

**Regulations and Curriculum for
Master of Physiotherapy
MPT**

(Amended upto July 2014)



(Deemed to be University under Section 3 of UGC Act, 1956)
(Placed under Category 'A' by MHRD, Govt. of India, Accredited with 'A' Grade by NAAC)
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VISION

To build a humane society through excellence in education and healthcare

MISSION

*To develop
Nitte (Deemed to be University)
As a centre of excellence imparting quality education,
generating competent, skilled manpower to face the scientific and social
challenges with a high degree of credibility, integrity,
ethical standards and social concern*

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No. F.9-13/2007-U.3 (A)
Government of India
Ministry of Human Resource Development
(Department of Higher Education)
U.3(A) Section

Shastri Bhawan, New Delhi,
Dated the 4th June, 2008

NOTIFICATION

1. Whereas the Central Government is empowered under Section 3 of the University Grants Commission (UGC) Act, 1956 to declare, on the advice of the UGC, an institution of higher learning as a deemed-to-be-university;
2. And whereas, a proposal was received in February, 2007 from Nitte Education Trust, Mangalore, Karnataka seeking grant of status of deemed-to-be-university in the name of Nitte University under Section 3 of the UGC Act, 1956;
3. And whereas, the University Grants Commission has examined the said proposal and vide its communication bearing No. F.26-10/2007(CPP-I/ DU) dated the 10th March, 2008 has recommended conferment of status of 'deemed-to-be-university' in the name and style of Nitte University, Mangalore, Karnataka, comprising A.B. Shetty Memorial Institute of Dental Sciences, Mangalore;
4. Now, therefore, in exercise of the powers conferred by section 3 of the UGC Act, 1956, the central Government, on the advice of the University Grants Commission (UGC), hereby declare that Nitte University, Mangalore, Karnataka, comprising A.B. Shetty Memorial Institute of Dental Sciences, Deralakatte, Mangalore, shall be deemed to be a University for the Purposes of the aforesaid Act.

Sd/
(Sunil Kumar)
Joint Secretary to the Government of India

(True Extract of the Notification)



**UNIVERSITY GRANTS COMMISSION
BAHADUR SHAH ZAFAR MARG
NEW DELHI - 110002**

No. F.26-5/2008(CPP-1)

Dated: 24th March, 2009

OFFICE MEMORANDUM

1. Whereas the Government of India, Ministry of Human Resource Development, Department of Higher Education vide Notification No. F.9-13/2007-U.3(A) dated 4th June, 2008 declared Nitte University, Mangalore, Karnataka comprising A.B. Shetty Memorial Institute of Dental Sciences, Deralakatte, Mangalore as Deemed to be University under Section 3 of UGC Act, 1956.
2. And whereas now, the University Grants Commission, on the recommendation of an Expert Committee constituted by the Chairman, UGC has agreed for bringing (i) K.S. Hegde Medical Academy, Deralakatte, Mangalore, (ii) Nitte Usha Institute of Nursing Sciences, Deralakatte, Mangalore, (iii) Nitte Gulabi Shetty Memorial Institute of Pharmaceutical Sciences, Deralakatte, Mangalore, (iv) Nitte Institute of Physiotherapy, Deralakatte, Mangalore under the ambit of Nitte University, Deralakatte, Mangalore.

Sd/
(K.P. Singh)
Joint Secretary
University Grants Commission

(True Extract of the Notification)

Nitte University



(Deemed University under Section 3 of UGC Act, 1956)

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Ref. No. NU/REG/2009-10/49

Date: 20-05-2009

NOTIFICATION

Sub: Regulations and Course Curriculum for Master of Physiotherapy (MPT)

Ref: Minutes of the Academic Council Meeting held on 13th May 2009

In exercise of the powers conferred under Rule R-08 (g) of the Memorandum of Association, the Academic Council at its meeting held on 13-05-2009 has been pleased to approve the Regulations and Course Curriculum pertaining to the MPT Course in the Nitte Institute of Physiotherapy.

The Regulations and course curriculum shall come into force from the academic year 2009-10.

By order,

REGISTRAR

Nitte University

(Deemed University under Section 3 of UGC Act, 1956)
University Enclave, Deralakatte, Mangalore – 575 018
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NOTIFICATION

Subject: Resolutions of the Board of Studies in Physiotherapy in the meeting held on 15-05-2014

Reference: Minutes of the 22nd Academic Council Meeting held on 24-07-2014 under agenda item No. AC/8-22/14.

The Academic Council in its 22nd meeting held on 24-07-2014 under the agenda item No. AC/8-22/14 has pleased to approve the resolution passed by the Board of Studies in Physiotherapy in the meeting held on 15-05-2014 to introduce OBG Elective subject in the syllabus of MPT w.e.f 2015-16.

By Order,

REGISTRAR



(Deemed to be University under Section 3 of UGC Act, 1956)

(Placed under Category 'A' by MHRD, Govt. of India,

Accredited with 'A' Grade by NAAC)

Mangaluru, Karnataka, India

Regulations and Curriculum for Master of Physiotherapy (MPT) (Amended upto July 2014)

Preamble:

Nitte Institute of Physiotherapy imparting physiotherapy education since 1997, started MPT course in 2003 in order to carry out quality research and provide specialized health services. Consequent to becoming the constituent college of Nitte (Deemed to be University), the new regulations for MPT course are formulated as under:

1. Introduction:

- 1.1. These regulations shall be called Nitte (Deemed to be University) Regulations for MPT course and govern the policies and procedures including selection, admission, imparting of instructions, conduct of examinations, evaluation and certification of candidate's performance and all amendments there to, leading to the award of MPT degree. The regulations shall come into effect from the academic year 2015-16 and onwards.
- 1.2. This set of regulations shall be binding on all the candidates undergoing the said degree programme.
- 1.3. These regulations may be modified from time to time as mandated by the status of Nitte (Deemed to be University). These provisions shall be applicable to any new specialties that may be introduced from time to time.
- 1.4. This set of regulations may evolve and get refined or updated or amended or modified or changed through appropriate approvals from the Academic Council or the Board of Management from time to time and shall be binding on all parties concerned including the candidates, Faculty, Staff, Departments and College Authorities.
- 1.5. All disputes arising from this set of regulations shall be addressed to the Board of Management. The decision of the Board of Management is final and binding on all parties concerned. Further, any legal disputes arising out of this set of regulations shall be limited to jurisdiction of Courts of Mangalore only.

2. Definitions:

Unless the context otherwise requires:

- *BoM means* Board of Management of Nitte (Deemed to be University)
- *BoS means* Board of Studies (UG and PG) in Physiotherapy
- *College/ Institution means* Nitte Institute of Physiotherapy
- He includes both genders *He and She*; similarly his and /or him, himself includes her, as well in all cases.
- *Head of the Institution means* the Principal of the College, Nitte Institute of Physiotherapy
- *Regulations means* this set of academic regulations
- *Regulatory Authority - Authority* appointed/constituted by the central/state government/s to regulate Health Science Education.
- *Teaching Hospital means* Justice K S Hegde Charitable Hospital or any other Hospital owned by, or under the management of, the University
- *University means* Nitte (Deemed to be University)

3. Duration of the course :

A candidate shall undergo a period of study extending over two academic years.

4. Maximum period for completion of the course :

The maximum period for completion of MPT course is four years.

