

SYLLABUS & SCHEME OF EXAMINATION  
**MASTER OF PHYSIOTHERAPY**  
(SPORTS/ORTHOPAEDICS/NEUROLOGY/CARDIOTHORACIC/  
OBSTETRICS & GYNECOLOGY BRANCHES)



भौतिक चिकित्सा स्नातकोत्तर पाठ्यक्रम

MADHYAPRADESH MEDICAL SCIENCES UNIVERSITY, JABALPUR (M.P)  
(Session 2015-17 & Onwards)

MADHYAPRADESH MEDICAL SCIENCES UNIVERSITY, JABALPUR (M.P)

**ORDINANCE FOR MASTER OF PHYSIOTHERAPY (M.P.T.)**

**~: PROGRAM TITLE: ~**

**MASTER OF PHYSIOTHERAPY (M.P.T.) in  
SPORTS/ORTHOPAEDICS/NEUROLOGY/CARDIOTHORACIC/  
OBSTETRICS & GYNOCOLY BRANCHES**

**1) PROMULGATION**

The Degree of MPT Physiotherapy shall be conferred upon a candidate who has pursued a course of not less than two years of academic session, in an affiliated and recognized teaching institute as a regular candidate and who has passed two years theory and practical examinations with regular attendance and clinical posting allotted.

**2) NOMENCLATURE**

ELECTIVES OFFERED AND DEGREE AWARDED: **MASTER OF PHYSIOTHERAPY**

- I. Orthopaedics
- II. Sports
- III. Neurology
- IV. Cardiothoracic
- V. Obstetrics & Gynecology

**3) COURSE OUTLINE**

The Masters 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 physiotherapy is refreshed along with research methodology and biostatistics. The students are rotated in all areas of clinical expertise 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.

**4) ELIGIBILITY FOR ADMISSION**

Master of Physiotherapy course shall be open to those who have passed 10+2 (Physics, Chemistry, English & Biology) and full time Bachelor of Physiotherapy B.Sc. (PT) or BPT degree from institutions/ any recognized university where the mode of study is a full time regular program, with minimum 3½ years or 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 .

In case of SC/ST/OBC students the relaxation of the eligibility percentage for the admission will be as per the Madhyapradesh state Government rules.

Admission to the course will be as per the performance of the student in the entrance examination; however the student should have minimum 50% aggregate in BPT for appearing in the entrance exam.

#### **5) GOALS OF COURSE:**

- A. Impartation of education with research basis in order to validate techniques & technology in practice to physiotherapy.
- B. Formation of base of the professional practice by referral as well as first contact mode using evidence based practice.
- C. Preparation of a postgraduate student towards his/her professional autonomy at par with global standards
- D. Acquainting a student with concept of quality care at the institutional as well as the community levels.
- E. Inculcation of appropriate professional relationship in multidisciplinary set up, patient management and co partnership basis.
- F. Preparation of students to address problems related to health education and community physiotherapy.
- G. Practicing the concept of protection of rights of the community during referral as well as first contact practice.
- H. Incorporation of concept of management in physiotherapy.
- I. Experience in clinical training and undergraduate teaching partly.

#### **6) DURATION OF COURSE**

The duration of the certified study for the Master of physiotherapy shall be full time regular course and its duration shall extend over a period of two continuous academic Years' on a full time basis for the award of the degree. ***The student for the award of the MPT degree shall have to qualify in all papers prescribed for the MPT course within a period of FOUR years from the date he/she joined the course.***

#### **7) MEDIUM OF INSTRUCTION :-**

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

#### **8) METHODS 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 & CME. 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.

#### **9) MONITORING PROCESS OF STUDIES (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.

**Work diary:** Every candidate shall maintain a work diary and record his/her participation in the training programmes 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.

#### **10) ATTENDANCE REQUIREMENT FOR EXAMINATION**

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.

#### **11) CONDONATION OF ATTENDANCE**

Dean/ Principal of the college are empowered to condone 10% of attendance on valid grounds. Monthly attendance of students has to be sent to the university every month from the respective affiliated colleges.

#### **12) ADMISSION TO UNIVERSITY EXAMINATION OF MPT COURSE**

The candidate admitted in an academic year will be registered to take up their University examination after completion of two academic years.

Subject of first year MPT College/ Institutional examinations; **Basic Medical Sciences & Principles of Physiotherapy Practice, Biomechanics & Kinesiology, Research Methodology & Biostatics and Educational Methodology** will be common subjects for all the students.

Subjects in second year University Examinations will be as per the elective specialization (Sports / Orthopaedics / Neurology / Cardiothoracic/ Obstetrics & Gynecology) except **Exercise Physiology & Nutrition, Physical Diagnosis & Rehabilitation** which will be common subjects to all the students.

\* Advanced Physiotherapeutic would be additional elective subject as per specialization.

### **13) COMMENCEMENT OF THE EXAMINATION**

There shall be two university examinations: Main and Supplementary examination as per university notification every year academic year for MPT Final year candidates only. For MPT course (which is of two years duration), the University examination will be held at the end of **second year only**. However, at the end of first academic year, Internal examination will be conducted at the college level itself and the result has to be sent to the University as per the scheduled notification. (These marks will be included in the Final Transcripts), and the students are eligible to appear their final year examination at MPMSU, subject to passing in first year internal examination conducted at college / institution level.

### **14) WORKING DAYS IN AN ACADEMIC CALENDAR / ADMISSIONS:**

The admissions of students into various programs should be completed by 30<sup>th</sup> November. There shall be 240 minimum teaching days in one academic year.

### **15) 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. 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 Performa a synopsis containing particulars of proposed dissertation work within 4 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. All the synopses of Dissertation have to be approved by the Institutional Ethical Committee.

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 dissertation should be written under the following headings.

1. Introduction
2. Aims or objectives of study
3. Review of literature

4. Material and methods
5. Results
6. Discussion
7. Conclusion
8. References
9. Appendices

The written text of dissertation shall not be less than 50 pages and shall not exceed 100 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.

Four copies of dissertation thus prepared shall be submitted to the Registrar (Evaluation), 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 institution zone of university / from other college of the same university. Evaluator acceptance other than the guide will be considered as a precondition for eligibility to take.

#### 16) **Guide**

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 65 years.
3. The guide student ratio should be 1:5

##### **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.

- 17) **For other provision which is not covered in this curriculum & syllabus will be applicable as per the university ordinance.**

## 18). SCHEME OF EXAMINATION

<b>MPT 1<sup>st</sup> Year (Common for All candidates):</b> Institutional Examination as per University Notification			
S. No.	SUBJECT	MAX. MARKS	Minimum Passing Marks
1.	<b>Basic Medical Sciences &amp; Principles of Physiotherapy Practice</b>	100	50
2.	<b>Biomechanics &amp; Kinesiology</b>	100	50
3.	<b>Research Methodology &amp; Biostatistics and Educational Methodology</b>	100	50
<b>Total Max. Marks</b>		<b>300</b>	

(There shall be institutional/college level theory examination as per university notification, marks to be send to university)

## **MPT 2<sup>nd</sup> / Final Year: University Examination**

S. No.	SUBJECT	Written	Practical	Viva	Total
1	<b>Exercise Physiology &amp; Nutrition</b>	100	--	--	100
2	<b>Physical Diagnosis &amp; Rehabilitation</b>	100	100	50	250
3	<b>Elective-I*</b>	100	100	50	250
4	<b>Elective-II**(Advanced Physiotherapeutic)</b>	100	--	--	100
5	<b>Dissertation</b>	--	--	100	100
<b>Total Max. Marks</b>					<b>800</b>

**N.B.- Viva marks will be added in practical marks; candidate have to get min.50% marks i.e. 75 marks in practical and viva collectively for passing the practical examination.**

### **Elective-I\*: Subjects**

MPT Sports: Sports Physiotherapy

MPT Orthopaedics: Orthopaedic Physiotherapy

MPT Neurology: Neurologic Physiotherapy

MPT Cardiothoracic: Cardiopulmonary Physiotherapy

MPT Obstetrics & Gynecology: Physiotherapy in Obs. & Gynecological conditions

### **Elective-II\*\*: Subjects (Advanced Physiotherapeutic)**

MPT Sports: Advanced Physiotherapeutic in Sports Physiotherapy

MPT Orthopaedics: Advanced Physiotherapeutic in Orthopaedic Physiotherapy

MPT Neurology: Advanced Physiotherapeutic in Neurologic Physiotherapy

MPT Cardiothoracic: Advanced Physiotherapeutic in Cardiopulmonary Physiotherapy

MPT Obstetrics & Gynecology: Advanced Physiotherapeutic in Physiotherapy in Obs. & Gynecological conditions

#### **19). Passing Marks of Examination:**

- The passing marks of examination would be 50% for each subject and also in total marks obtained. The candidate has to pass in theory and practical examination separately. For theory paper the internal assessment marks, viva-voce and theory examination marks will be counted.
  - The candidate should pass separately in two heads i.e in Theory (Theory plus Viva voce) and also in Practical (with 50% marks).
  - The candidate has to pass separately in each subject in internal assessment examination (with 50% marks) in order to be eligible to appear in university examinations.
  - The grace marks shall be allowed according to the general ordinance relating to “Award of Grace Marks”.
  - Regarding Grace Marks it was decided that total weightage of grace marks would be **5 (five)**, and that grace marks can be split between the subjects. There will not be any grace marks for the Practical examination.
  - Grace marks will not be added to total marks of the candidate. In Supplementary examination also similar pattern of grace marks will be followed.
20. After completion of two academic years of studies he shall not have any privileges of a regular student.
21. Successful candidate who obtain 60% or more of the aggregate marks in Part-I and Part-II examination taken together shall be placed in the first division and those who obtain 50% or more but less than 60% shall be placed in the second division.
22. A successful candidate of the M.P.T. Part-I and Part- II examination shall be awarded degree in following nomenclature:
- **M.P.T in Sports Physiotherapy**
  - **M.P.T in Orthopedics Physiotherapy**
  - **M.P.T in Neurological Physiotherapy**
  - **M.P.T in Cardiothoracic Physiotherapy**
  - **M.P.T in Gynecology and Obstetrics Physiotherapy**



**MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**

**SYLLABUS & SCHEME OF EXAMINATION FOR MPT**  
**SPORTS/ORTHOPAEDICS/NEUROLOGY/CARDIOTHORACIC, OBS.&GYNECOLOGY**

**COURSE OF THE STUDY**

**MPT 1<sup>st</sup> Year (First 12 Months)**

S. No.	SUBJECT	Teaching Hours		
		Theory	Clinical/ Practical	Total
1.	Basic Medical Sciences	100	75	175
	Principles of Physiotherapy Practice	50	75	125
2.	Biomechanics	100	75	175
	Kinesiology	100	75	175
3.	Research Methodology & Biostatics	100	--	100
	Educational Methodology	50		50
4.	Clinical training	--	650	650
5.	Seminar, Journal Club, Teaching Skills, Case Presentation, Field Works etc.	--	150	150
				1600

**MPT 2<sup>nd</sup>/Final Year (13-24 Months)**

S. No.	SUBJECT	Teaching Hours		
		Theory	Clinical/ Practical	Total
1.	Exercise Physiology & Nutrition	175	50	225
2.	Physical Diagnosis	175	175	350
	Rehabilitation	100	100	200
3.	Elective-I*	150	100	250
4.	Elective-II**(Advanced Therapeutics)	150	100	250
5.	Dissertation	--	150	150
6.	Clinical training	--	650	650
7.	Seminar, Journal Club, Teaching Skills, Case Presentation, Field Works etc.	--	150	150
				2225

**Elective-I\*: Subjects**

MPT Sports: Sports Physiotherapy

MPT Orthopaedics: Orthopaedic Physiotherapy

MPT Neurology: Neurologic Physiotherapy

MPT Cardiothoracic: Cardiopulmonary Physiotherapy

MPT Obstetrics & Gynecology: Physiotherapy in Obs. & Gynecological conditions

**Elective-II\*\*: Subjects (Advanced Physiotherapeutic)**

MPT Sports: Advanced Physiotherapeutic in Sports Physiotherapy

MPT Orthopaedics: Advanced Physiotherapeutic in Orthopaedic Physiotherapy

MPT Neurology: Advanced Physiotherapeutic in Neurologic Physiotherapy

MPT Cardiothoracic: Advanced Physiotherapeutic in Cardiopulmonary Physiotherapy

MPT Obstetrics & Gynecology: Advanced Physiotherapeutic in Physiotherapy in Obs. & Gynecological conditions

**MADHYAPRADESH MEDICAL  
SCIENCE UNIVERSITY, JABALPUR-  
M.P. (India)**

**SYLLABUS & SCHEME OF EXAMINATION  
FOR  
MPT –1<sup>ST</sup> YEAR**

**(COMMON FOR ALL BRANCHES)  
SPORTS/ORTHOPAEDICS/NEUROLOGY/  
CARDIOTHORACIC, OBS. &GYNECOLOGY**

# MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR

## SYLLABUS & SCHEME OF EXAMINATION FOR MPT

### SPORTS/ORTHOPAEDICS/NEUROLOGY/CARDIOTHORACIC, OBS.&GYNECOLOGY

#### **MPT 1<sup>st</sup> Year: SCHEME OF EXAMINATION**

MPT 1 <sup>st</sup> Year(Common for All candidates): Institutional Examination as per University Notification			
S. No.	SUBJECT	MAX. MARKS	Minimum Pass Marks
1.	Basic Medical Sciences & Principles of Physiotherapy Practice	100	50
2.	Biomechanics & Kinesiology	100	50
3.	Research Methodology & Biostatics and Educational Methodology	100	50

N.B. – (1) Dissertation synopsis have to submit to Registrar, MPMSU-Jabalpur after approval from the institutional ethical committee within 4 months of joining the course.

(2) Examination will be at end of one academic year, there will be institutional examination, which has to qualify by the student to get eligible for MPT 2<sup>nd</sup> /final year curriculum.

The pattern of University theory examination will be as under for 100 Max. Marks.

No. & Type of Question	Marks for each question	Total Max. Marks
10 Very Short Answer Questions( <i>Answer to be given in 50-60 words</i> )	02	<b>20</b>
5 Short Answer Questions ( <i>Answer to be given in 250-300 words</i> )	10	<b>50</b>
2 Essay Type Questions ( <i>Answer to be given in 450-500 words</i> )	15	<b>30</b>
		<b>100</b>

**MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**

**SYLLABUS FOR MPT-1<sup>ST</sup> YEAR**

**SPORTS/ORTHOPAEDICS/NEUROLOGY/CARDIOTHORACIC, OBS.&GYNECOLOGY**

**PAPER-I: BASIC MEDICAL SCIENCES & PRINCIPLES OF PHYSIOTHERAPY PRACTICE**

**SCHEME OF EXAMINATION**

**Time: 3.00 Hrs**

**Max. Marks: 100**

Subject	Max. Marks	Minimum Passing Marks
Basic Medical Sciences & Principles of Physiotherapy Practice	100	50

**INSTRUCTION FOR THE PAPER SETTER**

The pattern of theory examination will be as under for 100 Max. Marks.

No. & Type of Question	Marks for each question	Total Max. Marks
10 Very Short Answer Questions ( <i>Answer to be given in 50-60 words</i> )	02	<b>20</b>
5 Short Answer Questions ( <i>Answer to be given in 250-300 words</i> )	10	<b>50</b>
2 Essay Type Questions ( <i>Answer to be given in 450-500 words</i> )	15	<b>30</b>
		<b>100</b>

**Section-A:** This will consist of 10 very short answer type questions with answer to each question upto five lines (Fifty to sixty words) in length . All questions will be compulsory to answer. Each question will carry two marks. Total weightage of the section shall be 20 marks.

**Section-B:** This will consist of short answer questions with answer to each question upto 2 pages (250-300 words) in length. Eight questions will be set by the examiner and five have to be answered by the candidate. Each question will carry 10 marks. Total weightage of the section shall be 50 marks.

**Section-C:** This will consist of essay type questions with answer to each question upto 5 pages (approx 500 words) in length. Four questions will be set by the examiner and two have to be answered by the candidate. Each question will carry 15 marks. Total weightage of the section shall be 30 marks.

**INSTRUCTIONS FOR THE CANDIDATES:** Answer all questions only in required word.

**PAPER- I**

**BASIC MEDICAL SCIENCES & PRINCIPLES OF PHYSIOTHERAPY PRACTICE**

**SYLLABUS CONTENTS**

**Anatomy and Applied Anatomy:**

**I. A review of organization and regulation of motor system.**

- A. Types of movement and factors affecting contact and range of motion at synovial joints
- B. Skeletal muscle tissue
- C. Muscle metabolism
- D. Contraction and relaxation of muscle
- E. Control of muscle tension

**II. A review of control system of body (Motor and sensory).**

- A. Structure function and organization of nervous tissue
- B. Electrical signals in neurons and its transmission
- C. Regeneration and repair of nervous tissue
- D. Functional organization of cerebral cortex
- E. Sensory motor and integrative system (Sensation, somatic sensation, Sensory pathways, motor pathways).
- F. Reflexes and reflex arcs

**III. Physiology & Applied Physiology:**

- A. Structure and function of cardio vascular system.
- B. Structure and function of respiratory system.
- C. Structure and function of endocrinal system.

