:	MPT391(N)	Course Name:	Applied Neurology Rehabilitation I - Practical	L		T		P		C	
Year:	II	Semester:	III	0	0	4	2				
Module	Contents									Hours	
1	NEUROLOGICAL ASSESSMENT: Higher mental function, Pain, Cranial nerve, Sensory & Motor assessment, Coordination & Balance, Posture, Gait, Bladder & bowel, Functional, Oromotor, Vestibular assessment. Evaluation of ANS dysfunction. Neonatal and Pediatric Assessment 2. Radiology in neurological sciences. 3. Outcome measures used in various disorders.									8	
2	NEUROPHYSIOLOGY DIAGNOSIS Instrumentation of Electrical stimulator, EMG, SFEMG, NCS (Nerve Conduction Studies). Electrical study of reflexes (H- reflex, Axon reflex, F- response, Blink reflex, Jaw jerk, Tonic Vibration Reflex). Evoked potentials (SSEP, MEP, BAERA, and VER). Interpretation of neurophysiologic responses in Neuropathy, myopathy and neuromuscular disorders.									7	
3	ASSISTIVE DEVICES IN NEURO PHYSIOTHERAPY Mobility Aids- Canes and Crutches, Walkers, Wheelchair training Orthotic Devices, Adaptive Devices for Activities of Daily Living, Training and Education in the Use of Assistive Devices									15	
4	MANAGEMENT OF CLINICAL PROBLEMS In the practical aspect students must know about the physiotherapy managements of various medical conditions in the Neurology for examples Stroke, Spinal Cord injury, Head injury, Disorders of PNS, Degenerative diseases, Neuropathy- Polyneuropathy, Diabetic Neuropathy,									15	
5	Community based rehabilitation for neurological dysfunction. Disability evaluation and management. Geriatric rehabilitation, Recent Advances in Neurological Rehabilitation.									15	
Total Hours										60	

Text Books:

1. Carr & Shepherd – Neurological rehabilitation: optimizing motor performance
2. Motor control Theory and practice: Anne Shumway-cook



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3. Neurological Rehabilitation: Umphred, Darcy, A.
4. Motor learning and performance: a situation based approach: Richard R. Schmidt
5. Physical rehabilitation by Susan B, O' Sullivan, Thomas J. Schmitz.
6. Electrodiagnosis in disease of nerve and muscles by Kimuraj J, F A Davis, Philadelphia.
7. Neurological differential diagnosis – John Patten.

Reference Books:

1. Functional neuro rehabilitation: Berner, Julie.
2. Stroke Therapy: Fisher, Marc.
3. Patricia Davies – Right in the middle (trunk activity in hemi).
4. Patricia Davies – Steps to follow (comprehensive treatment for hemi).
5. Sydney Sunderland – Nerves and nerve injuries.
6. Neurological Rehabilitation: Taly, A.B.
7. Neuro rehabilitation by Farber, W.B. Saunders.
8. Clinical neurophysiology: U.K. Misra, J. Kalita.
9. Bickerstaff's neurological examination in clinical practice.



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Course Code:	MPT301(C)	Course Name:	Applied Cardiopulmonary Rehabilitation I	L	T	P	C
Year:	II	Semester:	III	3	1	0	4
Module	Contents						Hours
1	MAJOR MANIFESTATIONS OF HEART DISEASE & CARDIAC REHABILITATION Coronary heart disease Valvular heart disease Peripheral vascular disease Definition of cardiac rehabilitation Phases of cardiac rehabilitation Outcome measures in cardiac rehabilitation						10
2	OUTCOME MEASURES IN CARDIAC REHABILITATION Demonstration of application of specific outcome measures for cardiac rehabilitation. 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 Mobilization of thorax Demonstrate techniques to increase lung volume and to decrease the work of breathing						15
3	PATIENT EDUCATION: GUIDELINES IN CARDIAC REHABILITATION General guidelines and preliminary Considerations Phase I: Inpatient cardiac rehabilitation Phase II: Outpatient cardiac rehabilitation Phase III and IV: community-based cardiac rehabilitation program						10
4	DEVELOPMENT, INTERVENTION, AND PREVENTION OF CORONARY ARTERY DISEASE Efficacy of Secondary Prevention and Risk Factor Reduction Psychosocial Issues and Strategies Role of Exercise in heart disease Cardio-respiratory fitness and coronary death Exercise training in established coronary disease Risks of acute exercise Potential mechanisms of exercise benefit						15
5	SPECIAL CONSIDERATIONS ADVANCED REHABILITATION PLANS FOR CARDIAC REHABILITATION Older patients Hypertension						10



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Diabetes Mellitus Chronic Heart Failure Heart Transplantation Patient Compliance Drug Effects Women Young Adults Revascularization and valve surgery Ventricular arrhythmias, pacemakers and ICDs Patients with Left Ventricular Assist devices Pulmonary disease Peripheral arterial disease.	
Total Hours	60

Text Books:

1. Cardiopulmonary symptoms in physiotherapy practice – Cohen M., Churchill Livingstone, London 1988.
2. Pulmonary rehabilitation: guidelines to success by Bodkins, Butterworth, Boston.
3. Cardiac rehabilitation by Amundsen lord, Churchill, Livingstone, London.
4. Physical therapy of the cancer patient by Mc Garyex Charles, Churchill, Livingstone, New York.

Reference Books:

1. Multidisciplinary approach to breathing disorder by Leon.
2. Clinical Exercise testing by Jones.
3. Pulmonary rehabilitation. The Obstructive and Paralytic Conditions by John.
4. Coronary artery disease essentials of prevention and Rehabilitation Program by Peter.
5. Pulmonary Rehabilitation by John Hodgkin (Elsevier).



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Course Code:	MPT391(C)	Course Name:	Applied Cardiopulmonary Rehabilitation I - Practical	L	T	P	C
Year:	II	Semester:	III	0	0	4	2
Module	Contents						Hours
1	PRACTICAL DEMONSTRATION AND CLINICAL APPLICATION: Assessment, Mobilization and Exercises (Strengthening, Conditioning and Endurance), Applying and Evaluating Bronchial Hygiene Therapy, Techniques for Facilitating Ventilatory Pattern, Respiratory Muscle Training, coughing, Respiratory PNF.						8
2	PRACTICAL DEMONSTRATION OF PRE-TEST CLINICAL EVALUATION Physical fitness testing and interpretation & Cardiopulmonary fitness						7
3	PRACTICAL DEMONSTRATION AND CLINICAL APPLICATION: Ventilator, Humidification and Aerosol Therapy, Physiotherapy in the Intensive Care Unit, Respiratory Therapy Equipment and Adjuncts to Cardiopulmonary Therapy, Body Positioning, Airway Clearance Techniques.						15
4	PRACTICAL ASPECT OF ASSESSMENT AND CLINICAL APPLICATION OF FOLLOWING DISEASES: Congenital Heart Disease, Cardiomyopathy, Peripheral Vascular Disease, Complications of cardiac surgery (thrombo-embolism In Brain, Lungs and Distal Vessels, phrenic nerve Injuries, Unstable Sternum and Implication of Procedures Like Omentoplasty)						15
5	PRACTICAL ASPECT OF ASSESSMENT AND CLINICAL APPLICATION OF FOLLOWING DISEASES: Respiratory Failure, Supplemental Oxygen and Oxygen Delivery Devices in Chronic Respiratory Disease, Pathophysiology of Paralytic-Restrictive Pulmonary Syndromes, Pre and Post Operative Blood Gas Exchange, Hemodynamic Performance of CTVS Patients, Heart Transplant.						15
Total Hours							60

Text Books:

1. Principles and Practice of Cardiopulmonary Physiotherapy. D Frown felter, E Dean
2. Respiratory Care. Shapiro
3. Clinical Practice in Respiratory Care. J Fink, Ge Hunt
4. Physiotherapy for Respiratory and Cardiac Problems. J Pryor, A Prasad

Reference Books:

1. Cardiopulmonary Physical Therapy. S Irwin, Sadowsky
2. Chest Physiotherapy in the ICU. Mackenzie



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Course Code:	MPT301(S)	Course Name:	Applied Sports Rehabilitation I	L	T	P	C
Year:	II	Semester:	III	3	1	0	4
Module	Contents						Hours
1	REHABILITATION AND THERAPEUTIC EXERCISES: 1. Define Rehabilitation, Goals and Objectives of Rehabilitation in Sports, Clinical Evaluation phases of rehabilitation. (multidisciplinary approach) 2. Prehabilitation 3. Modern concepts in rehabilitation. 4. Definition, details of effects and uses of therapeutic exercises. a. Dynamic Exercises b. Plyometric Exercises c. Isokinetic Exercises d. Manipulative Techniques e. Kinetic chain exercises						10
2	COMMON ACUTE AND OVERUSE INJURIES OF PRE-PARTICIPATION EXAMINATION Causes & Mechanism of Sports Injuries, prevention of sports injuries a. Shoulder girdle, Shoulder, Arm, Elbow, Forearm, Wrist & hand b. Pelvis, hip, thigh, knee, leg, ankle & foot c. Spine d. Head						10
3	SPORTING EMERGENCIES & FIRST AID Cardio pulmonary Resuscitation; Shock management, Internal and External bleeding, Splinting, Stretcher use-Handling and transfer, Management of Cardiac arrest, Acute asthma, epilepsy, drowning, burn, Medical management of mass participation. Heat stroke and Heat illness.						10
4	MOBILIZATION AND STRENGTHENING TECHNIQUES: 1. Factors affecting the joint range of motion prevention of stiffness, methods of joint mobilization. a. Testing for tightness and contracture of soft-tissue structures. b. Techniques of mobilizing the various joints of the body. 2. Types of Muscle Contractions and Muscle work, Strength of Muscle Contraction in terms of Motor units, Group action of muscles and its implication in designing an exercise program.						10



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	a. Causes of muscle weakness. Prevention of disuse atrophy, Principles of treatment to increase muscle strength and function. b. Techniques of strengthening with respect to regional consideration. c. Various methods of progressive resisted exercise. d. Aquatic therapy in sports.	
5	1. Neuromuscular Training: Neuromuscular control, methods for improving neuromuscular control, proprioception and Kinesthetic sensation following different sport injuries. 2. Principles and application of neuromuscular facilitation techniques including PNF in sports. 3. Health club & fitness: Concept, group therapy	10
6	Sports specific injuries, with special emphasis on the specific risk factor, nature of sports, kind of medical intervention anticipated and prevention with respect to individual sports a. Individual events: Field & Track b. Team events: Hockey, Cricket, Football c. Contact and Non-contact sports d. Water sports	10
Total Hours		60

Text Books:

1. Athletic Injuries & Rehabilitation – Zachazewski James E., Magee David J.
2. Zuluaga et al: Sports Physiotherapy, W.B. Saunders.
3. Brukner and Khan: Clinical Sports Medicine, Mc Graw Hill.
4. Reed: Sports Injuries – Assessment and Rehabilitation, W.B. Saunders.
5. A.G. Sinha, Principle and Practices of Therapeutic Massage. Jaypee Brothers
6. Mc Ardle, Katch, Katch: Exercise Physiology Edition IV.
7. Therapeutic Exercise by Kisner& Colby, 4th Edition; Jaypee Publication
8. Claytons Electrotherapy 10th Ed. – Sarah & Bazin – W.B. Saunders
9. Joint structure and function- Cynthia Norkins, 4th Edition, Jaypee Publication
10. Greenman’s Principles Of Manual Medicine, Lisa A. De Stefano, D.O.

Reference Books:

1. Kuprian: Physical Therapy for Sports, W.B. Saunders.
2. Bates: Aquatic Exercise Therapy, W.B. Saunders.
3. Maitland's Vertebral Manipulation. Geoff Maitland, Elly Hengeveld and Kevin Banks Butterworth-Heinemann; 7th edition.2005



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4. Maitland's Peripheral Manipulation. Elly Hengeveld and Kevin Banks. Butterworth-Heinemann; 4th edition 2005.

5. Sports Biomechanics: The Basics: Optimizing Human Performance. Anthony Blazevisch. A&C Black, 2nd Edition edition 2010.



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Course Code:	MPT391(S)	Course Name:	Applied Sports Rehabilitation I - Practical	L		T		P		C	
Year:	II	Semester:	III	0	0	4	2				
Module	Contents									Hours	
1	SPORTS PHYSIOTHERAPY PRACTICAL FOR SPINE AND PELVIS Assessment Protocol sports injury Posture Analysis. Analysis and classification of sports and sports specific injuries. Special Test for individual sports Injuries.									8	
2	Functional Bandages & Orthotic Aids: History and uses of functional bandages, classification according to the time of application, types of bandages, Bandaging techniques and bandaging material, Indications, contraindications athletic shoes and modifications, common orthotic aid and appliances in Sports.									7	
3	Exercise and Respiratory System: a. Air Conditioning. b. Second Wind. c. Oxygen Debt. d. Breathe Holding, High Pressure Ventilation. Scuba Diving. e. Athletes Lung. f. Regulation of Respiration during exercise									15	
4	Cardio Vascular System and Exercise: a. Athletes Heart. b. Cardio Vascular adaptations to sustained aerobic exercises. c. Lipids and sports, protection from coronary heart disease, exercise and optimization of lipid profile. d. Sudden cardiac death in sports. e. Regulation of circulation during exercise.									15	
5	1. Advance sports specific exercise protocol. 2. Pain Management. 3. Rehabilitation protocol for common running injuries. 4. Treatment plan for On field sports Injuries.									15	
Total Hours									60		



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Text 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.
6. Sports Injury, Assessment & Rehabilitation David C. Reid.

Reference Books:

1. Exercise Physiology - Mc Ardle Katch, Katch.
2. Kinesiology of the Human Body under normal and pathological conditions Arthur Steindler.
3. Sports Medicine: Prevention Evaluation Management and Rehabilitation. Steven Roy



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Course Code:	MPT302	Course Name:	Educational Methodology and Pedagogy	L		T		P		C	
Year:	II	Semester:	III	2	0	0	0	0	2		
Module	Contents									Hours	
1	EDUCATION: 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. Formal, Informal and Non-Formal Education, Agencies of Education, Current issues and trends in Higher Education (Issue of Quality in Higher Education, Autonomy and Accountability, Privatizations, Professional Development of Teachers, Education of Persons with Disabilities), Need for Educational Philosophy (Some Major Philosophies, Idealism Naturalism, Pragmatism and their Implications for Education). Trends in development of physiotherapy education in India.									6	
2	CONCEPTS OF TEACHING AND LEARNING & PRINCIPLES AND METHODS OF TEACHING Meaning and relationship between teaching and learning. Meaning and scope of Educational Psychology. Learning theories, Dynamics of behaviour, Motivational process of learning, Perception, individual differences, intelligence personality. Blooms taxonomy of instructional objectives Writing instructional objectives in behavioural terms. Unit planning, lesson planning, Lecturer, Demonstration discussions, seminar, assignment. Types of Teaching Aids. Principles of selection, preparation and use of Audio-Visual Aids. Competency based education [CBE] and outcome-based education [OBE] National Education policy [NEP]									6	
3	CURRICULUM 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, counselling skills.									6	



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	Development and Factors Affecting Curriculum Development, Evaluation of Curriculum.	
4	INNOVATIVE TEACHING-LEARNING METHODS- Lecture, Demonstration, Discussion (Group discussion, symposium, Seminar, panel, conference), Assignment, brain storming, role play, Project, workshop Audio-Visual Aids: types, principles of selection, preparation and uses Measurement and Evaluation- Concepts, difference between measurement and evaluation, needs Formative and Summative evaluation Continuous and comprehensive evaluation Diagnostic test and remedial teaching Important tests of intelligence, Aptitude and personality	7
5	TEACHER PREPARATION Principles and concepts, guidance and counselling services of students and faculty. 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	5
Total Hours		30

Text 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.