5. Eligibility for Admissions :

A candidate seeking admission to MPT course must have a recognized degree of Bachelor in Physiotherapy/ B.Sc (PT) of 4½ years duration, including six months duration internship from a recognized Indian University or a degree recognized equivalent by Nitte (Deemed to be University) and who has secured not less than 50% of the maximum marks (aggregate of all years) prescribed for the qualification examination shall be eligible for the admission to the MPT course.

For SC/ST candidates the prescribed percentage of marks shall be 45%

Foreign nationals and candidates who have qualified from a foreign university should obtain permission from Nitte (Deemed to be University) prior to admission for equivalence of the degree.

6. Selection of eligible candidates:

Selection to the MPT course shall be on the basis of merit obtained in the qualifying examination.

7. Withdrawal – Temporary and Permanent :**7.1. Temporary withdrawal:**

- 7.1.1. A candidate who has been admitted to the course may be permitted to withdraw temporarily for a period of six months or more up to one year on the grounds of prolonged illness, grave calamity in the family etc., provided:
 - a. He applies stating the reason of withdrawal with supporting documents and endorsement by parent/guardian.
 - b. The Institution is satisfied that without counting the period of withdrawal candidate is likely to complete his requirement of the degree within maximum time specified.
 - c. There are no outstanding dues or demands with the department, library, hostel, Institution etc.
- 7.1.2. The tuition fee for the subsequent year may be collected in advance based on the severity of the case before giving approval for any such temporary withdrawal.
- 7.1.3. Scholarship holders are bound by the appropriate rules applicable.
- 7.1.4. The decision of the Institution / University regarding withdrawal of a candidate is final and binding.

7.2. Permanent withdrawal :

- 7.2.1. A candidate who withdraws admission before closing date of admission for the academic session is eligible for the refund of the deposit only. The fees once paid will not be refunded on any account.
- 7.2.2. Once the admission for the year is closed, and if a candidate wants to leave the institution, he will be permitted to do so and take the Transfer Certificate from the Institution, if required only after remitting all the tuition fees for the remaining years.
- 7.2.3. Those candidates who have received any scholarship/stipend/other forms of assistance from the Institution shall repay all such amounts in addition to those mentioned in the clause above.
- 7.2.4. The decision of the Institution / university regarding withdrawal of a candidate is final and binding.

8. Conduct and discipline:

- 8.1. Candidates shall conduct themselves within and outside the premises of the Institution in a manner befitting the student of a professional Institution.
- 8.2. As per the order of Honorable Supreme Court of India, ragging in any form is considered as criminal offence and is banned. Any form of ragging will be severely dealt with.

- 8.3. The following act of omission and /or commission shall constitute gross violation of the code of conduct and are liable to invoke disciplinary measures.
- 8.3.1. Ragging as defined and described by the Supreme Court/Government
 - 8.3.2. Lack of courtesy and decorum; indecent behavior any where within or outside the campus.
 - 8.3.3. Willful damage or stealthy removal of any property/belongings of the Institution /Hostel or of fellow candidates/citizens.
 - 8.3.4. Possession, consumption or distribution of alcoholic drinks or any kind of hallucinogenic drugs.
 - 8.3.5. Mutilation or unauthorized possession of library books
 - 8.3.6. Noisy or unseemly behavior, disturbing studies of fellow candidates.
 - 8.3.7. Hacking in computer systems (such as entering into other person's domain without prior permission, manipulation and/or damage to the computer hardware and software or any other cyber crime etc.)
 - 8.3.8. Plagiarism of any nature.
 - 8.3.9. Any other act of gross indiscipline as decided by the Board of Management from time to time.
- 8.4 Commensurate with the gravity of offense, the punishment may be: reprimand, fine, expulsion from the hostel, debarment from an examination, disallowing the use of certain facilities of the Institution rustication for a specific period or even outright expulsion from the Institution, or even handing over the case to appropriate law enforcement authorities or the judiciary, as required by the circumstances.
- 8.5 For any offence committed in (i) a hostel (ii) a department or in a classroom and (iii) elsewhere, the Chief Warden, the Head of the Department and the Head of the Institution, respectively, shall have the authority to reprimand or impose fine.
- 8.6 All cases involving punishment other than reprimand shall be reported to the Vice-Chancellor.
- 8.7 Cases of adoption of unfair means and/or any malpractice in an examination shall be reported to the Controller of Examinations for taking appropriate action.

9. Graduation Requirements :

A Candidate shall be declared eligible for the award of the degree if he has:

- Fulfilled Degree Requirement.
- No dues to the University, Institution, Departments, Hostels, Library etc.
- No disciplinary action pending against him

The award of the degree must be recommended by the Board of Management.

10. Convocation :

Degrees will be awarded in person for the candidates who have graduated during the preceding academic year. Degrees will be awarded in absentia to such candidates who are unable to attend the convocation. Candidates are required to apply for the convocation along with prescribed fee within the specified date, after having satisfactorily completed all degree requirements, in order to arrange for the award degree during the convocation.

11. Academic Appeals Board (AAB) :

There shall be an Academic Appeals Boards constituted by the University.

Constitution :

- Head of the institution of a constituent college -- Chairman
(*By Seniority*)
- A Professor from a constituent college -- Member
(*Nominated by the Vice-Chancellor*)
- Three faculty members -- Members
(*Nominated by the Vice-Chancellor*)
- The Controller of Examinations -- Member Secretary

Note :

- The Chairman may co-opt and/or invite more members
- Depending on the prevailing circumstances, the senior most member in the Board shall act as chairman instead of Chair person.
- The quorum of each meeting shall be minimum of Four.

Functions of the Board :

- To receive grievance/complaints in writing from the students regarding anomaly in award of marks due to bias, victimization, erratic evaluation, etc., and redress the complaints.
- To interact with the concerned teacher and the student separately, before taking the decision.
- The decision of the AAB will be based on simple majority.
- The recommendation of the AAB shall be communicated to the Controller of Examinations for further appropriate action as required.

12. Subjects of Study and Training :

I year MPT

No.	Subject	Hours of Instruction		
		Theory	Practical/ Clinicals Training	Total
1	Basic Science			
	Work Physiology and Electro physiology	50	50	100
	Biomechanics	40	60	100
	History of Physiotherapy education and practice	05	-	05
	Principles of Physical Therapy Education	10	-	10
	Teaching Methodology	15	-	15
	Research Methodology and Biostatistics	70	-	70
2	Physiotherapeutics	50	100	150
	Part I: Applied			
	Part II a. : Medical Therapeutics	75	150	225
	Part II b. : Surgical	75	150	225
Total		390	510	900

Clinical Training: 650 Hours

II Year MPT

No.	Subject	Hours of Instruction		
		Theory	Practical/ Clinicals Training	Total
1	Physical and Functional Diagnosis			
	Part I	100	200	300
	Part II	100	200	300
2	Elective*	150	250	400
Total		350	650	1000

Clinical Training: 550 Hours

***Elective:**

A candidate is required to take any one of the following subjects as an elective.

- Physiotherapy in Musculoskeletal disorders and Sports Physiotherapy
- Physiotherapy in Neurological and Psychosomatic Disorders
- Physiotherapy in Cardio-Respiratory Disorders and Intensive care
- Paediatric Physiotherapy
- Physiotherapy in Obstetrics and Gynaecology

13. Attendance and Monitoring Progress of Studies :**13.1 Attendance :**

13.1.1 A candidate pursuing MPT course shall study in the Institution for the entire period as a full time candidate. No candidate is permitted to work in any laboratory / college / Industry etc., while studying.