**IV. Pathology :**

- A. Inflammation

- B. Edema
- C. Healing responses & Repair of soft tissue injuries
- D. Failed healing responses

**V.Pharmacology :**

- A. Principles of drug action
- B. Basic Pharmacokinetics
- C. Use of drug in musculoskeletal medicine only

**VI.Radiology :**

- A. Basic of Radiology
- B. Imaging of Head and neck
- C. Imaging of spine
- D. Imaging of pelvis, hip and thigh
- E. Imaging of Patellofemoral joint and knee joint
- F. Imaging of lower leg ,foot and ankle
- G. Diagnostic ultrasonography as applied in Neuromusculoskeletal condition

**VII.Geriatrics :**

- A. Ageing population for Physiotherapy, Physiological Changes with ageing, Evaluation of aging , arthrokinesiological and sensorimotor changes
- B. Functional assessment of elderly, Geriatric pharmacology, functional training, Balance and fall in elderly, orthotics in geriatric rehabilitation, older person with developmental disabilities
- C. Urinary incontinence and impairment of pelvic floor, Conservative pain management in elderly.
- D. Osteoarthritis, dementia and other geriatric problems

## **PRINCIPLES OF PHYSIOTHERAPY PRACTICE**

1. Development of Physiotherapy Profession
2. Ethical issues in practice of physiotherapy-Clinical, Research and Academics. Administration, Legislation, rules and regulations governing physiotherapy practice-National & International (WCPT and IAP) . Scope of Physiotherapy in Hospital , Community & Industry.
3. History taking, assessment, tests, Patient communication, documentation of findings, treatment organization and planning/execution for intervention.
4. Documentation of rehabilitation assessment and management using International Classification of Functioning Disability and Health (ICF)
5. Standardized tests and scales used in various types of cases for assessment and interpretation in Physiotherapy practice.
6. Principle of therapeutic exercises: Dynamic Exercises, Plyometric Exercises, Aerobic Exercises, Isokinetic Exercises, Kinetic chain exercises PRE, Stretching, Balance and coordination exercises
7. Principles and application of neuromuscular facilitation techniques including PNF

### **Books Suggested:-**

1. Gray's Anatomy - Williams & Warwick - Churchill Livingstone.
2. Grants – Methods of Anatomy - Basmajian & Sloncker - Williams & Wilkins.
3. Clinical Anatomy for Medical Students - Snells – Lippincott.
4. Synopsis of Surgical Anatomy – John Wright & Sons, Bristol
5. Snell's Neuroanatomy: Richard Snell
6. Netter's Atlas of human Neurosciences: Feltan, David L
7. Shepherd, Gordon- Synaptic Organization of the brain, 4th Edition
8. Textbook of Human anatomy: Inderbir Singh
9. Human Neuroanatomy by Carpenter M. B, Williams & Wilkins, Baltimore, 1983
10. Atlas of Neuroanatomy: Warner, Joseph J.
11. The neural basis of motor control by Black I., Churchill , Living stone 1987
12. Abnormal postural reflex activity caused by Brain Lesions Bobath B., Aspen publications, Rockville, 1897



13. Clinical kinesiology by Brunstrom
14. Anatomy of the Central Nervous System: Poddar S.
15. Basic Neurological Life Support: Corbett, James J.
16. Human Anatomy: Regional and Applied: Chaurasia B.D.
17. Textbook of Pain: Wall P.D.
18. Bonica's Management of pain: Losser J.D.
19. Central nervous System: Brodal, Per
20. Textbook of Clinical Neuroanatomy: Singh Vishram
21. Clinical neurophysiology: Balon Robert W.
22. Textbook of Medical Physiology - Guyton - Mosby.
23. Pathologic Basis of Diseases - Robbins Kotran and Kumar – W.B. Saunders.
24. The Pharmacological basis of Therapeutics – Goodman and Gilman – MacMillan
25. Pharmacology and Pharmacotherapeutics – Satoskar & Bhandarkar – Popular Publications – Bombay.
26. Pathology implications for Physical Therapists – Goodmann & Boissonnault– W. B. Saunders
27. Davidsons – Principles and Practice of Medicine– Edward – Churchill Livingstone
28. Hutchinsons – Clinical Methods of Medicine –Swash – Bailliere Tindall
29. Hutchinson's – Clinical Methods of Medicine
30. Text Book of Radiology - Sutton D. - Churchill Livingstone.
31. Orthopaedic Physiotherapy, Robert A Donatelli, Churchill Livingstone.
32. Physical Rehabilitation Assessment and Treatment, Susan Sullivan, Jaypee brothers
33. Physical therapy of shoulder, Robert A Donatelli, Churchill Livingston
34. Orthopaedic Physical Assessment , David J Magee, Saunders
35. Manual Examination and Treatment of the Spine and Extremities, Carolyn Wadsworth, Williams and Wilkins.
36. Illustrated Orthopaedic physical Assessment, Ronald C Evans, Mosby.
37. Physical Examination of the Spine and Extrimities , Stenley, Lipenfield.
38. Clinical Orthopaedic Examination, Mc Rae, Churchill Livingstone.
39. Exercise Therapy by Colby and Kisner, 6<sup>th</sup> Edition

**MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**

**SYLLABUS FOR MPT-1<sup>ST</sup> YEAR**  
**SPORTS/ORTHOPAEDICS/NEUROLOGY/CARDIOTHORACIC, OBS. & GYNECOLOGY**

**PAPER II: BIOMECHANICS & KINESIOLOGY**

**SCHEME OF EXAMINATION**

**Time: 3 Hrs**

**Max. Marks: 100**

Subject	Max. Marks	Minimum Passing Marks
Biomechanics & Kinesiology	100	50

**INSTRUCTION FOR THE PAPER SETTER**

The pattern of theory examination will be as under for 100 Max. Marks.

No. & Type of Question	Marks for each question	Total Max. Marks
10 Very Short Answer Questions( <i>Answer to be given in 50-60 words</i> )	02	<b>20</b>
5 Short Answer Questions ( <i>Answer to be given in 250-300 words</i> )	10	<b>50</b>
2 Essay Type Questions ( <i>Answer to be given in 450-500 words</i> )	15	<b>30</b>
		<b>100</b>

**Section-A:** This will consist of 10 very short answer type questions with answer to each question upto five lines (Fifty to sixty words) in length . All questions will be compulsory to answer. Each question will carry two marks. Total weightage of the section shall be 20 marks.

**Section-B:** This will consist of short answer questions with answer to each question upto 2 pages (250-300 words) in length. Eight questions will be set by the examiner and five have to be answered by the candidate. Each question will carry 10 marks. Total weightage of the section shall be 50 marks.

**Section-C:** This will consist of essay type questions with answer to each question upto 5 pages (approx 500 words) in length. Four questions will be set by the examiner and two have to be answered by the candidate. Each question will carry 15 marks. Total weightage of the section shall be 30 marks.

**INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required words**

## PAPER- II

### BIOMECHANICS & KINESIOLOGY

#### **SYLLABUS CONTENTS:-**

##### **Concepts of Biomechanics and Kinesiology:**

1. Introduction to Kinesiology and Biomechanics.
2. Nature and importance of Biomechanics in Physiotherapy.
3. Review of fundamental concepts and Principle of Biomechanics
4. Biomechanics of Tissues and structures of the musculoskeletal system.
5. Muscle and its properties, changes in contraction, conditions affecting muscle contraction, nervous control of muscular activity, reciprocal innervations and inhibition.
6. Force and force system, classification of force system, composition and resolution of forces, friction, Impact, elasticity, Couple end moment, linear and angular motion etc.
7. Principles of equilibrium , projectile, Principles of spin and rebound , principle of fluid mechanics
8. Advanced Biomechanics and kinesiology
  - a. Introduction to biomechanical analysis of humane motion.
  - b. Analytical tools and techniques –Isokinetic Dynamometer, Kinesiological EMG, Electronic Goniometer, Force Platform, Videography.
9. Ergonomic approach to lifting and handling, workspace and environment.
10. Patient positioning, body mechanics and Transfer techniques.

##### **Applied Biomechanics and Kinesiology:**

1. Methods of kinetics and kinematics investigation
2. Normal and applied Biomechanics of :-
  - A. Upper Extremity: Shoulder and Shoulder girdle, Elbow joint, Wrist joint and Hand.

- B. Lower Extremity: Pelvic Girdle including Lumbosacral region , Hip joint , Knee joint, Ankle & Foot
    - C. Spine
- 3. Biomechanics of posture
- 4. Biomechanics of respiration, circulation, hand function.
- 5. Biomechanics of Gait
  - A. Gait Analysis: Kinetic & Kinematic Analysis.
  - B. Pathological Gait: Kinetic & Kinematic Analysis
- 6. Biomechanical analysis and therapeutic application:-
  - A. Squatting
  - B. Running
  - C. Jumping and landing
  - D. Throwing
  - E. Swimming
  - F. Rowing
- 7. Biophysics of contractile and non contractile tissues, Response to mechanical loading, Factors affecting the joint range of motion prevention of stiffness, methods of Joint mobilization.

**Books Suggested**

1. James G. Hay – The Biomechanics of Sports Techniques, Prentice Hall.
2. Brunnstrom - Clinical Kinesiology, F.A. Davis.
3. Luttgens K., Hamilton N.: Kinesiology – Scientific Basis of Human Motion 9th Edi, 1997, Brown & Benchmark.
4. Biomechanics – A Qualitative approach for studying Human Motion
5. Joint Structure and Function - A Comprehensive Analysis –

6. Analysis of Sports Motion: Anatomic and Biomechanics perspectives
7. Kreighbaum E., Barthels K.: Biomechanics – A Qualitative approach for studying Human Motion, 2nd edi. 1985, MacMillan.
8. Rasch and Burk: Kinesiology and Applied Anatomy, Lee and Fabiger.
9. White and Punjabi - Biomechanics of Spine - Lippincott.
10. Norkin & Levangie: Joint Structure and Function - A Comprehensive Analysis - F.A. Davis.
11. Kapandji: Physiology of Joints Vol. I, II & III, W.B. Saunders.
9. Northrip et al: Analysis of Sports Motion: Anatomic and Biomechanics perspectives, W.C. Brown Co., IOWA.
10. Leveac B.F.: Basic Biomechanics in Sports and Orthopedic Therapy, C.V. Mosby.
11. De Boer & Groot: Biomechanics of Sports, CRL Press, Florida.
12. Basmajian - Muscle alive - Williams & Wilkins.
13. Nordin & Frankel - Basic Biomechanics of Muscular Skeletal System - Williams & Wilkins.
14. Bartlett - Introduction to Sports biomechanics - F & FN Spon Madras.
15. Mishra: Clinical Neurophysiology, B.I. Churchill Livingstone.

**MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**

**SYLLABUS FOR MPT-1<sup>ST</sup> YEAR**

**SPORTS/ORTHOPAEDICS/NEUROLOGY/CARDIOTHORACIC, OBS. &GYNECOLOGY**

**PAPER III: RESEARCH METHODOLOGY & BIOSTATISTICS AND EDUCATIONAL  
METHODOLOGY IN PHYSIOTHERAPY**

**SCHEME OF EXAMINATION**

**Time: 3:00Hrs**

**Max. Marks: 100**

Subject	Max. Marks	Minimum Passing Marks
Research Methodology & Biostatics and Educational Methodology	100	50

**INSTRUCTION FOR THE PAPER SETTER**

The pattern of theory examination will be as under for 100 Max. Marks.

No. & Type of Question	Marks for each question	Total Max. Marks
10 Very Short Answer Questions( <i>Answer to be given in 50-60 words</i> )	02	<b>20</b>
5 Short Answer Questions ( <i>Answer to be given in 250-300 words</i> )	10	<b>50</b>
2 Essay Type Questions ( <i>Answer to be given in 450-500 words</i> )	15	<b>30</b>
		<b>100</b>

**Section-A:** This will consist of 10 very short answer type questions with answer to each question upto five lines (Fifty to sixty words) in length . All questions will be compulsory to answer. Each question will carry two marks. Total weightage of the section shall be 20 marks.

**Section-B:** This will consist of short answer questions with answer to each question upto 2 pages (250-300 words) in length. Eight questions will be set by the examiner and five have to be answered by the candidate. Each question will carry 10 marks. Total weightage of the section shall be 50 marks.

**Section-C:** This will consist of essay type questions with answer to each question upto 5 pages (approx 500 words) in length. Four questions will be set by the examiner and two have to be answered by the candidate. Each question will carry 15 marks. Total weightage of the section shall be 30 marks.

**INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required words**

**PAPER- III**

**RESEARCH METHODOLOGY & BIostatISTICS AND EDUCATIONAL  
METHODOLOGY IN PHYSIOTHERAPY**

**SYLLABUS CONTENTS**

**Research Methodology: Basics concepts**

1. Research –Introduction, scope, characteristics, types, clinical trials and ethics.
2. Research methods—various methods, Basic probability and sampling distributions
3. Census and survey methods of investigation.
4. Hypothesis—Advantages and types.
5. Sample - Introduction and types of sampling.
6. Sample size determination (according to study design)
7. Methods of Data Collection: Processing and analysis of data
  - Schedule –Introduction, types, procedure of forming schedule and limitations.
  - Questionnaire – Introduction, types, reliability and limitations.
  - Interview -- Introduction, types, technique and limitations.
  - Observation – Introduction, organization of field observations and limitations.
  - Preparation of report – Introduction, developing outline, writing, references and bibliography.
  - Format of scientific documents. (structure of protocols, formats reporting in scientific journals, systematic reviews and meta analysis)

### Concepts of Biostatistics:

1. Biostatistics –Introduction, origin &development, scope, functions and limitations
2. Presentation of data—Classification, tabulation, diagrammatic and graphical presentation of data
3. Central tendencies – Mean, Mode and Median
4. Measures of dispersion – Standard deviation and standard errors.
5. Skewness and kurtosis.
6. Odd Ratios, Receiver Operating Curve (ROC)
7. Probability
8. Statistical Tools- Correlation and regression , Parametric tests , Non-parametric tests

### Educational Methodology

1. Concept of Morality, Ethics and Legality
2. Ethical issues in physiotherapy practice: Professionalism, Informed consent, Confidentiality, Sexual and Physical Abuse , Social characteristics and Personal relationships, Professional issues, Client interest and satisfaction, Confidence and communication, Malpractice, Negligence, Rights of patients, Status of physiotherapist in health care
3. **Communication skills:** Process of Communication, Barriers to Communication , Types of Communication, Written vs. Oral Communication, Elements of good communication
4. **Management** – Principles and applications of Management and Administration to Physiotherapy practice: Planning, organizing, staffing, finance, marketing, controlling, directing, setting of a physiotherapy service unit
5. **Education:** Definition, Aims and objectives of education, Agencies of education, Formal and informal education, Brief introduction to philosophies of education, Taxonomy of educational objectives, Essential of physiotherapy education.



## **6. Concept of teaching – learning**

Nature of learning, type and stages of learning , Factors affecting learning, Laws of learning , Learning style teaching learning process, Role of teacher in teaching learning process, Adult learning, Teaching skills, Teaching Methods in Classroom Setting, Clinical teaching methods, Planning of teaching: lesson planning and unit planning

## **7. Teaching aids and educational technology**

## **8. Curriculum:**

- Meaning and Concept of curriculum, Factors affecting curriculum, Types of curriculum
- Basic principles of curriculum construction, Steps of curriculum development

## **9. Assessment and Evaluation:**

- A. Meaning and Concepts of assessment
- B. Measurement Evaluation and examination
- C. Purpose of Evaluation
- D. Types of evaluation
- E. Principles of evaluation
- F. Techniques of evaluation
- G. Methods and tools used in testing of knowledge, skill, clinical performance and attitude

## **10. Faculty development, continuing professional education**

### **Books Suggested**

1. Bailey, N.T.J. -Statistical methods in Biology. The English universities press, London
2. Bajpai, S.R.- Methods of Social Survey and Research, Kitab Ghar, Kanpur.
3. Colton - Statistics in medicine, Little Brown Company, Boston
4. Gupta, S.P -Statistical methods. Sultan Chand and Sons Publishers , New Delhi.
5. Goulden C.H.- Methods of Statistical Analysis. Asia Publishing House , New Delhi.
6. Mohsin S.M.- Research Methods in Behavioral Sciences: Orient Publications. New Delhi.
7. Mahajan - Methods in Biostatistics, Jay Pee Brothers.Medical Publishers (P) Ltd. N. Delhi.
8. Hicks- Research for Physiotherapists, Churchill Livingstone, London.
9. Meenakshi. - First Course in Methodology of Research. Kalia Prakashan, Patiala.
10. Kumar , R.- Research Methodology. Pearson Education , Australia.
11. Snedecor,G.W -Statistical Methods, Allied Pacific Pvt. Ltd., London
12. Singh, I.- Elementary Statistics for Medical Workers. Jaypee Brothers Medical Publishers (P) Ltd. New Delhi.

**MADHYAPRADESH MEDICAL  
SCIENCE UNIVERSITY, JABALPUR-  
M.P. (India)**

**SYLLABUS & SCHEME OF EXAMINATION FOR  
MPT– 2<sup>ND</sup> YEAR**

**(ALL BRANCHES)  
SPORTS/ORTHOPAEDICS/NEUROLOGY/  
CARDIOTHORACIC, OBS. &GYNECOLOGY**

## **MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**

### **SYLLABUS & SCHEME OF EXAMINATION FOR MPT 2<sup>ND</sup> / FINAL YEAR SPORTS/ORTHOPAEDICS/NEUROLOGY/CARDIOTHORACIC , OBS.&GYNECOLOGY**

#### **SCHEME OF EXAMINATION**

<b>MPT 2<sup>nd</sup> /Final Year: University Examination</b>					
S.No.	SUBJECT	Written	Practical	Viva	Total
1.	Exercise Physiology & Nutrition	100	--	--	100
2.	Physical Diagnosis & Rehabilitation	100	100	50	250
3.	Elective-I *	100	100	50	250
4.	Elective-II ** (Advanced Physiotherapeutic)	100	--	--	100
5.	Dissertation ***	--	--	100	100
					800

N.B.- Viva marks will be added in practical marks; candidate have to get min.50% marks i.e. 75 marks in practical and viva collectively for passing the practical examination.

