DAYANANDA SAGAR UNIVERSITY

ShavigeMalleshwara Hills, Kumaraswamy Layout,
Bengaluru- 560078, Karnataka.

SCHOOL OF HEALTH SCIENCES

COLLEGE OF PHYSIOTHERAPY

REGULATIONS
FOR
MASTER OF PHYSIOTHERAPY (MPT) – 2016

(With Effect from 2016-17)

GOVERNING REGULATIONS FOR
MASTER OF PHYSIOTHERAPY PROGRAM(MPT) - 2017

PREAMBLE

The Post Graduate program in Physiotherapy (MPT) prepares the students to develop excellent skills in clinical areas. The Program will build confidence in the students to work in challenging environment and enable to work independently as specialists, consultants, educators, administrators and researchers in a wide variety of professional settings. Post Graduate physiotherapists will have developed an ability to act with professionalism and integrity, work within agreed professional, ethical and legal frameworks, processes to maintain and improve standards of health care. Post graduate program in physiotherapy is a two year program consisting of classroom teaching (Including seminars, journal reviews, case presentations and case discussions) and clinical posting. It builds upon and extends competencies acquired at the graduate level. The program prepares physiotherapists for leadership position in physiotherapy and health care, education, administration and research in a wide variety of professional settings in meeting the National priorities and the changing needs of the society. Further the program encourages accountability and commitment to lifelong learning which fosters improvement of quality care.

DEFINATIONS OF KEY WORDS

(i) **Academic Year:** Each academic year consists of Forty Eight weeks duration.

(ii) **Course:** Usually referred to as a subject. A course may consist of any of Lecture/Tutorials/Laboratory/Practical/Seminar/CasePresentations/Clinical Teaching and Training/Project.

(iii) **Main Course:** A Course for which university examination is conducted.

(iv) **Subsidiary Course:** A course for which university exam is not conducted but the candidates' performance is assessed by continuous and internal evaluation.

(v) **First Attempt:** If a candidate has completed all formalities of academic requirement in a term and become eligible to attend the examinations and attend the entire end year examinations, such attempt shall be considered as first attempt.

(vi) **Programme:** An educational activity leading to award of a Degree or Certificate.

(vii) **Transcript:** Based on the marks secured, a marks sheet shall be issued after every year to the candidate registered. A transcript comprises of the consolidation of marks sheet of all the four years along with relevant program details.

(viii) **Regular batch & odd batch:** Candidates who fulfil the eligibility criteria for the promotion to the next higher year shall continue in the regular batch whereas those who do not fulfil the eligibility criteria for promotion to the next higher year shall lose a period of six months and will fall into the odd batch.

(ix) **Detention –** withholding of Candidates to take up the University year end Examinations for lack of attendance/internal assessment marks**.**

RULES & REGULATIONS

PG1 The MPT programme offered by the DSU shall be governed by the MPTRules and Regulations.

PG2 TheMPT Rules and Regulations shall be applicable to any new discipline(s) that may be introduced in future.

PG3A candidate becomes eligible for the award of the MPT degree after fulfilling all the academic requirements as prescribed by the MPT Rules and Regulations.

PG4ELIGIBILITY FOR ADMISSION

PG4.1 Candidates who have passed B.Sc (PT) or BPT degree on a full time basis from a recognized university or equivalent and obtained an aggregate minimum of 50% are eligible for admission to MPT.

PG4.2 The Candidates shall be medically fit.

PG5 ACADEMIC SESSION

PG5.1 Each academic year consists of Forty Eight weeks duration. The course shall commence from the month of October of that academic year.

PG5.2 The Board of Management approved schedule of academic activities for a year, inclusive of dates for registration, examinations, vacation breaks etc, shall be laid down in the Academic Calendar for the session.

PG6COURSE STRUCTURE

PG6.1 Medium of instruction, examination and project reports will be in English except in in case of any language subsidiary courses.

PG6.2 In order to qualify for a MPT degree of the DSU, a candidate is required to complete the requirements as prescribed in the scheme/curriculum for a particular programme.

PG6.3 The course work requirements may be broadly divided into following four main groups of subjects:

(i) Theory courses
(ii) Practical courses
(iii) Clinical Training
(iv) Dissertation

PG6.4 The MPT Programme will have a curriculum and syllabi for the courses approved by the Board of Management. Board of Studies will discuss and recommend the syllabi of all

the under graduate courses offered by the department from time to time before sending the same to the Academic Council. Academic Council will consider the proposals from the Board of Studies and make recommendations to the Board of Management for consideration and approval. For all approved courses, the copyright will be with DSU.

PG6.5 Faculty Advisor/Mentor : To help the candidates in planning their courses of study and getting general advice on the academic programme, the concerned department will assign a Faculty Advisor/Mentor for each candidate.

PG7 REGISTRATION

PG7.1 Every candidate is required to register for approved courses through the assigned Faculty Advisor/mentor at the commencement of each year on the day fixed for such registration and notified in the Academic Calendar. The Dean/Principal may cancel the registration of one or more courses if they are found to violate some rules or if there are restrictions imposed due to disciplinary reasons.

PG7.2 Only those candidates shall be permitted to register who have:

(a) The academic eligibility to move to higher years
(b) Cleared all University, Hostel and Library dues and fines (if any) of the previous years
(c) Paid all required advance payments of University and Hostel dues for the current year
(d) Not been debarred from registering on any specific ground.

PG8 EXAMINATION: ASSESSMENT CRITERIA & ELIGIBILITY

Every student is assessed for eligibility to higher semester through Continuous Internal Assessment (CIA) , Internal Assessment Tests (IA) , Viva Voce (VV) and Annual Examination (AE) as prescribed.

PG8.1 The Continuous Internal Assessment (CIA) and Internal Assessment Tests (IA) to be normally conducted all through the academic year in both Theory and Practical courses individually.

PG8.2 The Viva Voce (VV) for the Theory with associated Practical will be conducted during Practical examination , at the end of the year.

PG8.3 The Annual Examination (AE), to be conducted at the end of the academic year.
This shall include a written examination for theory courses and practical examination with built-in oral part for practical courses.

PG8.4 The weightage of marks for CIA , IA , VV and AE is as given in Table 1.

Table 1: Weightage of Marks

SL.No	Courses with Maximum Marks	CIA Maximum Marks	IA Maximum Marks	VV Maximum Marks	AE Maximum Marks
1	150	10	10	30	100
2	100	10	10	--	80

PG8.4.1A student's performance in a course shall be judged by taking into account the results of CIA , IA, VV and AE together.

PG 8.5 . ATTENDANCE ELIGIBILITY

PG8.5.1 Candidates are required to attend all the classes (Lectures, Tutorials, Practical, etc.) for which they have been registered.

PG8.5.2 The candidate shall not be allowed to appear for the Annual Examination if his/her attendance falls below 85% in each course and shall be considered as detained and will not be allowed to appear for Annual Examination for that course.

PG8.5.3 A provision for condonation of 10% of the attendance by the Vice- Chancellor on the specific recommendation of the Principal and Dean, showing reasonable cause such as:

(a) Any medical emergencies / illness where the candidate requires rest for the specified number of days certified by a Government Doctor only / any death in the family (near and dear ones).

(b) If the student represents the University in Sports/ Cultural activities/extra-curricular activities/Co-curricular activities.

(c) If a student presents a Paper in National/ International Conferences or attends any recognized Workshops/Seminars.

PG8.5.4. If the period of leave is for a short duration (less than two weeks), prior application for leave shall have to be submitted to the Principal of the college stating fully the reasons for the leave requested for along with supporting document(s). Such leave will be granted by the Principal of the college. However the student shall comply with 8.5.2 and 8.5.3. of regulations .

PG8.5.5 If the period of absence is likely to exceed two weeks, a prior application for grant of leave will have to be submitted through the Principal of the college to the Dean with supporting documents in each case. The decision to grant leave shall be taken by the Dean on the recommendation of the Principal of the college. However the student shall comply with 8.5.2 and 8.5.3. of regulations .

PG8.5.6. It shall be the responsibility of the candidate to intimate the concerned course instructor(s) regarding his/her absence before availing the leave.

PG8.5.7. In exceptional circumstances, on the recommendations of the Principal of the college and Dean with supporting documents, the Vice Chancellor may condone/relax any of the above requirements to an extent of 10%.

PG8.6 CONTINOUS INTERNAL ASSESSMENT (CIA), INTERNAL ASSESSMENT (IA) &VIVA VOCE(VV)

PG8.6.1 Candidate shall secure minimum of 50% of marks in aggregate in Continuous Internal Assessment (CIA) and Internal Assessment (IA) put together to be eligible to appear for the Annual examination or else considered as detained and should re register for the course to get eligibility.