No candidate should join any other course of study or appear for any other degree examination conducted by this University or any other university in India or abroad during the period of study.

13.1.2 Each year shall be taken as a unit for the purpose of calculating attendance.

13.1.3 A candidate shall attend symposia, seminars, conferences, journal review meetings and lectures during each year as prescribed by the department/Institution/ University and not absent himself without a valid reason.

13.1.4 A candidate who has put in a minimum of 80% of attendance in the theory and practical separately and non-lecture activities like seminars, journal review meetings etc separately shall be permitted to appear for the University examination.

13.1.5 A candidate having shortage of attendance shall repeat the year when it is offered next.

13.1.6 A candidate who has put in a minimum of 80% of attendance in the second year shall only be eligible to submit the dissertation.

13.2. Monitoring Progress of Studies :

13.2.1 A candidate shall maintain a work diary and record of his/her participation in the training programs conducted by the Institution such as journal reviews, seminars etc. The work diary shall be scrutinized by the faculty /PG Guide and certified by the Head of the Institution, and presented during the University practical examination. Special mention may be made of the presentations by the candidate as well as details of experiments or laboratory / clinical procedures, conducted by the candidate.

13.2.2. Training Schedule (for clinical and elective subjects only)

Category	I year	II year
O: Observes	20 cases	20 cases
A: Assisted a senior Physiotherapist	20 cases	30 cases
PA: Performed procedure under the direct supervision of a senior Specialist	100 cases	60 cases
P1: Performed independently	20 cases	50 cases

14. Examinations:

There shall be an examination at the end of each academic year, in addition to periodical tests conducted by the College for internal assessment.

14.1. Scheme of Examination:

Evaluation is based on formative evaluation (Internal Assessment) and summative evaluation (University examination).

14.1.1 Internal Assessment:

Internal assessment will be calculated on the basis of sessional tests conducted by the College and seminars and assignments.

There shall be at least three sessional examinations. The marks of the best two sessional examinations along with marks obtained in seminars and assignments will be considered, to calculate the internal assessment. A candidate must appear for all the sessional examinations conducted in order to get the benefit of 'Average of best two'

14.1.2 University Examination:

A candidate who satisfies the requirements of attendance, progress and conduct shall be eligible to appear for the university examinations

I year MPT

No.	Subject	University Examination			I.A. (Theory)	Total Marks
		Theory	Practical	Viva-voce		
1	Basic Science	80	-	-	20	100
2	Physiotherapeutics	80	70	30	20	200
Total						300

Note: The Practical examination shall consist of a long case for 40 marks; Micro teaching for 15 marks and OSPE for 15 Marks

II year MPT

No.	Subject	University Examination			I.A. (Theory)	Total Marks
		Theory	Practical	Viva-voce		
1	Physical and Functional Diagnosis	80	-	-	20	100
2	Elective	80	60	30	20 10*	200
3	Dissertation	70	-	30	-	100
Total						400

* Marks for Work Diary

14.2 Dissertation:

As a partial requirement of the course, a candidate is required to carry out a clinical study in a select area of his study, under the supervision of a faculty Guide. The results of such a study shall be submitted to the University in the form a dissertation as per the prescribed format and within the date stipulated by the University. Only a candidate who has put in a minimum of 80% of attendance in the second year be eligible to submit the dissertation.

The dissertation is aimed at training a postgraduate candidate in research methodology and techniques. It includes identification of the problem, formulation of a hypothesis, 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.

14.2.1. Schedule:

Ethical clearance	Within 6 months after the commencement of the course
Submission of the synopsis to the university	Within 9 months after the commencement of the course
Final submission of the dissertation	3 months before the II year University examination or as per date specified by the university

14.2.2. Guide:

A Guide shall be a full time post graduate teacher of the Institution and recognized by the University as a Guide for supervision of dissertation work. However a co-Guide can be opted wherever required with prior

permission of the Institution and University. The co-Guide shall also be a postgraduate teacher recognized by the University as Guide.

14.2.3. **Ethical Clearance**

Ethical Clearance should be obtained for a study involving any procedure on human subject. The candidate should apply for the certificate to the Ethics Committee of the Institute, through the Guide and present the study before the Committee for clearance.

A copy of the certificate should be attached along with the synopsis forwarded at the time of approval of synopsis. All such clearance should be sought within six months of the commencement of the course.

14.2.4. **Submission of Synopsis:**

A candidate shall submit a synopsis to the University through the Guide and Head of the Institution, not later than nine months from the commencement of the I year OR within the date notified by the University, whichever is earlier.

Once the synopsis is approved and registered by the University no change in the topic or Guide shall be made without the prior approval of the University.

In the event of registered Guide leaving the Institution or in the event of the death of the Guide, a change of Guide shall be permitted by the University, on the specific recommendation of the Institution.

14.2.5. **Preparation of Dissertation :**

- a) The dissertation should be written under the following headings and order.
 - i. Introduction
 - ii. Aims or objectives of study
 - iii. Review of literature
 - iv. Materials and methods
 - v. Results
 - vi. Discussion
 - vii. Conclusion
 - viii. Summary
 - ix. References
 - x. Tables
 - xi. Annexure
- b) The written text of dissertation shall not be less than 50 pages and shall not exceed 200 pages excluding references, tables, questionnaire and other annexures. It should be neatly typed with double line spacing on

one side of paper (A4 size, 8.27 x 11.69”) and bound properly. Spiral binding should be avoided.

14.2.6. Submission of Dissertation:

The dissertation shall be certified by the Guide and co-Guide if any, and Head of the Institution. The dissertation shall be submitted at least three months before the commencement of the examinations of the II year or on the date notified by the University.

Three copies of the dissertation complete in all respects and duly certified by the faculty Guide, co-Guide, if any and Head of the Institution should be submitted to the College within the date notified by the University.

14.2.7. Scheme of Evaluation:

Literature Review	20 marks
Material and Methods	20 marks
Results, Discussion and Conclusion	30 marks
Viva-voce	30 marks
TOTAL	100 marks

Note: For a pass in the dissertation, a candidate has to secure a minimum of 50% marks in the marks allotted for University evaluation

14.2. 8. Viva-Voce Examination:

The Viva-Voce examination shall aim at assessing the depth of knowledge, logical reasoning, confidence and oral communication skills. The Viva-voce examination shall be held after the submission of dissertation. If a candidate fails to submit the dissertation on or before the date prescribed, the Viva-voce shall be conducted during the subsequent examination.

15. Criteria for Pass:

For a pass in each subject a candidate has to secure at least 50% of marks in theory and practical/ clinical separately. A candidate, who fails in theory or practical/ clinical examination in a subject, shall appear for both theory and practical in the subsequent examination in that subject.

16. Carry-over Benefit:

A candidate who fails in I year examinations shall be permitted to move to the II year. However, he shall not be permitted to appear for the second year examinations unless he completes first year examinations.

17. Re-Totaling:

Re-totaling of marks is permitted for theory papers only. The University on application within the stipulated time and remittance of a prescribed fee, shall permit a recounting of marks, for the subject(s) applied. The marks obtained after re-totaling will be the final marks awarded.