#### **Elective-I\*: Subjects**

**MPT Sports:** Sports Physiotherapy

**MPT Orthopaedics:** Orthopaedic Physiotherapy

**MPT Neurology:** Neurologic Physiotherapy

**MPT Cardiothoracic:** Cardiopulmonary Physiotherapy

**MPT Obstetrics & Gynecology:** Physiotherapy in Obs. & Gynecological conditions

#### **Elective-II\*\*: Subjects (Advanced Physiotherapeutic)**

**MPT Orthopaedics:** Advanced Physiotherapeutic in Orthopaedic Physiotherapy

**MPT Sports:** Advanced Physiotherapeutic in Sports Physiotherapy

**MPT Neurology:** Advanced Physiotherapeutic in Neurologic Physiotherapy

**MPT Cardiothoracic:** Advanced Physiotherapeutic in Cardiopulmonary Physiotherapy

**MPT Obstetrics & Gynecology:** Advanced Physiotherapeutic in Physiotherapy in Obs. & Gynecological conditions

**Dissertation \*\*\***- Dissertation VIVA examination of 100 max. marks including its presentation and related viva questioning by the examiners; would be conducted separately .

# **MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**

**SYLLABUS & SCHEME OF EXAMINATION FOR MPT 2ND/ FINAL YEAR**  
**SPORTS/ORTHOPAEDICS/NEUROLOGY/CARDIOTHORACIC , OBS.&GYNECOLOGY**

## **PAPER I: EXERCISE PHYSIOLOGY & NUTRITION**

### **SCHEME OF EXAMINATION**

**Theory Examination; Time: 3.00Hrs**

**Max. Marks: 100**

SUBJECT	Written	Practical	Viva	Total
Exercise Physiology & Nutrition	100	--	--	100

#### **INSTRUCTION FOR THE PAPER SETTER**

The pattern of University theory examination will be as under for 100 Max. Marks.

No. & Type of Question	Marks for each question	Total Max. Marks
10 Very Short Answer Questions ( <i>Answer to be given in 50-60 words</i> )	02	<b>20</b>
5 Short Answer Questions ( <i>Answer to be given in 250-300 words</i> )	10	<b>50</b>
2 Essay Type Questions ( <i>Answer to be given in 450-500 words</i> )	15	<b>30</b>
		<b>100</b>

**Section-A:** This will consist of 10 very short answer type questions with answer to each question upto five lines (Fifty to sixty words) in length . All questions will be compulsory to answer. Each question will carry two marks. Total weightage of the section shall be 20 marks.

**Section-B:** This will consist of short answer questions with answer to each question upto 2 pages (250-300 words) in length. Eight questions will be set by the examiner and five have to be answered by the candidate. Each question will carry 10 marks. Total weightage of the section shall be 50 marks.

**Section-C:** This will consist of essay type questions with answer to each question upto 5 pages (approx 500 words) in length. Four questions will be set by the examiner and two have to be answered by the candidate. Each question will carry 15 marks. Total weightage of the section shall be 30 marks.

**INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required words**

## PAPER -I

### EXERCISE PHYSIOLOGY & NUTRITION

#### SYLLABUS CONTENTS

1. Sources of Energy, Energy Transfer and Energy Expenditure at rest and various physical activities.
2. **Bioenergetics of exercise** : High energy phosphates, Anaerobic and aerobic ATP synthesis, Bioenergetics Control, exercise intensity & substrate utilization, protecting CHO stores, muscle adaptation to endurance training, processes that potentially limit the rate of fat oxidation, regulation of substrate utilization, training - induced increase in FFA oxidization:
3. Basal metabolic and resting metabolic rates and factors affecting them, Classification of Physical Activities by energy expenditure. Concept of MET , measurement of energy cost of exercise
4. **Respiratory responses to exercise:** Ventilation at Rest and during Exercise. Ventilation and the Anaerobic Threshold, static and dynamic lung volume. Gas diffusion, Oxygen and carbon dioxide transport second wind, control of pulmonary ventilation during exercise, adaptive changes in the respiratory systems due to regular physical activities.
5. **Cardiovascular responses to exercise-** Cardiovascular system and exercise, acute vascular effects of exercise , Circulatory responses to various types of exercise regulation of cardiovascular system during exercise , Pattern of redistribution of blood flow during exercise, adaptive responses of cardiovascular system to aerobic and anaerobic training. Athlete heart
6. **Exercise and Acid Base Balance:** Acid and Bases, Buffers, pH, Respiratory Regulation of pH, Alkali Reserve, The kidneys and Acid base balance, Alkalosis and Acidosis, Acid base balance following heavy exercise.
7. **Hormonal responses to exercise with respect to** Growth Hormone (GH), Thyroid and Parathyroid Hormones. Anti diuretic Hormone (ADH) and Aldosterone, Insulin and Glucagon, The catecholamine; epinephrine and norepinephrine. The sex hormones. The glucocorticoids (Cortisol) and Adreno Corticotrophin Hormones (ACTH). Prostaglandins and Endorphins.

8. Fatigue assessment and scientific organization of work-rest regimes to control fatigue

**9. Training and conditioning**:- Physiological basis of physical training , training principles , interval training , continues running concept of anaerobic threshold and vo2 max , physiological effects of various physical training methods,- aerobic and anaerobic training , strength training factors influencing training effects – intensity, frequency , duration , detraining, , process of recovery , post exercise oxygen consumption factors affecting recovery process , overtraining

**10. Body temperature regulation during exercise**: Mechanism of regulation of body temperature , Body temperature responses during exercise, Physiological responses to exercise in the heat , Acclimatization to exercise in the heat , Effects of age and gender on body temperature regulation during exercise, Physical activity and heat illness[heat exhaustion, dehydration exhaustion heat cramps & heat stroke] Prevention of Heat Disorders

**11. Exercise in the Cold**: Effects of exposure to cold and severe cold , Wind chill, Temperature receptors., Role of hypothalamus , shivering , Frost Bite and other problems, Clothing and Environment

**12. Exercise at Altitude**:- Exercise at altitude immediate physiological responses at high altitude , physiological basis of altitude training , phases of altitude training and specific training effects , altitude acclimatization , oxygen dissociation curve at altitude , disorders associated with altitude training

**13. Exercise and body fluids**:- Measurement and regulation of body fluids, Body fluid responses and adaptations to exercise, Effects of dehydration and fluid replenishment on physiological responses to exercise and performance Fluid/carbohydrate replacement beverages

**14. Physical activity, body composition, energy balance and weight control** :Considerations of age and sex in exercise and training, Significance and measurement of body composition, Body composition during growth and aging, Body composition and physical performance, Effect of diet and exercise on body composition, Physical activity, energy balance, nutrient balance and weight control, Physical activity, fat distribution and the metabolic syndrome , Healthy weight loss, Ways and methods of weight reduction , fluid maintenance, disordered

eating, nutritional ergogenic aids, diet supplements in athletes and others involved in physical activity.

15. Exercise prescription for health and fitness with special emphasis to cardiovascular disease, Obesity and Diabetes.
16. **Exercise and Diabetes Mellitus:** Exercise in insulin, requiring diabetes and non-insulin dependent diabetes mellitus, Effect of physical training on glucose tolerance and insulin sensitivity, Management of diabetes by diet and insulin
17. **Nutrition;** Metabolism of Carbohydrate , fats and proteins , vitamin, mineral and water
18. **Nutrition in exercise :** Optimum nutrition for exercise , nutrition for physical performance , pre game meal, Carbohydrate loading , food for various athletic events , fluid and energy replacement in prolonged exercise

**Books suggested**

1. Essentials of Exercise Physiology: Mc Ardle, WD, Katch, FI, and Katch, VL. 2nd edn, Lippincott Williams and Wilkins.
2. Fundamentals of Exercise Physiology: For Fitness Performance and Health, Robergs RA, and Roberts, S.O. McGraw Hill
3. Exercise Physiology: Powers, SK and Howley ET. 4th edn; Mc Graw Hill
4. Physiology of Sport and Exercise: Wilmore, JH and Costil, DL. Human Kinetics
5. Exercise Physiology- Human Bioenergetics and its Application: Brooks, GA, Fahey, TD, White, TP. Mayfield Publishing Company
6. Komi, P. , Strength and power in sport. Blackwell Scientific Publications.
7. Levick, J.R., An introduction to Cardiovascular Physiology. 2nd ed. Butterworth Heinemann
8. McArdle, WD, Katch, FI & Katch, VL, Exercise Physiology. 5th ed. Lippincott, Williams & Wilkins.
9. Shephard and Astrand, Endurance in sport. Blackwell Scientific Publications.
10. Willmore, JH & Costill, DL, Physiology of Sport and Exercise. 2nd ed. Human Kinetics.
11. Guyton, A.C. Textbook of Medical Physiology (7th Ed.). Philadelphia: Saunders
12. Perspectives in Nutrition (6<sup>th</sup> ed.), Wardlaw
13. Nutrition for sport and exercise (2<sup>nd</sup> ed.), Berning and Steen

# **MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**

## **SYLLABUS & SCHEME OF EXAMINATION FOR MPT 2ND/ FINAL YEAR** **SPORTS/ORTHOPAEDICS/NEUROLOGY/CARDIOTHORACIC, OBS.&GYNECOLOGY**

### **PAPER II: PHYSICAL DIAGNOSIS & REHABILITATION**

#### **SCHEME OF EXAMINATION**

**Theory Examination; Time: 3.00Hrs**

**Max. Marks: 100**

SUBJECT	Written	Practical	Viva	Total
Physical Diagnosis & Rehabilitation	100	100	50	250

#### **INSTRUCTION FOR THE PAPER SETTER**

The pattern of University theory examination will be as under for 100 Max. Marks.

No. & Type of Question	Marks for each question	Total Max. Marks
10 Very Short Answer Questions( <i>Answer to be given in 50-60 words</i> )	02	<b>20</b>
5 Short Answer Questions ( <i>Answer to be given in 250-300 words</i> )	10	<b>50</b>
2 Essay Type Questions ( <i>Answer to be given in 450-500 words</i> )	15	<b>30</b>
		<b>100</b>

**Section-A:** This will consist of 10 very short answer type questions with answer to each question upto five lines (Fifty to sixty words) in length . All questions will be compulsory to answer. Each question will carry two marks. Total weightage of the section shall be 20 marks.

**Section-B:** This will consist of short answer questions with answer to each question upto 2 pages (250-300 words) in length. Eight questions will be set by the examiner and five have to be answered by the candidate. Each question will carry 10 marks. Total weightage of the section shall be 50 marks.

**Section-C:** This will consist of essay type questions with answer to each question upto 5 pages (approx 500 words) in length. Four questions will be set by the examiner and two have to be answered by the candidate. Each question will carry 15 marks. Total weightage of the section shall be 30 marks.

**INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required words**



## **PAPER -II**

### **PHYSICAL DIAGNOSIS & REHABILITATION**

#### **Course objective**

1. Make clinical decision and plan for effective treatment.
2. Evaluate and analyze the physiological aspects of physical rehabilitation.
3. Identify and recognize the importance of monitoring vital signs.
4. Plan strategies for management of various musculoskeletal enological, cardio pulmonary problems and in various medical surgical conditions.

#### **COURSE CONTENTS:-**

##### **1. Clinical decision making-planning effective treatment**

Collection and documentation of data, Analysis of data and identifying the problems, setting of goals, Formulation and implementation of treatment plan including evaluation of treatment outcome, Clinical decision making models, Foundation for clinical decision making

##### **2. Overview of psychological aspects in physical Diagnosis & Evaluation**

Disability adjustment, Reaction to injury, subjectivity of disability and adjustment, stress in disease. Role theory, stages of adjustment, emotional complications and emotional functioning. Overview of psychological and social adjustment to illness

##### **3. Vital signs**

Identification of reasons for monitoring vital signs, Importance of monitoring vital signs, Common techniques of monitoring vital signs, identification and analysis of normal values with abnormal values.

##### **4. Overview of epidemiology, pathology, pathogenesis, disease course and common clinical**

**manifestations** of degenerative, infective, inflammatory and non specific arthritis of all joints. Investigative procedures commonly used in the evaluation of all kinds of arthritis of all kinds of arthritis including laboratory tests. Medical management of the individual with different types of arthritis and emphasizing the effects of drugs and invasive procedures on the musculoskeletal

system, the implications of them in various physiotherapy modalities. Physiotherapy management of all above conditions.

**5. Assessment and treatment planning strategies for musculoskeletal problems:** Principles of evaluation, evaluation methods, Special tests used in Musculoskeletal, Neurological and Cardiopulmonary disorders. Clinical manifestations, general and specific musculoskeletal clinical examination.

6. Activity analysis and incorporation of motor relearning strategies.

7. Principles of pathological investigations and imaging techniques related to neuromuscular, skeletal and cardiopulmonary disorders with interpretation.

6. Developmental screening, motor learning –motor control assessment.

7. Anthropometric measurements.

8. Methods of Kinetic and kinematic investigation for joints and gait. Gait analysis and diagnosis- Overview of normal gait analysis: kinetic and kinematic analysis; the reliability and validity of gait analysis; Description of some of the most commonly used types of observational gait analysis; Advantages and disadvantages of kinematic qualitative and kinematic quantitative gait analysis.

9. Physical disability evaluation and disability diagnosis.

10. Physical fitness assessment.

11. Pulmonary function tests.

12. Exercise ECG testing and monitoring.

13. Clinical Electro Physiological testing.

14. Aids and appliances, adaptive functional devices – assessment.

**15. Treatment goals and Rehabilitation strategies**

Gait training; Pre ambulation programme ; assistive devices and gait patterns.

Evaluation and management of amputee; overview of amputation surgery which includes concepts pre operative , post operative, pre fitting ,post fitting physiotherapy. Prosthetic assessment and management , components of below knee, above knee prostheses,

advantages and disadvantages of alternative component and materials , features of partial foot, symes , knee and hip disarticulation prostheses; principles and features of prosthetic assessment including dynamic and static check out of prostheses.

#### **16. Orthotic evaluation and management**

Types of orthosis ; footwear modification, lower limb orthosis, components, check out. Spinal orthosis; types and components, Physiotherapy management including orthotic gait analysis and gait training.

Wheelchair ; components of wheel chair measurement for wheel chair ,features of sports wheel chair.

Protective equipments design of shoe safety factors in equipment.

#### **17. Bio-feed Back:-**

Principles of bio-feed back in physiotherapy.

Electromyographic feed-back for motor relearning.

Equipment and technical specifications - Kinematic feed back ; standing feed back ; kinetic feed back ; new concepts of bio- feed back.

#### **18. Overview of advances in surgical procedures.**

Evaluation , assessment and treatment planning strategies for traumatic and surgical problems.

19. Sensory evaluation and assessment ; purpose of sensory evaluation and assessment , classification and function of receptor mechanism, involving the perception of sensation , identification of spinal pathways that mediate sensation ,guidelines for completing sensory evaluation, description for testing protocol for assessment of each sensory modality.

20. Coordination evaluation and assessment; Purpose, common coordination deficits associated with lesions of cerebellum, basal ganglia and dorsal columns. Testing procedure; non – equilibrium coordination test; equilibrium coordination tests.

21. Motor control assessment; purposes and components, identification and description of CNS controls mechanism associated with motor control mechanism ,description of Common motor

control defects with specific procedures and tests used to assess motor Control defects , the factors which influence the result of motor control assessment.

## 22. **Electrodiagnosis** :-

EMG studies and nerve conduction velocity test; instrument, methodology for performing EMG and NCV examination

The characteristics of normal muscle potential , typical EMG and NCV finding seen neuro muscular disorders , their treatment strategies in physiotherapy based on clinical EMG finding. Relation between EMG and force with different types of contraction .

Interpretations of EMG correlating the procedural, technical and physiological considerations; the uses of kinesiological EMG for clinical evaluation and treatment of patients with neuro muscular or musculoskeletal dysfunction.

23. Functional evaluation ; The concept of health status impairment; functional limitation; disability and handicap; definition of functional activity and the purposes and components of the functional assessment ; selection of activity and roles for an individual based on his or her capabilities and functional limitation, various forms of functional tests; physical function test and multi dimensional functional assessment instrument ,identification of instrument for testing function ; various scoring methods used in functional assessment ;reliability and validity of various functional assessment.

24. Stroke(Physical) Rehabilitation ;overview of etiology pathophysiology , symptomatology and sequelae of stroke ; various investigative procedures including MRI ,CT scan for diagnostic and evaluation of stroke medical management and effects of drugs on neuro muscular system .physical evaluation and assessment of stroke on the basis of various approaches –Neuro developmental ,Brunstrom ,Roods and Motor relearning programme ; strategies for effective physiotherapeutic management during acute and post acute phase.

25. Physical rehabilitation of multiple sclerosis ; overview of pathology ,epidemiology etiology ,course and clinical symptoms of multiple sclerosis, diagnostic evaluative procedures. Rehabilitative management of patients with multiple sclerosis with emphasis on the role and contribution of physiotherapists in the long term management.

26. Traumatic head injury; Pathophysiology of traumatic head injury; clinical rating scale and their usefulness, investigative procedures including CT scan and MRI, medical surgical management and the effects of various drugs on neuromuscular system; physiotherapy management during acute stage, physiotherapy evaluation and treatment planning with due consideration of patients cognitive status; components of physiotherapy assessment; the role of physiotherapy-intervention as inter/intra disciplinary team approach.

