SunRise University
Approved by Govt. of Rajasthan vide Sunrise University Act, 2011
Recognized by UGC Act, 1956 u/s 2 (f)

SRU COLLEGE OF PARAMEDICAL TECHNOLOGY
SunRise University Campus,Alwar,Rajasthan,India

SYLLABUS

MASTER OF PHYSIOTHERAPY

MPT ., [PHYSIOTHERAPY IN CARDIO PULMONARY]
/
M.Sc.,(PT IN CP.)

PROGRAMME TITLE
Master of Physiotherapy (MPT)
Physiotherapy in CARDIO PULMONARY
COURSE OUTLINE:
The Master Degree in Physiotherapy is a two-year program consisting of classroom teaching, self-academic activities and clinical posting. In the first year, theoretical basis of specialty physiotherapy is refreshed along with research methodology and biostatistics. The students are posted in their areas of clinical expertise specialty during this period. They are required to choose their study for dissertation and submit a synopsis. During the second year the students will be posted in their area of specialty. They are required to complete and submit their dissertation. The learning program includes seminars, journal reviews, case presentations, case discursions and classroom teaching. Some of the clinical postings are provided at other reputed centers in the country in order to offer a wider spectrum of experience. The students are encouraged to attend conference, workshop to enhance their knowledge during the course of study. University examinations are held at the end of second year.
GOAL:

1.Preparation of a post graduate student towards his/ her professional autonomy with self-regulating discipline at par with global standards.
2. Formation of base of the professional practice by referral as well as first contact mode using evidence-based practice.
3. Impartation of research basis in order to validate techniques & technology in practice to physiotherapy.
4. Acquainting a student with concept of quality care at the institutional as well as the community levels.
5. Inculcation of appropriate professional relationship in multidisciplinary set up, patient management and co partnership basis.
6. Preparation of students to address problems related to health education and community physiotherapy.

7. Practicing the concept of protection of rights of the community during referral as well as first contact practice.
8. Incorporation of concept of management in physiotherapy.
9. Experience in clinical training and undergraduate teaching partly.
10. Providing the honest, competent and accountable physiotherapy services to the community.

ELIGIBILITY

Eligibility to offer Master Degree Program in Physiotherapy (MPT)

Eligibility for Admission Candidates who have passed B.Sc. (PT) or BPT degree from institutions where the mode of study is a full time program, with minimum 3½ years / 4 ½ years duration from this university or any other university in India or abroad as equivalent with not less than 50% of marks in aggregate and have completed 6 months of compulsory rotating internship in Physiotherapy Colleges recognized by UGC approved University are eligible. Candidates who have passed BPT through correspondence or Distance Education program are not eligible.

OR

Candidates who have passed BPT through Bridge Course or through Lateral Entry after completing their Diploma in Physiotherapy from institutions where the mode of study is a full time program from this university or any other university in India or abroad as equivalent with not less than 50% of marks in aggregate and have completed 6 months of compulsory rotating internship in Physiotherapy Colleges recognized are eligible. Candidates who have passed BPT through correspondence or Distance Education program are not eligible.

Obtaining Eligibility Certificate .

No candidate shall be admitted for the postgraduate degree course unless the candidate has obtained and produced the eligibility certificate issued by the University . The candidate has to make the application to the university with the following documents along with the prescribed fee.

1. B.P.T. or B.Sc. (PT) provisional / degree certificate issued by the respective university.
2. Marks cards of all the university examinations passed.
3. Completion of internship certificate.
4. Proof of SC/ST or category-I as the case maybe. Candidate should obtain the eligibility certificate before the last date for admission as notified by the university.

A candidate who has been admitted to postgraduate course should register his/her name in the University within a month of admission after paying the registration fee.

DURATION OF THE COURSE

The duration of master of physiotherapy course shall be extended over a period of two continuous Years' on a full-time basis. Any break in the career, power of extension of the course and the fixation of the term shall be vested with the University.

MEDIUM OF INSTRUCTION

English will be the medium of instruction for the subjects of study and for the examination of the MPT course.

INTAKE

The intake of students to the course shall be in accordance with the ordinance in this behalf. The guide student ration should be1:3 Intake to the Course:

(a) An Institution while starting MPT for the first time, the fresh intake to the Master Degree Program in Physiotherapy (MPT) shall not exceed THREE students/ specialty.

(b) The University may increase the intake subject to availability of Post Graduate guides

GUIDE

Post Graduate Guide:

(a) The teacher in a Physiotherapy College having 5 years of full-time teaching experience after obtaining Master Degree Program in Physiotherapy (MPT)and the teacher has been recognized as guide by the University.

(b) Every recognized Post Graduate teacher can guide THREE students/year

(d) This ordinance proposes to introduce a total of 7 specialties. This creates a need for guides in 2 additional areas in addition to the existing elective branches. A onetime measure is provided to PG guides to select the specialty branch they would guide. Once selected, the individual will be recognized as a guide for the specialty at University.

The academic qualification and teaching experience required for recognition by this university is as per the criteria for recognition of MPT teachers for guides. Criteria for recognition of MPT teacher / guide 1. M.Sc. (PT) /MPT with five years teaching experience working on a full-time position at a Recognized institution. 2. The age of guide / teacher shall not exceed 63years. 3. The guide student ratio should be1:3 Change of Guide In the event of registered guide leaving the college for any reason or in the event of death of guide, guide may be changed with prior permission from the university.

COURSE CONTENT & STRUCTURE

The course and structure are outlined under Subjects of Specialty as follows

SPECIALTY	Teaching & Learning Methods	Weekly Class Hours	Total Hours
a) Principles of Physiotherapy Practice b) Research Methodology and Biostatistics c) Exercise Physiology d) Electrophysiology e) Applied Anatomy, Applied Physiology and Biomechanics in the area of specialty f) Physical and Functional Diagnosis relevant to specialty g) Treatment planning and Physiotherapy Management h) Recent Advances in the area specialty	Lectures	3	180
	Seminars	3	180
	Practical and Demonstrations	5	360
	Discussions	3	180
	Case presentations Journal	3	180
	Teaching / Pedagogy	3	180
Synopsis & Dissertation work	Training	3	210
Field Visits, Participation in Workshops & Conference			60

ATTENDANCE:

A candidate is required to attend a minimum of 80% of training and of the total classes conducted during each academic year of the MPT course. Provided further, leave of any kind shall not be counted as part of academic term without prejudice to minimum 80% of training period every year. Any student who fails to complete the course in this manner shall not be permitted to appear the University Examinations. A candidate who does not satisfy the requirement of attendance even in one subject or more will not be permitted to appear for University Examination. He / She will be required to make up the deficit in attendance to become eligible to take subsequent examination.

METHOD OF TRAINING:

The training of postgraduate for MPT degree shall be on a full-time pattern with graded responsibilities in the management and treatment of patients entrusted to his / her care. The participation of all the students in all facets of educational process is essential. Every candidate should take part in seminars, group discussions, clinical rounds, care demonstrations, clinics, journal review meetings & Contineuing Professional Education.