PG8.6.2 There shall be a provision for improvement if the candidate wishes to improve his , aggregate in CIA and IA put together ,in a particular course with necessary approval from the authorities concerned. This provision is subjected to satisfying the Promotional Criteria as stated in regulation clause PG 10. By opting for improvement in a particular course , all his/her previous credentials pertaining to the particular course will become null and void.

PG8.6.3 The Continuous Internal Assessment (CIA) will be carried out through Self-study Presentation/survey reports/quiz/surprise test/assignments/practical training/presentation in seminar and work shop.

PG8.6.4 Internal Assessment (IA) will be carried out throughout the academic year for a particular course as prescribed in the Scheme of the MPT Program.

PG8.6.4.1 Three tests will be conducted both in Theory and Practical Courses.

PG 8.6.4.2 The average of best Two, out of three tests conducted for each course shall be the Internal Assessment marks in that course.

PG8.6.4.3 Theory and Practical's of a particular course are considered as individual course for the purpose of Internal Assessment.

PG8.6.4.4 Candidates who have missed the Internal Assessment Test on valid reasons can take-up Internal Assessment Test with prior approval of the Principal.

PG8.6.4.5 Permission to take an Internal Assessment Test will be given under exceptional circumstances such as participating in the University activity, admission to a hospital due to illness and a calamity in the family at the time of Internal Assessment Test.

PG8.6.5 The Viva Voce (VV) for the Theory with associated Practical will be conducted during Practical examination, at the end of the year

PG9 EVALUATION OF PERFORMANCE

PG9.1 Theory and Practical of a particular course are considered as individual courses for the purpose of pass criteria.

PG9.2 If the candidate fails either in Theory or its Associated Practical, the candidate shall take the re-examination in both Theory and Practical.

PG9.3 A student's performance in a course shall be judged by taking into account the results of CIA , IA, VV and AE together

PG9.3.1 A student has to obtain and satisfy the following conditions to be declared as pass in Theory course:

(i) Minimum 50% of marks in CIA and IA put together
(ii) Minimum 40% of marks in AE
(iii) Minimum 50% of marks in aggregate considering CIA, IA,VV(if applicable) and AE put together

PG9.3.2 A student has to obtain and satisfy the following conditions to be declared as pass in Practical/Clinical Examination in a course:

(i) Minimum 50% of marks in CIA and IA put together
(ii) Minimum 40% of marks in AE
(iii) Minimum 50% of marks in aggregate considering CIA, IA and AE put together

PG 9.3.3 A student has to obtain and satisfy the following conditions to be declared as pass in Dissertation :

(i) minimum 50% of marks in CIA
(ii) minimum 50% of marks in Oral Examination
(iii) minimum 50% of marks in aggregate considering both CIA & Oral examination

PG 9.4 The results of performance of the candidates in the end examination shall be announced by the Controller of Examinations.

PG9.5 DISSERTATION AND ITS EVALUATION

PG9.5.1 Every candidate pursuing MPT is required to carry out a selected research project in their speciality under the Guide.

PG9.5.2 The Guide must be a teacher with MPT qualification with a minimum of 5 years of fulltime experience.

PG9.5.3 The synopsis of the Dissertation shall be submitted within six months from the date of joining to the first year of MPT.

PG9.5.4 Research committee shall clear the synopsis and approve to carry out the dissertation work upon the clearance from the ethical committee wherever applicable.

PG9.5.5 Research committee shall be comprised of internal and external members.

PG9.5.6 The procedure for submission of Dissertation and conduct of oral examination are as follows:

a. The guide(s) shall be satisfied that the works has been completed and verify for plagiarism and issue a letter to that effect.
b. Each student shall submit three bound copies of the dissertation duly certified by the Guide, HOD and the Dean, to the Registrar (Evaluation) through the Dean one month prior to the university examination.
c. The Dean shall forward the list of the examiners.
d. The COE shall send the Dissertation for evaluation to one of the examiners approved by the Dean.
e. If the external examiner recommends/suggests some correction the candidate shall incorporate the corrections/suggestions or substantiate for not doing so. The corrections or reasons for not doing so shall be verified at the time of oral examination.
f. If the examiner rejects the Dissertation for what so ever reasons cited, it shall be sent to another examiner for evaluation.
g. If the second examiner also rejects the Dissertation then in such a case the candidate will have to re-register for the Dissertation and carry out the work.
h. On getting the satisfactory report in the prescribed format from the examiner, Controller of Examination shall inform the guide(s) to conduct oral examination.
i. The Dean shall fix the date of oral examination; after receiving the intimation from Controller of Examination and make an announcement (through notices and e-mail)
j. Oral examination shall be conducted by the internal examiner (guide) & external examiner.

UG9.5.7 A student has to obtain and satisfy the following conditions to be declared as pass in Dissertation :

(i) minimum 50% of marks in CIA
(ii) minimum 50% of marks in Oral Examination
(iii) minimum 50% of marks in aggregate considering both CIA & Oral examination

PG9.6 Declaration of Class

PG 9.6.1A candidate shall be awarded the class based upon his/her aggregate performance in first and second Year.

PG 9.6.2A candidate shall be awarded the class based on the marks obtained in the first attempt.

PG 9.6.3 Acandidate securing 75% of marks or more of grand total marks prescribed will be declared to have passed the examination in First Class with Distinction.

PG 9.6.4A candidate securing 65% of marks or more but less than 75% of grand total marks prescribed will be declared to have passed the examination in First Class.

PG 9.6.5A candidate securing 50% of marks or more but less than 65% of grand total marks

prescribed will be declared to have passed the examination in Second Class.

PG10PROMOTION CRITERIA AND ENROLLMENTS TO HIGHER YEARS

During registration for the higher Years, the following promotional Criteria/conditions should be satisfied.

PG 10.1 A student shall clear all the courses in the first year to be eligible to appear for the second year annual examination.

PG 10.2 If a candidate fails in either theory or practical head he/she has to reappear both for the theory and associated practical.

PG 10.3 Provisional admission shall be given for a period of six months for the weaker students to appear in supplementary examination.

PG 10.4 If a candidate does not pass the First year courses even in the supplementary examinations his/her provisional registration shall be cancelled. She/he shall reregister for the second year only once she/he clears first year supplementary examination and the duration of the second year will be one year from the time she /he clears the first year supplementary examination.

PG 10.5 If the candidate passes the first year in the supplementary examinations his/her provisional registration shall be confirmed.

PG 10.6 A candidate needs to appear only for the failed courses along with the associated practical heads in first year, however if a candidate fails in any one of the courses in the second year, she/he will have to appear for all the second year courses, including the practical heads.

PG11 DURATION OF THE PROGRAMME

PG 11.1. Normally a candidate should complete all the requirements for Postgraduate programme in Two years. However, academically weaker candidates who do not fulfil some of the requirements in their first attempt and have to repeat them in subsequent semesters may be permitted up to Four consecutive years (from the first year of registration) to complete all the requirements of the degree.

PG12 TERMINATION FROM THE PROGRAMME

PG12.1 A candidate may also be compelled to leave the Program in the University on disciplinary grounds.

PG12.2 On having been found to have produced false documents or having made false declaration at the time of seeking admission.

PG12.3 On having been found to be pursuing regular studies and/or correspondence courses (leading to degree or diploma) in any other college, university or an educational institution simultaneously.

PG12.4 On having been found to be concurrently employed and performing duty or carrying out business in contravention to academic schedules of the University and without seeking approval from the University.

PG13 TEMPORARY WITHDRAWAL FROM THE UNIVERSITY

PG13.1 Candidate who has been admitted to MPT programme of the University may be permitted to withdraw temporarily from the University on the grounds of prolonged illness or grave calamity in the family for a period of one academic Year, provided:

PG13.1.1 He/she applies to the University within at least 6 weeks of the commencement of the Term or from the date he last attended his/her classes whichever is later, stating fully the reasons for such withdrawal together with supporting documents and endorsement of his/her guardian.

PG13.1.2 The University is satisfied that, counting the period of withdrawal, the Candidate is likely to complete his/her requirements of the MPT Degree within the time limits specified in Clause UG11.1

PG13.1.3 There are no outstanding dues or demands in the University/Hostel/ Department/ Library.

PG13.1.4 Normally, a candidate will be permitted only one such temporary withdrawal during his/her tenure as a candidate of the undergraduate programme.

PG14 TRANSFER OF CANDIDATES

PG14.1 Transfer of candidates from higher education institutions outside University shall be considered at the beginning of academic year but subject to confirmation of equivalence.

PG14.2 The candidates shall apply for equivalence with the No-objection for admission to DSU from the University where they are perusing their study.

PG14.3 The candidates must have passed in all courses in the earlier years prior to transfer.

PG15 ELIGIBILITY FOR THE AWARD OF MPT DEGREE

A candidate shall be declared to be eligible for the award of MPT degree if he/she has:

PG15.1 Completed all the requirements for the degree at the end of the programme.