27. Pulmonary dysfunction and physiotherapy; Overview of chronic obstructive pulmonary diseases ,asthma, cystic fibrosis and restrictive lung diseases in terms of definition ,biology, pathophysiology ,epidemiology ,investigations including lung function test and x-ray ;medical/surgical management in various stages and effects of drugs used on various stages and effects of drugs used on patients with pulmonary disease; identification of problems ,potential benefits and goals of pulmonary physiotherapy; various physiotherapy management of a patients with pulmonary dysfunction.

28. Cardiac condition and physiotherapy ; overview of epidemiology ,pathophysiology , symptomatology and sequel of coronary artery disease and congenital and other acquired heart diseases; diagnostic and evaluative procedures commonly associated with above diseases; physiotherapy evaluation and management of above conditions

29. Vascular problems and physiotherapy; overview of vascular problems its interventions ,evaluation and medical management ; physiotherapy management in acute and chronic stages.

30. Burns and physical rehabilitation:- Overview of causes, percentage, types of burns , evaluation and medical management, physiotherapy management in acute and chronic stages.

**Suggested Text book:-**

1. Treatment Planning for Person-Centered Care: Shared Decision Making for Whole Health (Hardcover, Diane M Grieder Neal Adams MD Grieder Adams)- AP Publication
2. Psychiatric Care of the Medical Patient, Barry S. Fogel , Donna B. Greenberg
3. Occupational Therapy and Neurological Conditions, Jenny Preston, Judi Edmans
4. Psychological Co-morbidities of Physical Illness: A Behavioral Medicine Perspective- Sherry Pagoto, Springer
5. Vital Signs, Robin Cook-Latest edition
6. Contributions to the Physiology and Pathology of the Circulation of the Blood, George Robinson
7. Problem Solving in Musculoskeletal Imaging, William B. Morrison ,Timothy G. Sanders- Kindle

8. Orthopedic Physical Assessment, 6e (Musculoskeletal Rehabilitation), David J. Magee PhD BPT
- 9 . Therapeutic Exercise: Foundations and Techniques, Carolyn Kisner (Author), Lynn Allen Colby,
11. Physical Rehabilitation,6th Edition-Susan B. O'Sullivan PT, EdD Thomas J. Schmitz PT, PhD  
George Fulk PT, PhD – FA Davis
12. Improving Functional Outcomes in Physical Rehabilitation, Susan B O'Sullivan , Thomas J Schmitz.
13. Physical Agents in Rehabilitation: From Research to Practice, Cameron.
14. Neurologic Interventions for Physical Therapy, Martin.
15. Daniels and Worthingham's Muscle Testing: Techniques of Manual Examination and Performance Testing, 9e- Helen Hislop PhD ScD FAPTA, Dale Avers PT DPT PhD
16. Documentation for Physical Therapist Practice: A Clinical Decision Making Approach- Jacqueline A. Osborne
17. Pierson and Fairchild's Principles & Techniques of Patient Care, Fairchild
18. Measurement of Joint Motion: A Guide to Goniometry, Cynthia C. Norkin, Joyce White
- 19.Orthotic Management-Géza F. Kogler- Springer
20. Motor Control: Translating Research into Clinical Practice, Anne Shumway-Cook, Marjorie H. Woollacott
21. Physical Medicine and Rehabilitation Digest
22. Physiotherapy of the Shoulder- PP Mohanty, Monalisa Pattnaik, Jay Pee Publication, New Delhi- Latest edition
23. Physiotherapy in Neuroconditions- Glady Samuel Raj, Jay Pee Publication, New Delhi- Latest edition
24. Clinical Kinesiology and Anatomy- Lynn S Lippert
25. Orthopaedic Manual Physical Therapy: From Art to Evidence- Christopher H Wise
26. Essentials of Cardiopulmonary Physical Therapy- Ellen Hillegass
27. Observational Gait Analysis-
28. Meeting the Physical Therapy Needs of Children, Susan K. Effgen
29. Total Burn Care (Fourth Edition)- Elsevier
30. Burn Care and Rehabilitation: Principles and Practice , Reginald Richard, Marlys Staley  
F.A. Davis

**MADHYAPRADESH MEDICAL  
SCIENCE UNIVERSITY, JABALPUR-  
M.P. (India)**

SYLLABUS & SCHEME OF EXAMINATION FOR  
**MPT– 2<sup>ND</sup> YEAR**

**(ELECTIVE: SPORTS)**

**MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**

**SYLLABUS & SCHEME OF EXAMINATION FOR MPT 2ND/ FINAL YEAR SPORTS**

**ELECTIVE -I**

**PAPER III: SPORTS PHYSIOTHERAPY**

**SCHEME OF EXAMINATION**

**Theory Examination; Time: 3.00Hrs**

**Max. Marks: 100**

SUBJECT	Written	Practical	Viva	Total
Elective-I : ( <u>SPORTS PHYSIOTHERAPY</u> )	100	100	50	250

**INSTRUCTION FOR THE PAPER SETTER**

The pattern of University theory examination will be as under for 100 Max. Marks.

No. & Type of Question	Marks for each question	Total Max. Marks
10 Very Short Answer Questions ( <i>Answer to be given in 50-60 words</i> )	02	<b>20</b>
5 Short Answer Questions ( <i>Answer to be given in 250-300 words</i> )	10	<b>50</b>
2 Essay Type Questions ( <i>Answer to be given in 450-500 words</i> )	15	<b>30</b>
		<b>100</b>

**Section-A:** This will consist of 10 very short answer type questions with answer to each question upto five lines (Fifty to sixty words) in length . All questions will be compulsory to answer. Each question will carry two marks. Total weightage of the section shall be 20 marks.

**Section-B:** This will consist of short answer questions with answer to each question upto 2 pages (250-300 words) in length. Eight questions will be set by the examiner and five have to be answered by the candidate. Each question will carry 10 marks. Total weightage of the section shall be 50 marks.

**Section-C:** This will consist of essay type questions with answer to each question upto 5 pages (approx 500 words) in length. Four questions will be set by the examiner and two have to be answered by the candidate. Each question will carry 15 marks. Total weightage of the section shall be 30 marks.

**INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required words**



**PAPER- III**

**SPORTS PHYSIOTHERAPY**

**SYLLABUS CONTENTS**

**1) ASSESSMENT AND EVALUATION IN SPORTS INJURIES**

- A. Importance of assessment & evaluation, Principles and Methods of evaluation
- B. Clinical Examination , Investigative Procedures and documentation of sports injuries
- C. Causes & Mechanism of Sports Injuries
- D. Prevention of Sports injuries
- E. Principle of management of sports injuries
- F. Evaluation of Physical Fitness

(i) Assessment of components of physical fitness including functional tests: muscle strength, flexibility, agility, balance, co-ordination, sensory deficits, cardio-pulmonary endurance

(ii) Sports-Specific evaluation and criteria for return to sport

**G. Lower Limb & Upper limb Examination**

(i) Examination of lower limb ,Common acute and overuse injuries of lower Extremity (with respect to causation, prevention and management) of: Pelvis, Hip, Thigh, Knee, Leg , Ankle and Foot

(ii) Examination of Upper Extremity, Common acute and overuse injuries of upper extremities (with respect to causation, prevention and management) of shoulder girdle, Arm, Elbow &Forearm, Wrist and hand

(iii) Assessment of vertebral column: Cervical, Thoracic, Lumbosacral including Tests of Neural Tension.

**2) COMMON SPORTS INJURIES OF SPINE WITH RESPECT TO CAUSATION, PREVENTION AND MANAGEMENT**

- A. Kinanthropometric evaluation and Physical Fitness Evaluation and Preparticipation evaluation in Sports
- B. Sports specific injuries, with special emphasis on the specific risk factor, nature of Sports, kind of medical intervention anticipated and prevention with respect to various sporting events

- (i) Individual events: Field & Track
  - (ii) Team events: Hockey, Cricket, and Football
  - (iii) Contact and Non-contact sports
  - (iv) Water sports
- C. Sporting emergencies & first aid
- (i) Head and neck
  - (ii) Face
  - (iii) Abdominal injuries
- D. Cardio pulmonary Resuscitation; Shock management, Internal and External Bleeding, Splinting, Stretcher use-Handling and transfer
- E. Management of Cardiac Arrest, acute asthma, epilepsy, drowning, burn
- F. Medical management of Mass Participation
- G. Heat stroke and Heat illness.
- H. Training Methods to Improve Aerobic Performance and Anaerobic Performance
- I. Principles of Treatment; Sports physical preparation tasks- developing speed, agility, coordination etc. Strengthening exercises- circuit training, Plyometric exercises, Reaction drills and Development of speed. Functional Bandaging, Bracing, orthotic aids and Taping including Kinesiotaping, Sports massage.

### 3) **NON – TRAUMATIC MEDICAL CONDITIONS OF ATHLETE**

- A. Illness, Hypertension, Urine abnormalities, Exercise Induced Asthma, Anemia
- B. Delayed onset muscle soreness (DOMS), Runner's high & Exercise addiction.
- C. G.I.T. Diseases
- D. Exercises and congestive heart failure, Exercise for Post coronary & by pass patients
- E. Exercise for diabetics
- F. Diagnosis and management of skin conditions of Athletes
- G. Bacterial infections, Fungal Infections, Viral infections, Boils, Cellulites.

#### **4) FEMALE SPECIFIC PROBLEMS**

Sports Amenorrhea. Injury to female reproductive tract, Menstrual Synchrony. Sex determination, Exercise and pregnancy, Eating disorders in athletes.

##### **Books suggested**

1. Morris B. Mellion: Office Sports Medicine, Hanley & Belfus.
2. Richard B. Birrer: Sports Medicine for the primary care Physician, CRC Press.
3. Torg, Welsh & Shephard: Current Therapy in Sports Medicine III - Mosby.
4. Zulunga et al: Sports Physiotherapy, W.B. Saunders.
5. Brukner and Khan: Clinical Sports Medicine, McGraw Hill.
6. Reed: Sports Injuries – Assessment and Rehabilitation, W.B. Saunders.
7. Gould: Orthopaedic Sports Physical Therapy, Mosby.
8. C. Norris: Sports Injuries – Diagnosis and Management for Physiotherapists, Heinmann.
9. D. Kulund: The Injured Athlete, Lippincott.
10. Nicholas Hershman: Vol. I The Upper Extremity in Sports Medicine. Vol. II The Lower Extremity and Spine in Sports Medicine. Vol. III The Lower Extremity and Spine in Sports Medicine. Mosby.
11. Lee & Dress: Orthopaedic Sports Medicine - W.B Saunders.
12. K. Park: Preventive and Social Medicine - Banarsi Dass Bhanot - Jabalpur.
13. Fu and Stone: Sports Injuries: Mechanism, Prevention and Treatment, Williams and Wilkins.
14. Scuderi, McCann, Bruno: Sports Medicine – Principles of Primary Care, Mosby.
15. Lars Peterson and Per Renstron: Sports Injuries – Their prevention and treatment, Dunitz.

**MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**

**SYLLABUS & SCHEME OF EXAMINATION FOR MPT 2ND/ FINAL YEAR SPORTS**

**ELECTIVE –II**

**PAPER IV:ADVANCED PHYSIOTHERAPEUTIC IN SPORTS PHYSIOTHERAPY**

**SCHEME OF EXAMINATION**

**Theory Examination; Time : 3.00Hrs**

**Max. Marks: 100**

SUBJECT	Written	Practical	Viva	Total
Elective-II (ADVANCED PHYSIOTHERAPEUTIC IN SPORTS PHYSIOTHERAPY)	100	--	--	100

**INSTRUCTION FOR THE PAPER SETTER**

The pattern of University theory examination will be as under for 100 Max. Marks.

No. & Type of Question	Marks for each question	Total Max. Marks
10 Very Short Answer Questions ( <i>Answer to be given in 50-60 words</i> )	02	<b>20</b>
5 Short Answer Questions ( <i>Answer to be given in 250-300 words</i> )	10	<b>50</b>
2 Essay Type Questions ( <i>Answer to be given in 450-500 words</i> )	15	<b>30</b>
		<b>100</b>

**Section-A:** This will consist of 10 very short answer type questions with answer to each question upto five lines (Fifty to sixty words) in length . All questions will be compulsory to answer. Each question will carry two marks. Total weightage of the section shall be 20 marks.

**Section-B:** This will consist of short answer questions with answer to each question upto 2 pages (250-300 words) in length. Eight questions will be set by the examiner and five have to be answered by the candidate. Each question will carry 10 marks. Total weightage of the section shall be 50 marks.

**Section-C:** This will consist of essay type questions with answer to each question upto 5 pages (approx 500 words) in length. Four questions will be set by the examiner and two have to be answered by the candidate. Each question will carry 15 marks. Total weightage of the section shall be 30 marks.

**INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required words**

## **PAPER- IV**

### **ADVANCED PHYSIOTHERAPEUTIC IN SPORTS PHYSIOTHERAPY**

#### **SYLLABUS CONTENTS**

##### **1) SPORTS PSYCHOLOGY**

- A. Attention and perception in sports, Aggression in sports.
- B. Concentration training in sports.
  - (i) Basic principles of concentration
  - (ii) Concentration training
  - (iii) Concentration awareness exercises
- C. Motivational orientation in sports and Motivational techniques
- D. Pre-competitive anxiety And Effect of PCA on performance
- E. Relaxation Training. Progressive muscle relaxation, Breathing , yog-nidra, transcendental meditations
- F. Role of Psychology in Dealing with injuries, Goal setting, Biofeedback training, Mental imagery, Stress management

##### **2) BODY COMPOSITION & WEIGHT CONTROL:**

- A. Composition of human body, Somatotyping- Sheldon's method
- B. Techniques of body composition analysis, Obesity
- C. Health risks of obesity and Weight control.

##### **3) OTHER IMPORTANT SPORTS MEDICINE ASPECTS**

- A. Exercise and Common Pulmonary Conditions *and* Exercise and Cardiac Conditions
- B. Diabetes and Exercise
- C. Protective equipments design of shoe safety factors in equipment.
- D. Special concerns for handicapped athletes
- E. Disability sports, Paralympics
- F. Exercises for special categories
  - (i) Child and adolescent athlete's problems
  - (ii) Special problems of older athletes
  - (iii) Sports and exercise programme for geriatrics and rheumatic population
- G. Doping in Sports and IOC prohibited drugs- groups and classifications

##### **4) IDENTIFICATION OF TALENT FOR SPORTS –**

- (i) Detailed procedure for screening and identification of sports talent
- (ii) Prediction of adult potentials at the young age.

##### **5) TECHNIQUES OF MODERN MANUAL MEDICINE:**

Manual Therapy in Sports - Maitland, Mulligan, Mckenzie, Cyriax including High Velocity Thrust techniques, Neuromuscular Training and Applications of Kinetic control, Neurodynamics, Myofascial Release, Positional Release Techniques, Neuromuscular

Techniques, Muscle Energy Techniques, Dry Needling, Cryokinetics and Cryo stretching, Cupping Therapy

**6) ADVANCED ELECTROTHERAPY:**

Phonophoresis, Iontophoresis, High Voltage Pulsed Galvanic Stimulation, Microcurrents, Diadynamic currents, Functional Electrical Stimulation, Classification of Therapeutic Lasers, Applications of Class 3B laser and High Power Therapeutic Laser ( Class IV), Shockwave Therapy, Pneumatic compression Therapy and various Combination Therapies

**Books suggested :-**

1. Introducing Sport Psychology: A Practical Guide, Arnold LeUnes; Kindle Edition
2. The Invisible Game: Mindset of a Winning Team, Zoltan Andrejkovics (Goodreads Author)
3. Doing Sport Psychology; Mark B. Andersen
4. Obesity: A Multidisciplinary Approach, 1e (Clinics Collections), Joel J. Heidelbaugh
5. Richard B. Birrer: Sports Medicine for the primary care Physician, CRC Press
6. Zulunga et al: Sports Physiotherapy, W.B. Saunders
7. Brukner and Khan: Clinical Sports Medicine, McGraw Hill
8. Gould: Orthopaedic Sports Physical Therapy, Mosby
9. Maitland's Vertebral Manipulation- 8th Edition, Management of Neuromusculoskeletal Disorders - Volume 1; Editors: Elly Hengeveld Kevin Banks: Churchill Livingstone
10. Peripheral Manipulation, G. D. Maitland: Butterworths
11. MANUAL OF MULLIGAN CONCEPT (REVISED EDITION): DR DEEPAK KUMAR FIAP CMP PhD MCTA
12. Mobilisation with Movement: The Art and the Science Paperback – Vicenzino (Author)
13. The Mulligan Concept of Manual Therapy: Textbook of Techniques, 1e : Wayne Hing PhD MSc(Hons) ADP(OMT) DipMT Dip Phys FNZCP (Author), & 4 More
14. The Lumbar Spine: Mechanical Diagnosis and Therapy (Volume 1): Robin McKenzie and Stephen May
15. Treat Your Own Back: Robin McKenzie
16. Treat Your Own Neck : Robin McKenzie
17. Treat Your Own Knee: Robin McKenzie and Melany Joy Beck
18. Treat Your Own Shoulder : Robin McKenzie
19. The Human Extremities: Mechanical Diagnosis and Therapy: Robin McKenzie and Stephen
20. Illustrated Manual of Orthopaedic Medicine : James H. Cyriax and P. J. Cyriax
21. Textbook of Orthopaedic Medicine: Diagnosis of Soft Tissues Lesions v. 1 : James H. Cyriax
22. Manipulation: Past and Present : Eiler H. Schiotz and James H. Cyriax
23. Cyriax's Illustrated Manual of Orthopaedic Medicine : James H. Cyriax MD MRCP and P. J. Cyriax MCSP
24. Clinical Neurodynamics: A New System of Neuromusculoskeletal Treatment : Shacklock