Every candidate should be required to participate in the teaching and training programs of undergraduate students. Training should include involvement in laboratory experimental work and research studies. Clinical Facility: Every Institution/College shall have provision for clinical facility for the specialties offered. This must be available in your own hospital or affiliated hospital. Clinical Department required in the Hospital. Every Institution/College shall have provision for clinical facility as specified in Schedule III of the BPT Ordinance 2016 The minimum number of beds required for Master degree program is 150. They may be distributed for the purposes of clinical teaching as specified in Schedule III of the BPT Ordinance 2016. OPD – in campus requirement Minimum number of outpatient flow shall be 20 per day in the College campus. This is in addition to the OPD at the attached hospital of the college. OPD Unit: Mandatory 2000 sq. ft (minimum) to accommodate exercise and electro therapy units and make provision for mat area and a consultation room. An outpatient department at the tie up facility cannot be considered as an independent OPD Unit of the college. Staff Room of 200 Sq. ft. to be provided for staff in OPD unit.

Laboratories:

(a) Every Institution/College running Master Degree Program in Physiotherapy (MPT) shall have adequate laboratory facilities as specified in the ordinance for Bachelor of Physiotherapy, BPT

(b) The standard of such laboratory, space, equipment, supplies, and other facilities shall be in consonance with the ordinance for BPT

i. Biomechanics / (Research Lab)

ii. Electro therapy Lab iii. Exercise therapy Lab Each lab shall have a minimum area of 800 sq. ft comprising of 5 treatment tables. The Physiotherapy Labs must have the necessary equipment as prescribed the BPT Ordinance

Practical:

(a)The students shall carry out the practical learning under the guidance and supervision of a recognized guide.

(b)Every batch for practical learning shall consist of not more than SIX students.

(c)e – Learning shall be part and parcel of the Master Degree Program in Physiotherapy (MPT).

Laboratories:

(a) Every Institution/College running Bachelor Degree Program in Physiotherapy shall have adequate laboratory facilities specified in Schedule IV of the BPT Ordinance.

(b) The standard of such laboratory, space, equipment, supplies, and other facilities shall be in consonance with Schedule IV of the BPT Ordinance. MPT course – Mandatory additional clinical section/ equipment/ Lab requirement. The detailed list is provided in the curriculum under each Specialty area and the same is a part of this ordinance

(a) MPT –MSK

i. Affiliation with a hospital having Orthopedic department must be established if offering this elective

ii. The center MUST have the equipment and facilities mentioned in the curriculum for this specialty.

(b) MPT –Sports

i. Affiliation with a Sports facility must be established if offering this elective.

ii. A working MOU for utilizing the Lab facilities at the Affiliated Sports facility will be acceptable.
iii. The center MUST have the equipment and facilities mentioned in the curriculum for this specialty.
iv. (c) MPT –CVP
i. Affiliation with a hospital having General Medicine, General Surgery, Pulmonary and Cardiac department, Medical and surgical ICU, Burns and Plastic surgery department must be established if offering this specialty.
ii. The center MUST have the equipment and facilities mentioned in the curriculum for this specialty.

MONITORING PROCESS OF STUDENTS (INTERNAL MONITORING)

It is essential to monitor the learning progress of each candidate through continuous appraisal and regular assessment. It not only helps teachers to evaluate students, but also students to evaluate themselves. The monitoring is done by the staff of the department based on participation of students in various teaching / learning activities. It may be structured and assessment be done using checklists that assess various aspects.

Model checklist are given in the table 1 to 7 (APPENDIX) which may be copied and used Portfolio: Every candidate shall maintain a work diary and record his/her participation in the training programmers conducted by the department such as journal reviews, seminars etc. Special mention may be made of the presentations by the candidate as well as details of clinical of laboratory procedures, if any conducted by the candidate. The work diary shall be scrutinized and certified by the Head of the Department and Head of the Institution and presented in the university examination. Periodic tests: The College may conduct periodic tests. The test may include written theory papers, practical, viva voce and clinical in the pattern of university examination. Records and marks obtained in such tests will be maintained by the Head of Department and sent to the University, when called for.

DISSERTATION

Every candidate pursuing MPT degree course is required to carry out work on a selected research Project under the guidance of a recognized postgraduate teacher. This may include qualitative research, systematic review or empirical research. The results of such a work shall be submitted in the form of dissertation. The dissertation is aimed to train a graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis search and review of literature getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, and comparison of results and drawing conclusions. Every candidate shall submit to the Registrar of university in the prescribed proforma a synopsis containing particulars of proposed dissertation work within 6 months from the date of commencement of the course on or before the dates notified by the university. The synopsis shall be sent through the proper channel. Such synopsis will be reviewed and the university will register the dissertation topic. No change in the dissertation topic or guide shall be made without prior approval of the university. 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. The written text of dissertation shall not be less than 50 pages and shall not exceed 200 pages excluding references, tables, questionnaires and other annexure. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27”x 11.69”) and bound properly. Spiral binding should be avoided. The guide, head of the department and head of the institution shall certify the dissertation. Dissertation thus prepared shall be submitted to the Registrar (Evaluation) as per the format notified by the University, three months before final examination on or before the dates notified by the university. The examiners appointed by the university shall valuate the dissertation. Approval of dissertation work is an essential precondition for a candidate to appear in the university examination. The dissertation shall be valued by the evaluator (Examiners) apart from the guide out of which one is external outside the university and one internal from other college of the same university. Any one-evaluator acceptance other than the guide will be considered as a precondition for eligibility to take the examination. Dissertation once defended need not be defended at successive examination attempts.

SCHEDULE OF EXAMINATION

The University shall conduct examination for MPT course at the end of 2nd year. The Examinations shall be known as MPT Final Examination. A student shall register for all the papers when he/she appears for the first time. If a student fails in theory and/or practical of MPT Final Examination, he/she has to reappear for all the papers of examination in both theory and practical respectively.

PAPER I IS COMMON FOR ALL THE SPECIALTIES

A written examination consisting of 4 question papers each of three hours duration & each paper carrying 100 marks. Particulars of Theory question paper & distribution of marks are shown here in this syllabus.

PARTICULARS OF PRACTICAL AND VIVA-VOCE

Examination will be aimed at examination of clinical skills and competence of the candidates for undertaking independent work as a specialist.

PARTICULARS OF VIVA VOCE

Viva- Voce examination shall aim at assessing depth of knowledge, logical reasoning, confidence & oral communication skills and spotters. Special emphasis shall be given to dissertation work during the MPT Part examination. (The Student need not defend their dissertation at successive attempts). The marks of Viva-Voce examination shall be included in the clinical examination to calculate the percentage and declaration of results.

EXAMINERS

Practical– I - There shall be 2 examiners. One of them shall be external outside the zone from the same specialty and the other shall be internal from the same specialty from the same college. Practical – II - There shall be 2 examiners. One of them shall be external outside the University from the same specialty and the other will be guide assigned to the student from the same college.