Reference Books:

1. "The Art and Science of Teaching" by Robert J. Marzano
2. "Pedagogy of the Oppressed" by Paulo Freire
 "How Learning Works: Seven Research-Based Principles for Smart Teaching" by Susan A. Ambrose et al.
3. "Teaching for Understanding: Linking Research with Practice" by Martha Stone Wiske (Editor)



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Course Code:	MPT303	Course Name:	Advanced Physiotherapeutic Management	L	T	P	C
Year:	II	Semester:	III	2	1	0	3
Module	Contents						Hours
1	PHYSIOTHERAPY IN ORTHOPEDICS Musculoskeletal assessment and management, Manual therapy techniques, Biomechanics of the musculoskeletal system, Post-operative rehabilitation, Pain management.						5
2	PHYSIOTHERAPY IN NEUROLOGY Neurological assessment and management, Rehabilitation techniques for stroke, spinal cord injuries, traumatic brain injuries, etc. Neuroplasticity and its role in rehabilitation, Balance and coordination training, Gait training and motor relearning						10
3	PHYSIOTHERAPY IN CARDIO-RESPIRATORY DISORDERS Detailed assessment of cardio-respiratory function, Physiotherapy management of cardiovascular diseases (e.g., coronary artery disease, heart failure), Respiratory therapy techniques for conditions such as COPD, asthma, and bronchiectasis, post-operative rehabilitation for cardiac and thoracic surgeries, Techniques for improving pulmonary function and exercise tolerance						10
4	PHYSIOTHERAPY IN SPORTS Assessment and management of sports injuries, Rehabilitation techniques for various musculoskeletal conditions, Injury prevention strategies and performance enhancement, Sports-specific rehabilitation protocols for athletes, Return-to-play criteria and protocols						10
5	PHYSIOTHERAPY IN PAEDIATRICS Assessment and management of developmental disorders, Treatment of congenital and acquired pediatric conditions, Pediatric neuro rehabilitation for conditions like cerebral palsy, spina bifida, and Down syndrome, Management of musculoskeletal conditions in children Respiratory physiotherapy in pediatric populations						10
Total Hours							45

Text Books:

1. "Orthopedic Physical Assessment" by David J. Magee
2. "Therapeutic Exercise: Foundations and Techniques" by Carolyn Kisner and Lynn Allen Colby



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3. "Neurological Rehabilitation" by Darcy Ann Umphred
4. "Physical Management for Neurological Conditions" by Maria Stokes
5. "Cardiopulmonary Physical Therapy: A Guide to Practice" by Scot Irwin and Jan Stephen Tecklin
6. "Essentials of Cardiopulmonary Physical Therapy" by Ellen A. Hillegass
7. "Pediatric Physical Therapy" by Jan Stephen Tecklin
8. "Physical Therapy for Children" by Suzann K. Campbell, Robert J. Palisano, and Margo Orlin
9. "Clinical Sports Medicine" by Peter Brukner and Karim Khan
10. "Sports Injuries: Prevention, Diagnosis, Treatment, and Rehabilitation" by Lars Peterson and Per Renstrom

Reference Books:

1. "Physical Rehabilitation" by Susan B. O'Sullivan and Thomas J. Schmitz
2. "Evidence-Based Practice Across the Health Professions" by Tammy Hoffmann, Sally Bennett, and Chris Del Mar



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Course Code:	MPT304	Course Name:	Finess & Health Promotion	L	T	P	C
Year:	II	Semester:	III	2	0	0	2
Module	Contents						Hours
1	CONCEPT OF PHYSICAL EDUCATION AND HEALTH DEFINITION Aims and Objectives of Physical Education Importance and Scope of Physical Education Modern concept of Health, Physical fitness and Wellness						5
2	COMPONENTS OF PHYSICAL FITNESS PHYSICAL FITNESS COMPONENTS Speed, Strength, Endurance, Flexibility and Coordinative Abilities Types of Physical Fitness - Health related Physical Fitness - Performance Related Physical Fitness - Cosmetic fitness Balance						5
3	PRINCIPLES OF EXERCISE PROGRAMME Activities for developing Physical Fitness Components Exercise and Heart rate Zones Principles of First Aid Nutritional Balance						5
4	YOGA MANAGEMENT Meaning, Definition and Importance of Yoga, Ashtanga Yoga (Maharishi Patanjali): Meaning and importance. Supine Position Asanas (Ardh-Halāsana, Sarvangāsana, Pawanmuktāsana); Prone Position Asanas (Bhujangāsana, Salabhasana, Dhanurasana) Sitting Asanas (Ardh Matsyendrasana, Paschimotanasana, SuptaVajrasana); Standing Asanas (Utkatasana, Trikonasana and Tadasana).						5
5	STRESS MANAGEMENT Concept and Causes and Effects of Stress. Non-communicable diseases (due to stress), Stress prevention and good health. Stress Management through relaxation techniques (autogenic training and progressive muscle relaxation, deep breathing, meditation), and sports, recreational, adventure sports, physical activities and developing healthy relationships as coping strategies.						5
6	LIFESTYLE DISEASE AND ITS MANAGEMENT Definition and overview of lifestyle diseases Global and national burden of lifestyle diseases Impact of lifestyle diseases on public health Exercise prescriptions for specific conditions (e.g., cardiac rehab, diabetes management) Role of physiotherapy in the management of musculoskeletal disorders						5
Total Hours							30



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Text Books:

1. ACE Essential of exercise science for fitness professionals.
2. Physical Activity and Health-2nd Edition By Claude Bouchard, Steven N. Blair, William Haskell.
3. Interventions for promoting physical activity. Charles Foster, Melvyn Hillsdon, and Thamindu Wedatilake. The Cochrane database of systematic reviews.

Reference Books:

1. ACSM Fitness Book, Leisure Press Campaign, Illions, 1996, Leisure Press, Canada
<http://www.pitt.edu/~gsphome>
2. ACSM's "Health Related Physical Fitness Assessment Manual Lippincott Williams and Walkins USA, 2005. · B.C.Rai Health Education and Hygiene Published by Prakashan Kendra, Lucknow
3. Bucher.C.A. (1979). Foundation of Physical Education (5th edition Missouri C.V.Mosby co. California: Mayfield Publishing Company · Corbin.Charles Beetal. C.A., (2004) Concepts of Fitness and Welfare Boston McGraw Hill.
4. Frank V.M. (2003). Sports & education CA: ABC- CLIO · Les Snowdan., Maggie Humphrey's Fitness walking, Maggie Humphery Orient Paper Books 2002 New Delhi.
5. Norman Bezzant Help! First Aid for everyday emergencies. Jaico Publishing House Bombay, Delhi
6. Principles of Physical Education: Com. Philadelphia: W.B.Sounders · Puri. K.Chandra.S.S. (2005). Health and Physical Education. New Delhi: Surjeet



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Course Code:	MPT305	Course Name:	Evidence Based Seminar Presentation	L	T	P	C
Year:	II	Semester:	III	0	0	4	2
Contents							Hours
MPT- Students has to prepare minimum 2 long case and 2 short cases during their Evidence Based Seminar Presentation during due course of time. These will serve as platform for students to integrate various components of patient management and debate contentious issues on the efficacy of physiotherapy techniques. Students will give presentations on topic provided to them. For the Presentation, each student will be assessed in a 20 minutes time (15 min for presentation & 5 min for discussion)							60



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**Format for Evidence Based Clinical Case/ Seminar Presentation Evaluation
(Master of Physiotherapy Program)**

Name of candidate:

Program:

Semester:

Topic of Presentation:

Date:

Sl. No.	Parameters	Maximum marks	Obtained marks
1.	Body Language/voice modulation	10	
2.	Selection of the topic	5	
3.	Knowledge of the Topic/case	15	
4.	Content of the presentation	10	
5.	Recent development	5	
6.	Confidence & Attitude	10	
7.	Design of presentation (appropriate font, type, size, colour, matter per slide etc.)	10	
8.	Completes the presentation within allocated time	10	
9.	Quiz & ability to defend content of presentation	25	
Total		100	

Evaluator:

Name:

Designation:

Department:

Student shall be evaluated in the above-mentioned format by the team of faculty members for presentation. Student should have the copy of this format which should be provided to each member of the team of evaluators during every presentation. The average marks of each cycle shall be considered for final.