18. Supplementary Examinations:

Supplementary examination shall be conducted by the university for the benefit of unsuccessful candidates. Supplementary examinations will be conducted within six weeks/six months from the date of announcement of results.

- A candidate detained for lack of attendance, internal assessment marks will be barred from appearing in any one or all course/s for the supplementary examination.
- A candidate dropping from appearance in any or all subjects /courses at regular examination is disallowed from taking dropped subject(s)/course(s) at the supplementary examinations.
- If a candidate submits application for appearing for the examination but does not appear for any of the subjects in the university examination, he can appear for supplementary examination provided other conditions such as attendance requirement, internal assessment marks, etc. are fulfilled.
- A candidate who is promoted to the next higher class as per carry over regulations (except where apex bodies do not permit), if he clears the lower year/semester/phase examinations in the main examination is allowed to appear for the higher class examination during supplementary examinations provided other conditions such as attendance requirement, internal assessment marks, etc. are fulfilled.

A candidate permitted to appear for the supplementary examination can improve his internal assessment marks before he takes the supplementary examination by subjecting himself to internal assessment procedure as practiced in the college.

19. Declaration of Results and Classification:

Class will be awarded only to those candidates who pass the examination in the first attempt. Class shall be declared at the end of the second year and will be on the basis of the aggregate of marks scored in the I and II years put together.

75% and above - First class with Distinction

65% and above but less than 75% - First Class

50% and above but less than 65% - Second class

Candidates who pass the examinations in more than one attempt shall be declared as passed in 'Pass' class irrespective of the percentage of marks secured.

- An attempt means the appearance of a candidate for one or more courses either in part or full in a particular examination.
- A candidate who fails in main examination and passes one or more subjects or all subjects in the supplementary examination is not eligible for award of class or distinction. Passing in supplementary examination by such candidates shall be considered as attempt.
- If a candidate submits application for appearing for the regular examination but does not appear for any of the courses/subjects in the regular University examination, he can appear for supplementary examination provided other conditions such as attendance requirement, internal assessment marks, etc. are fulfilled and his appearing in the supplementary examination shall be considered as the first attempt.
- Candidates who pass the subjects in the supplementary examinations are not eligible for the award of Gold Medal or Merit Certificate.

20. Award of Merit Certificates:

Merit Certificate shall be awarded on the basis of aggregate marks of all the years of examinations as per the duration of the course. Only those candidates who have completed the course and fulfilled all the requirements in the minimum number of years prescribed and who have passed each year in the first attempt are only eligible for the award of Merit Certificate.

Programme Outcomes:

(At the end of the program, graduates will be able to...)

1. Acquire advanced knowledge related to technical, problem solving and scientific skills to practice evidence based manner in par with World Confederation of Physical Therapy (WCPT) standings.
2. Work as a member or team leader of a multidisciplinary professional team and contribute to the planning and development of physiotherapy services to address the health-care sectors at local, national and global community.
3. Demonstrate the command of advanced knowledge which is necessary to function as an independent health-care professional and lifelong learner in the practice environment for the professional development.
4. Perform a clients evaluation using evidence based diagnostic methods and functional outcome measures to plan, reassess and modify treatment plan through firm decision making process in assessment and treatment.
5. Formulate a safe, efficient, client centered evidence based Physiotherapy practice through firm decision making process in assessment and treatment.
6. Establish advanced research hypothesis and undertake research works effectively within the health-care sectors and community.
7. Document the collected client's information safely and confidentially as per the ethical standards of health-care profession guidelines.
8. Communicate effectively in verbal and written form with the clients, care givers, peers, and public.

I YEAR MPT
Subject : Basic Science

COURSE OUTCOMES

At the end of the course students will be able to...

- CO1:** Apply the principles of work physiology in prescribing exercise to the patients
- CO2:** Describe the normal and abnormal electrophysiological changes in the nerve & muscle for the design and development of rehabilitation outcomes in clinical practice
- CO3:** Apply the principles of biomechanics in the evaluation and treatment of various clinical disorders
- CO4:** Explain the history of physiotherapy education and understand and incorporate the recent trends in clinical practice
- CO5:** Apply the ethical principles of physical therapy education and maintain the integrity of clinical practice
- CO6:** Describe the principles of teaching and learning methods and incorporate it during academic teaching of students
- CO7:** Search and critically evaluate the scientific literature and apply the information for evidenced based clinical practice

Subject: Basic Science
SYLLABUS

Unit	Topics	Hours
1	Work physiology and Electro-physiology	
	Physical work	02
	Ergonomic Aspects of work	02
	Energy Transfer	04
	Oxygen intake and Debt	02
	Cardiac Changes during exercises	02
	Respiratory Changes during exercises	02
	Thermo Regulatory Changes during exercises	02
	Muscular adaptation to exercises	02
	Body consumption, Nutrition Caloric Balance	02
	Obesity and Weight control	06
	Individual and Environmental factors influencing Muscle work	08
	Environmental control	04
	Fatigue Assessment	06
	Scientific organization of work, regimes to control fatigue.	04
	Electro Physiology	
	Characteristics and components of electro therapeutic stimulation system	04
	Characteristics and components of electro physiologic assessment devices	04
	Electrical excitability & composition of peripheral nerve and muscle	04
	Muscle plasticity in response to electrical stimulation	04
	Instrumentation of neuro Muscular Electrical stimulation	04
	Neuro biology of pain	06
	Pain Modulation	06
	Electrical stimulation and circulation	04
	Clinical Electro physiological testing	14

2	Bio Mechanics Material properties of bone Material properties of soft tissue Posture Internal and external forces, during posture and Activities Bio mechanics of respiration Bio mechanics of circulation Bio mechanics of Hand Functions Bio mechanics of Gait Methods of Kinetics and Kinematics Investigation Anthropometry Neural Control of Loco motor function	06 24 08 04 04 04 08 12 12 10 08
3	History of Physiotherapy Education	05
4	Principles of Physical therapy education	10
5	Teaching and Learning Methods Meaning and principles of teaching and learning class room methods of teaching <ul style="list-style-type: none"> • Lecture • Discussion – Seminar, symposium, workshop • Demonstration • Problem solving • Project • Seminar Laboratory method/demonstration <ul style="list-style-type: none"> • Team teaching • Programmed instruction • Snow ball methods • Questioning • Individual conferences • Field visits 	15

	<ul style="list-style-type: none"> • Supervisory conferences • Case study method • Process recording Clinical methods of teaching <ul style="list-style-type: none"> • Clinics • Rounds • Care conferences • Team physiotherapy conferences • Health team conferences 	
6	Research Methodology and Biostatistics Meaning of Research Objectives of research Motivation and types of research Research process Criteria for good research Problems encountered by researchers Defining research problem Research Design Sample Design Methods of data Collection Role of Computer in research Bio-statistics Introduction Tabulation of Data Measure of Central Tendency Probability and Standard Distributions Sampling techniques Testing the hypothesis Analysis of variance & covariance	70 01 01 01 06 01 01 02 12 08 06 01 02 03 04 04 03 07 07

Recommended Books

1. Kinesiology –Brunnstrom Singe, F.A. Davis – Philadelphia.
2. Text book of work physiology - Guyton, Prim Books Bangalore – 1991 8th edition.
3. Research for physiotherapists – Hicks C., Churchill Living stone, Edinburgh 1995 ED.S
4. Physical therapy Research – Domholdt. W.B. Saunders, Philadelphia.
5. Management Principles for physiotherapists – Nosse Lorry J.
6. Biomechanics – A qualitative approach for studying human movement Ellen Kreighbaum, Katherine M Bartheads: 2nd edition, McMillan Publishing company

Subject : Physiotherapeutics**COURSE OUTCOMES**

At the end of the course students will be able to...