CRITERIA FOR DECLARING PASS IN THE UNIVERSITY EXAMINATION

A candidate shall be declared pass if he / she secures a 50% of marks in theory aggregate and secures a 50% of marks in Practical / Clinical and Viva-Voce aggregate. DECLARATION OF CLASS First class with distinction – 75% & above in aggregate provided the candidate passes the examination in 1st attempt. First class – 60% & above in aggregate provided the candidate pass the examination in 1stattempt. Pass – 50% of maximum marks in theory aggregate and 50% of maximum marks in clinical and Viva-Voce aggregate.

DESCRIPTIVE COURSE CONTENT

Paper I

Fundamentals in Physiotherapy , Pedagogy and Research

Principles of Physiotherapy

Definition of Physiotherapy, Scope of Practice

b. General and Professional competencies

c. Physiotherapy Knowledge, Skill and Education Framework

d. Principles of Evidence Based Practice in Physiotherapy

a. History taking, assessment tests, Patient Communication, documentation of findings, treatment planning and organization.

b. Documentation of rehabilitation assessment and management using International Classification of Functioning Disability and Health (ICF).

c. Use of Standardized scales and tests in various assessments. Psychometric properties and its Interpretation in Physiotherapy practice.

2. Core Professional Values in Physiotherapy including Professional and Research Ethics

a. Introduction to World Physiotherapy Standards of Physical Therapy Practice Guideline

b. Core Professional Values across Different Countries and Regions

c. ICMR Ethical Guidelines

d. Ethical issues in practice of physiotherapy.

3. Research Methodology and Biostatistics

a. Designing Clinical Research: Basic Ingredients

i. Getting Started:

The Anatomy and Physiology of Clinical Research

ii. Fundamentals of Literature Search and Review

iii. Conceiving the Research Question and Developing the Study Plan

iv. Choosing the Study Subjects: Specification, Sampling, and Recruitment

v. Planning the Measurements: Precision, Accuracy, and Validity
vi. Hypotheses and Underlying Principles to Estimating Sample Size and Power
b. Designing Clinical Research: Study Designs
i. Designing Cross-Sectional, Case–Control and Cohort Studies
ii. Enhancing Causal Inference in Observational Studies
iii. Designing a Randomized Blinded Trial, Alternative Clinical Trial Designs and their Implementation Issues
iv. Designing Studies of Diagnostic Tests
v. Research Using Existing Data
vi. Fundamentals of Qualitative Research Methods vii. Fundamentals of Systematic Reviews and Metaanalysis
viii. Designing a systematic review protocol
c. Implementation of Clinical Research i. Designing Questionnaires, Interviews, and Online Surveys
ii. Implementing the Study and Quality Control
iii. Data Management iv. Designing qualitative studies d. Biostatistics
i. Basic Fundamentals of Biostatistics
ii. Probability and Normal Distribution
iii. Descriptive Statistics: Measures of Central Tendency and Spread
iv. Hypothesis Testing: One-Sample Inference, TwoSample Inference, Multi-sample Inference,
v. Hypothesis Testing: Nonparametric Methods, Categorical Data
vi. Regression, Correlation Methods and Diagnostic Tests vii. Data synthesis in qualitative design
e. Consuming and Disseminating Research
i. Strategies for following Emerging Evidence, Clinical Practice Guidelines and Clinical pathways
ii. Best Practices in Research Dissemination
iii. Writing a Manuscript for Publication
4. Exercise Physiology
a. Fundamentals of Human Energy Transfer
b. Source of Nutrition and Energy, Macro and Micro Nutrients, Food Energy and Optimum Nutrition for Exercise
c. Energy Expenditure During Rest and Physical Activity
d. Measuring and Evaluating Human Energy-Generating Capacities During Rest and Exercise
e. Responses and Adaptations of Pulmonary, Cardiovascular, Neuromuscular, Musculoskeletal, Endocrine System to Different Types of Exercise and Training
f. Body Composition, Its Evaluation, Obesity and Weight Control
g. Training the Anaerobic and Aerobic Energy Systems
h. Training Muscles to Become Stronger
i. Factors Affecting Physiological Function: The Environment and
Special Aids to Performance
j. Influence of Age and Gender in Exercise and Training.
5. Electrophysiology
a. Anatomy and physiology of peripheral nerve, muscle and neuromuscular junction.
b. Electrical properties of muscle and nerve.
c. Instrumentation for neuromuscular electrical stimulation.

d. Muscles plasticity in response to electrical stimulation.
e. Electrical stimulation and its effects on various systems.
6. Pedagogy in Physiotherapy Education
a. Competency Based Education in Physiotherapy
b. Basics of Adult Learning Theories including Learning Styles and Motivation
c. Formulating Intended Learning Outcomes Including Tyler's principles, Bloom's Taxonomy, Miller's Pyramid, Clinical Competence, and Dreyfus' Model of Skill Acquisition
d. Instructional Design and Individual Assessment such as Multiple-choice Question Writing, Skill assessment, Oral Presentation, and Rubrics and Standardization
e. Instructional Techniques: Knowledge Transfer
f. Instructional Techniques: Skill Development
g. Instructional Techniques: Attitudes
h. Instructional Techniques: Teaching with Technology
i. Academic Planning and Organisation
7. Management, Entrepreneurship and Leadership in Physiotherapy Practice
a. Introduction to Management in Physiotherapy: Definition, Principles, Functions and Evolution of Management Thought
b. Management Process: Planning, Organizing, Directing, Controlling. Decision making.
c. Responsibilities of the Physiotherapy Manager: Staffing Responsibilities; Responsibility for Patient Care; Fiscal Responsibilities; Responsibility for Risk Management; Legal and Ethical Responsibilities; Communication Responsibilities
d. Entrepreneurship in Physiotherapy Practice: Need, Advantages and Opportunities, Challenges and Barriers
e. Leadership:

Need, Relevance, Competencies and Characteristics References

1. World Physiotherapy (2019) Description of Physical Therapy: Policy Statement. Available from
World Physiotherapy (2011) Physical Therapist Professional Entry Level Education Guideline. (Available from: https://world.physio/sites/default/files/2020-07/G-2011-Entrylevel-education.pdf)
3. CSP (2011) Physiotherapy Framework: Putting physiotherapy Behaviours, Values, Knowledge & Skills into Practice [updated May 2020](Available from: https://www.csp.org.uk/professionalclinical/cpd-education/professional-development/professionalframeworks)
4. Expected Minimum Competencies for an Entry Level Physiotherapist in the Europe Region World Physiotherapy Guidance Document (Available from: https://www.erwcpt.eu/education/expected_minimum_compete ncies_for_entry_level)
5. Evidence-Based Medicine: How to Practice and Teach EBM, 2nd Edition: By David L. Sackett, Sharon E. Straus, W. Scott Richardson, William Rosenberg, and R. Brian Haynes, Churchill Livingstone, 2000
6. Rob Herbert, Gro Jamtvedt, Kåre Birger Hagen, Judy Mead. Practical Evidence-Based Physiotherapy (Second Edition), Churchill Livingstone,
7. 2011, ISBN 9780702042706, 8. World Physiotherapy (2011) Standards of Physical Therapy Practice Guideline(Available from: https://world.physio/sites/default/files/2020-06/G-2011- Standards-practice.pdf)
9. 2017 ICMR National Ethical Guidelines for Biomedical and Health Research involving Human Participant
10.2020 ICMR Policy on Research Integrity and Publication Ethics (RIPE)
11.Designing Clinical Research 4th Edition. Stephen B. Hulley et al. Published By: Lippincott Williams & Wilkins. ISBN-13: 9781469840543
12.Medical Biostatistics (Chapman & Hall/CRC Biostatistics Series). 4th Edition 2017. Abhaya Indrayan, Rajeev Kumar Malhotra. Chapman and Hall/CRC. ISBN 9781498799539