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Course Code:	MPT306	Course Name:	Research Project	L	T	P	C
Year:	II	Semester:	III	0	5	0	5
Contents							Hours
<p>The research project work is aimed to train a postgraduate candidate in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, and review of literature.</p> <p>The candidate shall submit the synopsis to the ethical committee of the department in the prescribed Performa.</p> <p>PG Guide: A PG guide must have full time teaching and clinical experience in the core subject area after post-graduation.</p> <p>Co-guide: The co-guide if required shall be a recognized postgraduate teacher in the core area or faculty from other clinical or non- clinical departments of Paramedical, engineering or pharmacy colleges of SVU or any other research laboratory.</p> <p>No change in the dissertation topic or CO-guide shall be made without prior approval of the university. Co-Guide will be only a facilitator, advisor of the concept and hold responsible in correctly directing the candidate in the methodology and not responsible for the outcome and results.</p> <p>In the III Semester, the research topic shall be finalized and the proposal/synopsis to be approved by dissertation proposal approval committee and subsequently by the ethical committee. The approved synopsis shall be submitted to the University in the prescribed format at the end of the semester III.</p> <p>This proposal is considered an agreement describing how the student will conduct the study and cannot be changed without guide/ committee approval. Substantial changes to the methods, goals, and objectives articulated in the proposal will necessitate a new proposal defence. This shall be assessed by two examiners (internal examiner and external examiner) appointed by the university.</p>							75



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Course Code:	MPT307	Course Name:	Clinical Training	L	T	P	C
Year:	II	Semester:	III	0	0	20	10
Contents							Hours
<p>Clinical training is a mode through which students apply their classroom knowledge; all formal and practical "real-life" learning experiences and skills in clinical environment. Experiences would include those of short and long duration (eg, part-time, full-time, internships) and provide a variety of learning experiences through rotations in different units or departments within the same practice setting or health care system) to include comprehensive care of patients across the life span and related activities.</p> <p>Each student will be under the supervision of a clinical supervisor at clinical education site who shall instruct and supervise students during their clinical posting sessions. Clinical supervisors are responsible for facilitating clinical learning experiences and assessing student's performance in cognitive, psychomotor, and affective domains as related to graduate-level clinical practice and academic and clinical performance expectations. The student shall acquire practical skills mentioned in syllabus for that particular semester during clinical training hours.</p> <p>The students will start their clinical training from the first semester and it will go on till their fourth semester. In each semester, they will be posted for a minimum of four months in the departments related to their courses being learned in respective semesters. The student will be formally evaluated at the end of semester through viva voce examinations by internal and external examiners.</p>							450



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Format of Clinical Posting Assessment Form for Evaluation (Master of Physiotherapy Program)

Name of candidate:

Program:

Semester:

Topic of Presentation:

Date:

Sl. No.	Parameters	Maximum marks	Obtained marks
1.	Punctuality	10	
2.	Interaction with colleagues and supporting staff	10	
3.	Maintenance of case records	10	
4.	Presentation of case during rounds	10	
5.	Investigation works up	10	
6.	Bedside Manners	10	
7.	Rapport with patients	10	
8.	Treatment approach & technique	10	
9.	Discipline	10	
10.	Overall quality of clinical work	10	
Total		100	

Evaluator:

Name:

Designation:

Department:



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The students of Post Graduate Physiotherapy program must spend above mentioned allotted time period in the hospital based clinical training for specified clinical experiences to meet the objectives of the training program. This period of practical and theoretical experience will enable the students to acquire competency and experience to perform as an independent practice and will enable to adjust to the real practical life in different units in the hospital settings.



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Semester IV

Semester 4									
Sl No	Course Type	Course Code	Course Name	Marks	L	T	P	Credits	Hours
1a	DCC	MPT401(O)	Applied Orthopedics Rehabilitation II	100	3	1	0	4	60
2a	DCC	MPT491(O)	Applied Orthopedics Rehabilitation II - Practical	100	0	0	4	2	60
1b	DCC	MPT401(N)	Applied Neurology Rehabilitation II	100	3	1	0	4	60
2b	DCC	MPT491(N)	Applied Neurology Rehabilitation II - Practical	100	0	0	4	2	60
1c	DCC	MPT401(C)	Applied Cardiopulmonary Rehabilitation II	100	3	1	0	4	60
2c	DCC	MPT491(C)	Applied Cardiopulmonary Rehabilitation II - Practical	100	0	0	4	2	60
1d	DCC	MPT401(S)	Applied Sports Rehabilitation II	100	3	1	0	4	60
2d	DCC	MPT491(S)	Applied Sports Rehabilitation II - Practical	100	0	0	4	2	60
3	DSEC	MPT402	Geriatric Physiotherapy	100	3	0	0	3	45
4	AEC	MPT403	Women Health & Therapeutics	100	3	0	0	3	45
5	AEC	MPT404	Evidence Based Seminar Presentation	100	0	1	4	2	60
6	SEC	MPT405	Clinical Training	100	0	0	10	5	225
7	RP	MPT406	Research Dissertation	100	0	0	20	10	450
Total				700	9	2	38	29	945



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Course Code:	MPT401(O)	Course Name:	Applied Orthopedics Rehabilitation II	L	T	P	C
Year:	II	Semester:	IV	3	1	0	4
Module	Contents						Hours
1	REGIONAL REHABILITATION Study of Orthopedics condition of Hand complex, Foot, Shoulder and Hip Rehabilitation programmes including the Therapeutic Interventions						15
2	REHABILITATION OF LOCOMOTOR DISORDER Clinical symptomatology, pathophysiology, principles of diagnosis, investigation, medical, surgical and Physiotherapy assessment & management of Locomotor disorders.						15
3	REHABILITATION OF VARIOUS ORTHOPEDIC CONDITION Clinical symptomatology, pathophysiology, principles of diagnosis, investigation, medical, surgical and Physiotherapy management of the following musculoskeletal conditions: 1. Degenerative conditions. 2. Inflammatory disorders and allied conditions. 3. Metabolic, hormonal, neoplastic and infective conditions of bones and joints.						15
4	RECENT ADVANCEMENT ORTHOPEDIC REHABILITATION 1. Overview of Pilates, Chiropractic and Osteopathic school of thought. 2. Overview of isokinetic training, Plyometrics, Aquatic Therapy, 3. Overview of osteopathy including MET						8
5	REHABILITATION TECHNIQUES Manual therapy: Introduction and techniques of : Mulligan, Maitland, Mc Kenzie, Cyriax, Kalternborn. 2. Introduction and techniques of : MFR, MET, PRT, Taping.						7
Total Hours							60

Text Books:

1. Clinical Orthopaedic Rehabilitation 2nd ed, Brotzman S B.
2. Orthopaedic Physical Therapy. Robert A. Donatelli & Michael J. Wooden

Reference Books:

1. Apley's textbook of orthopedics and fractures, 7th edition B/H publications.
2. Managing low back pain, Kirkaldy- Willis.