PG15.2 Satisfactorily completed all the mandatory and subsidiary courses.

PG15.3 No dues to the University, Department or Hostels.

PG15.4 No disciplinary action pending against him/her.

PG 16 AWARD OF DEGREE

The award of MPT degree must be recommended by the Academic Council and approved by the Board of Management and Board of Governors of the DSU.

PG17 CONDUCT AND DISCIPLINE

PG17.1 Candidates shall conduct themselves within and outside the precincts of the University in a manner befitting the candidates of an institution of national importance. The University has a separate ordinance Code and Conduct of Candidates which is applicable to all candidates of the University.

PG18 REPEAL AND SAVINGS

Notwithstanding anything contained in these Regulations, the provisions of any guidelines, orders, rules or regulations in force at the University shall be inapplicable to the extent of their inconsistency with these Regulations. The Academic Council , Board of Management and Board of Governors of the DSU of University may revise, amend or change the regulations from time to time.

PG19 INTERPRETATION

Any questions as to the interpretation of these Regulations shall be decided by the University, whose decision shall be final. The University shall have the powers to issue clarifications to remove any doubt, difficulty or anomaly which may arise during the implementation of the provisions of these Regulations.

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SCHOOL OF HEALTH SCIENCES

COLLEGE OF PHYSIOTHERAPY

SCHEME & SYLLABUS
FOR
MASTER OF PHYSIOTHERAPY (MPT) – 2015

(With Effect from 2015-16)

YEAR – I

SL	COURSE CODE	COURSE TITLE	NO. OF TEACHING HOURS			SCHEME OF EVALUATION							TOTAL
						THEORY				PRACTICAL			
			D	CL	C	W	VV	CA	IA	P	CA	IA	
1	15MPT501	RESEARCH AND ADMINISTRATION	01		01	80		10	10				100
2	15MPT502	APPLIED SCIENCES	01	02	02	80		10	10				100
3	15MPT503	FUNCTIONAL DIAGNOSIS AND THERAPEUTICS	02	--		100	30	10	10				150
4	15MPT571	CLINICAL TRAINING	--	24	12								
5	15MPT572	FUNCTIONAL DIAGNOSIS AND THERAPEUTICS	--	04	02					80	10	10	100
6	15MPT581	DISSERTATION	--	--	05								
GRAND TOTAL			**04**	**30**	**22**	**260**	**30**	**30**	**30**	**80**	**10**	**10**	**450**

Note: CR – Credit Subject, AU – Audit Subject, D – Didactic, CL – Clinical, P – Practical, C – No. of Credits, W – Written, VV – Viva Voce, CA – Continuous Assessment, IA – Internal Assessment

YEAR – II

SL	COURSE CODE	COURSE TITLE	NO. OF TEACHING HOURS			SCHEME OF EVALUATION							TOTAL
						THEORY				PRACTICAL			
			D	CL	C	W	VV	CA	IA	P	CA	IA	
1	15MPTY601	SPECIALTY GENERAL	02	--	02	100	30	10	10				150
2	15MPTY602	RECENT ADVANCES AND EVIDENCE BASED PRACTICE	01	--	01	80		10	10				100
3	15MPTY62X	SPECIALTY ELECTIVE	01	--	01	100	30	10	10				150
4	15MPT671	CLINICAL TRAINING	--	24	12								
5	15MPTY672	SPECIALTY GENERAL	--	02	01					80	10	10	100
6	15MPTY673	SPECIALTY ELECTIVE	--	04	02					80	10	10	100
7	15MPT681	DISSERTATION	--	--	10		80	20					100
GRAND TOTAL			**04**	**30**	**29**	**280**	**140**	**50**	**30**	**160**	**20**	**20**	**700**

Note: CR – Credit Subject, AU – Audit Subject, D – Didactic, CL – Clinical, P – Practical, C – No. of Credits, W – Written, VV – Viva Voce, CA – Continuous Assessment, IA – Internal Assessment

ELECTIVE / SPECIALIZATION GROUPS

1. ORTHOPAEDICS:

COURSE CODE	COURSE TITLE
15MPTO601	MUSCULO SKELETAL DISORDER
15MPTO602	RECENT ADVANCES AND EVIDENCE BASED PRACTICE
15MPTO621	MANUAL THERAPY
15MPTO622	SPORTS REHABILITATION

2. NEURO SCIENCES:

COURSE CODE	COURSE TITLE
15MPTN601	NEURO PSYCHOSOMATIC DISORDERS
15MPTN602	RECENT ADVANCES AND EVIDENCE BASED PRACTICE
15MPTN621	ADULT NEUROLOGY
15MPTN622	PEDIATRIC NEUROLOGY

3. CARDIOPULMONARY SCIENCES:

COURSE CODE	COURSE TITLE
15MPTP601	CARDIOPULMONARY DISORDER
15MPTP602	RECENT ADVANCES AND EVIDENCE BASED PRACTICE
15MPTP621	INTENSIVE CARE MANAGEMENT
15MPTP622	CARDIOPULMONARY REHABILITATION AND FITNESS

4. COMMUNITY PHYSIOTHERAPY:

COURSE CODE	COURSE TITLE
15MPTC601	COMMUNITY BASED REHABILITATION
15MPTC602	RECENT ADVANCES AND EVIDENCE BASED PRACTICE
15MPTC621	GERIATRICS
15MPTC622	OCCUPATIONAL HEALTH

5. WOMEN HEALTH AND PAEDIATRIC:

COURSE CODE	COURSE TITLE
15MPTW601	OBG AND PEDIATRIC CARE
15MPTW602	RECENT ADVANCES AND EVIDENCE BASED PRACTICE
15MPTW621	WOMEN HEALTH
15MPTW622	PAEDIATRIC REHABILITATION

YEAR : I YEAR
COURSE CODE : 15MPT501
TITLE OF THE COURSE : RESEARCH AND ADMINISTRATION

RESEARCH METHODOLOGY

1. Introduction to research: Terminology in research [defining a research question, review of literature, research process]
2. Types of research:Qualitative and quantitative
3. Study design: Case study, case series, survey, Delphi process, pilot study, pre and post design, epidemiology study design (longitudinal, cohort, case control, prevalence etc.), repeated measure design, randomized controlled design.
4. Sampling design: Sampling techniques (population, sample, sample size determination- based on the study design, sampling methods, sampling errors)
5. Outcome measures: Use of outcome measures in rehab measures, psychometric properties of measurement(reliability, validity, responsiveness, sensitivity, specificity, MCID etc.), Measurement errors.
6. Data collection and analysis:Technique of data collection, tools, data processing, interpretation and presentation of data in graphical representation.
7. Scientific writing:Definition, kind of scientific documentation (research paper, review paper, books, review and meta-analysis, thesis, conference and project reports)
8. Presentation and publication of research:step and process, significance of report writing, step in report writing, precaution in writing a research report, oral and poster presentation of research paper in conference, preparation of abstract.
9. Critical appraisal of a research.

BIOSTATISTICS

1. Introduction to biostatistics:Terminology, definition, application and uses of biostats, frequency distribution.
2. Descriptive statistic, measure of central tendency, measure of dispersion and measure of asymmetry.
3. Hypothesis testing (test of significance, type1 and type 2 error, confidence interval,power analysis.)
4. Parametric and non-parametric:T-test, ANOVA, ANCOVA, chi-square, MannWhitney u-test, Wilcoxon test, Kruskal-Wallis test, Friedman's test and z test.
5. Correlation and regression.
6. Epidemiological measure:Rate, ratio, proportion, incidence, prevalence, relative risk, ratio risk, odd'sratio, professional practice.

ETHICS

1. Ethical issues in physiotherapy practice- clinical, research, academic.
2. Administration, legislation, rules and regulation governing physiotherapy practice n- national and international(IAP and WCPT)
3. Scope of physiotherapy in hospital, community and industry.
4. Education- formal and non-formal, philosophy of health, education, circular planning.
5. Teaching techniques-teaching-learning method to facilitate learning, method for facilitate learning, use of audio-visual aid, clinical teaching.
6. History taking, assessment, tests, patient communication, documentation of findings, treatment organization and planning, execution of intervention.
7. Principal of management, planning, organization, budget, policy process and quality assurance.
8. Documentation of rehabilitation, assessment and management… international classification of functioning, disability and health format (ICF).
9. Exercise prescription for health and fitness.

YEAR : I YEAR
COURSE CODE : 15MPT502
TITLE OF THE COURSE : APPLIED SCIENCES

BIOMECHANICS AND CLINICAL KINESIOLOGY:

1. Biomechanics of tissues, structure of musculo skeletal system and clinical application.
   Skeletal muscle, bone, articular cartilage, tendon, ligament, peripheral nerves.
2. Normal and applied biomechanics of upper extremity, lower extremity, vertebral column thoraxand chest wall (ventilation and circulation) and TMJ.
3. Kinetic and kinematic analysis of body balance, equilibrium, integrated function (gait, posture and ADL).
4. Ergonomic approach to lifting and handling, work space and environment, patient position, body mechanics and transfer techniques.