13.Exercise Physiology Nutrition, Energy, and Human Performance. 8th Edition. William D. McArdle PhD, Frank I. Katch , Victor L. Katch. Lippincott Williams & Wilkins. ISBN/ISSN: 9781451191554
14.Principles of Medical Education. 4th Edition. Tejinder Singh, Piyush Gupta, Daljit Singh. 2013. Jaypee Publishers.
15.Management in Physical Therapy Practices, 2nd Edition. Catherine G. Page PT, MPH, PhD. ISBN-13: 978-0-8036-4033-7
16.Heather A. Current thinking on Leadership and Physiotherapy Practice. 2016. Report Prepared for AGILE Professional Network of the Chartered Society of Physiotherapy (Available from: https://agile.csp.org.uk/system/files/current_leadership_thinking _and_physiotherapy_practice.pdf)

Paper – I

Fundamentals in Physiotherapy , Pedagogy and Research I,II,III,IV

1. Principles of Physiotherapy

a. Definition of Physiotherapy, Scope of Practice

b. General and Professional competencies

c. Physiotherapy Knowledge, Skill and Education Framework

d. Principles of Evidence Based Practice in Physiotherapy a. History taking, assessment tests, Patient Communication, documentation of findings, treatment planning and organization.

b. Documentation of rehabilitation assessment and management using International Classification of Functioning Disability and Health (ICF).

c. Use of Standardized scales and tests in various assessments. Psychometric properties and its Interpretation in Physiotherapy practice. 2. Core Professional Values in Physiotherapy including Professional and Research Ethics

a. Introduction to World Physiotherapy Standards of Physical Therapy Practice Guideline

b. Core Professional Values across Different Countries and Regions

c. ICMR Ethical Guidelines

d. Ethical issues in practice of physiotherapy.

3. Research Methodology and Biostatistics

a. Designing Clinical Research: Basic Ingredients

i. Getting Started: The Anatomy and Physiology of Clinical Research

ii. Fundamentals of Literature Search and Review

iii. Conceiving the Research Question and Developing the Study Plan

iv. Choosing the Study Subjects: Specification, Sampling, and Recruitment

v. Planning the Measurements: Precision, Accuracy, and Validity

vi. Hypotheses and Underlying Principles to Estimating Sample Size and Power

b. Designing Clinical Research: Study Designs

i. Designing Cross-Sectional, Case–Control and Cohort Studies

ii. Enhancing Causal Inference in Observational Studies

iii. Designing a Randomized Blinded Trial, Alternative Clinical Trial Designs and their Implementation Issues

iv. Designing Studies of Diagnostic Tests

v. Research Using Existing Data

vi. Fundamentals of Qualitative Research Methods
vii. Fundamentals of Systematic Reviews and Metaanalysis
viii. Designing a systematic review protocol c. Implementation of Clinical Research
i. Designing Questionnaires, Interviews, and Online Surveys
ii. Implementing the Study and Quality Control
iii. Data Management
iv. Designing qualitative studies d. Biostatistics
i. Basic Fundamentals of Biostatistics
ii. Probability and Normal Distribution
iii. Descriptive Statistics: Measures of Central Tendency and Spread
iv. Hypothesis Testing: One-Sample Inference, TwoSample Inference, Multi-sample Inference,
iv. Hypothesis Testing: Nonparametric Methods, Categorical Data
vi. Regression, Correlation Methods and Diagnostic Tests vii. Data synthesis in qualitative design
e. Consuming and Disseminating Research
i. Strategies for following Emerging Evidence, Clinical Practice Guidelines and Clinical pathways
ii. Best Practices in Research Dissemination
iii. Writing a Manuscript for Publication
4. Exercise Physiology
a. Fundamentals of Human Energy Transfer
b. Source of Nutrition and Energy, Macro and Micro Nutrients, Food Energy and Optimum Nutrition for Exercise c. Energy Expenditure During Rest and Physical Activity
d. Measuring and Evaluating Human Energy-Generating Capacities During Rest and Exercise
e. Responses and Adaptations of Pulmonary, Cardiovascular, Neuromuscular, Musculoskeletal, Endocrine System to Different Types of Exercise and Training
f. Body Composition, Its Evaluation, Obesity and Weight Control
g. Training the Anaerobic and Aerobic Energy Systems
h. Training Muscles to Become Stronger
i. Factors Affecting Physiological Function: The Environment and
Special Aids to Performance
j. Influence of Age and Gender in Exercise and Training.
5. Electrophysiology
a. Anatomy and physiology of peripheral nerve, muscle and neuromuscular junction.
b. Electrical properties of muscle and nerve.
c. Instrumentation for neuromuscular electrical stimulation.

d. Muscles plasticity in response to electrical stimulation.
e. Electrical stimulation and its effects on various systems.
6. Pedagogy in Physiotherapy Education
a. Competency Based Education in Physiotherapy
b. Basics of Adult Learning Theories including Learning Styles and Motivation
c. Formulating Intended Learning Outcomes Including Tyler's principles, Bloom's Taxonomy, Miller's Pyramid, Clinical Competence, and Dreyfus' Model of Skill Acquisition
d. Instructional Design and Individual Assessment such as Multiple-choice Question Writing, Skill assessment, Oral Presentation, and Rubrics and Standardization
e. Instructional Techniques: Knowledge Transfer
f. Instructional Techniques: Skill Development
g. Instructional Techniques: Attitudes
h. Instructional Techniques: Teaching with Technology
i. Academic Planning and Organisation
7. Management, Entrepreneurship and Leadership in Physiotherapy Practice
a. Introduction to Management in Physiotherapy: Definition, Principles, Functions and Evolution of Management Thought
b. Management Process: Planning, Organizing, Directing, Controlling. Decision making.
c. Responsibilities of the Physiotherapy Manager: Staffing Responsibilities; Responsibility for Patient Care; Fiscal Responsibilities; Responsibility for Risk Management; Legal and Ethical Responsibilities; Communication Responsibilities
d. Entrepreneurship in Physiotherapy Practice: Need, Advantages and Opportunities, Challenges and Barriers
e. Leadership: Need, Relevance, Competencies and Characteristics