25. Neurodynamic Techniques : NOI Group and David Butler PT
26. Dutton's Orthopaedic Examination Evaluation And Intervention,With DVD: Mark Dutton
27. Dry Needling for Manual Therapists: Points, Techniques and Treatments, Including Electroacupuncture and Advanced Tendon Techniques : Giles Gyer and Jimmy Michael
28. The Concise Book of Dry Needling: A Practitioner's Guide to Myofascial Trigger Point Applications: John Sharkey
29. Trigger Point Dry Needling: An Evidence and Clinical-Based Approach : Dommerholt
30. Manual of Dry Needling Techniques: Volume 1 (Upper & Lower Quarter), PIYUSH JAIN
31. Myofascial Release (Hands-on Guides for Therapists); Ruth Duncan
32. The Myofascial Release Manual: Carol J. Manheim
33. Fascial Release for Structural Balance, Revised Edition: James Earls and Thomas Myers
34. Positional Release Techniques with on-line videos (Advanced Soft Tissue Techniques): Chaitow
35. Modern Neuromuscular Techniques with DVD (Advanced Soft Tissue Techniques); Chaitow
36. Clinical Application of Neuromuscular Techniques: The Lower Body - Vol. 2; Chaitow
37. Muscle Energy Techniques: A Practical Handbook for Physical Therapists; John Gibbons and Amanda Williams
38. Muscle Energy Techniques with Videos (Advanced Soft Tissue Techniques); Chaitow
39. Cryotherapy in Sport Injury Management: Kenneth Knight, VHS Tape
40. The Basics of Dry Cupping: Beginners Guide on the Benefits of Dry Cupping With a Simple How-to Guide: Volume 1 (Cupping Therapy); Mary Conrad
41. Traditional Chinese Medicine Cupping Therapy : Chirali
42. Cupping Therapy: An Essential Guide to Cupping Therapy, How it Works, and Its Benefits ( Suction Cup Therapy | Chinese Cupping | Bekam | Hijama | Ventosa ): Anada Priso
43. Transdermal and Intradermal Delivery of Therapeutic Agents: Application of Physical Technologies ; Ajay K Banga
44. Physical Agents in Rehabilitation: From Research to Practice: Cameron
45. Electrotherapy: Evidence based practice: Shiela kitchen
46. "MANUAL THERAPY OF THE PELVIC COMPLEX, A compendium of illustrated manual therapy techniques". MTFI Healthcare Publications. Published year 2010.-MTFI
47. Physiotherapy of the Shoulder Author: PP Mohanty,PhD Monalisa Pattnaik,MPT
48. Managing Common Musculoskeletal Conditions by Physiotherapy and Yoga; Mohanty P.P. Pattnaik Monalisa Published by Jaypee Brothers Medical Publishers (P) Ltd.
49. Textbook Of Electrotherapy Paperback – 2012by Jagmohan Singh (Author)
50. Electrotherapy Simplified Author: Basanta Kumar Nanda,BPT (Hons) MPT

**MADHYAPRADESH MEDICAL  
SCIENCE UNIVERSITY, JABALPUR-  
M.P. (India)**

SYLLABUS & SCHEME OF EXAMINATION FOR  
**MPT– 2<sup>ND</sup> YEAR**

**(ELECTIVE: ORTHOPAEDICS)**



**MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**  
**SYLLABUS & SCHEME OF EXAMINATION FOR MPT 2ND/ FINAL YEAR**  
**ORTHOPAEDICS**

**ELECTIVE –I**

**PAPER III: ORTHOPAEDIC PHYSIOTHERAPY**

**SCHEME OF EXAMINATION**

**Theory Examination; Time: 3.00Hrs**

**Max. Marks: 100**

SUBJECT	Written	Practical	Viva	Total
Elective-I : (ORTHOPAEDIC PHYSIOTHERAPY )	100	100	50	250

**INSTRUCTION FOR THE PAPER SETTER**

The pattern of University theory examination will be as under for 100 Max. Marks.

No. & Type of Question	Marks for each question	Total Max. Marks
10 Very Short Answer Questions ( <i>Answer to be given in 50-60 words</i> )	02	<b>20</b>
5 Short Answer Questions ( <i>Answer to be given in 250-300 words</i> )	10	<b>50</b>
2 Essay Type Questions ( <i>Answer to be given in 450-500 words</i> )	15	<b>30</b>
		<b>100</b>

**Section-A:** This will consist of 10 very short answer type questions with answer to each question upto five lines (Fifty to sixty words) in length . All questions will be compulsory to answer. Each question will carry two marks. Total weightage of the section shall be 20 marks.

**Section-B:** This will consist of short answer questions with answer to each question upto 2 pages (250-300 words) in length. Eight questions will be set by the examiner and five have to be answered by the candidate. Each question will carry 10 marks. Total weightage of the section shall be 50 marks.

**Section-C:** This will consist of essay type questions with answer to each question upto 5 pages (approx 500 words) in length. Four questions will be set by the examiner and two have to be answered by the candidate. Each question will carry 15 marks. Total weightage of the section shall be 30 marks.

**INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required words**

## **PAPER- III**

### **ORTHOPAEDIC PHYSIOTHERAPY**

#### **Objective:**

On completion of the study of this subject the student should be able to correlate the clinical manifestations to the organ of dysfunction of the musculoskeletal system.

To understand the Conservative, Surgical, physiotherapy & management of the musculoskeletal conditions as relevant to physiotherapy.

#### **SYLLABUS CONTENTS:-**

Introduction, epidemiology of disease pattern, Pathophysiology, Clinical presentation, conservative management, physiotherapy assessment, physiotherapy management & complications of the following clinical conditions-

#### **A. General Musculoskeletal Disorders**

1. Congenital malformations: Lower Limb, Upper limb, Spine
2. Rheumatic disorders: Rheumatoid arthritis, Ankylosis Spondylosis, Reiter's disease, Polymyalgia rheumatic
3. Infections of musculoskeletal system: Acute and Chronic
4. Metabolic and endocrine disorder: Calcium metabolism, Osteoporosis, Osteomalacia and rickets, hyper parathyrodism
5. Tumors of the musculoskeletal system: Benign and Malignant
6. Neuromuscular disorders: Poliomyelitis, Arthrogryposis Multiplex Congenita, Muscular dystrophy

#### **B. REGIONAL ORTHOPEADICS**

1. The shoulder: Rotator cuff lesions, Shoulder Instability, Rheumatoid disease of shoulder, tuberculosis
2. The Elbow: Tennis elbow, Golfer's elbow, Myositis ossificans
3. The Wrist: Carpal tunnel syndrome, Ganglion, Wrist instabilities and special tests

4. The Hand: Peripheral nerve injuries, Tendon lesions and transfer surgeries, Deformity in rheumatoid arthritis, peripheral nerve injuries,
5. Cervical Spine: Discogenic pain, Whiplash injuries, Thoracic outlet syndrome, Brachial plexus injury and plexopathies, torticollis and wry neck in pathologies
6. Back: Intervertebral disc, Discogenic pain, Spondylolysis & listhesis, Scoliosis & kyphosis, Tuberculosis, Musculoskeletal causes of low back pain
7. The hip: Avascular necrosis of femoral head, Osteoarthritis, Principles of Total Hip Replacement (THR)
8. Knee: Osteoarthritis, Meniscal / ligament injuries, Genu valgum / varum, Principles of Total Knee Replacement (TKR)
9. Ankle and foot: Metatarsalgia, Flat foot, Tarsus foot, Hallux valgus, CTEV, ankle sprains
10. Fractures and joint injuries: Principles of acute fracture care
11. Conservative management of the following:  
Pediatric fractures, Injuries of shoulder, upper arm and elbow, forearm and wrist, Spine, Pelvis, Hip and Femur, Knee, Leg, Injuries of ankle and foot

### **C. Hand Rehabilitation**

1. Functions of Hand as motor and sensory organ with advanced bio and pathomechanics of hand.
2. Hand injuries-classification.
3. Principles of rehabilitation of hand injuries including functional and vocational training.
4. Tendon Injuries.
5. Nerve injuries.
6. Crush Injuries.
7. Burn in hand.

8. Spastic hand.
9. Rheumatoid Hand.
10. Hand in Hansen's disease.
11. Reflex sympathetic dystrophy
12. Phantom hand pain
13. Prosthetic hand.
14. Orthosis for hand and their uses.

**Suggested Books:-**

1. Systems of Orthopedics – Apleys – Butterworth Heinmann.
2. Outline of Orthopedics – Adams – Churchill Livingstone.
3. Outline of Fractures – Adams – Churchill Livingstone.
4. Tureks – Orthopedics – Weinsteil & Buckwalter – Lippincott Publications.
5. Essential of Orthopaedic for Physiotherapist by Ehbezar
6. Cash's TB for Ortho and rheumatology for physiotherapist by Downie
7. Muscle Testing by Hislop Daniel and Wortuingham
8. Physical Medicine and Rehabilitation Secrets by O'Young
9. Principles and Practice of orthopedics and sports medicine by Garret
10. Orthopaedic rehabilitation by Brokmen
11. Treatment and rehabilitation fractures by Hoppenfield
12. Rehabilitation Medicine by Delisa
13. Essentials of Physical Medicine and Rehabilitation by Silver
14. Recent advances in Orthopaedic
15. Musculoskeletal Trauma
16. Textbook of Orthopaedic & Trauma
17. Campbell's Orthopaedic surgery
18. Watson Jones fracture join & injuries
19. Management Principles for Physiotherapist by Nosse, Lorry J
20. Physical therapy of the low back by Twomey, Churchill, Livingstone, London
21. Myofascial and pain dysfunction by Travell, Villimans and Wilkins, Baltimore
22. Orthopaedic Physical therapy by Donatteli, London Churchill Livingstone London
23. Vertebral Manipulation by Matiland G.D. Boston, Butterworth & Co. Boston
24. Peripheral Manipulation Matiland G.D. Boston, Butterworth & Co. Boston
25. Gait Analysis by Perry J., Black Thorofare, New Jersey
26. Bio – Feedback by A practitioner's guide – Kerb D., Guiford Press
27. Cash's Textbook for Ortho and Rheumatology for physiotherapist by Downie
28. Practical exercise therapy by Hollis
29. Orthopaedic Rehabilitation by Brokman
30. Essential for Physical Medicine and Rehabilitation

**MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**

**SYLLABUS & SCHEME OF EXAMINATION FOR MPT 2ND/ FINAL YEAR**

**ORTHOPAEDICS**

**ELECTIVE -II**

**PAPER IV: ADVANCED PHYSIOTHERAPEUTIC IN ORTHOPAEDIC  
PHYSIOTHERAPY**

**SCHEME OF EXAMINATION**

**Theory Examination; Time: 3.00Hrs**

**Max. Marks: 100**

SUBJECT	Written	Practical	Viva	Total
Elective-II (ADVANCED PHYSIOTHERAPEUTIC IN ORTHOPAEDIC PHYSIOTHERAPY)	100	--	--	100

**INSTRUCTION FOR THE PAPER SETTER**

The pattern of University theory examination will be as under for 100 Max. Marks.

No. & Type of Question	Marks for each question	Total Max. Marks
10 Very Short Answer Questions ( <i>Answer to be given in 50-60 words</i> )	02	<b>20</b>
5 Short Answer Questions ( <i>Answer to be given in 250-300 words</i> )	10	<b>50</b>
2 Essay Type Questions ( <i>Answer to be given in 450-500 words</i> )	15	<b>30</b>
		<b>100</b>

**Section-A:** This will consist of 10 very short answer type questions with answer to each question upto five lines (Fifty to sixty words) in length . All questions will be compulsory to answer. Each question will carry two marks. Total weightage of the section shall be 20 marks.

**Section-B:** This will consist of short answer questions with answer to each question upto 2 pages (250-300 words) in length. Eight questions will be set by the examiner and five have to be answered by the candidate. Each question will carry 10 marks. Total weightage of the section shall be 50 marks.

**Section-C:** This will consist of essay type questions with answer to each question upto 5 pages (approx 500 words) in length. Four questions will be set by the examiner and two have to be answered by the candidate. Each question will carry 15 marks. Total weightage of the section shall be 30 marks.

**INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required words**

## **PAPER- IV**

### **ADVANCED PHYSIOTHERAPEUTIC IN ORTHOPAEDIC PHYSIOTHERAPY**

#### **Objective:**

On completion of the study of this subject the student should be able to correlate the clinical manifestations to the organ of dysfunction of the musculoskeletal system.

To understand the Conservative, Surgical, physiotherapy & management of the musculoskeletal conditions as relevant to physiotherapy.

#### **SYLLABUS CONTENTS:-**

##### **A. Orientation and General Principles of Orthopaedic surgery-**

1. Arthrodesis
2. Osteotomy
3. Arthroplasty
4. Bone grafting
5. Internal and external fixations
6. Distraction and limb reconstruction
7. Correction of bone deformities and contractures
8. Tendon transfers
9. Nerve suturing and grafting.
10. Operations on joints
11. Meniscectomy, laminectomy, patellectomy
12. Knee and hip replacement surgeries
13. Malformations of spine & spinal cord
14. Surgeries for disc disorders
15. Amputations for upper and lower extremities.
16. Surgical management of fractures & other injuries
17. Orthopedic implants- designs, materials, indications, post operative

## **B. Musculoskeletal Physiotherapy Management-**

1. Physiotherapy management for the conditions covered in the subject musculoskeletal Disorders

2. Advanced physiotherapy Treatment approaches

- **TECHNIQUES OF MODERN MANUAL MEDICINE:**

Manual Therapy - Maitland, Mulligan, Mckenzie, Cyriax including High Velocity Thrust techniques, Neuromuscular Training and Applications of Kinetic control, NeuroDynamics, Myofascial Release, Positional Release Techniques, Neuromuscular Techniques, Muscle Energy Techniques, Dry Needling, Cryokinetics and Cryo stretching, Cupping Therapy

- Combined movement therapy
- Muscle energy techniques and its applications
- Positional release techniques
- Myofascial release
- Trigger point therapy
- Group exercises
- Physiotherapy in home setting and use of assistive aids
- External aids, appliances, and adaptive self-help devices:
- Prescription, biomechanics, checkout and training.
- Community based rehabilitation in musculoskeletal disorders.
- Gait Training
- Biofeedback
- Hydrotherapy
- Role of splints in Physiotherapy
- Relaxation Techniques
- Wheelchair prescription and advanced skills
- Transfer techniques

### C. ADVANCED ELECTROTHERAPY:

Phonophoresis, Ionotophoresis, High Voltage Pulsed Galvanic Stimulation, Microcurrents, Diadynamic currents, Functional Electrical Stimulation, Classification of Therapeutic Lasers, Applications of Class 3B laser and High Power Therapeutic Laser ( Class IV), Shockwave Therapy, Pneumatic compression Therapy and various Combination Therapies

#### **Suggested Books:-**

1. Cash' s TB for Ortho and rheumatology for physiotherapist by Downie
2. Treatment and rehabilitation fractures by Hoppenfield
3. Campbell's Orthopaedic surgery
4. Cash'TB for Ortho and rheumatology for physiotherapist by Downie
5. Orthopaedic Physical therapy by Donatteli, London Churchill Livingstone
6. Myofascial and pain dysfunction by Travell, Villimans and Wilkins, Baltimore
7. Gait Analysis by Perry J., Black Thorofare, New Jersey
8. Gould: Orthopaedic Sports Physical Therapy, Mosby
9. Maitland's Vertebral Manipulation- 8th Edition, Management of Neuromusculoskeletal Disorders - Volume 1; Editors: Elly Hengeveld Kevin Banks: Churchill Livingstone
10. Peripheral Manipulation, G. D. Maitland: Butterworths
11. MANUAL OF MULLIGAN CONCEPT (REVISED EDITION): DR DEEPAK KUMAR FIAP CMP PhD MCTA
12. Mobilisation with Movement: The Art and the Science Paperback – Vicenzino (Author)
13. The Mulligan Concept of Manual Therapy: Textbook of Techniques, 1e : Wayne Hing PhD MSc(Hons) ADP(OMT) DipMT Dip Phys FNZCP (Author), & 4 More
14. The Lumbar Spine: Mechanical Diagnosis and Therapy (Volume 1): Robin McKenzie and Stephen May
15. Treat Your Own Back: Robin McKenzie
16. Treat Your Own Neck : Robin McKenzie
17. Treat Your Own Knee: Robin McKenzie and Melany Joy Beck
18. Treat Your Own Shoulder : Robin McKenzie
19. The Human Extremities: Mechanical Diagnosis and Therapy: Robin McKenzie and Stephen
20. Illustrated Manual of Orthopaedic Medicine : James H. Cyriax and P. J. Cyriax
21. Textbook of Orthopaedic Medicine: Diagnosis of Soft Tissues Lesions v. 1 : James H. Cyriax
22. Manipulation: Past and Present : Eiler H. Schiotz and James H. Cyriax
23. Cyriax's Illustrated Manual of Orthopaedic Medicine : James H. Cyriax MD MRCP and P. J. Cyriax
24. Clinical Neurodynamics: A New System of Neuromusculoskeletal Treatment : Shacklock
25. Neurodynamic Techniques : NOI Group and David Butler PT