EXERCISE PHYSIOLOGY:

1. Energy sources, production, expenditure and transfer at rest and various physical activities.
2. Response and adaptation of various systems to exercise and training (aerobic, anaerobic and flexibility).
3. Aerobic and anaerobic exercises – principles of training, factors affecting aerobic and anaerobic training and response, types of training, overtraining, de-training, DOMS, specific aids to enhance performance and conditioning.
4. Environmental influence on exercise and performance – high and low altitude and hypoxia, hypobaric and hyperbaric, hot and cold environment, thermoregulation, dehydration and rehydration, acclimatization.
5. Fatigue – classification, physiology and assessment.
6. Considerationof age and gender in exercise and training.
7. Nutrition – recommended intake, role in exercise, supplementarynutrition and deficiencies.
8. Body composition and diet – assessmentof body composition, obesity and weight control.

ELECTRO PHYSIOLOGY:

1. Anatomy and physiology of peripheral nerve, muscle, and NMJ.
2. Electrical properties of muscle and nerve.
3. Introduction for neuro muscular electrical stimulation.
4. Classification, components and electro physiological assessment.

5. Electrical stimulation and its effects on various systems.
6. Muscle plasticity in response to electrical stimulation.
7. Safety consideration in electro therapy

YEAR : I YEAR
COURSE CODE : 15MPT503
TITLE OF THE COURSE : FUNCTIONAL DIAGNOSIS AND THERAPEUTICS

FUNCTIONAL DIAGNOSIS

1. Clinical examination in general and detection of movement dysfunction including Gait.
2. Developmental screening, motor learning, motor control assessment.
3. Principles of pathological investigations and imaging techniques related to neuromuscular skeletal and cardiopulmonary disorders with interpretation.
4. Anthropometric measurement.
5. Health related physical fitness assessment.
6. General assessment for orthopedic, neurological and cardiopulmonary conditions.
7. Basics of exercise ECG testing and monitoring, PFTandspirometry.
8. Basics of electrophysiological testing and diagnosis FG test SD curve, NCV, EMG, ECG, Evoked potentials.
9. Physical disability evaluation and diagnosis.
10. Evaluation and theories of aging.

THERAPEUTICS:

1. Pain (neurobiology, various theories, modulation and management of pain).
2. Theories of motor control and motor learning.
3. Use of exercise therapy technique and application on various types of cases.
4. Application of electrotherapy techniques on patients, monitoring of dosage and winding up procedures.
5. Massage, mobilization and manipulation.
6. Facilitation and inhibition techniques.
7. General guidelines to be followed in burn rehabilitation and cancer rehabilitation protocol.
8. Physiotherapy following plastic surgery.
9. Yoga-concept of yogic practices.
10. Aids and appliances, adaptive functional devices to improve movement dysfunction.

SPECIALTY : ORTHOPAEDICS

YEAR : II YEAR
COURSE CODE : 15MPTO601
TITLE OF THE COURSE : MUSCULO SKELETAL DISORDERS

1 Exercise Physiology, Fitness Testing and Exercise Prescription
2 Orthopaedic Physical Assessment
3 Principles of Treatment of Common Sports Injuries, Protocols and their Rationale
4 Biomechanics and Pathomechanics of Common Musculoskeletal Conditions.
5 Hand: Functions, Assessment, Treatment of Common Conditions i.e., Hansen's Disease, Rheumatoid Arthritis, Spastic Hand, Complex Regional Pain Syndrome (Reflex sympathetic Dystrophy) , Tendon Injuries, Stiff Hand.
6 Advanced Electrotherapeutics:
- Physiology of Pain
- Pain Management Modalities and Theory Rationale
- Electrodiagnosis:Theoretical knowledge of Electromyography& Nerve Conduction Velocity Testing
- Normal and in Neuro-musculoskeletal Conditions

7 Basic Knowledge of common drugs used in Orthopaedics:
- Effects, Interactions & Relevance to Therapeutic Modalities (anti-inflammatory, analgesics, antipyretics, antibiotics, antihypertensive, diabetic drug therapy)

8 Principles of Different Schools of Manual Therapy:
- Cyriax
- Maitland
- David Butler &Shacklock
- McKenzie
- Kaltenborn
- Mulligan
- Neuromuscular Techniques

9 Biomechanical Properties of Basic Connective Tissue
10 Basic Knowledge of Radiology:
- Plain Radiographs
- Bone Scans
- Computed Tomography / Magnetic Resonance Imaging

11 Physiotherapeutic Assessment and Management of the Following Conditions :
- Degenerative Joint Disorders
- Seronegative& Positive Arthritic Disorders
- Infections: Osteomyelitis, Septic Arthritis & Tubercular
- Nerve Injuries & Entrapment Neuropathies (including Orthotics)
- Fractures, Dislocations & their Complications

- Amputation (including Prosthetics)
- Cervical & Lumbar Disorders
- Spinal Cord Injury
- Arthroplasty: Excision, Partial & Total Joint Replacement of Upper /lower Limb
- Arthrodesis & Osteotomies
- Cumulative Trauma Disorders
- Soft Tissue Injuries
- Metabolic and Endocrine Disorders
- Fibromyalgia
- Burns
- Paediatric Conditions & Related Musculoskeletal Surgeries

YEAR : II YEAR
COURSE CODE : 15MPTO621
TITLE OF THE COURSE : MANUAL THERAPY

1. Clinical Reasoning in Manual Therapy
    - Hypothesis Generation
    - Expert Reasoning Strategies
    - Clinical Reasoning Errors
    - Pattern Recognition
    - Role of Reassessment in Reasoning
    - Hypothesis Categories in Manual Therapy.
2. McKenzie's School of Thought :
    - Elaborate the Classification of Spinal Pain as adopted by McKenzie – Postural, Dysfunction and Derangement.
    - Quebec task force classification of Spinal disorders
    - Assessment and Treatment procedures
3. Neurodynamics (Shacklock) and Neural tissue Mobilization (Butler)
    - Basics of Anatomy, Physiology ,Biomechanics of Neural tissue
    - Clinical Reasoning, Principles of Subjective, Objective, Treatment and Reassessment in Spinal and Extremity Adverse Neural Tension Disorders
    - Clinical Presentation of Intraneural and Extra Neural Pathology
    - Indication, Contraindication and Precautions in Altered Neurodynamicsand Management of Upper and Lower Extremity and Spine
4. Maitland's School of Thought:

    Principles of Subjective Examination and PhysicalExamination, Treatment, Re-Assessment of Spinal andPeripheral Joints Problems
    - Movement Diagram its Application
    - The Manipulative VBI testing-Australian Protocol Approach,& its Application
    - High Velocity Thrust Techniques
    - Clinical Presentation and Management of a variousPeripheral and Vertebral Neuromusculoskeletal Conditions
5. Combined Movements (B.C.EDWARDS)
    - Regular &Irregular Patterns in Cervical Thoracic & Lumbar Regions
    - Spinal Dysfunction Diagnosis and Treatment using Combined Movements
6. Cyriax'sSchool of Thought :
    - History, Physical Examination -Selective Tissue Tension Tests, Management Strategies in Spinal and Peripheral Joint & Soft Tissue Dysfunction.
    - Techniques: DeepTransverse Friction, Massage, Manipulation, Injection
7. Mulligan's School of Thought:
    - Principles of Assessment and Treatment Using Mulligan's Concept
    - Natural Apophyseal Glides (NAGS), Sustained Natural Apophyseal Glides (SNAGS) , Reverse Natural Apophyseal Glides (RNAGS), Mobilizations With Movement (MWM)

- Application in Spinal and Peripheral Joint Dysfunction

8. Osteopathic and Chiropractic Schools of Thought :
- Theoretical Principles of Assessment And Treatment

9. Positional Release Techniques :
- Assessment and Treatment Procedures
- Strain and Counter Strain Technique
- Functional Technique

10. Neuromuscular Techniques:
- Assessment and Treatment Procedures
- Integrated Neuromuscular Inhibition Techniques

11. Neuro-Musculoskeletal Taping Techniques
Peripheral Joint And Spinal Joint Dysfunctions

12. Pilates – School of Thought

13. Movement Impairment Syndromes- Shirley Sharman
- Diagnosis and Treatment of Movement Impairment Syndromes

14. Myofascial Release Techniques:
- Trigger Point Therapy
- Principles of Assessment and Treatment

15. Muscle Energy Technique:
- Theories of Spinal and Peripheral Dysfunction
- Fryette's laws of Physiological Spinal Motion
- Segmental Vertebral Dysfunction – Neutral Rotation and Side flexion (NRS), Extension Rotation and Side flexion (ERS), Flexion Rotation & Side Flexion(FRS)
- Screening Examination, Scanning Examination, Skill Rolling, Segmental Definition (Diagnosis)
- Treatment using Muscle Energy Techniques