- CO1:** Conduct a assessment of pain
- CO2:** Select appropriate techniques for treating pain
- CO3:** Apply motor learning theories in clinical practice
- CO4:** Apply physiotherapy treatment for maternal and child care
- CO5:** Understand the applied neuro-anatomy and neuro-physiology in clinical practice
- CO6:** Apply functional training techniques
- CO7:** Understand and apply the Yogasanas and Pranayamas on clinical set-up
- CO8:** Understand the concepts of alternative therapies
- CO9:** Apply the physiotherapy intervention in medical conditions
- CO10:** Apply the physiotherapy intervention on pre and post surgical conditions
- CO11:** Communicate effectively with patients and multidisciplinary team

Subject : Physiotherapeutics
Part I : Applied

SYLLABUS

Unit	Topics	Hours
1.	Physiotherapy in pain management such as electro radiations, Ultrasonic therapy, electro acupuncture etc.	18
2.	Maternal and child care	08
3.	Applied Neuro-anatomy and Neuro-physiotherapy	12
4.	Theories of Motor learning	15
5.	Therapeutic Biofeedback	16
6.	Psychosomatic training	08
7.	Combination therapy	12
8.	Functional training <ul style="list-style-type: none"> • Respiratory exercises • Training for feeding • Bladder and Bowel training • Coughing and compression • Inhalation therapy • ICU procedure 	30
9.	Yogasanas and pranayamas <ul style="list-style-type: none"> • Physiological principles of yoga • Therapeutic principles of yoga • Yoga for physical, culture, relaxation and meditation • Yoga in physical fitness • Yoga in flexibility • Yoga in Cardiac rehabilitation • Yoga in Neuro motor training • Respiratory physiology and Pranayama • Kriyas and their physiological significance • Therapeutic application of Yoga and Kriyas • Yoga –a holistic approach 	16

10.	Acupuncture <ul style="list-style-type: none">• Definition• Principles Techniques• Physiological effects• Indication, contra indications and Dangers• Integration of acupuncture with physiotherapy	05
11.	Magneto therapy	05
12.	Naturopathy	05
Total		150

**Part II A : Medical
SYLLABUS**

Unit	Topics	Hours
1.	Physiotherapy in common conditions of skin	10
2.	Physiotherapy in common vascular diseases	20
3.	Physiotherapy in deficiency diseases	10
4.	Physiotherapy in common respiratory disease	25
5.	Cardio pulmonary medications and their effects of activity performance	10
6.	Physiotherapy in ischemic heart diseases	20
7.	Exercise planning and prescription	25
8.	Ergonomic aspects of exercise on Oxygen, energy consumption, MET value of various exercises and activity	15
9.	Effect of aerobic, Anerobic as well as Iso metric and Isokinetic exercise on cardiac function	10
10.	Physiotherapy in psychiatry	10
11.	Management of pain in Neurological disorders	25
12.	Management of pain in Musculoskeletal disorders	20
13.	Physiotherapy management in arthritis	25
Part II B: Surgical		
14.	Physiotherapy management of post operative patients in Cardio pulmonary Disorders	25
15.	Monitoring systems and Defibrillators	15
16.	Artificial respirators	06
17.	Physiotherapy in post operative management of metabolic, hormonal, neoplastic and infective conditions of bones and joints	15
18.	Physiotherapy following Arthroplasty, implants and Soft tissue repairs	20
19.	Pre and post operative physiotherapy in tendon transfer	10
20.	Electrical stimulation and Biofeedback in tendon transfer	08
21.	Physiotherapy following Head injury	14

22.	Physiotherapy in neurological intensive care unit	20
23.	Physiotherapy in neurological conditions	25
24.	Physiotherapy following General surgery	15
25.	Physiotherapy following Uro surgery	14
26.	Physiotherapy plastic surgery	10
27.	Physiotherapy in Oncology	10
28.	Physiotherapy following Obsteric and Gynecologist disorders	18
Total		450

Recommended Books

1. Physical rehabilitation: assessment and treatment - O' Sullivan, F.A. Davis, Philadelphia.
2. Therapeutic exercise – Moving Toward Function-carrie M Hall, Lori Thein Boardy:Lippincott Williams
3. Physical medicine and Rehabilitation-Randall L Braddom:3rd edition, Elsevier
4. Tidy's physiotherapy(Stuart B Porter)
5. Physical therapy of the low bock–twomoy, Churchill, Livingstone, London.
6. Physiotherapy in obsterics and gynaecology – Polden & Mantle, Jaypee Brothers, New York.
7. Industrial therapy – Key G.L. Mosby, St. Louis.

II Year MPT
Subject : Physical and Functional Diagnosis

COURSE OUTCOMES

At the end of the course students will be able to...

- CO1:** Acquire fundamental and advanced knowledge in Physical and Functional diagnosis
- CO2:** Demonstrate comprehensive general assessment techniques and interpret the findings
- CO3:** Formulate and prescribe specific treatment plan for the people with Cardiac, Pulmonary, Orthopedic, and Paediatric disorders
- CO4:** Conduct a comprehensive physiotherapy intervention safely and competently
- CO5:** Monitor and reassess the patient progress and modify treatment plan
- CO6:** Use problem solving principles and evidence based practice in decision making in assessment and management of patients
- CO7:** Identify the scope and limitations of professional practices, manage appropriately

Subject : Physical and Functional Diagnosis : Part I
SYLLABUS

Unit	Topics	Hours
1.	General Clinical Examination	20
2.	Examination and detection of movement dysfunction	10
3.	Principles of pathological investigation related to Neurology	10
4.	Principles of pathological investigation related to orthopedics	10
5.	Principles of pathological investigation related to cardiology	10
6.	Principles of pathological investigation related to pulmonology	10
7.	Principles of pathological investigation related to Pediatrics	09
8.	Principles of imaging techniques related Neurology	08
9.	Principles of imaging techniques related to Orthopedics	08
10.	Principles of imaging techniques related to Cardiology	08
11.	Principles of imaging techniques related to Pulmonology	08
12.	Developmental Screening	20
13.	Development diagnosis	10
14.	Neuro Developmental assessment	15
15.	Voluntary Control Assessment	15
16.	Anthropometric measurements	10
17.	Physical Fitness assessment by <ul style="list-style-type: none"> • Range of Motion Assessment • Muscle strength Assessment • Endurance Assessment • Skill Assessment • Body composition Assessment • Fitness tests for sports 	35

18.	Psycho physiological tests	12
19.	Neuro physiological tests	12
20.	Electro diagnosis – Modalitis. Techniques and approaches	60
	<ul style="list-style-type: none">• Clinical electro Myo graphy• Kinesiological electro Myo graphy• Evoked potential studies• Bio physical measurements• Conventional electro diagnostic measurements• Motor and Sensory nerve conduction studies• Late responses studies	
Total		300