References

1. World Physiotherapy (2019) Description of Physical Therapy: Policy Statement. Available from https://world.physio/sites/default/files/2020-07/PS-2019- Description-of-physical-therapy.pdf
2. World Physiotherapy (2011) Physical Therapist Professional Entry Level Education Guideline. (Available from: https://world.physio/sites/default/files/2020-07/G-2011-Entrylevel-education.pdf)
3. CSP (2011) Physiotherapy Framework: Putting physiotherapy Behaviours, Values, Knowledge & Skills into Practice [updated May 2020](Available from: https://www.csp.org.uk/professionalclinical/cpd-education/professional-development/professionalframeworks)
4. Expected Minimum Competencies for an Entry Level Physiotherapist in the Europe Region World Physiotherapy Guidance Document (Available from: https://www.erwcpt.eu/education/expected_minimum_compete ncies_for_entry_level)
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6. Rob Herbert, Gro Jamtvedt, Kåre Birger Hagen, Judy Mead. Practical Evidence-Based Physiotherapy (Second Edition), Churchill Livingstone,
7. 2011, ISBN 9780702042706,

8. World Physiotherapy (2011) Standards of Physical Therapy Practice Guideline(Available from: https://world.physio/sites/default/files/2020-06/G-2011- Standards-practice.pdf)
9. 2017 ICMR National Ethical Guidelines for Biomedical and Health Research involving Human Participant
10.2020 ICMR Policy on Research Integrity and Publication Ethics (RIPE)
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12.Medical Biostatistics (Chapman & Hall/CRC Biostatistics Series). 4th Edition 2017. Abhaya Indrayan, Rajeev Kumar Malhotra. Chapman and Hall/CRC. ISBN 9781498799539
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14.Principles of Medical Education. 4th Edition. Tejinder Singh, Piyush Gupta, Daljit Singh. 2013. Jaypee Publishers.
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16.Heather A. Current thinking on Leadership and Physiotherapy Practice. 2016. Report Prepared for AGILE Professional Network of the Chartered Society of Physiotherapy (Available from: https://agile.csp.org.uk/system/files/current_leadership_thinking_and_physiotherapy_practice.pdf)

OBJECTIVES:

On Completion of the course, the post graduate will be able to

1. Exercise professional autonomy based on sound knowledge, skills and discipline at par with global standards in prevention, management and rehabilitation of subjects with general medical, surgical, cardiovascular, pulmonary conditions
2. Practice within the professional code of ethics and conduct, and the standards of practice within legal boundaries.
3. Identify and analyze specific risks and dysfunction related to general medical, surgical, cardiovascular, pulmonary conditions within the boundaries of physiotherapy practice and arrive at an appropriate hypothesis based on sound clinical reasoning
4. Work with integrity and autonomy in an interdisciplinary team
5. Involve in undergraduate and postgraduate teaching with competence
6. Conduct research activities and utilize findings for professional development and lifelong learning

SCOPE:

A Cardiovascular & Pulmonary specialised physiotherapist will be competent to evaluate, assess and arrive at reasoning-based hypothesis in patients with general medical, surgical, cardiovascular and pulmonary trauma or disease. Cardiovascular & Pulmonary Physiotherapists work based on the ICF framework to develop, maintain, restore and optimize health and function. They will be competent to use current evidence to treat and manage medical, surgical, cardiovascular and pulmonary dysfunctions in children, adults and elders. They will be competent to act as a team leader of a multidisciplinary rehabilitation team and contribute to interdisciplinary care planning and implementation of cardiovascular and pulmonary rehabilitation methods. They will be competent to take up academic and research positions in their area of expertise. They will be competent to be autonomous clinical practitioners.

PAPER II

BASICS OF CARDIOVASCULARAND PULMONARY SCIENCES I,II,III,IV

1. Applied Anatomy, Physiology, and Biomechanics of Respiratory System

a. Applied Anatomy, developmental anatomy and physiology of the respiratory system in health and its application in various respiratory dysfunctions across lifespan.

b. Regulation of respiration

c. Biomechanics of respiration

d. Bronchial circulation.

e. Pathomechanics in respiratory dysfunction and thorax throughout lifespan.

f. Effect of Body positioning on pulmonary functions.

g. Pathology, Pathophysiology of various acute and chronic diseases affecting the respiratory systems.

2. Applied Anatomy and Physiology of Cardiovascular System

a. Applied Anatomy, developmental anatomy and physiology of the cardiovascular dysfunction across lifespan

b. Effect of Body positioning on Cardiovascular system

c. Cardiovascular Control Mechanism

d. Pathology, Pathophysiology of various acute and chronic diseases affecting the cardio vascular systems.

3. Applied Anatomy and Physiology of Integumentary System

a. Applied Anatomy,

b. Developmental anatomy,

c. Physiology of Integumentary system

4. Exercise Physiology

a. Optimal nutrition for exercise and essentials of good nutrition in health and disease.

b. Body composition determination and impact of body composition on resting metabolic rate and sub maximal exercise oxygen consumption

c. Physiology of Energy transfer in body during exercise.

d. Energy expenditure at rest, physical activity and disease.

e. Energy consumption and MET value of various physical activity and exercise.

f. Physiological variations, responses and adaptations (age/gender) of cardiovascular and respiratory system to different types of exercise and training.

g. Environmental influence on exercise performance including impact of pollution on exercise training

5. Pain

a. Definition and types of pain.

b. Physiology of pain and modulation of pain (acute and chronic)

6. Health Promotion & Fitness

a. Principles and concepts of training in fitness and wellness.
b. Application of training with principles of weight control.
c. Aerobic metabolism and responses during exercise
d. Anaerobic metabolism and responses during exercise
7. Exercise Physiology in Health and Disease across lifespan
a. Exercise physiology and exercise intolerance in cardiopulmonary, vascular and metabolic disease.
b. Biochemical primers in exercise and exercise intolerance and Genetic and metabolic on exercise and exercise intolerance.
c. Exercise intolerance in health (across lifespan) and various noncommunicable diseases

PAPER III

PHYSICAL ASSESSMENT AND FUNCTIONAL DIAGNOSIS OF CARDIOVASCULAR AND PULMONARY SCIENCES I,II,III,IV

1. Assessment, Monitoring and Outcome measures in Critical Care Rehabilitation

a) Evaluation in the critically ill patient
b) Weaning Criteria
c) Documentation
d) ICU Equipment& Monitoring
e) Critical care complications
f) Outcome measures used in critical care

2. Critical care investigations and its implications for physiotherapy

a) Investigations like ECG, Arterial blood gas, Electrolytes, Biochemical markers,
b) Hematological and biochemical values and interpretations
c) Chest radiographs, ultra sonography and echocardiography
d) Early intervention priorities based on physical examination and investigations

3. Respiratory System

a. Physical examination of Respiratory system
b. Pulmonary function Test (PFT)
c. ABG, Echo, Radiology (X-ray and CT scan& MRI)
d. Evaluation of Respiratory muscle strength & endurance in chronic respiratory disorders.
e. POMR – problem oriented medical records and documentation methods
f. Outcome measures used in Respiratory disorders.