26. Dutton's Orthopaedic Examination Evaluation And Intervention,With DVD: Mark Dutton
27. Dry Needling for Manual Therapists: Points, Techniques and Treatments, Including Electroacupuncture and Advanced Tendon Techniques : Giles Gyer and Jimmy Michael
28. The Concise Book of Dry Needling: A Practitioner's Guide to Myofascial Trigger Point Applications: John Sharkey
29. Trigger Point Dry Needling: An Evidence and Clinical-Based Approach : Dommerholt
30. Manual of Dry Needling Techniques: Volume 1 (Upper & Lower Quater), PIYUSH JAIN
31. Myofascial Release (Hands-on Guides for Therapists); Ruth Duncan
32. The Myofascial Release Manual: Carol J. Manheim
33. Fascial Release for Structural Balance, Revised Edition: James Earls and Thomas Myers
34. Positional Release Techniques with on-line videos (Advanced Soft Tissue Techniques): Chaitow
35. Modern Neuromuscular Techniques with DVD (Advanced Soft Tissue Techniques); Chaitow
36. Clinical Application of Neuromuscular Techniques: The Lower Body - Vol. 2; Chaitow
37. Muscle Energy Techniques: A Practical Handbook for Physical Therapists; John Gibbons and Amanda Williams
38. Muscle Energy Techniques with Videos (Advanced Soft Tissue Techniques); Chaitow
39. Cryotherapy in Sport Injury Management: Kenneth Knight, VHS Tape
40. The Basics of Dry Cupping: Beginners Guide on the Benefits of Dry Cupping With a Simple How-to Guide: Volume 1 (Cupping Therapy); Mary Conrad
41. Traditional Chinese Medicine Cupping Therapy : Chirali
42. Cupping Therapy: An Essential Guide to Cupping Therapy, How it Works, and Its Benefits ( Suction Cup Therapy | Chinese Cupping | Bekam | Hijama | Ventosa ): Anada Priso
43. Transdermal and Intradermal Delivery of Therapeutic Agents: Application of Physical Technologies ; Ajay K Banga
44. Physical Agents in Rehabilitation: From Research to Practice: Cameron
45. Electrotherapy: Evidence based practice: Shiela kitchen
46. "MANUAL THERAPY OF THE PELVIC COMPLEX, A compendium of illustrated manual therapy techniques". MTFI Healthcare Publications. Published year 2010.-MTFI
47. Physiotherapy of the Shoulder Author: PP Mohanty,PhD Monalisa Pattnaik,MPT
48. Managing Common Musculoskeletal Conditions by Physiotherapy and Yoga; Mohanty P.P. Pattnaik Monalisa Published by Jaypee Brothers Medical Publishers (P) Ltd.
49. Textbook Of Electrotherapy Paperback – 2012by Jagmohan Singh (Author)
50. Electrotherapy Simplified Author: Basanta Kumar Nanda,BPT (Hons) MPT

**MADHYAPRADESH MEDICAL  
SCIENCE UNIVERSITY, JABALPUR-  
M.P. (India)**

SYLLABUS & SCHEME OF EXAMINATION FOR  
**MPT– 2<sup>ND</sup> YEAR**

**(ELECTIVE: NEUROLOGY)**

**MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**

SYLLABUS & SCHEME OF EXAMINATION FOR MPT 2ND/ FINAL YEAR

NEUROLOGY

ELECTIVE -I

**PAPER III: NEUROLOGIC PHYSIOTHERAPY**

**SCHEME OF EXAMINATION**

**Theory Examination; Time: 3.00Hrs**

**Max. Marks: 100**

SUBJECT	Written	Practical	Viva	Total
Elective-I : (NEUROLOGIC PHYSIOTHERAPY)	100	100	50	250

**INSTRUCTION FOR THE PAPER SETTER**

The pattern of University theory examination will be as under for 100 Max. Marks.

No. & Type of Question	Marks for each question	Total Max. Marks
10 Very Short Answer Questions ( <i>Answer to be given in 50-60 words</i> )	02	<b>20</b>
5 Short Answer Questions ( <i>Answer to be given in 250-300 words</i> )	10	<b>50</b>
2 Essay Type Questions ( <i>Answer to be given in 450-500 words</i> )	15	<b>30</b>
		<b>100</b>

**Section-A:** This will consist of 10 very short answer type questions with answer to each question upto five lines (Fifty to sixty words) in length . All questions will be compulsory to answer. Each question will carry two marks. Total weightage of the section shall be 20 marks.

**Section-B:** This will consist of short answer questions with answer to each question upto 2 pages (250-300 words) in length. Eight questions will be set by the examiner and five have to be answered by the candidate . Each question will carry 10 marks. Total weightage of the section shall be 50 marks.

**Section-C:** This will consist of essay type questions with answer to each question upto 5 pages (approx 500 words) in length. Four questions will be set by the examiner and two have to be answered by the candidate . Each question will carry 15 marks. Total weightage of the section shall be 30 marks.

**INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required words**

## **PAPER III:**

### **NEUROLOGIC PHYSIOTHERAPY**

#### **SYLLABUS CONTENTS:-**

#### **SECTION : A – Physical Therapy Assessment Procedures used in Neurological Conditions:**

(A) Neurological assessment, evaluation and correlation of findings with neurological dysfunction

1. History taking and examination of neurologically ill patient
2. Higher cerebral function examination,
3. Cognitive and perceptual assessment,
4. Cranial nerves examination
5. Motor System Assessment - Tone, voluntary movement control & abnormal involuntary movement
6. Assessment of reflex integrity
7. Assessment of gait (kinetic & kinematic)
8. Sensory system assessment and examination

(B) Balance and Co-ordination: Assessment evaluation of following and correlation of findings with neurological dysfunction

1. Balance, equilibrium and Coordination assessment.
2. Assessment of Autonomic nervous system function.
3. Vestibular Examination
4. Assessment of unconscious patient.

(C) Neurological Assessment scales and measurement tools

1. Functional Assessment scales: Barthel index, Katz Index of ADL, FIM Scale, Sickness Impact Profile, Outcome & Assessment Information Set (OASIS).IADL.
2. Functional balance and coordination scales: functional reach test, Timed up and go test, Get up and go test, Berg balance Scale, CTSIB, Scales used in ataxia
3. Rehabilitation Outcome measure scales: Quality of life Measures, Scales used in Assessment of elderly.
4. Advanced Neurological Assessment Procedures:
5. **Disease Specific Measurements scales and tools:** Clinical Stroke scales, Scales used in spinal cord injury, Scales for the assessment of movement disorders, Multiple sclerosis, Scales for assessment of Brain injury And Cognitive scales,
6. **Laboratory Examination** related to Neurological Disorders: Lumbar puncture & CSF Analysis
7. **Neuro-dynamic tests.**

I. Slump test

- II. SLR
- III. ULTT

**SECTION : B – Common Neurological Conditions:**

**A. Cerebral Trauma (Head and Brain Injury)**

Epidemiology, Pathophysiologies, Symptoms, Signs, Investigation, Management, Pre and Post Operative Physiotherapy, Complications.

1. Closed skull Fractures.
2. Haematomas: Epidural, Sub Dural, Intracerebral
3. Open cranio-cerebral injuries
4. Reconstruction operation in head injuries

**B. Stupor and Coma**

1. The Neural basis of consciousness.
2. Lesions responsible for Stupor and Coma
3. The assessment and Investigation of the unconscious patient.
4. The Management of the Unconscious patient.

**C. Disorders of the Cerebral Circulation - Stroke :**

1. Epidemiology of the stroke and TIA
2. Causes,types and pathophysiology
3. Clinical features & investigations
4. Treatment of different type of stroke
5. Recovery & rehabilitation
6. Stroke prevention

**D. Cerebrovascular Diseases**

1. Intracranial Aneurysm
2. Spontaneous Subdural
3. Extradural Haemorrhage
4. intracerebral Haemorrhage
5. Subarachnoid haemorrhage
6. AV Malformations

**E. Neoplastic lesion**

1. Intracranial Tumors
2. Cerebral Hemisphere
3. Tumors from related structures, Menninges, Cranial Nerves.
4. cerebellar

**F. Infections**

- 1 Meningitis

- 2 Encephalitis
- 3 Brain abscess
- 4 Neuro Syphilis( Tabes dorsalis)
- 5 Herpes Simplex
- 6 Chorea
- 7 Tuberculosis
- 8 Chronic fatigue syndrome
- 9 AIDS

**G. Demyelinating Diseases of the Nervous system:**

1. Classification of Demyelinating Diseases
2. Multiple Sclerosis.
3. Diffuse Sclerosis

**H. Movement disorders**

1. Akinetic-rigidity Syndromes disorder and other extra Pyramidal Syndromes
2. Dyskinetic disorders

**I. Degenerative Diseases of the Spinal cord and Cauda Equina**

1. Ataxia (sensory )
2. Motor Neuron Disease
3. Spinal Muscular Atrophy
4. Spino-cerebellar Degeneration(Friedreich's Ataxia)
5. Transverse Myelitis

**J. Disorders / rehabilitation of the spinal cord & cauda equina**

1. Acute Traumatic injuries of the spinal cord
2. Slow progressive compression of the spinal cord
3. Syringomyelia
4. Ischaemia and infection of the Spinal Cord (Transverse myelitis) and Cauda Equina
5. Tumors of Spinal Cord
6. Surges surgical management in Spinal Cord

**K .Disorders of peripheral nerves:**

1. Peripheral neuropathies and peripheral nerve lesions
2. Clinical diagnosis of peripheral neuropathy
3. All types of levels of peripheral neuropathies and brachial plexus lesions
4. Causalgia
5. Reflex sympathetic dystrophy
6. Traumatic, Compressive and Ischaemic neuropathy

7. Spinal Radiculitis and Radiculopathy
8. Hereditary motor and sensory neuropathy
9. Acute idiopathic polyneuritis
10. Neuropathy due to infections
11. Vasculomotor neuropathy
12. Neuropathy due to Systemic Medical Disorders
13. Drug induced neuropathy
14. Metal poisoning, Chemical neuropathies
15. Polyneuropathies: Acute, Subacute and Chronic level polyneuropathy
16. Surgeries on peripheral Nerves

**L. Disorders of muscles:**

1. Muscular dystrophies of adulthood
2. The Myotonic disorders
3. Inflammatory disorders of muscle
4. Myasthenia gravis
5. Endocrine and metabolic myopathies
6. Duchenne muscular dystrophy
7. Progressive muscular dystrophy.

**M. Deficiency & Nutritional Disorders**

1. Deficiency of vitamins & related disorders
2. Other nutritional neuropathies

**N. Disorders of Autonomic nervous system:**

1. Bladder and Bowel dysfunction,
2. Orthostatic hypotension
3. Autonomic dysreflexia
4. Autonomic Neuropathy.

**O. Nervous system aging effects and Geriatric neurological disorders**

**P. Pediatric Neurology**

1. Pre & post-natal Development sequence of normal child.
2. Developmental milestones, Neonatal reflexes, various periods of growth,
3. General assessment of child
4. Treatment techniques: NDT approach, Roods approach, Vojta techniques,
5. Early identification and intervention Important Screening Tests.
  - a) Developmental Screening Tests.
  - b) Tests of motor function.

6. Nutrition and Immunization: Normal nutritional requirements of a child, Prevention of some nutritional disorders, Nutritional deficiency diseases, Immunization.

7. High risk infants, risk factors, neonatal assessment, developmental intervention, ICU, NICU Care.

8. Cerebral Palsy: types, etiology, clinical features, management and rehabilitation of various types of cerebral palsies various approaches used in C.P.

9. Physiotherapy in Neurological affection of childhood: poliomyelitis, spina bifida, hydrocephalus, meningitis, encephalitis, inflammatory disorders of brain and spinal cord, birth injuries of brachial plexus

10. Physiotherapy in Muscular Disorders:

- a. Myopathies of childhood
- b. Types of muscular dystrophies
- c. Floppy muscular dystrophy

11. Role of Physiotherapy in Genetic Disorders:

- a. Down syndrome
- b. Fragile X Syndrome
- c. Rett's Syndrome
- d. Spinal Muscular Atrophy

#### **Books suggested**

1. Neurological Physiotherapy - A problem solving approach - Susan Edwards - Churchill Livingstone.
2. Neurological Rehabilitation - Umpherd - Mosby.
3. Motor Assessment of Developing Infant - Piper & Darrah - W.E. Saunders.
4. Paediatric Physical Therapy - Teckling - Lippincott
5. Treatment of Cerebral Palsy and Motor Delay - Sophie Levitt
6. Brain's Disease of the Nervous System - Nalton - ELBS.
7. Guided to clinical Neurology - Mohn & Gaectier - Churchill Livingstone.
8. Principles of Neurology - Victor - McGraw Hill International edition.
9. Examination in Neurology examination - Dejong.
10. Differential Diagnosis - John Pattern Neurology in Clinical Practice - Bradley & Daroff
11. Neurological Assessment - Blicher staff.
12. Clinical Evaluation of Muscle Function - Lacote - Churchill Living Stone
13. Hutchinson's Clinical Methods - Swash - Bailliere Tindall.
14. Cash's textbook of neurology for physiotherapists - Downi - J.P. Brothers.
15. Adult Hemiplegia - Evaluation & treatment - Bobath - Oxford Butterworth Heinmann.
16. Neurological Rehabilitation - Carr & Shepherd - Butter worth Heinmann.
17. Tetraplegia & Paraplegia - A guide for physiotherapist - Bromley - Churchill Livingstone
18. Geriatric Physical Therapy - Gucciona - Mosby.
19. Brunnstrom's Movement Therapy in Hemiplegia - Sawner & La Vigne - Lippincott



20. Treatment of Cerebral Palsy and Motor Delay-Sophie Levitt
21. Motor Relearning Programme for stroke-carr&Shepherd
22. Right in the Middle-Patricia M.Davies-Springer
23. Guide to clinical Neurology - Mohn & Gaectier - Churchill Livingstone.
24. Principles of Neurology - Victor - McGraw Hill International edition.
25. Davidson's Principles and practices of medicine - Edward – Churchill Livingstone.
26. Physical Medicine & Rehabilitation-Susan Sullivan
27. Neurological Rehabilitation-Illus
28. Physical Medicine & Rehabilitation-Delsore
29. Assessment in Neurology-Dejong.
30. Differential Diagnosis-John Pattern
31. Neurology in Clinical Practice – Bradley&Daroff
32. Neurological Assessment-Blicker staff.
33. Steps to follow-PATRICIA M.DAVIES-Springer
34. Muscle Energy Techniques-Chaitow-Churchill Living Stone
35. Clinical Evaluation of Muscle Function-Lacote- Churchill Living Stone
36. Davidson's principles and Practices of Medicine - Edward Churchill Livingstone
37. Hutchinson's Clinical Methods – Swash – Bailliere Tindall.
38. A Short Textbook of Medicine - Krishna Rao - Jaypee Brothers
39. A Short textbook of Psychiatry\_ Ahuja Niraj - Jaypee Brothers.

**MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**

**SYLLABUS & SCHEME OF EXAMINATION FOR MPT 2ND/ FINAL YEAR**

**NEUROLOGY**

**ELECTIVE –II**

**PAPER IV: ADVANCED PHYSIOTHERAPEUTIC IN NEUROLOGIC  
PHYSIOTHERAPY**

**SCHEME OF EXAMINATION**

**Theory Examination; Time: 3.00Hrs**

**Max. Marks: 100**

SUBJECT	Written	Practical	Viva	Total
Elective-II (ADVANCED PHYSIOTHERAPEUTIC IN ORTHOPAEDIC PHYSIOTHERAPY)	100	--	--	100

The pattern of University theory examination will be as under for 100 Max. Marks.

No. & Type of Question	Marks for each question	Total Max. Marks
10 Very Short Answer Questions ( <i>Answer to be given in 50-60 words</i> )	02	<b>20</b>
5 Short Answer Questions ( <i>Answer to be given in 250-300 words</i> )	10	<b>50</b>
2 Essay Type Questions ( <i>Answer to be given in 450-500 words</i> )	15	<b>30</b>
		<b>100</b>

**Section-A:** This will consist of 10 very short answer type questions with answer to each question upto five lines (Fifty to sixty words) in length . All questions will be compulsory to answer. Each question will carry two marks. Total weightage of the section shall be 20 marks.

**Section-B:** This will consist of short answer questions with answer to each question upto 2 pages (250-300 words) in length. Eight questions will be set by the examiner and five have to be answered by the candidate. Each question will carry 10 marks. Total weightage of the section shall be 50 marks.

**Section-C:** This will consist of essay type questions with answer to each question upto 5 pages (approx 500 words) in length. Four questions will be set by the examiner and two have to be answered by the candidate. Each question will carry 15 marks. Total weightage of the section shall be 30 marks.

**INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required words**

**PAPER- IV**  
**ADVANCED PHYSIOTHERAPEUTIC IN NEUROLOGIC**  
**PHYSIOTHERAPY**

**SYLLABUS CONTENTS:-**

**A: Electrodiagnosis & Therapeutics :**

- I. Electro diagnosis: introduction to methods of electro diagnosis, SD CURVE
- II. Electro myography : technique of EMG , interpretation of normal and abnormal responses
- III. Nerve conduction studies: MNCV, SNCV, variables affecting nerve conduction, measurement of NCV of nerves of upper limb and lower limb, interpretations of normal and abnormal responses.
- IV. Evoked potentials, H-reflex, P wave, repetitive nerve stimulation, VEP, BAEP, SSEP.
- V. Review of Principles underlying the application of following modalities with reference to their Production, biophysical and therapeutic effects, indications and contraindications and the specific uses of Superficial heating modalities and Deep heating modalities  
NMES, Ultrasound and Cryotherapy

**B: Rehabilitation And Therapeutic Exercises:**

- I. Treatment planning process:
  1. Classification of treatment techniques based on current concepts & approaches.
  2. All types of strengthening techniques.
  3. Overview of Neurological Impairments and their treatment, with emphasis on recording and documentation.
- II. Therapeutic exercises used in neurological disorders.
- III. Neuromuscular Training
  1. Methods For Optimizing Neuromuscular & Postural Control : Proprioception Training And Kinesthetic Training (Sensory Integration),
  2. Problem Solving Approach
  3. Motor Control
  4. Clinical Decision Making And Clinical Reasoning
  5. Evidence Based Practice

**C: Advanced Neuro-therapeutic techniques:**

1. Muscle Energy Techniques (MET) , Reflexology
2. Positional release techniques
3. Myofacial release techniques
4. Cranio-sacral therapy
5. Trigger point therapy
6. Motor learning Theories – Concept, Therapeutic, Positional.
7. Biofeedback

8. Nerve mobilization (Concept): Butler concept
9. Management of pain and Spasticity and paralysis in neurological disorders
10. Special Neurological Approaches and Their Concept:
  - a. Neurodevelopmental Approach, Bobath's techniques
  - b. Brunnstrom Approach
  - c. Vojta
  - d. Rood's Approach
  - e. PNF Approach
  - f. MRP and Inhibition & facilitation techniques.
  - g. Modified CIMT.
  - h. Electrotherapy in Neurological disorders.