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Course Code:	MPT491(O)	Course Name:	Applied Orthopedics Rehabilitation II - Practical	L		T		P		C	
Year:	II	Semester:	IV	0	0	4	2				
Module	Contents									Hours	
1	Physiotherapy Rehabilitation of the Regional Orthopedics conditions Upper and Lower Extrimity, conditions of cervical and thoracic spine. orthopaedics condition rehabilitation (Including the pre- and post-surgical conditions) Advanced Pain Management Techniques									15	
2	Physiotherapy management of the following musculoskeletal conditions: 1. Degenerative conditions. 2. Inflammatory disorders and allied conditions. 3. Metabolic, hormonal, neoplastic and infective conditions of bones and joints.									25	
3	Physiotherapy management for amputations and gait deviations after Amputation. Stump Care and Management Prosthetic Training and Fitting Sensory re-education, Functional re-education. Community Reintegration and Vocational Training									15	
4	Manual therapy-soft tissue manipulations, mobilization, neural mobilization. (Cyriax, Maitland, Butler, Mckenzie, Kaltenborn, Mulligan). Advanced physiotherapy management techniques.									5	
Total Hours										60	

Text Books:

1. Clinical Orthopaedic Rehabilitation 2nd ed, Brotzman S B.
2. Orthopaedic Physical Therapy. Robert A. Donatelli & Michael J. Wooden

Reference Books:

1. Apley’s textbook of orthopedics and fractures, 7th edition B/H publications.
2. Managing low back pain, Kirkaldy- Willis.



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Course Code:	MPT401(N)	Course Name:	Applied Neurology Rehabilitation II	L	T	P	C
Year:	II	Semester:	IV	3	1	0	4
Module	Contents						Hours
1	THEORIES OF MOTOR CONTROL AND THEORIES OF MOTOR LEARNING, ITS APPLICATION IN PHYSIOTHERAPY Introduction to Motor Control Theories of Motor Control Neuroplasticity and Motor Learning Application of Motor Control and Learning Theories in Physiotherapy						15
2	CONGENITAL & HEREDITARY DISORDERS REHABILITATION Clinical features, pathophysiology and physiotherapy management of the following- Cerebral palsy, Spina Bifida, Muscular Dystrophy, High risk infant- Evaluation, concept of intervention, complication, Hereditary Sensory motor neuropathy, Hydrocephalus, ASD, ADHD						15
3	PHYSIOTHERAPY IN PRETERM INFANTS, MANAGEMENT OF DEVELOPMENTAL MILESTONES. Developmental Challenges in Preterm Infants Importance of Early Intervention Assessment Tools and Techniques Home-Based Interventions Parental education and involvement						15
4	SYSTEMIC REHABILITATION Vestibular Rehabilitation-Vestibular system, anatomy, Physiology, assessment, Intervention. Balance- Mechanism of Normal balance, Assessment, strategies to improve balance. Neural control of bladder, its dysfunction, Bladder training Programmes. Assessment and intervention strategies for cognitive and perceptual dysfunction.						8
5	TREATMENT & APPROACHES IN NEUROLOGICAL REHABILITATION: Bobath, NDT, SI, Brunnstrom, Roods, PNF, Vojta, MRP, Robotics and AI in rehabilitation.						7
Total Hours							60



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Text Books:

1. Carr & Shepherd – Neurological rehabilitation: optimizing motor performance
2. Motor control Theory and practice: Anne Shumway-cook
3. Neurological Rehabilitation: Umphred, Darcy, A.
4. Motor learning and performance: a situation based approach: Richard R. Schmidt
5. Physical rehabilitation by Susan B, O' Sullivan, Thomas J. Schmitz.
6. Electrodiagnosis in disease of nerve and muscles by Kimuraj J, F A Davis, Philadelphia.
7. Neurological differential diagnosis – John Patten.

Reference Books:

1. Functional neuro rehabilitation: Berner, Julie.
2. Stroke Therapy: Fisher, Marc.
3. Patricia Davies – Right in the middle (trunk activity in hemi).
4. Patricia Davies – Steps to follow (comprehensive treatment for hemi).
5. Sydney Sunderland – Nerves and nerve injuries.
6. Neurological Rehabilitation: Taly, A.B.
7. Neuro rehabilitation by Farber, W.B. Saunders.
8. Clinical neurophysiology: U.K. Misra, J. Kalita.
9. Bickerstaff's neurological examination in clinical practice.



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Course Code:	MPT491(N)	Course Name:	Applied Neurology Rehabilitation II - Practical	L	T	P	C
Year:	II	Semester:	IV	0	0	4	2
Module	Contents						Hours
1	PRESCRIPTION AND DEMONSTRATION OF ASSISTIVE TECHNOLOGY WITH SPECIAL FOCUS ON: Paraplegia & quadriplegia, Hemiplegia, upper limb orthosis & splint, lower limb orthosis, spine orthosis.						15
2	FUNDAMENTALS OF THERAPEUTIC APPROACHES In the practical aspect students must know about the Proprioceptive Neuromuscular Facilitation (PNF), Neurodevelopment therapy (NDT). Sensory integration Technique (SIT). Motor Relearning Program (MRP). Constraint Induced Movement Therapy (CIMT). Roods approach, Vojta Therapy, Mental imagery technique.						15
3	MANAGEMENT OF CLINICAL PROBLEMS In the practical aspect students must know about the Multiple Sclerosis. Amyotrophic Lateral Sclerosis. Demyelinating Inflammatory Poly radiculo neuropathy, Hemiplegic, Paraplegia						10
4	MOTOR PERFORMANCE IN CHILDREN In the practical aspect students must know about the The Child's Development of Functional Movement, Musculoskeletal Development and Adaptation Developmental Coordination Disorder. Physical Fitness during Childhood. Clinical Decision making in pediatric physical therapy, Cerebral Palsy & Myelodysplasia						15
5	PRESCRIPTION AND DEMONSTRATION OF ALTERNATIVE AND COMPLEMENTARY THERAPIES: 1. Meditation 2. Mind – body technique: Tai Chi 3. Cranio sacral therapy 4. Electroacupuncture 5. Biofeedback						5
Total Hours							60

Text Books:

1. Physical Therapy For Children By Suzann K. Campbell
2. Neurological rehabilitation by Darcy a. Umphred
3. Motor Control. Theory and Practical Applications. AS Cook, M Woollacott
4. A Motor Relearning Programme for Stroke. J Carr. R Shepherd
5. Motor Control and Learning. A Behavioral Emphasis. R A Schmidt

Reference Books:



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2. Neurological rehabilitation by Darcy a. Umphred
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5. Motor Control and Learning. A Behavioral Emphasis. R A Schmidt



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Course Code:	MPT401(C)	Course Name:	Applied Cardiopulmonary Rehabilitation II	L		T		P		C	
Year:	II	Semester:	IV	3	1	0	4				
Module	Contents									Hours	
1	PULMONARY REHABILITATION Goals and outcomes Structure Patient evaluation procedures Treatment intervention Physical conditioning Skeletal muscle dysfunction evaluation Effects of Pulmonary Rehabilitation- long term and short-term effects on respiratory system PRINCIPLES CHEST PHYSIOTHERAPY TECHNIQUES VO2 Max Assessment, Active cycle of breathing technique, Autogenic Drainage, Postural drainage, Percussion, Huffing and coughing, Vibration and shaking, Manual hyperinflation, Autogenic drainage, Vibratory PEP Devices: Acapella, Flutter, Non-Vibratory PEP Devices: Thera PEP, PNF respiration, Breathing Exercises and Ventilator Training, Exercises to Mobilize Chest, Positive expiratory pressure, High -frequency chest wall oscillation, Intrapulmonary Percussive ventilation, Acoustic airway clearance, Suctioning, Body positioning, Mobilisation and exercise according to demand of patient.									15	
2	THERAPEUTIC PRINCIPLES AND PRACTICE IN PULMONARY REHABILITATION Oxygen therapy Humidity and aerosol therapy including drug inhalation Assessment of pulmonary function test Functional performance assessment Exercise testing: incremental shuttle walk test, endurance shuttle walk test, six-minute walk test, Step test, treadmill tests. (i.e. Balke, Bruce, Noughton, Modified Bruce protocol), interval bike test, sub maximal GXT, symptom limited GXT, exercise testing using cycle ergometer, oxygen uptake (VO2) Scales used in pulmonary rehabilitation: Becks Depression Inventory (BDI) and Hamilton Anxiety Scale (HAS);mni- mental state examination, SGRQ,CRQ,SF-36,CAT,Activities-specific balance scale (ABC) etc.									15	
3	PULMONARY REHABILITATION IN VARIOUS MEDICAL CONDITIONS									15	