16. Pain Sciences:
- Models of Pain & Disability
  - Biomedical and Biopsychosocial Model
  - Mature Organism Model
  - Main's, Orchestra
  - Fear Avoidance Model
  - Patient Centered Model
- Basic Molecular Biology, Neurobiology, Stress Biology and Pain
- Integration of Neurobiology into Clinical Reasoning Models
- Pain Deconstruction into Pathobiological Mechanisms
- Peripheral and Central Pain Mechanisms, Theory of Modulation of Pain
- Identification of Risk Factors for Chronicity
- Pain Measurement Tools & Management Strategies Via Physiotherapy
- Merging Bio-psychosocial Approaches into Physiotherapy Management

- Multidisciplinary Pain Management Strategies
- Diagnostic Dilemmas and Common Pain States

Drug Therapy, Cultural and Age Influences on Pain, Placebo &Nocebo

17. Motor Control: Peripheral and Spinal Pain

- Theories of Motor Control and Motor Learning
- NeuromusculoskeletalSystems; Movement Development
- Causes and Mechanisms of Abnormal Movement
- Injury and Recovery of Function
- Application of Motor Control and Motor Learning Theory into Clinical Practice
- Functional Stability Retraining: Principles and Strategies

18. Miscellaneous:

- Evidenced Based Practice in Manual Therapy
- Medico-Legal Issues
- Effective Documentation
- Effective Communication

19. Practical:

- Demonstration of Techniques
- Hand-On- Practice of Assessment and Treatment Techniques of various Schools of Thought

YEAR : II YEAR
COURSE CODE : 15MPTO622
TITLE OF THE COURSE : SPORTS REHABILITATION

1 History of Sports Medicine
- Ancient Greece and Gladiators, Hippocrates and Galon
- FIMS and its Evolution

2 Primary Care Sports Medicine its Scope and Philosophy
- Medical research in Injury Prevention

3 Medico-Legal Issues
- Negligence, Liability, Litigation
- Basic Principles to Reduce the Threat of Litigation
- Act of God
- Assumption of Risk
- Contributing Negligence
- Comparative Negligence
- Legal rights of Disabled Athletes

4 Sports Psychology
- Role of Sports Psychologist
- Predictive Models of Injury
- Psychological Factors involved in Performance
- Treatment for Injury and Pain
- Injury Prone Profile
- Crisis Intervention
- Techniques of Relaxation

5 Sports Nutrition
- Significance of Nutrition
- Common Food Fads
- Maximizing Energy Stores
- Maintaining Adequate Hydration
- Weight Gain and Loss
- Optimizing Pre-competition Meal
- Ergogenic Aids
- Vegetarianism

6 Sports Physiology
- High Energy Phosphagen System
- Cellular Oxidation
- Aerobic/Anaerobic Glycolysis
- Krebs Cycle
- Interrelationship with Carbohydrates, Protein, Fat, Metabolic Mill
- Energy Systems
- VO_2 Max and O_2 Debt and Deficit and Recovery
- Lung Volumes

- Onset of Blood Lactate Accumulation
- Support systems and their adaptation to aerobic and anaerobic training
- Thermoregulation and Exercises – Altitude Training – Under Water

7 Sports Performance Related
- Muscle Fiber Typing and Prediction of Sports Selection and Performance.
- Anthropometry and Performance
- Body Composition and Measurement – Obesity/Weight Control

8 Sports Pharmacology
- Historical Perspective
- International Olympic Committee and the Ban
- Classification of Doping, Drug Testing, Permitted Drugs
- Ethical Dilemma

9 Principles of Injury Prevention, Diagnosis, Treatment and Rehabilitation
- History Taking
- Intrinsic and Extrinsic Factors
- Work Ergonomics and Leisure
- Training History
- Knowledge of the Sport
- Electrophysical Modalities
- Taping and Splinting Technique
- Aquatic Therapy
- Stretching, Warm up & Cool down
- Speed, Speed Endurance Development, Agility, Power, Balance, Plyometrics& Reaction Time Training
- Overtraining Syndrome

10 Sports related Injuries Upper Limb, Head and Neck
- Specific Protocols for Rehabilitation
- Common Injuries to the Head, Neck, Shoulder, Upper arm, Elbow, Wrist, Hand and Fingers.

11 Sports Related Injuries Lower Limb, Spine
- Common Injuries
- Specific Protocols for Rehabilitation

12 Paediatric Sports Medicine
- Introduction
- Adult and growing Bone
- Training Guidelines
- Nutrition
- Common Problems

13 Exercises in Geriatrics
- Training Guidelines in Geriatric Population
- Training to Maintain Fitness – General Exercise Prescription
- Age Related Changes

14 Sports for the Special Population
- Screening for Participation and Prevention of Injuries and Rehabilitation
- Classification of Sports for Paraplegics
- Mental Retardation
- Wheel Chair Athletes

15 Sports in Chronic Illnesses
- Rheumatoid Arthritis
- Scoliosis
- Diabetes
- Hypertension
- Congenital Heart Diseases
- Bronchial Asthma and Exercise induced Asthma
- Sports anemia
- Epilepsy

16 Sports Specific Injuries in the following Games
- Basket Ball
- Hockey
- Soccer
- Track and Field
- Swimming and Diving
- Racket Sports
- Cycling Injuries
- Volley Ball
- Adventure Sports
- Kabaddi
- Combat Sports
- Martial Arts
- Dance

17 Women
- Gender Differences in Sports Participation
- Effects of Exercise on Menstrual Cycle and Performance
- Exercise and Pregnancy, Lactation, Menopause ,Osteoporosis and Prevention
- Common Injuries in Women
- Care of Breast

18 Promotion of Healthy Lifestyle in the Community

19 Practical
- Sports Biomechanics
- Sports Radiology
- On site Emergencies
- Assessment of Training Shoes
- Biomechanical Analysis, Evaluation of Various Games, Sports and Athletes

- Sports First aid – Complete Programme, Structure Drills & Cardio Pulmonary Resuscitation.
- Training Methods and Assessment of Training Schedules, Nutritional Evaluation and Psychological Counseling
- Attachment to Teams and Covering Matches and Tournaments and providing Rehabilitation and Treatment to Injured Athlete
- Examination of Joints of Upper Limb, Lower limb & Spine
- Travelling with Teams

SPECIALTY: NEUROSCIENCES

YEAR : II YEAR
COURSE CODE : 15MPTN601
TITLE OF THE COURSE : NEURO PSYCHOSOMATIC DISORDERS

1 Neuroanatomy and Neurophysiology
- Sensory System
- Spinal Cord and its Connections
- Brainstem and its Connections
- Cerebellum, Basal ganglia, Cerebral cortex, Limbic system and Hypothalamus
- Neural control, Basis of Muscle Tone, Posture, Complex Movements and Locomotion
- Special Senses
- Peripheral Nerves and Spinal Nerves
- Autonomic Nervous System
- Pain Pathways and Physiology of Pain
- Memory and Learning
- Circulation of Brain
- Fluid Compartments and Fluid Balance in the Central Nervous System
- Blood Brain Barriers

2 Normal Sequential Behavioral & Physiological Changes throughout Developmental Arc

3 Facilitatory& Inhibitory Treatment Techniques and their Neurophysiological Basis

4 Physiotherapeutic Treatment Approaches in Neurological Rehabilitation :
Bobath and (Neuro Developmental Therapy (NDT), Brunnstorm Movement Therapy, Roods approach, Proprioceptive Neuromuscular Facilitation (PNF), Vojta, Sensory Integration Therapy (SI), Motor Relearning Program (MRP),Myofascial Release (MFR).

5 Motor Control, Theories of Motor Control & Motor Development and Principles of Motor Learning

6 Reflex Maturation – Neurophysiological Basis

7 Basic Evaluation Tools in Neurology

8 Special Investigative Procedures (in brief)
- Blood and Cerebrospinal fluid (CSF) – Protein, Glucose Cells
- Electroencephalogram (EEG),Radiographs, Myelogram, Computer Tomography (CT) and Magnetic Resonance Imaging (MRI)of Brain and Spinal Column

9 Disorders of Movements including Lesions in Lower and Upper Motor Neuron, Cerebellum & Basal Ganglia.

10 Musculoskeletal Treatment Concepts Applied to Neurology:
Adverse Neural Tissue Tension Tests in Upper Limb and Lower Limb.