4. Cardiovascular System

a. Physical examination of Cardiac System
b. Clinical evaluations – Auscultation, ECG, Holter Monitoring, Echo, Doppler, X ray, /Angiogram/IABP, ECMO
c. POMR – problem oriented medical records and documentation methods
d. Outcome measures used in Cardiac dysfunction.

e. Cardiopulmonary and metabolic system – Cardiopulmonary exercise testing (CPET) /Stress testing in various cardiovascular disorders.
5. ANS Dysfunction and Testing
6. Assessment of Renal Dysfunction
7. Cardiopulmonary Rehabilitation (OPD Setting)
a. Health related fitness assessment (endurance, strength, flexibility and body composition) through various methods in various cardiovascular and pulmonary disease
b. Risk Stratification
c. Exercise Tolerance Test- (Advanced and traditional methods)
d. Monitoring Systems: Basic (Manual Measurements), Advanced (Technology)
e. Evaluating physical activity (subjective and objective) through appropriate outcome measures
8. Peripheral Vascular Disorders Assessment and special tests of
a) Arterial, Venous and Lymphatic systems
b) Assessment of wound and Ulcer
c) Assessment of edema
9. Integumentary System
a. Screening, evaluation and Assessment of skin conditions
b. Screening, evaluation and Assessment of burns
c. Assessment of Wound healing
10. Oncology
a. Physical examination and screening of different types of cancer
b. Special emphasize on cancer affecting head and neck, thorax and abdomen
c. Cancer evaluation methods, outcome measures, functional evaluation
11. Pain Assessment & Evaluation
a. Evaluation of Pain in general medical, surgical, Cardio-vascular & respiratory conditions and cancer
12. Exercise Testing in Different population (including metabolic syndromes, renal failure, obesity)
a. Methods to analyze body composition
b. Exercise testing (aerobic, strength, flexibility)
c. Definition of physical activity, its importance in health and disease
d. Assessment of physical activity (subjective and objective) through appropriate outcome measures
13. Evaluation and Diagnostic tool/ Equipment's used to assess fatigue

PAPER IV

PHYSIOTHERAPY INTERVENTIONS IN CARDIOVASCULAR AND PULMONARY SCIENCES I, II ,III,IV

1. Cardio-pulmonary resuscitation, CPR- BLS Training
2. Acute and Critical Care Settings - Comprehensive management of adults

a. Acute care setting – environment, equipment and monitoring
b. Body Mechanics and Positioning
c. Care of the patient with artificial Airway
d. Management of ventilated conscious, ventilated unconscious, and patient not on ventilator
e. Weaning of Ventilation
f. Preventive Measures and Evidence based Practice
3. Intensive Care Management of Individuals with Primary Cardiovascular and Pulmonary dysfunction Principles and physical therapy management for:
a. COPD and RLD
b. Status Asthmaticus
c. Coronary artery disease and Open-Heart Surgery
d. Respiratory failure and Heart failure
4. Intensive Care Management of Individuals with Secondary Cardiovascular and Pulmonary dysfunction Principles and physical therapy management for:
a. Obesity b. Neuromuscular conditions
c. Musculoskeletal trauma
d. Head Injury
e. Spinal Cord Injury
f. Organ Transplantation
5. Intensive Care Management of Medical and Surgical Complications(special emphasis on management of patients with burns, upper abdominal surgery, minimally invasive abdominal surgery)
6. Critical care management of Neonates, Infants and Pediatric Patients
a. General Management of the critically ill Neonate:
Bronchial Hygiene Therapy, Neonatal Resuscitation, Airway Management
b. Medical and physiotherapy techniques in critically ill neonates, Infants and Pediatric patients
c. Physiotherapy interventions in the management of neonates, infants and Pediatric patients with Primary and Secondary Cardiopulmonary, Musculoskeletal and Neurological dysfunctions in Critical Care unit
7. Cardiovascular and Pulmonary Physical Therapy in stable and chronic conditions Principles of physical therapy management for:
a. Acute Medical Conditions
b. Surgical Conditions & Chronic primary and Secondary cardiovascular and pulmonary dysfunction
8. Cardio respiratory Physiotherapy Skills & Therapeutics
a. Lung expansion therapy –methods and techniques to improve lung volumes and capacities
b. Bronchial Hygiene therapy – methods and techniques to clear secretions
c. Methods and techniques to decrease work of breathing

d. Endurance promotion activities
e. Energy conservation techniques
f. Oxygen therapy and hyperbaric oxygen therapy
g. Methods to increase exercise capacity
9. Pharmacotherapy
a. Airway Pharmacology
b. Impact of Pharmacotherapeutics in Cardiovascular and Respiratory conditions and its relevance in exercise prescription and rehabilitation.
10. Cardio Pulmonary Rehabilitation
a. Elements of International standards for a Cardiac/ Pulmonary rehabilitation Program: historic perspective, Definition and Goals, Physical reconditioning, scientific basis, Benefits and potential hazards, Patients evaluation and selection criteria and Recent Advances.
b. Smoking cessation and other risk factor modifications
11. Prevention of Cardiovascular, Endocrine, Metabolic and Pulmonary Diseases
a. Primary prevention of various Cardiovascular, Endocrine, Metabolic and Pulmonary diseases
b. Public health programs for cardiovascular and pulmonary diseases globally and in India.
12. Diseases of Peripheral Vascular and Lymphatic system
a. Evidence based management of patients with Arterial, Venous and Lymphatic diseases.
b. Ulcer and wound management.
13. Pain
a. Pain management in post-surgical conditions.
b. Therapeutic modalities in pain management
14. Exercise Prescription for The People With Primary Cardiovascular And Pulmonary And Endocrine Conditions
a. Exercise prescription and evidence-based strategies for promoting and maintaining health, physical activity and exercise in above conditions.
Exercise Prescription for the People with Non Primary Cardiovascular And Pulmonary and Endocrine Conditions
a. Neuromuscular conditions
b. Collagen/Connective tissue conditions
c. Chronic renal insufficiency
d. Overweight and Obesity
15. Oncology
a. Physiotherapy management of different types of tumors
b. special emphasize on head, neck, lung and mediastinal tumors
c. Cancer rehabilitation and palliative care
16. Physiotherapy Management of Integumentary System
a. Prevention and management of skin conditions

b. Use of Therapeutic agents to facilitate wound repair
c. Prevention of ulcers in patients with desensitized skin
d. Appropriate exercises during different phases of Burn care
e. Scar Management and Outpatient rehabilitation for Burns
17. Preventive and Long-Term Care E
a. Patient education and Caregiver education
b. Health promotion and risk minimization strategies

REFERENCES:

Recommended Books

1. Walter T.ACSMs Clinical Exercise Physiology by Walter R Thompson, 10th ed .Lippincott Williams & Wilkins;2013
2. Kenney, W. Larry, Wilmore, Jack, Costill, David. Physiology of sports and exercise by Jack H .Willmore, Costill& Kenney,6th ed. .Human Kinetics; 2015
3. William D. McArdle, Frank I. Katch, Victor L. Katch .Exercise Physiology by Mac Ardle , Katch&Katch, 8th ed. Lippincott Williams & Wilkins;2015
4. ML Pollock. Pollock Heart Disease and rehabilitation by Pollock ML .Wiley– Blackwell.1979
5. James Watkins. Fundamental biomechanics of sport and exercise by James Watkins .Taylor& Francis.2014
6. Richards J.The Comprehensive Text Book of Clinical biomechanics by Jim Richards. 2nded. Elsevier;2018
7. A Pressler, NiebauerJ.Text book of sports and exercise cardiology by Axel Pressler and Josef Niebauer. 1st ed. Springer International Publishing.2020
8. Durstine L, Moore GE, MJ La Monte ,BA Franklin. Pollocks Textbook of Cardiovascular Disease and Rehabilitation by Larry Durstine, GE Moore .Human Kinetics; 2008.
9. Frost R. Applied Kinesiology by Robert Frost Applied Revised Edition: A Training Manual and Reference Book of Basic Principles and Practices. North Atlantic Books;2013
10.Pierce NB. Guide to mechanical ventilation and Intensive respiratory care.Saunders;1995
11.J Cairo .Mechanical Ventilation-Susan Pilbeam.7th ed.Mosby Elsevier ;2019
12.Hillegass E, SadowskyS.Essentials of Cardiopulmonary Physical TherapySteven Sadowsky. 2nd ed. Saunders ;2010
13.Kacmarek RM, Stoller KJ, Heuer A .Egans Fundamentals of Respiratory Care,11th ed. Mosby Elsevier;2016
14.Goldberger A. Clinical Electrocardiography.8th ed. Elsevier;2012
15.Cifu DX. Braddoms Physical Medicine and Rehabilitation.5th ed. Elsevier Health Sciences;2015
16.William D. McArdle, Frank I. Katch, Victor L. Katch. Essentials of Exercise Physiology .Lippincott Williams & Wilkins; 2006
17.Sundar TS .Blood Gases by T Shyam Sundar.4th ed.Paras Medical Publisher;2020
18.Hall J. Guyton and Hall, Textbook of Medical Physiology.13th ed. Saunders; 2015
19.Pryor JA, Prasad A. Physiotherapy for Respiratory and Cardiac Problems: Adults and Paediatrics4th ed.Elsevier;2008
20.Smith M, Ball V. Cardiovascular / Respiratory physiotherapy by Mandy Smith. Elsevier;1998

21.Frownfelter DL, Dean E.Principles and practice of cardiopulmonary physical therapy Donna l. Frownfelter , Elizabeth dean. Mosby Elsevier;1996
22.Downie AP, Cash JE .Cash's Textbook of Chest, Heart, and Vascular disorders for physiotherapists.4th ed.Mosby Elsevier;1987
23.FroelicherV, Myers J .Exercise and the Heart (Cardiovascular Clinics s),5th ed.Elsevier;2006
Recommended Journals
1. American Journal of Respiratory and Critical Care Medicine (Am J Respir Crit Care Med)
2. Chest (Chest)
3. Critical Care (Crit Care)
4. Diabetes Therapy
5. Experimental Diabetes Research
6. Indian Journal of Chest Diseases and Allied Sciences (Indian JChest Dis Allied Sci)
7. Journal of Cardiopulmonary Rehabilitation and Prevention
8. Journal of Chronic Obstructive Pulmonary Disease
9. Journal of Exercise Physiology Online (J ExercPhysiol Online)
10.Lung India (Lung India)
11.Primary Care Diabetes
12.Primary care Respiratory Journal
13.Respiratory Research (Res.)
14.The Open Respiratory Medicine Journal
15.International Journal of Diabetes in Developing Countries
16.Clinics in Chest Medicine
17.Diabetes Research and Clinical Practice
18.British Journal of Diabetes and Vascular Disease
19.International Journal of Chronic Obstructive Pulmonary Disease (Int J Chron Obstruct Pulmon Dis)
20.Cardiopulmonary Physical Therapy Journal
21.Journal of Cardiac and Pulmonary Rehabilitation
22.Circulation
23.American Heart Journal
24.Journal of American Heart Association (JAHA)
25.International Journal of Cancer (IJC)
26.Journal of Cancer
27.British Journal of Cancer
28.CANCER
29.Cancer Journal

30.Supportive Care in Cancer
31.Asia Pacific Journal of Cancer Prevention Related scientific publications including position statements, guidelines, landmark trials, systematic reviews and meta-analysis and recent trials:

1. Lobelo F et al. Routine Assessment and Promotion of Physical Activity in Healthcare Settings:
A Scientific Statement From the American Heart Association. Circulation. 2018;137(18):e495-e522
2. Starth SJ et al. Guide to the assessment of physical activity:
Clinical and research applications: a scientific statement from the American Heart Association. Circulation. 2013;128(20):2259-79
3. Lavie CJ, et al. Exercise and the cardiovascular system: clinical science and cardiovascular outcomes. Circ Res. 2015;117(2):207-19.
4. Lavie CJ, et al. Exercise and the cardiovascular system: clinical science and cardiovascular outcomes. Circ Res. 2015;117(2):207-19.

FACULTY & INFRASTRUCTURE REQUIREMENTS

Minimum Faculty Position for MPT CP/M.Sc.,[PT IN CP] program

a. Professor/ Associate Professor – ONE
b. Assistant Professor – ONE
c. Faculty must be recognized from the area of Cardio-vascular and Pulmonary Specialty
d. Faculty position is inclusive from the minimum faculty position for BPT program

Minimum Infrastructure requirement

a. Affiliation with a hospital having Medical, Surgical, Cardio-Thoracic and Pulmonology department must be established if offering this elective
b. The center MUST have ALL the equipment and facilities mentioned under the METHODS OF TRAINING in this ordinance for this specialty in consonance with Schedule IV of the BPT Ordinance

I SEMESTER

PAPER CODE	SUBJECTS	INTERNAL	EXTERNAL	TOTAL
1MPTCP01	Fundamentals in Physiotherapy,Pedagogy and Research I	40	60	100
1MPTCP02	BASICS OF CARDIOVASCULAR AND PULMONARY SCIENCES I	40	60	100
1MPTCP03	PHYSICAL ASSESSMENT AND FUNCTIONAL DIAGNOSIS OF CARDIOVASCULAR AND PULMONARY SCIENCES I	40	60	100
1MPTCP04	PHYSIOTHERAPY INTERVENTIONS IN CARDIOVASCULAR AND PULMONARY SCIENCES I	40	60	100
1MPTCP05	PRACTICALS I	40	60	100

II SEMESTER

PAPER CODE	SUBJECTS	INTERNAL	EXTERNAL	TOTAL
2MPTCP01	Fundamentals in Physiotherapy,Pedagogy and Research II	40	60	100
2MPTCP02	BASICS OF CARDIOVASCULAR AND PULMONARY SCIENCES II	40	60	100
2MPTCP03	PHYSICAL ASSESSMENT AND FUNCTIONAL DIAGNOSIS OF CARDIOVASCULAR AND PULMONARY SCIENCES II	40	60	100
2MPTCP04	PHYSIOTHERAPY INTERVENTIONS IN CARDIOVASCULAR AND PULMONARY SCIENCES	40	60	100
2MPTCP03	PRACTICALS II	40	60	100

III SEMESTER

PAPER CODE	SUBJECTS	INTERNAL	EXTERNAL	TOTAL
1MPTCP01	Fundamentals in Physiotherapy,Pedagogy and Research III	40	60	100
1MPTCP02	BASICS OF CARDIOVASCULAR AND PULMONARY SCIENCES III	40	60	100
1MPTCP03	PHYSICAL ASSESSMENT AND FUNCTIONAL DIAGNOSIS OF CARDIOVASCULAR AND PULMONARY SCIENCES III	40	60	100
1MPTCP04	PHYSIOTHERAPY INTERVENTIONS IN CARDIOVASCULAR AND PULMONARY SCIENCES	40	60	100
1MPTCP05	PRACTICALS III	40	60	100