Subject : Physical And Functional Diagnosis: Part II
SYLLABUS

Unit	Topics	Hours
1.	Massage	15
2.	Mobilization	20
3.	Manipulation	25
4.	Aids and Appliances	20
5.	Functional Adaptive equipments in Neurology	25
6.	Geriatric Physiotherapy	30
7.	Inhibition and Facilitation techniques	20
8.	Exercise ECG – Testing and Monitoring	10
9.	Pulmonary function Tests	10
	Cardiac Function Disorders	
10.	<ul style="list-style-type: none"> • Assessment • Principles of Management 	25
	Vascular function disorders	
11.	<ul style="list-style-type: none"> • Assessment • Principles of management 	15
	Respiratory Function Disorders	
12.	<ul style="list-style-type: none"> • Assessment • Principles of Management 	25
13.	Physical Disability Evaluation	20
14.	Disability diagnosis	15
15.	Gait analysis and Diagnosis	16
16.	Postural and activity Evaluation	09
	Total	300

Recommended Books

1. Gait Analysis – Perry J. black Thorofare, New Jessy.
2. Isokinetic-Muscle testing, Interpretation and clinical application-Zeevi
Dvir: Churchill Livingstone
3. Gait analysis- Normal and abnormal function-Jacquelin Perry:SLACK
4. Motor releasing programmer for stroke –carr ,Aspen publication, Rock Ville.
5. Measurement in physical therapy –Churchill, Livingstone, London.

Elective Subject
Physiotherapy In Cardio Respiratory Disorders And Intensive Care

COURSE OUTCOMES

At the end of the course students will be able to...

- CO1:** Conduct a physiotherapy assessment for cardiovascular and respiratory conditions
- CO2:** Plan a pre and post-operative cardiac and pulmonary rehabilitation for the surgical condition
- CO3:** Assess and plan physiotherapy program for ICU conditions.
- CO4:** Demonstrate the techniques related to cardiovascular and respiratory physiotherapy.
- CO5:** Interpret the investigations and the tests related to cardiovascular and respiratory conditions.

Unit	Topics	Hours
1.	Anatomy and physiology of Cardio vascular and Respiratory systems	30
2.	Epidemiology symptomatology and Pathophysiology of <ul style="list-style-type: none"> • Cardio – Respiratory disorders • Vascular disorders 	20
3.	Clinical Assessment, Investigations with Differential diagnosis	25
4.	Evaluation of Cardiac Respiratory dysfunction <ul style="list-style-type: none"> • PFT Volumetric • Analysis of blood • Radiological investigations • ECG • Exercise ECG testing • Holter monitoring • Echo Cardiogram • Imaging technique 	70

5.	Evaluation of Peripheral Vascular dysfunctions <ul style="list-style-type: none"> • Clinical blood flow studies • Temperature Plethysmography • ANS Dysfunction testing 	10
6.	Cardiovascular and respiratory emergencies and management principles <ul style="list-style-type: none"> • Critical care • Emergency medication • Stabilization of vital functions defibrillators • Indication of surgical intervention 	30
7.	Cardio Pulmonary Resuscitation	30
8.	Intensive Care Unit :concept and setup Care of the dying patient Equipment for advanced methods of resuscitation Artificial airways, Ventilators and Pulse oximetry	30
9.	Respiratory physiotherapy Bronchial hygiene Humidifiers Nebulisers IPPB Pulmonary rehabilitation	50
10.	Cardio Thoracic surgery and Physiotherapy <ul style="list-style-type: none"> • Pre – post operative management • Cardiac rehabilitation 	35
11.	Management of Peripheral Vascular disorders – Medical, Surgical – physiotherapy	40
12.	Exercise planning and prescription <ul style="list-style-type: none"> • Aerobic and anaerobic exercise prescription 	20
13.	Risk factors and preventive measures	20
14.	Community Bases Rehabilitation in Cardio – Vascular and Cardio – Respiratory conditions	20
Total		400

Recommended Books

1. Egan's Fundamentals of respiratory care (Criag L Scanlan, Robert L Wilkins, Jamer K Stallep)
2. Physiotherapy for respiratory and Cardiac problems (Jennifer A Pryur S Ammani Prasad)
3. Principles and application of cardio respiratory care equipment (David H Eubanks, Roger C Bone)
4. Cardiopulmonary physical therapy (Scot Irwin, Jan Stephen Tecklin)
5. Cardiopulmonary physical therapy (Ellen A Hilligan and H Stevan Sadowsky)
6. Principles and practice of cardiorespiratory physical therapy (Donna, Frownfelter, Elizbeth Dean)
7. Physiotherapy in respiratory care (Alexandra Hough)
8. Cash's Textbook of chest, heart and vascular disorders for physiotherapists (Patricia A Downie)
9. Multidisciplinary approaches to breathing pattern disorders (Leon Chaitow, Dinah Bradley, Christopher Gilbert)
10. Cardiopulmonary physiotherapy Irwin, C.V., Mosby, St. Louis.

Elective Subject
Physiotherapy In Musculo – Skeletal and Sports Physiotherapy

COURSE OUTCOMES

At the end of the course students will be able to...

- CO1:** Understand the basics of musculoskeletal anatomy.
- CO2:** Perform assessment and management of musculoskeletal disorder
- CO3:** Interpret the clinical symptomatology of musculoskeletal disorder for the musculoskeletal management.
- CO4:** Perform functional assessment on musculoskeletal dysfunctions.
- CO5:** Assess and apply principles of management in sports injuries.
- CO6:** Perform physiotherapy management for locomotor disorders, paediatric musculoskeletal disorders and amputation.
- CO7:** Assess and perform physiotherapy management following fractures.
- CO8:** Perform physiotherapy management in geriatric, paediatric and general community with musculoskeletal disorders.
- CO9:** Demonstrate the principles of external aids and appliances, orthopaedic implants.
- CO10:** Perform manual therapy in musculoskeletal disorders.

Unit	Topics	Hours
1.	Applied anatomy with emphasis on <ul style="list-style-type: none"> • Bio Mechanics • Kinesiology • Work physiology • Locomotor function 	25
2.	Clinical assessment and Clinical Reasoning Musculoskeletal Disorders <ul style="list-style-type: none"> • Rationale of laboratory investigations in Musculoskeletal Disorders • Differential Diagnosis of various conditions in Musculoskeletal Disorders 	30
3.	Clinical symptomatology, Pathophysiology and pathomechanics of musculo skeletal conditions	40
4.	Functional assessment <ul style="list-style-type: none"> • Hand function • Gait • Posture • ADL • Occupational work • Functional independence Assessment 	25
5.	Assessment and Management of sports injuries <ul style="list-style-type: none"> • Analysis of various sports activities • Classification of sports injuries • Pre-season Athletic Physical examination • Sports injury retraining • Fitness training in sports • Management of various sports injuries 	50

	<ul style="list-style-type: none"> • Soft tissue injuries-Conservative, Operative and Post Operative Treatment • Therapeutic Exercise Parameters and techniques • Isokinetics and its applications • Aquatic Physical Therapy-applications 	
6.	Assessment of locomotor impairments, disabilities and disability evaluation	20
7.	Physiotherapy management of locomotor disorders <ul style="list-style-type: none"> • Principles of medical management • Principles of surgical management 	30
8.	Paediatric musculoskeletal disorders <ul style="list-style-type: none"> • Evaluation • Differential Diagnosis • Management 	25
9.	Orthopedic implants <ul style="list-style-type: none"> • Designs of the implants • Materials used for the implants • Indications • Post operative assessment and training 	15
10.	External aids, appliances <ul style="list-style-type: none"> • Adaptive self help devices • Prescription of various Aids • Biomechanical compatibility, • Check out of the various aids • Training of the patients with different aids 	20
11.	Manual therapy <ul style="list-style-type: none"> • Soft tissue manipulations and mobilization • Neural mobilization 	25