11 Orthotics/ Splinting/Wheel Chair (Planning &Prescription) in Neurological Conditions

12 Repetitive Nerve Stimulation (RNS) and ENMG

13 Basics of Electrophysiology

- Properties of Nerve and Muscle
- Neuromuscular Junction
- Generation and Propagation of Action Potential

14 Basics of Electrodiagnosis

- Historical Background, Methods and Goals of Electrodiagnosis
- Instrumentation

15 Electromyography (EMG)

- Panel Diagram
- Stages of Electromyography, Technique/Procedure
- Indications, Contraindications and Uses
- Quantitative & Qualitative Analysis of the Responses

16 Nerve Conduction Studies

- Basics of Nerve Conduction (Orthrodromic, Antidromic)
- Instrumentation
- Procedure /Technique (Sensory and Motor Nerve Conduction)
- Parameters, its Implication & Factors Affecting Nerve Conduction Studies
- Interpretation of Nerve Conduction Studies (includes practical)

17 Electrical Study of Reflexes

- Definition, Settings, Procedure, Parameters, Clinical Implications and Uses
- Hoffman's Reflex (H-Reflex)
- F-response
- Axon Reflex
- Blink Reflex
- Jaw Jerk

18 Electrical stimulation:

- Principles Underlying Electrical Stimulation Test
- Stimulation Specifications – Normal and Denervated.
- Faradic – Galvanic Test and Strength Duration (SD)Curve Test
- Chronaxie, Rheobase - Curve Assessments

19 Evoked potentials

- Somato Sensory Evoked Potential,
- Motor Evoked Potential,
- Brainstem Evoked Potential &
- Visual Evoked Potential

20 Biofeedback

- Definition and Types
- EMG Biofeedback

Instrumentation, Indication, Contraindication and Uses, Principles of Biofeedback Steps, Procedure/ Technique and Evidences for Practice

21 Spasticity

- Neuropathology
- Assessment
- Medical & Surgical Management
- Rehabilitation Measures

22 Oromotor Rehabilitation

23 Assessment and Management of Neurogenic Bladder

YEAR : II YEAR
COURSE CODE : 15MPTN621
TITLE OF THE COURSE : ADULT NEUROLOGY

1 CerebroVascular Accidents.
- Causes, Types & Pathophysiology
- Investigations, Medical & Surgical Management
- Stroke Syndromes
- Complications and their Management
- Physiotherapy Management

2 Infections of Nervous System
Meningitis, Encephalitis, Guillain-BarréSyndrome (GBS), Bulbar polio, Parasitic Infection &Human Influenza Virus (HIV)

3 Demyelinating Diseases of Nervous System

4 Degenerative and Metabolic Diseases of Nervous System
- Classification
- Differential Diagnosis and Prognosis
- Medical and Surgical Management
- Evaluation
- Rehabilitation

5 Diseases of Spinal Cord
Lathyrism, Transverse Myelitis, Syringomyelia, Radiculopathy, Tumors of Spinal Cord and Vascular Disorders (Infarction)

6 Diseases of Peripheral Nerves
- Classification
- Differential Diagnosis and Prognosis
- Medical and Surgical Management
- Evaluation
- Rehabilitation

7 Diseases of Cranial Nerves

8 Diseases of Muscles
- Classification
- Myopathies, Myotonias, Muscular Dystrophies andNeuromuscular JunctionDisorders

9 Traumatic Brain injury – Adult
- Acute care and Prognostic Outcome
- Coma Stimulation
- Restoration of Motor Control
- Complications and their Management
- Rehabilitation and Community Reintegration

10 Traumatic Spinal Cord Injuries.

- Acute care and Prognostic outcome
- Restoration of Motor Control
- Complications and Management (Autonomic Dyreflexiaand Pressure sore)
- Rehabilitation and Community Reintegration

11 Space Occupying Lesions in Central Nervous System.

- Classification
- Differential Diagnosis and Prognosis
- Psychosocial Problems
- Medical and Surgical Management
- Evaluation
- Rehabilitation

12 Vestibular Disorders and Management.

- Role of Vestibular System in Postural Control
- Postural Abnormalities In Vestibular Disorders
- Vestibular Functions Tests and Clinical Examination
- Central and Peripheral Vestibular Disorders
- Bilateral Vestibular Dysfunctions

13 Disorders of Speech andLanguage, Perception & Cognitive Impairments (Physiotherapy Implications)

- Aphasia, Dysarthria and Dysphonia
- Perceptual Problems
- Dyslexia
- Approaches in Cognitive Rehabilitation

14 Developmental Diseases of Nervous System, Surgical Management and Rehabilitation

15 Medical, Surgical and Physiotherapy Management In Disturbances of Cerebro Spinal Fluid (CSF) and its Circulation

16 Compressive Myelopathies.

- Classification
- Surgical Management (Laminectomy)
- Spinal Stability after Surgery
- Postoperative PhysiotherapyManagement

17 Gait in Neurological Conditions: Assessment and Retraining

YEAR : II YEAR
COURSE CODE : 15MPTN622
TITLE OF THE COURSE : PAEDIATRIC NEUROLOGY

1 Normal Development:
- Intrauterine Life
- Motor Development during Infancy
- Motor Behavior during Early Childhood and Adolescent

2 Reflex and Reactions

3 Assessing Motor Development in Children – Principles of Evaluation and Assessment Screening
- Milani – Comparetti Motor Development Screening Test
- Denver II Development Screening Test
- Neurological Examination of Full Term New Born Infant
- Brazelton Neonatal Behavioral Assessment Scale
- Neurological Assessment of Preterm & Full Term Infant by Dubowitz&Dubowitz
- Movement Assessment of Infants
- Test of Infant Motor Performance and Development
- Alberta Infant Motor Scale
- Gross Motor Performance Measures
- Peabody Developmental Motor Scales
- Bruininks-Oseretsky Test of Motor Proficiency (BOTMP)
- Comprehensive Developmental Scales.
  - ❖ Gessell Developmental schedules
  - ❖ Bayley scales of Infant Development
  - ❖ Neonatal Behavioral Assessment Scale
- Early Intervention Developmental Project
- Gross Motor Function Measure (GMFM)
- Assessment of Functional Capabilities
  - ❖ Paediatric Evaluation Of Disability Inventory
  - ❖ Functional Independence Measure for Children

4 High Risk Infant Assessment and Intervention
- High Risk Clinical Signs
- Neonatal Neuropathology
- Neuromotor Assessment
  - ❖ Apgar Score
  - ❖ Clinical Assessment of Gestational Age
  - ❖ Assessment of Intervention in Neonatal Intensive Care Unit (NICU)
- Follow up Programs for High Risk Conditions
  - ❖ Asphyxia
  - ❖ Lesions with Hypoxic Ischemic Encephalopathy (HIE)
  - ❖ Intraventricular Hemorrhage (IVH)

- ❖ Acute Respiratory Distress Syndrome (ARDS),BronchopulmonaryDysplasia(BPD), Muconeum Aspiration
- ❖ Metabolic Conditions - Metabolic Acidosis
- ❖ Hyperbilurubenia
- ❖ Congenital Heart Diseases

5 Cerebral Palsy

- Classification
- Assessment
- Physiotherapy Management
- Adaptive Equipments

6 Acute Brain Injury in Childhood and Physical Therapy.

- Acute Care and Prognostic Outcome
- Cognitive Rehabilitation
- Restoration of Motor Control
- Complications and their Management
- Rehabilitation and Community Integration

7 Minimal Brain Dysfunction; Learning Disability, Attention Deficit, Autism , Developmental Coordination Disorder

8 Mental Retardation(MR)

- Classification
- Etiology and Pathology of Mental Retardation
- Physical Therapy Assessment and Managementincluding Sensory Integration Therapy.

9 Genetic Diseases with Emphasis on Down Syndrome and Spinal Dysraphism

- Neuropathology
- Cardio Pulmonary Anomalies
- Sensory Deficits
- Musculoskeletal Deficits
- Physical Therapy Assessment and Interventions

10 Neuromuscular Disorders in Childhood

- Classification
- Assessment
- Physiotherapy Management.

11 Brachial plexus injury

- Classification
- Prognostic Indicators
- Follow up Assessment
- Physiotherapy

12 Role of Physiotherapist in Paediatric Brain and Spinal cord Tumors

13 Adaptive Equipment for Physically Challenged Children

14 Community Integration and other Social Aspects of a Disabled Child

SPECIALITY: CARDIOPULMONARY SCIENCES

YEAR : II YEAR
COURSE CODE : 15MPTP601
TITLE OF THE COURSE : CARDIOPULMONARY DISORDER

1 Applied Anatomy and Physiology of Cardiopulmonary System.

2 A. Embryology and Development of Cardiopulmonary System
B. Differences between Adult and PaediatricCardiopulmonary System.