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	Obstructive pulmonary diseases, Sleep apnoea, Infections of the respiratory system, Interstitial and infiltrative pulmonary disorders, Pulmonary disorders due to exposure to organic and inorganic pollutants, Pulmonary disorders due to systemic inflammatory disease, Pulmonary vascular diseases, Diseases of the pleura, Respiratory failure, Neuromuscular and skeletal disorders leading to global alveolar hypoventilation, Pathophysiology of paralytic-restrictive pulmonary syndromes, Conventional approaches to managing neuromuscular ventilator failure, Post -tubercular sequelae, Acute respiratory distress syndrome	
4	RESPIRATORY PNF Respiratory Muscle Facilitation PNF Patterns for Respiratory Function Combining PNF with Respiratory Interventions RESPIRATORY MUSCLE FATIGUE Respiratory muscle training- Assessment, training methods in health and disease, Cardiovascular and pulmonary physical therapy- Acute medical and surgical conditions, Cardiovascular and pulmonary physical therapy- chronic medical and surgical conditions	8
5	CARDIOVASCULAR AND PULMONARY PHYSICAL THERAPY- SPECIAL CASES Infants and children Hyperventilation syndrome Elderly people with cardiorespiratory disease Palliative respiratory physiotherapy PVD Rehabilitation Chest Trauma-Management The transplant patient Body mechanics: positioning and moving patients	7
Total Hours		60

Text Books:

1. Chest physiotherapy in intensive care unit by Mackenzie CF Williams and Wilkins.
2. Cardiovascular and Pulmonary physical therapy by Felter D.F. Mosby.
3. Exercise and the heart by Froelicher V.F. Elsevier.
4. Cardiovascular health and disease in women by Douglas PS. Saunders.
5. Acute care handbook for physical therapist by Jamie C. Paz Michel P. West. Butterworth Heine Mann
6. Physical therapy for children by Campbell Suzann K, W.B Saunders, Philadelphia
7. Chest physiotherapy in Intensive care unit by Mackenzie, Williams & Wilkins.
8. Pulmonary Rehabilitation by John Hodgkin (Elsevier).



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Reference Books:

1. Cardio pulmonary physical therapy by Joanne Watchie
2. Physiotherapy for respiratory and cardiac problems by Pryor JA; Prasad SA, Elsevier
3. Respiratory care – A guide to clinical practice by Burton G.G. & Hodgkin
4. Brompton 's Chest Physiotherapy
5. Clinical application of mechanical ventilation By David W. Chang
6. ECG by P.J. Mehta



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Year:	II	Semester:	IV	0	0	4	2
Module	Contents						Hours
1	PULMONARY REHABILITATION Demonstration of application of various screening tool for cardiopulmonary disease with Interpretations. Demonstration of Selection and Assessment of the Pulmonary Rehabilitation Candidate, Patient education, skills training, Exercise Training & Psychosocial Assessment and Intervention.						
2	PHYSIOTHERAPEUTIC PRINCIPLE AND TECHNIQUES IN INTENSIVE CARE 1. Extracorporeal membrane oxygenation (ECMO) 2. Mobilization of critically ill patients 3. Intensive care unit-acquired weakness (ICUAW) 4. Continuous rotational therapy 5. Management of Airway Secretions Mechanically ventilated patients in the ICU 6. Intrapulmonary percussive ventilation (IPV) 7. Positive expiratory pressure (PEP) 8. Manual hyperinflation (MHI) 9. Ventilator hyperinflation (VHI) 10. Insufflation-exsufflation						
3	Facilitating airway clearance with coughing techniques 1. Cough pump 2. Complications 3. Cough evaluation 4. Assisted coughing techniques Facilitating ventilator patterns and breathing strategies 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						
4	Physiotherapy to increase lung volume 1. Lung expansion therapy 2. Incentive spirometry 3. Continuous positive airway pressure						



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	4. Intermittent positive pressure breathing Physiotherapy to decrease the work of breathing 1. Handling breathlessness 2. Relaxed positions, relaxation 3. Breathing reduction 4. Exercise and pacing 5. Non-invasive ventilation Adjuncts to chest physiotherapy 1. Aerosol therapy 2. Nebulization 3. Humidification	
5	POST SURGICAL PULMONARY ADVANCED REHABILITATION Case based demonstration of post-surgical pulmonary rehabilitation like General Thoracic Surgery: Surgery of chest wall, diaphragm, mediastinum, trachea and bronchus, pleura and lungs, Oesophagus, Chest Trauma, Neonatal cardiovascular –thoracic emergencies. Inter costal drainage (ICD), VATS (Video assisted thoracic surgery) Basics: diagnostic and therapeutic Procedures, Complications of pulmonary surgery	
Total Hours		

Text Books:

1. Clinical Application of Mechanical Ventilation Paperback – 25 Jan 2013 by David Chang (Author)
2. Critical Care Medicine: Principles of Diagnosis and Management in the Adult Hardcover 10 Dec, 2013

Reference Books:

1. Handbook of Intensive Care Organization and Management, September 2016 Pages: 424, Edited By: Andrew Webb (UBC)
2. The flying publisher guide to Critical Care in Neurology, Kitchener, Hashem, Wahba, Khalaf, Zarif, Mansoor, 2012



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Course Code:	MPT401(S)	Course Name:	Applied Sports Rehabilitation II	L	T	P	C
Year:	II	Semester:	IV	3	1	0	4
Module	Contents						Hours
1	<p>PRE-PARTICIPATION AND EMERGENCY ON FIELD EVALUATION Sports health and fitness testing. Disability screening and evaluation Assessment of trunk muscles dysfunction. Evaluation of Swiss ball exercise prescription for orthopaedic problems. Assessments of myofascial trigger point-diagnosis, pressure algometry. Functional Assessment in sports.</p>						15
2	<p>SPORTS PSYCHOLOGY a. Introduction to Sports Psychology: History, definition and scope of sports psychology, methods of studying behaviour, personality and its relevance in sports b. Psychology of Sports Injuries: Psychological Aspects of Sports Injuries, Goal Setting- Principles and importance in sports, Motivation, group behaviours and leadership, precompetitive anxiety and performance c. Psychological Preparation of Elite Athletes: Concept of psychological preparation, stress, Arousal and Anxiety: effects on sports and intervention strategies-Concentration training, Biofeedback training, Cognitive stress and somatic stress management techniques, Relaxation training.</p>						15
3	<p>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</p>						15
4	<p>THERAPUTIC APPLICATION IN SPORTS Massage: Historical development. Definition and classification of massage techniques, Physiological effects of massage, Description of the techniques of the classical massage. Connective tissue massage, physiological basis of sports massage and various categories, underwater massage, mechanical devices of massage, therapeutic applications and contraindications of massage.</p>						8



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	<p>Heat Therapy: 1. Production, Physiological effects, indications, contraindications and specific uses in sports of the following: 2. Infrared rays, Parafine Wax Bath, Steam Bath, Sauna Bath, Moist Heat Pack, Fluidotherapy, Mud Bath and Pelloids.</p> <p>Hydrotherapy: History & introduction, Effects of simple baths, raising temperature baths, baths with additives, Aromatic baths, Mineral baths, physical baths, Hydroelectric baths, Stammer baths, whirl pool bath, showers and steam showers.</p> <p>2. Cryotherapy: Physiological effects, Use of cold therapy in acute phase, rehabilitative phase, preventive phase of athletic injury, Methods of application, Indications and contraindications.</p> <p>3. Manual Therapy: Introduction to manual therapy techniques, joint techniques, manual joint therapy, traction, basic principles of manipulation for various disorders of the spine and extremities.</p>	
5	<p>SPORT REHABILITATION FOR SPECIAL GROUPS:</p> <ol style="list-style-type: none"> 1. Paediatric, geriatric & disabled groups. 2. Principles of training and rehabilitation. 3. Principles of injury prevention. 4. Medicolegal issues in sports. 5. Sports nutrition 6. Sports for Disabled. 7. Recent Advances in sport Disorders. 	7
Total Hours		60