12.	Joint manipulation Peripheral joint manipulation Vertebral joint manipulation	25
13.	Amputation-Assessment, Pre-and Post operative management and Prosthetic Rehabilitation	20
14.	Fracture Rehabilitation	20
15.	Industrial Physical Therapy	10
16.	Geriatric Physiotherapy Evaluation Differential Diagnosis Management of common musculo skeletal disorders in aged	10
17.	Community based rehabilitation in Musculo skeletal disorders	10
Total		400

Recommended Books

1. Orthopaedic physical therapy – Donattelli, London, Churchill Living stone.
2. Treatment and Rehabilitation of Fractures-Stanley Hoppenfield, Vasantha L Murthy: Lippincott Williams & Wilkins
3. Orthopaedic Testing-A Radical approach to Diagnosis- Janet A Gerard, Steven L Kleinfield:Churchill Libingstone, 1st edition
4. Therapy for Amputee-Barbara Engstom,Catherine Van De Ven:3rd edition, Churchill Livingstone
5. Biomechanics of Sports and exercise-Peter M. Ginnis:2nd edition, Human Kinetics
6. Therepeutic exercise for athletic Injuries-Peggy A Houglum:Human Kinetics
7. Evaluation of Orthopaedic and Athletic Injuries-Chad Starkey, Jeffery L Rayan: F A Davis Company
8. Maitland’s Peripheral Manipulation-Elly Heneveld, Kevin banks:4th edition, Elsevier
9. Cash Text book of Orthopedic Physiotherapy-Marian Tidswell: Elsevier
10. Orthopaedic Taping, Wrapping, Bracing and padding-Joel W Beam:Jaypee Publishing and F A Davis
11. Apley’s System of Orthopedics and fractures-Louis Solomon:8th Edition, Arnold Publishing.

12. soft tissue pain and disability-cailliet rene, jaypee Brothers, New delhi.
13. Physical therapy of the low back–twomoy, Churchill, Livingstone, London.
14. Vertebral manipulation – Matiland G.D, Boston, Butterworth & Co. Boston..
15. Peripheral manipulation – Matiland G.D, Boston, Butter worth & Co. Boston.

Elective Subject
Physiotherapy in Neurological And Psychosomatic Disorders

SYLLABUS

COURSE OUTCOMES

At the end of the course students will be able to..

- CO1:** Identify disabilities due to neurological dysfunction.
- CO2:** Comprehensively assess safely using most appropriate clinical tools.
- CO3:** Evidence based use of outcome measures.
- CO4:** Identify appropriate investigations related to neurological conditions.
- CO5:** Interpret investigations related to neurological conditions
- CO6:** Differentiate various neurological dysfunction.
- CO7:** Use Recent advances in physiotherapy practice in evaluation of various neurological conditions.
- CO8:** Use Evidence based physiotherapy practice in evaluation of various neurological conditions.
- CO9:** Document and communicate effectively with the patient, family member, colleagues and multi-disciplinary team.
- CO10:** Comprehensively Plan and set treatment goals for various neurological dysfunction.
- CO11:** Apply the practical skills to treat various neurological dysfunction.
- CO12:** Use Recent advances in physiotherapy practice in treatment of various neurological conditions.
- CO13:** Use problem solving principles of physiotherapy practice in treatment of various neurological conditions.
- CO14:** Evidence based physiotherapy practice in treatment of various neurological conditions.
- CO15:** Perform the practical skills safely and efficiently related to treat various neurological dysfunction.

CO16: Identify the scope and limitations of professional practices, manage and refer appropriately.

Unit	Topics	Hours
1.	Anatomy and physiology of <ul style="list-style-type: none"> • Central Nervous System • Autonomic nervous system • Peripheral nervous system 	45
2.	Clinical Symptomatology	10
3.	Pathophysiology of the neurological disorders	30
4.	Clinical Assessment	20
5.	Investigation along with differential diagnosis	15
6.	Electro diagnosis – conventional methods <ul style="list-style-type: none"> • Strength Duration Curve • Accommodation • Skin temperature, resistance and Blood flow 	20
7.	Electromyography especially with reference to pathophysiology and Patho mechanics	20
8.	Quantitative EMG	10
9.	Evoked potential Studies	10
10.	Evaluation of Automatic Nervous System dysfunction	08
11.	Psycho physiological testing	10
12.	Biofeedback training in psychosomatic disorders	10
13.	Neuro psychological functions assessment	10
14.	Perception testing and training	08
15.	Motor control <ul style="list-style-type: none"> • Assessment • Reflexes and automatic reactions • Voluntary control • Feed back mechanics 	15

16.	Motor Control training techniques	30
17.	Motor Learning assessment and training techniques	30
18.	Functional Electrical stimulation	10
19.	Bio feedback methods in motor recovery	10
20.	Learning skills	08
21.	ADL and Functional activities	05
22.	Aids and Appliances used in neurological disorders	10
23.	Geriatrics : Evaluation, Differential Diagnosis and Management of common neurological disorders in aged	16
24.	Associated functional disturbances of higher functions Testing and Training	10
25.	Community Based Rehabilitation for neurological dysfunction	20
26.	Disability evaluation and training	10

Recommended Books:

1. Human neuroanatomy carpenter M.B. Williams & Wilkins, Baltimore.
2. Physical therapy management of parkinson's disease-Tumbull gerode1.churchill Livingstone, London.
3. Stroke rehabilitation –Laidier Cabman and Hall, London.
4. Paraplegia and tetraplogia –Brombley, Churchill, Livingstone, Edinburgh.

Elective Subject
Paediatric Physiotherapy

SYLLABUS

COURSE OUTCOMES

At the end of the course students will be able to...

- CO1:** Acquire fundamental and advanced knowledge in Paediatric Physiotherapy
- CO2:** Demonstrate comprehensive Paediatric assessment techniques and interpret the findings
- CO3:** Formulate and prescribe specific treatment plan for the children with Paediatric disorders
- CO4:** Conduct a comprehensive Paediatric physiotherapy intervention safely and competently
- CO5:** Monitor and reassess the patient progress and modify treatment plan
- CO6:** Use problem solving principles and evidence based practice in decision making in assessment and management of Paediatric patients
- CO7:** Identify the scope and limitations of professional practices, manage and refer appropriately
- CO8:** Communicate effectively in verbal and written form with patients, caregivers, peers and health care professionals.