**D : Advanced Management and manual medicine:**

1. Pain management
2. Combined movement therapy
3. Group exercises
4. Physiotherapy in home setting and use of assistive aids
5. Community based rehabilitation in musculoskeletal disorders
6. Gait Training
7. Biofeedback
8. Hydrotherapy
9. Relaxation Techniques
10. Wheelchair prescription and advanced skills
11. Transfer techniques
12. Pediatric Neurophysiotherapy
13. Geriatric Neurophysiotherapy
14. Assistive Technologies and its role in Neurorehabilitation, External aids, appliances, and adaptive self-help devices
15. Prosthetics and Orthotics in Neurorehabilitation , Prescription, biomechanics, checkout and training, Role of splints in Physiotherapy

## 16. TECHNIQUES OF MODERN MANUAL MEDICINE:

Manual Therapy - Maitland, Mulligan, Mckenzie, Cyriax including High Velocity Thrust techniques, Neuromuscular Training and Applications of Kinetic control, NeuroDynamics, Myofascial Release, Positional Release Techniques, Neuromuscular Techniques, Dry Needling, Cryokinetics and Cryo stretching, Cupping Therapy

## E. ADVANCED ELECTROTHERAPY:

Phonophoresis, Iontophoresis, High Voltage Pulsed Galvanic Stimulation, Microcurrents, Diadynamic currents, Functional Electrical Stimulation, Classification of Therapeutic Lasers, Applications of Class 3B laser and High Power Therapeutic Laser ( Class IV), Shockwave Therapy, Pneumatic compression Therapy and various Combination Therapies

### **Books suggested**

1. Adult Hemiplegia - Evaluation & treatment - Bobath - Oxford Butterworth Heinmann.
2. Neurological Rehabilitation - Carr & Shepherd - Butter worth Heinmann.
3. Tetraplegia & Paraplegia - A guide for physiotherapist - Bromley - Churchill Livingstone.
4. Neurological Physiotherapy - A problem solving approach - Susan Edwards - Churchill Livingstone.
5. Neurological Rehabilitation - Umpherd - Mosby.
6. Geriatric Physical Therapy - Gucciona - Mosby.
7. Motor Assessment of Developing Infant - Piper & Darrah - W.E. Saunders.
8. Paediatric Physical Therapy - Teckling - Lippincott
9. Treatment of Cerebral Palsy and Motor Delay - Levins - Blackwell Scientific Publications London.
10. Physiotherapy in Paediatrics – Shepherd – Butterworth Heinmann
11. Brunnstrom's Movement Therapy in Hemiplegia-Sawner&La Vigne-Lippincott
12. Treatment of Cerebral Palsy and Motor Delay-Sophie Levitt
13. Motor Relearning Programme for stroke-carr&Shepherd
14. Right in the Middle-Patricia M.Davies-Springer
15. Physical Medicine & Rehabilitation-Susan Sullivan
16. Neurological Rehabilitation-Illus
17. Physical Medicine & Rehabilitation-Delsore
18. Differential Diagnosis-John Pattern Neurology in Clinical Practice – Bradley&Daroff
19. Steps to follow-PATRICIA M.DAVIES-Springer
20. Muscle Energy Techniques-Chaitow-Churchill Living Stone
21. Clinical Evaluation of Muscle Function-Lacote- Churchill Living Stone
22. Functional Neurorehabilitation: Beriner, Julie
23. Neuro – Rehabilitation by Farber, W.B. Saunders,

24. Neurological Physiotherapy Edward Susan
25. Neuro – Rehabilitation: Principles and practice Taly,A.B.
26. Neuro – Rehabilitation: opt Caur,Janet
27. Neurological rehabilitation: Umphred, Darcy, A.
28. Cash's textbook of neurology by Downie
29. Motor control: Theory and Practice: Shumway- Cook & Anne
30. Handbook of neurological rehabilitation Greenwood,R.J
31. Neuroscience for rehabilitation: Cohen.Helen
32. Starting Again: Davies,Patricia M.
33. Physical medicine and rehabilitation secrets by O' Young
34. Tidy's Physiotherapy, 13/e, 2003 by Porter
35. Stroke Therapy: Fisher, Marc
36. Geriatric physical therapy: Lewis, Carole B.
37. Physical Medicine and Rehabilitation: Borenstein, David G.
38. Early diagnosis and therapy in Cerebral Palsy: Scherzer, Alfred L.
39. Human Walking: Rose, Gessica
40. Comprehensive Aquatic therapy: Cohen, Helen
41. Amputation and prosthetics: May, Bella J.
42. Stroke Rehabilitation: Focus, Rohest
43. Rehabilitation of Traumatic Brain injury: Cameron, M.H.
44. Adult hemiplegia: Evaluation and Treatment: Bloch, Joseph I.
45. Hand Rehabilitation: Cipriano, Joseph J.
46. Gait disorders of aging: Masdeu, Joseph C.
47. Physiotherapy and the growing child: Burns, Scozanne
48. Physical therapy for children: Campbell, Maggie
49. Spinal Cord Inury Rehabilitation: Hommell, Karen Whalley
50. Physiotherapy in Stroke management: Harrison, Marie, N.A.
51. Textbook of Cerebral palsy and Motor Delay: Sophia Levitt
52. Human movement: An introduction: Trew, marion
53. Aquatic Exercise Therapy: Barr, Murray
54. Clayton's Electrotherapy: Forster A.
55. Electrotherapy: Evidence based practice: Shiela kitchen
56. "MANUAL THERAPY OF THE PELVIC COMPLEX, A compendium of illustrated manual therapy techniques". MTFI Healthcare Publications. Published year 2010.-MTFI
57. Physiotherapy of the Shoulder Author: PP Mohanty,PhD Monalisa Pattnaik,MPT
58. Managing Common Musculoskeletal Conditions by Physiotherapy and Yoga; Mohanty P.P. Pattnaik Monalisa Published by Jaypee Brothers Medical Publishers (P) Ltd.
59. Textbook Of Electrotherapy Paperback – 2012by Jagmohan Singh (Author)
60. Electrotherapy Simplified Author: Basanta Kumar Nanda,BPT (Hons) MPT

**MADHYAPRADESH MEDICAL  
SCIENCE UNIVERSITY, JABALPUR-  
M.P. (India)**

SYLLABUS & SCHEME OF EXAMINATION FOR  
**MPT– 2<sup>ND</sup> YEAR**

**(ELECTIVE: CARDIOTHORACIC)**

**MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**

**SYLLABUS & SCHEME OF EXAMINATION FOR MPT 2ND/ FINAL YEAR  
CARDIOTHORACIC**

**ELECTIVE -I**

**PAPER III: CARDIOPULMONARY PHYSIOTHERAPY**

**SCHEME OF EXAMINATION**

**Theory Examination; Time: 3.00Hrs**

**Max. Marks: 100**

SUBJECT	Written	Practical	Viva	Total
Elective-I : (CARDIOPULMONARY PHYSIOTHERAPY)	100	100	50	250

**INSTRUCTION FOR THE PAPER SETTER**

The pattern of University theory examination will be as under for 100 Max. Marks.

No. & Type of Question	Marks for each question	Total Max. Marks
10 Very Short Answer Questions ( <i>Answer to be given in 50-60 words</i> )	02	<b>20</b>
5 Short Answer Questions ( <i>Answer to be given in 250-300 words</i> )	10	<b>50</b>
2 Essay Type Questions ( <i>Answer to be given in 450-500 words</i> )	15	<b>30</b>
		<b>100</b>

**Section-A:** This will consist of 10 very short answer type questions with answer to each question upto five lines (Fifty to sixty words) in length . All questions will be compulsory to answer. Each question will carry two marks. Total weightage of the section shall be 20 marks.

**Section-B:** This will consist of short answer questions with answer to each question upto 2 pages (250-300 words) in length. Eight questions will be set by the examiner and five have to be answered by the candidate. Each question will carry 10 marks. Total weightage of the section shall be 50 marks.

**Section-C:** This will consist of essay type questions with answer to each question upto 5 pages (approx 500 words) in length. Four questions will be set by the examiner and two have to be answered by the candidate. Each question will carry 15 marks. Total weightage of the section shall be 30 marks.

**INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required words**



## **PAPER -III**

### **CARDIOPULMONARY PHYSIOTHERAPY**

#### **SYLLABUS CONTENTS:-**

#### **1. Assessment & Evaluation in Cardiopulmonary Physiotherapy**

- I. Assessment & evaluation,
- II. Methods of evaluation and documentation
- III. Clinical Examination, Reliability & Validity of the tests, Investigative Procedures
- IV. General principle of assessment. Evaluations and documentations
- V. History taking objective assessment
- VI. Subjective assessment investigations, documentation
- VII. Examination of heart: clinical examinations
- VIII. Heart rate monitoring, ECG, echo cardiography
- IX. Exercise Tolerance Tests, Treadmill Testing.
- X. Examination of respiratory system:
  - a) Clinical examination,
  - b) Pulmonary function tests,
  - c) A.B.G. (Arterial Blood Gas) analysis
  - d) Bronchography
  - e) Thoracoscopy
- XI Examination of vascular system,
- XII Clinical examination of vascular system: Lipid profile, Angiography, Color Doppler

#### **2. Medical & Surgical Conditions of Heart, Lung & Vascular System**

- I. Definition, Causes, pathophysiology, signs & symptoms, management of the following Medical Respiratory Conditions:

Asthma, Chronic bronchitis, Emphysema, Pneumonia, T.B., Empyema, Pleural effusion, Bronchiectasis, Pulmonary embolism

II. Definition, Causes, pathophysiology, signs & symptoms, management of the following Medical cardiovascular condition:

Congestive Cardiac Failure, Valvular Heart Disease, Ischaemic Heart Disease,

MI and Coronary Care, Rheumatic Fever/ Rheumatic heart disease

Congenital heart diseases, Pulmonary and Systemic hypertension

Phlebothrombosis, Reynaud's disease, Buerger's disease,

Varicose veins and ulcers, Venous thrombosis/Deep vein thrombosis

III. Preoperative – post operative testing/assessment, Physiotherapy Management of the following pulmonary surgeries: Lobectomy, Pneumonectomy, Thoracotomy, Pluerodesis, Pleurectomy, Blebectomy, Lung resection, Segmental resection etc

IV. Preoperative – post operative assessment, physiotherapy Management of the following Cardiac surgeries: Coronary artery bypass Grafting, Aneurysectomy, Pericardiectomy, Repair of septal Defect, valve replacement, cardiac transplantation.

### **Books suggested**

1. Respiratory Physical Therapy and Pulmonary care, Ulla Ingwerson: John Wiley & sons
2. Egans Fundamentals of Respiratory Care, 11<sup>th</sup> Edition by Robert M. Kacmarek, James K. Stoller, Al Heuer
3. Cardiovascular and Pulmonary Physiotherapy, 5<sup>th</sup> Edition by Donna Frownfelter and Elizabeth
4. Manual of Cardiac Rehabilitation: Dr. Peeyush Jain & Dr. R. Panda.
5. Physiotherapy in Respiratory care, Latest Edn, By Alexander Hough, Nelson Thornes
6. Cardiovascular pulmonary essentials : applying the preferred physical therapist practice patterns. 2007, Marilyn Moffat, Slack
7. Clinical Assessment in Respiratory care, Willkins Robert L, Dextor James: Mosby

8. Fundamentals of Lung and Heart Sounds with CD Rom, Willkins Robert L , Hodgkin John E  
Lopez Brad: Mosby

9. Pulmonary Function Testing: A Practical Approach, Jack Wanger

10. Physiotherapy for Respiratory and Cardiac Problems, Jennifer A Pryor, Prasad : Evolve

11. The steps to a healthy heart: Kowalski R.E

12. Medicine: Davidson

13. Surgery: Love and Bailey

**MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**

**SYLLABUS & SCHEME OF EXAMINATION FOR MPT 2ND/ FINAL YEAR  
CARDIOTHORACIC**

**ELECTIVE –II**

**PAPER IV: ADVANCED PHYSIOTHERAPEUTIC IN  
CARDIOPULMONARY PHYSIOTHERAPY**

**SCHEME OF EXAMINATION**

**Theory Examination; Time: 3.00Hrs**

**Max. Marks: 100**

SUBJECT	Written	Practical	Viva	Total
Elective-II (ADVANCED PHYSIOTHERAPEUTIC IN CARDIOPULMONARY PHYSIOTHERAPY)	100	--	--	100

**INSTRUCTION FOR THE PAPER SETTER**

The pattern of University theory examination will be as under for 100 Max. Marks.

No. & Type of Question	Marks for each question	Total Max. Marks
10 Very Short Answer Questions ( <i>Answer to be given in 50-60 words</i> )	02	<b>20</b>
5 Short Answer Questions ( <i>Answer to be given in 250-300 words</i> )	10	<b>50</b>
2 Essay Type Questions ( <i>Answer to be given in 450-500 words</i> )	15	<b>30</b>
		<b>100</b>

**Section-A:** This will consist of 10 very short answer type questions with answer to each question upto five lines (Fifty to sixty words) in length . All questions will be compulsory to answer. Each question will carry two marks. Total weightage of the section shall be 20 marks.

**Section-B:** This will consist of short answer questions with answer to each question upto 2 pages (250-300 words) in length. Eight questions will be set by the examiner and five have to be answered by the candidate. Each question will carry 10 marks. Total weightage of the section shall be 50 marks.

**Section-C:** This will consist of essay type questions with answer to each question upto 5 pages (approx 500 words) in length. Four questions will be set by the examiner and two have to be answered by the candidate. Each question will carry 15 marks. Total weightage of the section shall be 30 marks.

**INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required words**

**PAPER- IV**

**ADVANCED PHYSIOTHERAPEUTIC IN CARDIOPULMONARY  
PHYSIOTHERAPY**

**SYLLABUS CONTENTS:-**

**1. Cardiopulmonary Physiotherapy Techniques**

- I. Percussion, Vibration, Shaking, Quick Stretch
- II. Postural drainage
- III. Huffing & Coughing
- IV. Suctioning procedure
- V. Active cycle of breathing
- VI. Autogenic Drainage
- VII. Glossopharyngeal, Breathing, Pursed Lip breathing, relaxed breathing, segmental breathing, indications for each technique
- VIII. Body positioning.
- IX. Respiratory muscle training
- X. Blood pressure & pulse monitoring with a subject at rest and during activity
- XI. Rate of perceived exertion scale and use in the formulation of exercise prescription
- XII. Technique for facilitating ventilatory pattern.
- XIII. Burgers Exercise.
- XIV. Technique for Cardio pulmonary Resuscitation,
- XV. Shock management, Stretcher use-Handling and transfer, Shoulder and thoracic mobility exercise.
- XVI. Intermittent compression for lymphatic disorders Oxygen therapy and humidification, oxygen toxicity, Nebulization, Aerosol therapy, Incentive spirometry

**2. Physiotherapy in the Intensive Care Unit**

- I. General management of the critically ill patients in the Intensive care unit.
- II. Equipment and monitoring devices used in the unit

III. Care of the unconscious patient

IV. Care of the patients with mechanical ventilation

V. Social – psychological impact on patient and family and on the physiotherapist

VI. Special precaution for the following condition during physiotherapy treatment

Cardiac disease, Congestive heart failure, Carbondioxide retention

Adult respiratory distress syndrome, Plural effusion, Pulmonary -embolism,  
Hemoptysis, Increased Intra cranial pressure

VII. Physiotherapy management in neonatal I.C.U.

VIII. Management of endotracheal tubes, tracheal suctioning, subclavian lines &  
chest tubes

IX. Mechanical Ventilation

1. Types of mechanical ventilator, Physiological effects, Indication and contraindication, Complication.
2. Weaning the patients from ventilation.
3. Extubation & post extubation care.
4. Symptoms of hypoxia & carbondioxide narcosis.

### **3. Current Concepts in Cardiopulmonary Physiotherapy**

I. Role of nutrition in prevention of disease of heart and lung

II. Role of physical activity in disease prevention

III. Health club & Fitness; the concept behind healthy living

IV. Current concept in examination & treatment of pulmonary disease

1. Exercise testing and exercise prescription in patients with pulmonary disorders.
2. Current trends in pulmonary rehabilitation.
  - a. aerobic training, Strength training., Exercise progression
  - b. Program duration, Home exercise program
  - c. Multi specialty team approach, Patient education & counseling, Work & recreation

## V. Role of physiotherapy in pulmonary rehabilitation

1. Physical rehabilitation for ventilatory dependent patients
2. P.T for neonate with respiratory disease
3. P.T for child with respiratory disease
4. Conditioning for children with lung dysfunction

## VI. Current concept in examination & treatment of Cardiac diseases:

1. Exercise testing & Exercise prescription in patients with heart disease
2. Cardio pulmonary conditioning.
3. Current trends in Cardiac Rehabilitation.
  - a. Contraindications for exercise program
  - b. Orthostatic hypotension.
  - c. Home exercise program
  - d. Strength training & patients with positive exercise tolerance test
  - e. Conditioning & deconditioning effect
  - f. Patient education & counseling
  - g. Work & recreation
  - g. Program design for cardiac rehabilitation
    - 1) In patient rehab,
    - 2) Out patient rehab
    - 3) Safety limits

### **Books suggested**

1. Respiratory Physical Therapy and Pulmonary care, Ulla Ingwerson: John Wiley & sons
2. Egans Fundamentals of Respiratory Care, 11<sup>th</sup> Edition by Robert M. Kacmarek , James K. Stoller, Al Heuer
3. Cardiovascular and Pulmonary Physiotherapy, 5<sup>th</sup> Edition by Donna Frownfelter and Elizabeth
4. Manual of Cardiac Rehabilitation: Dr. Peeyush Jain & Dr. R. Panda.