Text Books:

1. Athletic Injuries & Rehabilitation – Zachazewski James E., Magee David J.
2. Zuluaga et al: Sports Physiotherapy, W.B. Saunders.
3. Brukner and Khan: Clinical Sports Medicine, Mc Graw Hill.
4. Reed: Sports Injuries – Assessment and Rehabilitation, W.B. Saunders.
5. A.G. Sinha, Principle and Practices of Therapeutic Massage. Jaypee Brothers
6. Mc Ardle, Katch, Katch: Exercise Physiology Edition IV.
7. Therapeutic Exercise by Kisner& Colby, 4th Edition; Jaypee Publication
8. Claytons Electrotherapy 10th Ed. – Sarah & Bazin – W.B. Saunders
9. Joint structure and function- Cynthia Norkins, 4th Edition, Jaypee Publication
10. Greenman’s Principles Of Manual Medicine, Lisa A. De Stefano, D.O.
11. Introduction to Sports Biomechanics: Analysing Human Movement Patterns. Roger Bartlett. Routledge; 3rd edition. 2014



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12. The Biomechanics of Sports Techniques. James Hay. Benjamin Cummings;4th edition 1993

Reference Books:

1. Kuprian: Physical Therapy for Sports, W.B. Saunders.
2. Bates: Aquatic Exercise Therapy, W.B. Saunders.
3. Maitland's Vertebral Manipulation. Geoff Maitland, Elly Hengeveld and Kevin Banks Butterworth-Heinemann; 7th edition.2005
4. Maitland's Peripheral Manipulation. Elly Hengeveld and Kevin Banks. Butterworth-Heinemann; 4th edition2005.
5. Sports Biomechanics: The Basics: Optimizing Human Performance. Anthony Blazevisch. A&C Black, 2nd Edition edition 2010.
6. Sports Biomechanics: Reducing Injury Risk and Improving Sports Performance. Routledge; 2nd edition. 2011
7. An Introduction to Biomechanics of Sport and Exercise. James Watkins. Churchill Livingstone; 1 edition (August 10, 2007)
8. Basic Biomechanics of the Musculoskeletal System. Margareta Nordin and Victor H. Frankel. LWW; Fourth North American Edition edition. 2012.



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Course Code:	MPT491(S)	Course Name:	Applied Sports Rehabilitation II - Practical	L		T		P		C	
Year:	II	Semester:	IV	0	0	4	2				
Module	Contents									Hours	
1	ADMINISTRATION OF PERFORMANCE ENHANCING STRATEGIES ON ATHLETIC GROUPS. Pre participation evaluation & pre and post injury assessment in sports along with practical time management to the same on field. Fitness testing and fitness clearance. Exercise for growing bones. Effect of physical activity intervention in athletes.									15	
2	PRACTICAL DEMONSTRATION AND HANDS ON TECHNIQUE FOR ASSESSMENT AND MANAGEMENT OF FOLLOWING SPORTS 1.Injuries related to Cricket. 2.Injuries related to Running. 3.Injuries related to Swimming. 4.Injuries related to Volleyball. 5.Injuries related to Tennis. 6. Injuries related to Badminton. 7. Injuries related to Gymnastics. 8. Injuries related to throwing and Rowing									15	
3	PRACTICAL DEMONSTRATION AND HANDS ON TECHNIQUE ON ADVANCE PHYSIOTHERAPY TECHNIQUE: 1. Dry needling 2.K taping. 3.Tai-Chi. 4. Power Yoga. 5. Sports Cupping, 6. Other Recent methods in sports Rehabilitation, 7. CPR, 8. On filed Emergency management									10	
4	LATEST ADVANCEMENT IN SPORTS MEDICINE: Segmental stabilization concepts of spine, emergency medical planning & cover for sports events.									15	
5	PRACTICAL ASPECTS OF THE FOLLOWINGS: 1. Mechanical support to the body - taping, splinting, braces, orthotics. 2. Protective equipment - body padding, mouth guards, helmets, headgear, etc. 3. Sport-specific problems. 4. Shoesurface interaction (Athletic Shoes) - footwear design, surface characteristics, traction, various modifications and adaptations in shoes for specific situations and conditions. The evaluation of shoes and shoe prescription.									5	
Total Hours										60	

Text Books:



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2. Zuluaga et al: Sports Physiotherapy, W.B. Saunders.
3. Brukner and Khan: Clinical Sports Medicine, McGraw Hill.
4. Reed: Sports Injuries – Assessment and Rehabilitation, W.B. Saunders.
5. A.G. Sinha, Principle and Practices of Therapeutic Massage. Jaypee Brothers, New
6. Therapeutic Exercise by Kisner& Colby, 4th Edition; Jaypee Publication
7. Joint structure and function- Cynthia Norkins, 4th Edition, Jaypee Publication
8. Introduction to Sports Biomechanics: Analysing Human Movement Patterns. Roger Bartlett. Routledge; 3rd edition. 2014
9. The Biomechanics of Sports Techniques. James Hay. Benjamin Cummings; 4th edition 1993
10. Clinics in Sports Medicine. Peter Brukner, Karim Khan. McGraw-Hill Medical; 4 edition. 2012
11. Principles and practice of athletic training. William Prentice. Lippincott and Williams.2004.
12. Bompa and Haff. Periodization-5th Edition- Theory and Methodology of training.

Reference 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.



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Course Code:	MPT402	Course Name:	Geriatric Physiotherapy	L	T	P	C
Year:	II	Semester:	IV	3	0	0	3
Module	Contents						Hours
1	GERIATRIC MEDICINE AND GERONTOLOGY: Understanding the aging process and its impact on the body Common geriatric syndromes (e.g., frailty, sarcopenia, osteoporosis) Pharmacological considerations in elderly patients Psychosocial aspects of aging, including depression and cognitive decline						7
2	GERIATRIC NUTRITION AND WELLNESS: Understanding the nutritional needs of older adults Role of diet and nutrition in the prevention and management of geriatric conditions Wellness programs promoting active and healthy aging						7
3	EDUCATION AND HEALTH PROMOTION: Fall Prevention Multidisciplinary Care Home-Based Physiotherapy						8
4	CLINICAL GERIATRIC PHYSIOTHERAPY: Hands-on training in hospitals, rehabilitation centres, or community settings Management of real-life cases involving elderly patients under supervision Development of individualized treatment plans for elderly patients Interdisciplinary collaboration with geriatricians, occupational therapists, and social workers						8
5	PALLIATIVE CARE IN GERIATRICS: Role of physiotherapy in palliative care and end-of-life care Pain management and improving quality of life in terminally ill patients Communication skills and emotional support for patients and families						5
Total Hours							45

Text Books:

1. Textbook of Geriatric Medicine and Gerontology by Fillit, Howard (8th Edition) Publisher: Clinical Key
2. Current Diagnosis and Treatment in Geriatrics by Williams, Brie A Publisher: Access Medicine (McGraw Hill)



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3. Staples WH, Kegelmeyer D, Heitzman J. Geriatric physical therapy. McGraw-Hill
4. Guccione AA, Avers D, Wong R. Geriatric Physical Therapy-eBook. Elsevier Health Sciences.
5. Centers for Disease Control and Prevention, Falls Among Older Adults: An Overview.