Unit	Topics	Hours
1.	Genetic basis of paediatric disorders, Embryology and genetic counseling	15
2.	Growth and development of a child and its disorder	25
3.	Neuro development assessment, diagnosis, development screening	25
4.	Cardio-respiratory assessment of neonate and infant, related paediatric disorder	35
5.	Neonatal care, risk babies and management	20
6.	Clinical symptomology and pathophysiology of cardio-pulmonary disorders	35
7.	Principles of laboratory investigations for differential diagnosis	25
8.	Paediatric surgeries and post-operative management	30
9.	Clinical symptomology and pathophysiology of locomotor disorders	35
10.	Assessment of progressive locomotor disorders –neuropathic and myopathic	35
11.	Management of congenital locomotor disorders including prosthetic and orthotic management	25
12.	Management of neuropaediatric patients (NDT)	25
13.	Disorders of perception and sensory integration	15
14.	Integrated approach in management of paediatric disorders	20
15.	Motor learning process-Theory and Techniques	20
16.	CBR in Paediatric conditions	20

Recommended Books

1. Physical therapy assessment in early infancy – Wilhelm Churchill Living stone, New York. 1993.
2. physical therapy for children - Campbell Suzann K, W.B Saunders, Philadelphia, 1994.
3. Elements of paediatric physiotherapy – Eckerie P. Churchill Livingstone, Edingburg, 1993.
4. Physiotherapy in paediatrics - Shepherd R. Heinmann, London, 1980 2nd edition
5. A Manual of neonatal intensive care-Robert N.R.C. Edward Arnold, London 1985

Elective Subject
Physiotherapy in Obstetrics & Gynaecology

SYLLABUS

COURSE OUTCOMES

At the end of the course students will be able to...

- CO1:** Outline the fundamental knowledge in anatomy and physiology of female reproductive system
- CO2:** Describe the procedures of obstetrics & Gynaecological surgeries
- CO3:** Acquire the knowledge to carry out the assessment and physiotherapy management of women with obstetrics and gynaecological conditions
- CO4:** Demonstrate various treatment techniques specifically appropriate for each condition in obstetrics and gynaecology.
- CO5:** Conduct the antenatal and postnatal classes independently.
- CO6:** Demonstrate the application of periniometer, vaginal cones, swissball & electrotherapy modalities in the assessment and management of obstetrics and gynaecological conditions.

Unit	Topics	Hours
1	Developmental anatomy- Embryology & foetal development Review of pelvic anatomy, types of pelvis, pelvic floor muscles, pelvic organs, reproductive tract and abdominals, internal and external genitalia.	25
2	Physiology of female reproductive system, menstrual cycle and its integration. Gynaecological infections, pelvic inflammatory diseases, pelvic pain	14
3	Urinary dysfunction, abortion and its types, breast cancer its screening procedures, mastectomy.	13
4	Types of prolapse, menopause and osteoporosis, gynaecologic problems in adolescent population.	12
5	Gynaecological surgeries-Laparoscopy and laser surgeries in gynaecological condition, gynaecologic problems in Female athletes	17
6	Clinical and physical therapy assessment in Obstetrics & Gynaecology conditions.	13
7	Internal evaluation of pelvic floor muscle grading-indication and contraindication, active pelvic floor muscle exercises, impairment of pelvic floor muscles and its PT management.	25
8	Levator ani syndrome, coccydynia, vulvodynia, vaginismus, anismus, dyspareunia and its PT management.	25
9	Pre and post physiotherapy management for Gynaecological surgeries.	15
10	Effect of altered tone of hip and trunk muscles over pelvic floor muscles.	15
11	Active pelvic floor muscle exercises, impairment of pelvic floor muscles and its PT management	14
12	Electrotherapeutic modalities in Gynaecological conditions: Bio feedback, relaxation techniques, vaginal cones	15
13	Perineometer, Bladder training, aerobic and anaerobic training.	12
14	Endocrinology in relation to reproduction, physiological changes during pregnancy.	16
15	Musculoskeletal changes during pregnancy, common complications 15 during pregnancy and its PT management.	

16	Stages and mechanism of labour, complication in labour	10
17	Types of assisted deliveries, Caesarean section, Dilation and evacuation, Suction evacuation, water birth, high- risk pregnancies	10
18	Antenatal classes, Swiss ball in pregnancy	20
19	Electrotherapy modalities in obstetrics	20
20	Physiotherapy in Labour, Breast feeding positions	11
21	Episiotomy and its PT management	13
22	Perineal massage, Breast engorgement and its PT management	15
23	Aerobics, pilates, weight training during and after Pregnancy, management of edma in pregnancy.	15
24	Physiotherapy management of gestational diabetes mellitus, High risk pregnancy, water birth	15
25	Physical therapy management of common problems in antenatal and post natal period	25
Total		400

Recommended Books

1. Physiotherapy in Obstetrics & Gynaecology- Polden & Mantle, Jaypee Brothers, New Delhi, 1994.
2. Physiotherapy in obstetrics and gynaecology- Jenette Haslam; Sue Barton; Jill Mantle, Butterworth Heinemann ,Edinburgh,2005
3. “Women’s health: A textbook for physiotherapists”- Ruth Sapsford, Joanne Bullock, Sue Markwell, Bailliere Tindall, 1998
4. “Obstetric and gynaecologic care in physical therapy”- Rebecca G Stephenson, Linda J O connor, slack incorporated 2nd edition, 2000
5. Therapeutic exercise foundations and techniques- Carolyn kisner, Colby allen iynn, 5th edition.
6. Therapeutic exercise: Moving towards function- charrie hall an lori thein brody- Lippincott Williams and Wilkins-2005
7. Shaw’s textbook of gynecology- V.G. Padubidri , S.N Daftary- Elsevier India P Ltd -2008
8. Williams Obstetrics- Gary Cunningham et al- Mc Graw Hill professional-2001

E - JOURNALS

Sl.No	Title	Publisher	Access Point
1	Archives of Physical Medicine and Rehabilitation	Elsevier Science	Science Direct
2	Manual Therapy	Elsevier Science	Science Direct
3	Physical Therapy in sport	Elsevier Science	Science Direct
4	Clinical Journal of Sport Medicine	Lippincott Williams & wilkins	Wolter Kluwver
5	Exercise & Sport Sciences Reviews	Lippincott Williams & wilkins	Wolter Kluwver
6	Intl . JI of Rehabilitation Research	Lippincott Williams & wilkins	Wolter Kluwver
7	Jl. of Cardiopulmonary Rehabilitation & Prevention	Lippincott Williams & wilkins	Wolter Kluwver
8	Pediatric Physical therapy	Lippincott Williams & wilkins	Wolter Kluwver
9	Spine	Lippincott Williams & wilkins	Wolter Kluwver
10	Stroke	Lippincott Williams & wilkins	Wolter Kluwver
11	Clinical Rehabilitation	Sage Publications	London
12	The Canadian Journal of Occupational Therapy	Sage Publications	Proquest
13	Newzealand Journal of physiotherapy	Newzealand society of Physiotherapists	Wellington
14	Physical Therapy	American Physical Therapy Association [APTA]	Washington
15	Clinical therapeutics	Elseveir	Bridgewater
16	Journal of hand Therapy	Elseveir	Philadelphia
17	Journal of Rehabilitation	National rehabilitation counseling Association	Alexandria
18	International Journal of Therapies and Rehabilitation Research	International Journal of Therapies and Rehabilitation Research	Trichy

19	Journal of rehabilitation research and development	Superintendent of Documents, Washington	Washington
20	Cardiopulmonary physical therapy journal	Cardiopulmonary physical therapy journal	La Crosse
21	Orthopedics	Slack Incorporated	Thorafare
22	BMC Neurology	Biomedcentral	London
23	Journal of pediatric Neurology	Journal of pediatric Neurology	Van
24	The Lancet Neurology	Elsevier	London
25	Clinical Neurology and Neurosurgery	Elsevier	Assen

Print Journals : Nitte (Deemed to be University)
 Journal of Health Sciences