IV SEMESTER

PAPER CODE	SUBJECTS	INTERNAL	EXTERNAL	TOTAL
2MPTCP01	Fundamentals in Physiotherapy,Pedagogy and Research IV	40	60	100
2MPTCP02	BASICS OF CARDIOVASCULAR AND PULMONARY SCIENCES IV	40	60	100
2MPTCP03	PHYSICAL ASSESSMENT AND FUNCTIONAL DIAGNOSIS OF CARDIOVASCULAR AND PULMONARY SCIENCES IV	40	60	100
2MPTCP04	PHYSIOTHERAPY INTERVENTIONS IN CARDIOVASCULAR AND PULMONARY SCIENCES IV	40	60	100
2MPTCP03	PRACTICALS IV	40	60	100

CHECK LISTS

APPENDIX 1:

TEACHING SKILL EVALUATION FORM

Student:

Date :

Evaluator:
Rating of Skill
5 - Outstanding
4 - Good
3 - Satisfactory
2 - Poor
1 - Unacceptable
1.Specifies purposes of the lecture clearly in the Introduction
2. Makes clear transitions between segments of the lecture
3. Presents divergent view points for contrast and comparison
4. Uses clear, relevant examples to illustrate main ideas
5. Clarifies technical terminology
6. Speaks at suitable volume/ pace, speaking style
7. Uses eye contact (Scans total audience)
8. Uses a variety of facial expressions
9. Uses hands and arms appropriately/moves purposefully
10. Effectively used Black Board, AV Aids
11. Summary of main points
12. Ask questions
13. Answer questions asked by audience
14. Content coverage
15. Rapport with students
Total Score
Overall Score
61 – 75 : Excellent
51 – 60 : Good
41 – 50 : Satisfactory
31 – 20 : Poor
Less than 20 : Unacceptable
APPENDIX 2:
JOURNAL CLUB PRESENTATION EVALUATION FORM
Student :
Date :
Evaluator :

Rating of Skill
5 - Outstanding
4 - Good
3 - Satisfactory
2 - Poor
1 - Unacceptable
1. Article chosen
2. Specifies purposes / goal of the study
3. Whether cross references have been consulted
4. Presents the Methodology Cleary
5. Clarifies Outcome measures 6. Presents the Results Cleary
7. Power of the study
8. Presents the discussion clearly
9. Limitations of the study
10. Ethical issues
11. Describe how the results can or cannot be applied in our situation
12. Their own decision about the utility of the study in our practice
13. Does not needed to reread article
14. Summarizes Presentation
15. Ability to defend their study
Total Score
Overall Score
61 – 75 : Excellent
51 – 60 : Good
41 – 50 : Satisfactory
31 – 20 : Poor
Less than 20 : Unacceptable
APPENDIX 3:
PERFORMANCE EVALUATION FORM
Student :
Date :
Evaluator :
Rating of Skill
5 - Outstanding

4 - Good
2 - Satisfactory
3 2 - Poor
4 1 - Unacceptable
1. Patient Interview
2. Physiotherapy observation skills
3. Physiotherapy assessment skills
4. Procedural skills
5. Knowledge of physiotherapy Instrumentation
6. Treatment planning
7. Principle of treatment intervention
8. Execution of treatment intervention
9. Evidence Based Practice
10. Practice based learning and improvement
11. Planning and conducting clinical research
12. Work Ethics
13. Interpersonal skills / Communication skills
14. Instructional skills
15. Documentation
Total Score
Overall Score
61 – 75 : Excellent
51 – 60 : Good
41 – 50 : Satisfactory
31 – 20 : Poor
Less than 20 : Unacceptable
APPENDIX 4:
SEMINAR EVALUATION FORM
Student :
Date :
Evaluator :
Rating of Skill
5 - Outstanding
4 - Good

3 – Satisfactory
2 - Poor
1 - Unacceptable
1. Met the Professional objectives
2. Makes clear transitions between segments of the lecture
3. Presents divergent view points for contrast and comparison
4. Presentation was logical and clear
5. Clarifies terminologies in Physiotherapy
6. Speaks at suitable volume/ pace, speaking style
7. Eye contact
8. Absence of distracting mannerisms
9. Effectively used Black Board, AV Aids
10. Content coverage
11. Provide appropriate du ration
12. Interaction with others was beneficial
13. Provided concise and thoughtful answer to the questions asked by the audience
14. Demonstrated competence in Subject matter
15. Present the references and Sources effectively
Total Score
Overall Score
61 – 75 : Excellent
51 – 60 : Good
41 – 50 : Satisfactory
31 – 20 : Poor
Less than 20 : Unacceptable
APPENDIX 5:
CASE PRESENTATION EVALUATION FORM
Student :
Date :
Evaluator :
Rating of Skill
5 - Outstanding
4 - Good
3 - Satisfactory

2 - Poor
1 - Unacceptable
1. Subjective Examination
2. Objective Examination
3. Logical sequences
4. Treatment planning
5. Demonstration of examination skills
6. Demonstration of intervention skills
7. Explain the rationale of Treatment interventions
8. Understanding of movement dysfunction
9. Clarity of Presentation
10. Answer to the questions
Total Score
Overall Score
41 – 50 : Excellent
31 – 40 : Good
21 – 30 : Satisfactory
15 – 20 : Poor
Less than 15 : Unacceptable
APPENDIX 6:
DISSERTATION PRESENTATION EVALUATION FORM
Student :
Date :
Evaluator :
Rating of Skill
5 - Outstanding
4 - Good
3 - Satisfactory
2 - Poor
1 - Unacceptable
1. Selection of topic
2. Knowledge about the selected topic
3. Need of the study
4. Statement of hypothesis

5. Review of literature
6. Selection of research design
7. Selection of appropriate Sample size
8. Selection of appropriate Sampling technique
9. Selection of appropriate statistical tool
10. Selection of appropriate Outcome measures
11. Quality of protocol
12. Power of the study
13. Logical sequence of presentation
14. Answer questions asked by evaluators
15. Use of research terminologies
Total Score
Overall Score
61 – 75 : Excellent
51 – 60 : Good
41 – 50 : Satisfactory
31 – 20 : Poor
Less than 20 : Unacceptable
APPENDIX 7:
EVALUATION OF DISSERTATION
WORK BY THE GUIDE
Student :
Date :
Guide :
Rating of Skill
5 - Outstanding
4 - Good
3 - Satisfactory
2 - Poor
1 - Unacceptable
1. Periodic consultation with the guide
2. Regular collection of case material
3. Depth of analysis and discussion
4. Presentation of findings

5. Quality of final output
Total Score
Overall score:
21 – 25 - Outstanding
16 – 20 - Good
11 – 15 - Satisfactory
6 – 10 - Poor 5 and
below 5 – Unacceptable