5. Physiotherapy in Respiratory care, Latest Edn, By Alexander Hough, Nelson Thornes
6. Cardiovascular pulmonary essentials : applying the preferred physical therapist practice patterns. 2007, Marilyn Moffat,Slack
7. Clinical Assessment in Respiratory care, Willkins Robert L , Dextor James: Mosby
8. Fundamentals of Lung and Heart Sounds with CD Rom, Willkins Robert L , Hodgkin John E Lopez Brad: Mosby
9. Pulmonary Function Testing: A Practical Approach, Jack Wanger
10. Physiotherapy for Respiratory and Cardiac Problems, Jennifer A Pryor, Prasad : Evolve
11. The steps to a healthy heart: Kowalski R.E
12. Medicine: Davidson
13. Surgery: Love and Bailey



**MADHYAPRADESH MEDICAL  
SCIENCE UNIVERSITY, JABALPUR-  
M.P. (India)**

SYLLABUS & SCHEME OF EXAMINATION FOR  
**MPT– 2<sup>ND</sup> YEAR**

**(ELECTIVE: OBS. & GYNECOLOGY)**

**MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**

**SYLLABUS & SCHEME OF EXAMINATION FOR MPT 2ND/ FINAL YEAR  
OBSTETRICS & GYNECOLOGY**

**ELECTIVE -I**

**PAPER III: PHYSIOTHERAPY IN OBS. & GYNECOLOGICAL  
CONDITIONS**

**Time : 3.00Hrs**

**Max. Marks: 100**

**INSTRUCTION FOR THE PAPER SETTER**

The pattern of University theory examination will be as under for 100 Max. Marks.

No. & Type of Question	Marks for each question	Total Max. Marks
10 Very Short Answer Questions ( <i>Answer to be given in 50-60 words</i> )	02	<b>20</b>
5 Short Answer Questions ( <i>Answer to be given in 250-300 words</i> )	10	<b>50</b>
2 Essay Type Questions ( <i>Answer to be given in 450-500 words</i> )	15	<b>30</b>
		<b>100</b>

**Section-A:** This will consist of 10 very short answer type questions with answer to each question upto five lines (Fifty to sixty words) in length . All questions will be compulsory to answer. Each question will carry two marks. Total weightage of the section shall be 20 marks.

**Section-B:** This will consist of short answer questions with answer to each question upto 2 pages (250-300 words) in length. Eight questions will be set by the examiner and five have to be answered by the candidate. Each question will carry 10 marks. Total weightage of the section shall be 50 marks.

**Section-C:** This will consist of essay type questions with answer to each question upto 5 pages (approx 500 words) in length. Four questions will be set by the examiner and two have to be answered by the candidate. Each question will carry 15 marks. Total weightage of the section shall be 30 marks.

**INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required words**

## **PAPER-III**

### **PHYSIOTHERAPY IN OBS. & GYNECOLOGICAL CONDITIONS**

#### **Subject Objectives:-**

##### **Generic**

On completion of the subject, students will have had the opportunity to develop the following generic skills.

- An advanced understanding of the changing knowledge base in this clinical area.
- An ability to evaluate and synthesis the research and professional literature in this area.
- An understanding of the significance and value of their knowledge to the wider community.
- An appreciation of a team approach to learning.

##### **Specific**

On completion of this subject, students will have had the opportunity to develop the following specific skills.

- Plan, deliver and evaluate appropriate exercise programs for specific women's groups with the community.
- Understand the impact of exercise on the altered physiology, pathophysiology and psychology of pregnancy, menopause, aging and osteopenia /osteoporosis.
- Identify the legal and safety issues associated with leading exercise classes for women with specific physical needs.
- Understand the motivational and marketing aspects of leading community and hospital based exercise classes.

#### **Syllabus Contents:-**

1. Basic Anatomy and Physiology of the pelvis and reproductive organ: Review of Pelvic anatomy, types of pelvis, Pelvic floor muscles. Pelvic Organs, reproductive tract and abdominals. Internal and external genitalia.
2. Physiology of female reproductive system, Menstrual cycle and its integration.
3. Endocrine physiology related to reproductive medicine.

4. Hormonal changes during various phases (puberty, pregnancy and menopause) and role of physiotherapy.
5. Anatomy and development of Breast.
6. Physiological changes occurring in female during pregnancy and physiotherapy management.
7. Physiology of urinary and faecal continence.
8. Gynaecological infections, Pelvic inflammatory diseases, Diseases of the vulva, Diseases of the vagina.
9. Injuries of female genital tract,
10. Disorders of the ovary: Cyst and new growth in reproductive system, Endometriosis, Polycystic ovarian syndrome. (PCOS)
11. Chronic pelvic pain, Infertility, Menstrual abnormalities/ Disorders of menstruation, Contraception and family planning
12. Urogynaecology; Diseases of the urinary system – Urinary dysfunction, Bowel and anorectal function and dysfunction.
13. Disorders and diseases of uterus (prolapse, displacement, fibromyomas)
14. Diseases of the broad ligament, fallopian tubes and parametrium.
15. Gynaecological surgeries, Puerperal sterilization, Abortion and its types.
16. Breast cancer its screening procedures, Mastectomy.
17. Types of Prolapse
18. Menopause and osteoporosis.
19. Gynaecologic Problems in adolescent population.
20. Laproscopy and laser surgeries in Gynaecological condition.
21. Hirsutism.
22. Incontinence scales

#### CLINICAL OBSTETRICS AND GYNAECOLOGY.

1. History and examination in Obstetrics
2. History and examination in Gynaecology

3. Evaluation of Obstetrics and Gynaecological conditions.

**SPECIAL TOPICS IN OBSTETRICS.**

- Intrapartum fetal monitoring
- Fetal distress
- Shock in obstetrics
- Acute renal failure in obstetrics
- Blood coagulation disorder in obstetrics
- High risk pregnancy
- Medical legal aspects in obstetrics
- Diagnostic procedures in gynaecology and obstetrics

**Books suggested-**

1. Physiotherapy in Obstetrics and Gynaecology ; Margaret Polden Jill Mantle Jay Pee
2. Textbook Of Physiotherapy For Obstetric And Gynecological Conditions :Madhuri - Jay Pee
3. Role Of Physiotherapist In Obstetric And Gynecological Conditions : Changela Purvi K - Jay Pee
4. Physiotherapy in Obstetrics and Gynaecology, 2nd Edition; Jill Mantle Jeanette Haslam Sue Barton- Butterworth-Heinemann
5. Text book of Obstetrics – D.C. Dutta
6. Obstetrics by ten teachers – Stuart Campbell
7. Obstetrics and Gynaecology – Lawrence Impey
8. Shaw's text book of Gynaecology – V.G. Padubidri
9. Novak's Gynaecology – Johnathan.S.Berek
10. Women's Health: A Textbook for physiotherapists- Ruth Sapsford

**MADHYAPRADESH MEDICAL SCIENCE UNIVERSITY, JABALPUR**

**SYLLABUS & SCHEME OF EXAMINATION FOR MPT 2ND/ FINAL YEAR  
OBSTETRICS & GYNECOLOGY**

**ELECTIVE –II**

**PAPER IV: ADVANCED PHYSIOTHERAPY IN OBSTETRICS AND  
GYNAECOLOGY**

**Time: 3.00Hrs**

**Max. Marks: 100**

**INSTRUCTION FOR THE PAPER SETTER**

The pattern of University theory examination will be as under for 100 Max. Marks.

No. & Type of Question	Marks for each question	Total Max. Marks
10 Very Short Answer Questions ( <i>Answer to be given in 50-60 words</i> )	02	<b>20</b>
5 Short Answer Questions ( <i>Answer to be given in 250-300 words</i> )	10	<b>50</b>
2 Essay Type Questions ( <i>Answer to be given in 450-500 words</i> )	15	<b>30</b>
		<b>100</b>

**Section-A:** This will consist of 10 very short answer type questions with answer to each question upto five lines (Fifty to sixty words) in length . All questions will be compulsory to answer. Each question will carry two marks. Total weightage of the section shall be 20 marks.

**Section-B:** This will consist of short answer questions with answer to each question upto 2 pages (250-300 words) in length. Eight questions will be set by the examiner and five have to be answered by the candidate. Each question will carry 10 marks. Total weightage of the section shall be 50 marks.

**Section-C:** This will consist of essay type questions with answer to each question upto 5 pages (approx 500 words) in length. Four questions will be set by the examiner and two have to be answered by the candidate. Each question will carry 15 marks. Total weightage of the section shall be 30 marks.

**INSTRUCTIONS FOR THE CANDIDATES: Answer all questions only in required words**

## **PAPER- IV**

### **ADVANCED PHYSIOTHERAPY IN OBSTETRICS AND GYNAECOLOGY**

#### **Syllabus Contents:-**

#### **ADVANCED PHYSIOTHERAPY IN OBSTETRICS AND GYNAECOLOGY**

1. Assessment of pelvic floor muscles and exercises: Internal evaluation of PFM (Pelvic Floor Muscles) Grading, indication and contraindication. MMT , Perinometer, Vaginal cones, Biofeedback, EMG.
2. Adolescent and the musculoskeletal system. Diet and Exercise for the adolescent, Active Pelvic floor muscle exercises.
3. Impairment of Pelvic floor muscles and its PT management.
4. Levator ani syndrome, coccydynia and its PT management
5. Vulvodynia, vaginismus, anismus and its PT management.
6. Dyspareunia and its PT management.
7. Pre and post Physiotherapy management for Gynaecological Surgeries.
8. Operative intervention in Obstetrics (Episiotomy, perineal care, caesarian section, types of delivery, Ruptured uterus, injury to the cervix, Symphysiotomy).
9. Gynaecological operations and complications (Hysterectomy, Dilatation & Curettage, ERPC (Evacuation of Retained Products of Consumption), Cone biopsy).
10. Carcinomas of female reproduction organs & Physiotherapy management.
11. Effect of altered tone of hip and trunk muscles over Pelvic floor muscles.

#### **CLINICAL OBSTETRICS & GYNECOLOGY**

1. Role of physiotherapy in healthy pregnancy, Exercises during different trimesters of pregnancy and its significance: Preconception assessment and diagnostic test. Developmental anatomy – Embryology in detail. Diagnostic test during Pregnancy. Physical and Physiological changes during Pregnancy. Musculoskeletal changes during Pregnancy. Common complication and discomforts during Pregnancy.
2. Pain-Musculoskeletal pain during pregnancy (Physiotherapy modalities and role of exercises).
3. Lymphoedema and physiotherapy management.

4. Labour: Stages and mechanism of labour, Complication in labour, Types of assisted deliveries, Caesarean section, High – risk Pregnancies, Various modalities & techniques for reducing labour pain.

5. Changes after delivery & role of post natal exercises

6. Psychological and emotional changes with the demands of new born (Maternity blues, post natal depression etc.). Conditioning exercises, Breathing exercises, Maintenance of posture during pregnancy and breast feeding.

7. Gestation trophoblastic diseases.

8. Intra Uterine Devices.

9. Management of common problem in Antenatal period: Physiotherapy management of oedema in Pregnancy & Gestational Varicosity, Gestational Diabetes Mellitus and High risk Pregnancy.

10. Water birth.

11. PIH and eclampsia

11. Puerperium and its physiological changes.

12. Diastasis recti & PT management of diastasis recti, other hernia like femoral hernia.

13. Breast milk, its advantages, Breast feeding positions, Common problem in Breast feeding, Breast engorgement and its PT management, Types of nipples and its problems.

#### **THERAPEUTIC INTERVENTIONS**

1. Antenatal classes, Aerobic and Anaerobic training, Swiss ball in Pregnancy, Weight training in Pregnancy.

2. Electrotherapy modalities in obstetrics & Gynaecological conditions, Bio feed back.

3. Physiotherapy in labour, Relaxation Techniques, Perineal massage.

4. Episiotomy and its PT management.

5. Vaginal cones, Perineometer, Bladder training.

6. Women Health & fitness: Aerobics, Pilates, Ti-Chi, Yoga-meditation, Zumba etc. .

7. Osteoporosis: Role of Physiotherapy.

8. Electrotherapy options for the perinatal period and beyond. 40- 60 yrs olds.

9. Women in workplace: Ergonomic control of musculoskeletal injuries.



### **BOOKS SUGGESTED :**

1. Physiotherapy in Obstetrics and Gynaecology ; Margaret Polden Jill Mantle Jay Pee
2. Textbook Of Physiotherapy For Obstetric And Gynecological Conditions :Madhuri - Jay Pee
3. Role Of Physiotherapist In Obstetric And Gynecological Conditions : Changela Purvi K - Jay Pee
4. Physiotherapy in Obstetrics and Gynaecology, 2nd Edition; Jill Mantle Jeanette Haslam Sue Barton- Butterworth-Heinemann
5. Text book of Obstetrics – D.C. Dutta
6. Obstetrics by ten teachers – Stuart Campbell
7. Obstetrics and Gynaecology – Lawrence Impey
8. Shaw's text book of Gynaecology – V.G. Padubidri
9. Novak's Gynaecology – Johnathan.S.Berek
10. Women's Health: A Textbook for physiotherapists- Ruth Sapsford

## REFERENCE JOURNAL

1. Physical Therapy (APTA, America)
2. Physiotherapy (CSP London)
3. American Journal of Physical Medicine and Rehabilitation.
4. Physiotherapy (Canada)
5. Physiotherapy Theory and Practice.
6. Australian Journal of Physiotherapy
7. Journal Of Indian Association of Physiotherapy
8. Clinical Kinesiology
9. Journal of Biomechanics
10. American Journal of Sports Exercises.
11. Pediatric Physical Therapy.
12. Journal of Neurologic Physical Therapy.
13. Journal of Rehabilitation Research and Development.
14. Journal of Cardio Pulmonary Rehabilitation.
14. Archives of Physical Medicine and Rehabilitation.
15. Journal of Pediatric Orthopedics.
16. Journal of Neurological Sciences.
17. Clinical Rehabilitation.
18. Spine.
19. Manual Therapy.
20. Gait and Posture

## APPENDIX

### GRADED RESPONSIBILITY IN CARE OF PATIENTS AND OPERATIVE WORK

(Structured Training Schedule of clinical & elective subjects only)

Category	I year MPT	II year MPT
O	20 Cases	20 Cases
A	20 Cases	30 Cases
PA	100 Cases	60 Cases
PI	20 Cases	50 Cases

**Key:** O – Observes

A – Assisted a more senior Physiotherapist

PA – Performed procedure under the direct supervision of a senior specialist.

PI – Performed Independently

- Teaching Activities – UG Teaching
- Learning Activities : Self Learning, Use of computers & library
- Participation in departmental activities;
  - a) Journal Review meetings -Minimum six in two years
  - b) Seminars -Minimum four in two years
  - c) Clinical presentation -Minimum 25 cases in two years
  - d) Special clinics -Minimum 20 cases in two years
  - e) Inter departmental meetings -Minimum 5 in two years
  - f) Community work, camps / field visits -Minimum four in two years
  - g) Clinical rounds -Minimum 250 in two years
  - h) Dissertation work -Minimum 200 hours in two years
  - i) Participation in conferences/ presentation of paper -Minimum 2 in two years
  - j) Any other – Specify (eg : CME)

Rotation and posting in other departments in any – minimum 2 months in 1 specialty

**CHECK LISTS**  
**APPENDIX 1**  
**TEACHING SKILL EVALUATION FORM**

**Student:** .....

**Date:** .....

**Evaluator:** .....

**Rating of Skill:**

5 - Outstanding, 4 – Good, 3 - Satisfactory ,2 – Poor, 1 – Unacceptable

S.N.	Tasks:	
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

S.N.	Tasks:	
1.	Article chosen	
2.	Specifies purposes / goal of the study	
3.	Whether cross references have been consulted	
4.	Presents the Methodology Clearly	
5.	Clarifies Outcome measures	
6.	Presents the Results Clearly	
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, 3 - Satisfactory ,2 – Poor, 1 – Unacceptable

S.N.	Tasks:	
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	
	<b>Total Score</b>	

**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

S.N.	Tasks:	
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	
	<b>Total Score</b>	

**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

S.N.	Tasks:	
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	
	<b>Total Score</b>	

**Overall Score**

41 – 50: Excellent

31 – 40: Good

21 – 30: Satisfactory

15 – 20: Poor

Less than 15: Unacceptable



**APPENDIX 6**

**DESSERTATION PRESENTATION EVALUATION FORM**

**Student:** .....

**Date:** .....

**Evaluator:** .....

**Rating of Skill:**

5 - Outstanding, 4 – Good, 3 - Satisfactory , 2 – Poor, 1 – Unacceptable

S.N.	Tasks:	
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 DESSERTATION WORK BY THE GUIDE**

**Student:** .....

**Date:** .....

**Evaluator:** .....

**Rating of Skill:**

5 - Outstanding, 4 – Good, 3 - Satisfactory ,2 – Poor, 1 – Unacceptable

S.N.	Tasks:	
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