3 *A. Biomechanics of Thorax*
B. Pathological Changes in Unilateral and Bilateral Chest Deformities

4 *Physiology and Analysis of Breath Sounds and Heart Sounds*

5 Assessment of Cardiovascular and Pulmonary System

6 Investigations in Cardio Pulmonary System and its Clinical Implication.

- Lipid Profile
- Chest X-ray
- Pulmonary Function Tests
- Arterial Blood Gas Analysis
- Computed Tomography Thorax
- Electrocardiogram
- Echocardiography
- Stress Test
- Angiogram
- Sputum Culture Tests
- Serum Enzymes and Markers of Inflammation
- Complete Blood Picture and Electrolytes
- Pleural Fluid Analysis

7 Drugs and their Impact on Cardiopulmonary System &Exercise Science

8 Artificial Airways and Airway Adjuncts

- Rationale for Choice
- Technique of Insertion
- Implications for Respiratory Care

9 Basic Life Support/ Advanced Cardiac Life Support

10 Physiological Changes of Cardiopulmonary Systems in Body Positioning and Basis of Early Mobilization

11 Humidifiers, Aerosol Therapy

12 Bronchial Hygiene Therapy – Conventional and Advanced

13 Chest Physiotherapy Techniques : Clinical Reasoning and Evidence Based Practice

14 Mechanical Ventilation-Physiology, Modes and Weaning Criteria

15 Non-Invasive Ventilation

- Continuous Positive Airway Pressure Therapy
- Bi-level Positive Airway Pressure Therapy

16 Dyspnea – Physiology, Assessment, Management

17 VentilatoryMuscles – Testing and Training
18 Cancer Rehabilitation
19 Burns Rehabilitation
20 Renal Rehabilitation
21 Diabetic Foot, Wound Care, Physiotherapy Management
22 Outcome Measures in Cardiopulmonary Physiotherapy &Rehabilitation
23 Respiratory Care and Rehabilitation in Surgical Conditions
- Abdominal Surgeries,Spinal Surgeries &Replacement Surgeries

24 Oxygen Therapy
25 Cardiac Assistive Devices and Implants
- Intra-Aortic Balloon Pump, Cardiac Pacemakers&Ventricular Assistive Device

26 Intercostal Drainage- Precautions during Chest Physiotherapy
27 Etiopathogenesis, Types, Clinical Manifestations, Assessment and Investigations, Medical &Surgical Management, Physiotherapy Treatment for Cardiac Conditions with Emphasis on
- Ischemic Heart Disease
- ValvularHeart Diseases
- Heart Failure
- Cardiomyopathies
- Arrhythmias and Conduction Defects
- Congenital Heart Diseases

28 Pre, Peri and Post SurgicalPhysiotherapy Management in Surgical Conditions (includes Knowledge about Surgical Procedures) with Emphasis on:
- Coronary Artery Bypass Grafting
- ValvularRepair Surgeries
- Correction of Congenital Heart Defects
- Percutaneous Transluminal Coronary Angioplasty
- MediastinalSurgeries
- Heart Transplantation and Cardiac Pacemakers

29 Etiopathogenesis, Types, Clinical Manifestations, Assessment and Investigations, Medical and Surgical Management, Physiotherapy Treatment for The Pulmonary Conditions with Emphasis on:
- Chronic Obstructive Pulmonary Diseases
- Bronchial Asthma
- Bronchiectasis
- Cystic Fibrosis
- Pneumonia
- Lung Abscess
- Pulmonary Tuberculosis
- Lung Cancers
- Pleural Disorders
- Interstitial Lung Diseases & other conditions leading to Restrictive Lung Defects
- Chest trauma

- Diaphragm Palsy
- Herniations in to the Chest Wall

30 Pre, Periand Post-surgical Physiotherapy Management in all Pulmonary Surgeries, Pleural surgeries &Surgeries for Chest Wall Injuries(Including Knowledge about Surgical Procedures)

31 Evidence Based Practice in Cardiopulmonary Physical Therapy

32 Delegation and Documentation in Cardio pulmonary Physiotherapy Practice & Research

33 Cardiopulmonary Exercise Testing:
Physiology of Exercise Testing, Types of Tests,Modes of Testing, Protocols, Interpretation and Clinical Implication

34 Principles of Exercise Prescription

35 Infection Control

YEAR : II YEAR
COURSE CODE : 15MPTP621
TITLE OF THE COURSE : INTENSIVE CARE MANAGEMENT

1. Introduction to the Intensive Care Unit (ICU) and Intensive Care Unit Setup. Physiotherapy Role in Intensive Care Unit
2. Intensive Care Unit Monitoring, Evaluation and Management
3. Endotracheal Intubation and Extubation
4. Evidence Based Physiotherapy Practice in Intensive Care Unit
5. Basic Therapeutics
    - Pharmacology of Respiratory Care
    - Airway Care
    - Humidification and Aerosol Therapy
    - Oxygen Therapy
    - Blood gases Analysis
    - Lung Expansion Therapy and Chest Physiotherapy
    - Physiology of Intermittent Positive Pressure Breathing
    - Analgesics and Sedatives
    - Intensive Therapy Apparatus (Adult &Paediatric-Airways)
    - Manual Hyperinflation –Types, Technique
    - Chest Physiotherapy Techniques &Advanced Devices used in Airway Clearance
6. Special Considerations to Body Positioning and Respiratory Care in Intensive Care Unit
7. Mechanical Ventilation.
    - Classification and Types
    - Modes
    - VentilatoryStrategies and Weaning for Intensive Care Unit Conditions
    - Graphics
    - Troubleshooting
    - Strategies to Promote Respiratory Care and Rehabilitation
8. Intensive care Unit Management for Primary &Secondary Cardiopulmonary Dysfunction
    - Respiratory Failure
    - Acute Exacerbation of Chronic Obstructive Pulmonary Disease, Asthma, Bronchiectasis
    - Acute Respiratory Distress Syndrome
    - Pulmonary Edema
    - Acute Myocardial Infarction
    - Pulmonary Emboli
    - Burns
    - Tetanus
    - Trauma – Hydro/Pneumothorax, Head and Spinal Injury.
    - Hypoxic Encephalopathy

- Stroke
- Sepsis
- Aspiration
- Pneumonia
- Ventilator Associated Pneumonia
- Drug Overdose &Poisoning

9. Clinical Assessment and Physiotherapy Management in Neonatal/Paediatric Intensive Care Unit Conditions with Emphasis on:

- Hyaline Membrane (Respiratory Distress Syndrome)
- Meconium Aspiration
- Pneumonia
- Cyanotic and AcyanoticHeart Diseases

10. Epidemics and Endemics- Common in Intensive Care Unit -Severe Acute Respiratory Syndrome, H1NI, Viral Infection etc.

11. Complications in Intensive Care Unit (Prevention and Management)

12. Respiratory Care in Neurological Disorders

- Cerebro Vascular Accident
- Guillain-Barre Syndrome
- Motor Neuron Disease
- Muscular Dystrophy
- Traumatic Brain Injury and Spinal Cord Injury

13. Critical Care Rehabilitation – Rationale, Guidelines, Considerations and Evidence

YEAR : II YEAR
COURSE CODE : 15MPTP622
TITLE OF THE COURSE : CARDIOPULMONARY REHABILITATION AND FITNESS

1. Cardiac Rehabilitation
    - Goals
    - Infrastructure and Ideal Setup
    - Components and Team
    - Rationale for Cardiac Rehabilitation
    - Indications, Contraindications.
    - Assessment - Risk Stratification
    - Role of Physiotherapy
    - Various Test Protocols
    - Phases of Rehabilitation
    - Exercise Testing in High Risk Groups – Changes seen in Cardiac Conditions and Implications for Training
    - Exercise Prescription and Precautions.
    - Outcome Measures
2. Primary and Secondary Prevention of Cardiovascular and Pulmonary Conditions.(Existing and Novel Risk Factor Evaluation, Physiotherapy Approach)
3. Peripheral Vascular Diseases and Physiotherapy Management and Rehabilitation
4. *Pulmonary Rehabilitation*
    - *Goals*
    - *Pulmonary Rehabilitation team*
    - Components of Pulmonary Rehabilitation
    - Rationale of Pulmonary Rehabilitation
    - Role of Physiotherapy
    - Respiratory Assessment and Various Test Protocols
    - Indications, Contraindications and Complications
    - Exercise Testing in High Risk Groups – Changes seen in Pulmonary Conditions and Implications for Training
    - Exercise Prescription and Precautions
    - Management of Obstructive and Restrictive Conditions
    - Management of Hyperventilation Syndrome
    - Outcome Measures
5. Respiratory Management following Neurological &Spinal Cord Injuries
6. Cardiovascular and Pulmonary Rehabilitation in Paediatrics
7. Outcomes and Recent Advances in Cardiovascular and Pulmonary Rehabilitation
8. *Fitness and Wellness – Concept / Components*
9. Physical Fitness – Assessment
10. Principles of Training Individual Components of Physical Fitness
11. Acute Changes and Chronic Adaptations of Various Systems to Aerobic and Anaerobic Exercises with Environmental Influence