Reference Books:

1. Bradom's Physical Medicine and Rehabilitation, 5th edition, Elsevier, 2015.
2. DeLisa's Physical Medicine and Rehabilitation, 5th edition, Lippincott Williams and Wilkins
3. Multidisciplinary Approach to Rehabilitation- Shrawan Kumar
4. Physical Medical and Rehabilitation- Susan B.O'Sullivan



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Course Code:	MPT403	Course Name:	Women Health & Therapeutics	L		T		P		C	
Year:	II	Semester:	IV	3	0	0	0	0	3		
Module	Contents									Hours	
1	INTRODUCTION 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 Knowledge of pathology and pathophysiology of bladder and bowel dysfunction; breast cancer; injury and diseases of pelvic girdle and its contents; infertility; abortion 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.									10	
2	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 for pain, motor function and muscle performance; test to demonstrate incontinence; soft tissue assessment through validated procedures including vaginal examinations, tests, Instruments/ scales Evaluation of psychosexual dimensions of women’s health through validated tests / scales with reference to pain and dyspareunia in various pelvic floor disorders.									10	
3	EVALUATION AND REFLECTION OF AUGMENTED PELVIC FLOOR MUSCLE TRAINING; Progressive Pelvic floor muscle Strength training; Aerobic and anaerobic exercise training in women’s health Specialized training strategies for treating lymphedema, osteoporosis; pre and post operative physiotherapy care for gynaecological surgeries.									10	
4	PHYSIOTHERAPY INTERVENTIONS Routine antenatal & Pre-conceptual care Gestational diabetes mellitus and high-risk pregnancy Antenatal Exercises & Back care Nutrition & Weight gain in pregnancy									7	



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	<p>Physiotherapy during pregnancy in: Neurological conditions: Nerve compression syndrome, Cardiovascular conditions: Varicose veins Musculoskeletal conditions: Muscle cramps, pelvic girdle pain Labour Preparation-Coping skills: Relaxation, Breathing, Positions in labour, Massage in labour, Pain relief in labour-TENS, Third stage of labour Post-natal Obstetric anal sphincter injury-anal sphincter exercises, pelvic floor muscle exercises. Postpartum physical/mental condition, Postnatal care, Baby massage, Perineal pain -Therapeutic agents, Immediate and long-term postnatal problems, Postnatal spinal pain, early postnatal class, relaxation, educational principles for individual learning of exercises, ergonomics, Postnatal home exercise, exercise classes in the community, Kegels exercise, Functional exercises, therapeutic modalities, Post operative pain management</p>	
5	<p>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.</p>	8
Total Hours		45

Text Books:

1. Women's Health: A Primary Care Clinical Guide by Ellis Quinn Youngkin and Margaret A. Davis
2. Women's Health in Physical Therapy by Jean M. Irion and Glenn L. Irion
3. Clinical Gynecologic Endocrinology and Infertility by Marc A. Fritz and Leon Speroff
4. Obstetrics and Gynecology by Charles R.B. Beckmann, Frank W. Ling, and Roger P. Smith
5. Sapsford, R., Bullock-Saxton, J., & Markwell, S. (1998). Women's health: A textbook for physiotherapists. London: WB Saunders.

Reference Books:

1. "Comprehensive Gynecology" by David M. Gershenson, Gretchen M. Lentz, and Rogerio A. Lobo
2. "Principles and Practice of Sex Therapy" by Kathryn S. K. Hall and Yitzchak M. Binik
3. "Pelvic Floor Re-education: Principles and Practice" by Bernhard Schüssler, Diane B. Newman, and Jean-Jacques Wyndaele



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Course Code:	MPT404	Course Name:	Evidence Based Seminar Presentation	L	T	P	C
Year:	II	Semester:	IV	0	0	4	2
Contents						Hours	
MPT- Students has to prepare minimum 2 long case and 2 short cases during their Evidence Based Seminar Presentation during due course of time. These will serve as platform for students to integrate various components of patient management and debate contentious issues on the efficacy of physiotherapy techniques. Students will give presentations on topic provided to them.						60	
For the Presentation, each student will be assessed in a 20 minutes time (15 min for presentation & 5 min for discussion)							



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**Format for Evidence Based Clinical Case/ Seminar Presentation Evaluation
(Master of Physiotherapy Program)**

Name of candidate:

Program:

Semester:

Topic of Presentation:

Date:

Sl. No.	Parameters	Maximum marks	Obtained marks
1.	Body Language/voice modulation	10	
2.	Selection of the topic	5	
3.	Knowledge of the Topic/case	15	
4.	Content of the presentation	10	
5.	Recent development	5	
6.	Confidence & Attitude	10	
7.	Design of presentation (appropriate font, type, size, colour, matter per slide etc.)	10	
8.	Completes the presentation within allocated time	10	
9.	Quiz & ability to defend content of presentation	25	
Total		100	

Evaluator:

Name:

Designation:

Department:

Student shall be evaluated in the above-mentioned format by the team of faculty members for presentation. Student should have the copy of this format which should be provided to each member of the team of evaluators during every presentation. The average marks of each cycle shall be considered for final.



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Course Code:	MPT405	Course Name:	Clinical Training	L	T	P	C
Year:	II	Semester:	IV	0	0	20	10
Contents							Hours
<p>Clinical training is a mode through which students apply their classroom knowledge; all formal and practical "real-life" learning experiences and skills in clinical environment. Experiences would include those of short and long duration (eg, part-time, full-time, internships) and provide a variety of learning experiences through rotations in different units or departments within the same practice setting or health care system) to include comprehensive care of patients across the life span and related activities.</p> <p>Each student will be under the supervision of a clinical supervisor at clinical education site who shall instruct and supervise students during their clinical posting sessions. Clinical supervisors are responsible for facilitating clinical learning experiences and assessing student's performance in cognitive, psychomotor, and affective domains as related to graduate-level clinical practice and academic and clinical performance expectations. The student shall acquire practical skills mentioned in syllabus for that particular semester during clinical training hours.</p> <p>The students will start their clinical training from the first semester and it will go on till their fourth semester. In each semester, they will be posted for a minimum of four months in the departments related to their courses being learned in respective semesters. The student will be formally evaluated at the end of semester through viva voce examinations by internal and external examiners.</p>							450



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Format of Clinical Posting Assessment Form for Evaluation (Master of Physiotherapy Program)

Name of candidate:

Program:

Semester:

Topic of Presentation:

Date:

Sl. No.	Parameters	Maximum marks	Obtained marks
1.	Punctuality	10	
2.	Interaction with colleagues and supporting staff	10	
3.	Maintenance of case records	10	
4.	Presentation of case during rounds	10	
5.	Investigation works up	10	
6.	Bedside Manners	10	
7.	Rapport with patients	10	
8.	Treatment approach & technique	10	
9.	Discipline	10	
10.	Overall quality of clinical work	10	
Total		100	

Evaluator:

Name:

Designation:

Department:



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The students of Post Graduate Physiotherapy program must spend above mentioned allotted time period in the hospital based clinical training for specified clinical experiences to meet the objectives of the training program. This period of practical and theoretical experience will enable the students to acquire competency and experience to perform as an independent practice and will enable to adjust to the real practical life in different units in the hospital settings.



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Course Code:	MPT406	Course Name:	Research Dissertation	L	T	P	C
Year:	II	Semester:	IV	0	0	20	10
Contents							Hours
<p>Research Dissertation work is aimed to train a postgraduate candidate in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, and review of literature.</p> <p>PG Guide: A PG guide must have full time teaching and clinical experience in the core subject area after post-graduation.</p> <p>Co-guide: The co-guide if required shall be a recognized postgraduate teacher in the core area or faculty from other clinical or non- clinical departments of Paramedical, engineering or pharmacy colleges of SVU or any other research laboratory. No change in the dissertation topic or CO-guide shall be made without prior approval of the university. Co-Guide will be only a facilitator, advisor of the concept and hold responsible in correctly directing the candidate in the methodology and not responsible for the outcome and results.</p> <p>In the IV Semester, the research topic shall be finalized and the proposal/synopsis to be approved by dissertation proposal approval committee and subsequently by the ethical committee. The approved synopsis shall be submitted to the University in the prescribed format at the end of the semester IV.</p> <p>The course covers carry out independent research, which will involve conducting of the work as per the documented methodology, data collection, statistical analysis, dissertation writing. The work will build on the knowledge acquired through study of research methodology and biostatistics.</p>							450