12. Exercise Prescription in Special Population with Physiological Basis and Precautions:
    - Diabetes Mellitus
    - Hypertension
    - Metabolic Syndrome
    - Dyslipidemia
    - Chronic Obstructive Pulmonary Disease
    - Obesity
    - Osteoporosis
    - Traumatic Brain Injury
    - Spinal Cord Injury
    - Stroke
    - Ischemic Heart Disease
    - Heart Failure
    - Polycystic Ovarian Syndrome
    - Depression
    - Sleep Disorders
    - Chronic Kidney Disease
    - Endocrinal Abnormalities
    - Immune Disorders
    - Children and Adolescents
13. Nutrition
    - Measurement of Energy in Food and during Physical Activity
    - Nutritional Ergogenic Aids
    - Eating Disorders
14. Weight Management
15. Stress- Exercise as a Stress Management Technique
16. Aging and Exercise
17. Fatigue: Causes and Management
18. Work site Health Promotion
19. Behavioral Principles Applied to Physical Activity and Exercise
    - Theories and Models of Exercise Behavior
    - Behavioral Strategies to Enhance Physical Activity Participation
    - Factors Associated with Regular Exercise
    - Exercise Adherence and Compliance
20. Health Counseling
21. Fitness Evaluation and Training Methods in Children
22. Physical Activity – Methods of Evaluation (Objective and Subjective), Rationale for Promoting Health, Current Evidence
23. Genetic Basis of Exercise and its Response
24. Immunity and Exercise

SPECIALITY: COMMUNITY PHYSIOTHERAPY

YEAR : II YEAR
COURSE CODE : 15MPTC601
TITLE OF THE COURSE : COMMUNITY BASED REHABILITATION

1. International Classification of Functioning, Disability and Health (ICF)
   a) History of ICF (models of disability), Aims, Properties, Overview of Components and Uses of ICF Core Sets
   b) Definitions and Levels of Classification
   d) Implication in Physiotherapy (Physical and Psychosocial)
2. Community Based Rehabilitation Program (Physiotherapy)
   a) WHO Matrix and Physiotherapy Role in IEC (information, education and communication)
   b) Principles of Community Based Rehabilitation
   c) Process of Implementation of CBR
   d) Evaluation of Impairment and Disability
   e) Evaluation of Patient and CBR Program
3. Community Physiotherapy
   a) Approaches in Rehabilitation
   b) Healthcare Delivery Models
   c) Therapy Interventions based on Quality of Life
4. Research on the Needs of Community Physiotherapy with Updated Science
5. Family's Role in Rehabilitation
6. Principles, Concepts and Practical application of Community Physiotherapy, Changing Needs (personal, family and social) and Planning of Future for Disabilities in Various Conditions; i.e. Spinal Cord Injury; Traumatic Brain Injury; Stroke; Parkinson's Disease; Arthritis; Heart & Pulmonary diseases; Chronic Pain; Osteoporosis; Ageing with Disabilities etc.
7. Practical application of Community Physiotherapy and Planning of Future for Disabilities in- Peripheral Vascular Diseases; Amputations
8. Childhood Disorders (Early detection and Management throughout Life Spans); Autisms; Cerebral Palsy
9. Handling and Facilitation Techniques for Infants with Disability in Community
10. Barrier Free Design- Making the environment Accessible to the Disabled Individual (i.e. Accessibility and inclusiveness)
    Principles of Universal Design
11. Assistive Technology for Physical and Cognitive Rehabilitation (with respect to Planning, Evaluation, Design, Prescription, Acceptance, Economy and Psychosocial Aspects) of
    a) Basic and Instrumental Activities of Daily Living
    b) Ambulatory Aids and Wheel Chairs
    c) Orthotic and Prosthetic Aids

12. Psychological and Functional Aspects of Chronic Illness and Disability

13. Physiotherapy in Schools

a) Role of PT in Fitness of Normal School Children
b) Physiotherapy for Students with Disability (Locomotor and Somato-sensory)
c) Adapted Physical Activity

14. Environmental Issues in Child Health

15. Women's Heath

a) Fitness in Pregnancy
b) Role of Antenatal Education at Community Level in Prevention of Maternal Mortality and Infant Morbidity
c) Post Natal Problems and Management

16. Occupational Hazards

a)Biological and Chemical
b)Physical/Environmental
c)Mechanical
d)Psychosocial

17. Occupational Biomechanics of Spine, Upper and Lower Extremity (During Static Work, Repetitive Work and Loading Tasks

18. Work Related Musculoskeletal Disorders (Overuse Injuries of the Musculoskeletal Systems)- Definition, Etiopathogenesis, Risk factors, Evaluation and Management

YEAR : II YEAR
COURSE CODE : 15MPTC621
TITLE OF THE COURSE : GERIATRICS

1. Epidemiology of Aging and Related Morbidities
2. Theories of Aging (Merits and Demerits)
3. Changes due to Aging in
    - Musculoskeletal Systems
    - Nervous Systems
    - Cardiovascular Systems
    - Respiratory Systems
    - Endocrinology Systems
    - Immunological Systems
    - Gastrointestinal Systems
    - Genito-Urinary Systems
    - Thermoregulatory Systems

    Homeostasis and Aging
    Medical/Surgical Conditions of each Systems related with Elderly and their Physiotherapy Interventions
4. Nutrition in Older Adults (Anemia in elderly)
5. Geriatric Pharmacology- Implication for Physiotherapy
6. Cognitive Aging and Psychosomatic Disorders
    - Dementia, Depression and Emotional and behavioral issues
    - Early Detection and Physiotherapeutic Intervention
7. Clinical and Physiotherapeutic Evaluation of Elderly
    (Using Outcome Measures and Assessment Tools i.e. Scales, Posturography, Inclinometer, Perineometer etc.)
8. Posture, Balance and Falls in Older Adults
    a) Neurophysiology of Balance,
    b) Biomechanical Changes
    c) Physiotherapy and Safety Issues
9. Gait in Older Adults
    Classification, Pathomechanics, Assessment and Management
10. Co-ordination Issues in Older Adults
    (Therapeutic Assessment and Management)
11. Pain in Older Adults (Pathogenesis, Assessment and Management)
12. Lifestyle Diseases in Old Age e.g. Hypertension, Diabetes, Cancer (Identification and Management)
13. Pelvic Floor Dysfunction in Older Adults
    Urinary and Fecal Incontinence(Assessment and Management)
14. Fitness in Older Adults
15. Geriatric Care in various settings
16. Identification and Prevention of Abuse among Elderly, Caregivers Counseling

17. Technology for Adaptive Aging
18. Geriatric Syndrome and Role of Other Disciplines

YEAR : II YEAR
COURSE CODE : 15MPTC622
TITLE OF THE COURSE : OCCUPATIONAL HEALTH

1. Industrial Safety & Labor Laws related to Workers Health and Compensation
2. Occupational Hazards
   a)Biological and Chemical
   b)Physical/Environmental
   c)Mechanical
   d)Psychosocial
3. Human Information Processing, Skill and Performance
4. Occupational Stress: Etiology, Patho-Physiology and Remedial Measures
5. Ergonomics
   a) Introduction
   b) Principles
   c) Scope
   d) Evaluation
6. Occupational Biomechanics of Spine, Upper and Lower Extremity (During Static Work, Repetitive Work and Loading Tasks
7. Anthropometric Principles in Workplace
   a) Design using Anthropometric Data
   b) Design for People with Functional Limitations (Pregnancy,Older Adults)
8. Occupational Risk Assessment of Design in Jobs Primarily Involving
   a) Sitting
   b) Standing
   c) Lifting
9. Work Related Musculoskeletal Disorders (Overuse Injuries of the Musculoskeletal Systems)- Definition, Etiopathogenesis, Risk factors, Evaluation and Management
10. Evaluation and Management in Occupational Health and Ergonomics
    a) Pre-placement Evaluation and Management - workers core strength – model for injury prediction and prevention, muscle fatigue assessment, functional job analysis technique
    b) Post Injury Evaluation (Functional Capacity)
    c) Rehabilitation of Injured Worker (Work Conditioning, Work Hardening, Employee Fitness, Return to Work Evaluation, Work Place Administration)
    d) Ergonomics at Work Place (Furniture, Tools),
11. Ergonomics for Sedentary Worker (Executive/ clerical including Visual Display Terminal Workplaces), Health Care Professionals and Manual Worker (Repetitive tasks, Sustained tasks, Lifting etc.)
12. Ergonomics in Assistive Technology
13. Ergonomics in Sports

14. Ergonomics in Children

15. Challenges to Inclusion in Workplace

a) Physically Challenged
b) Cognitively Challenged
c) Ageing d) Illiterate

SPECIALITY: WOMEN'S HEALTH & PAEDIATRICS

YEAR : II YEAR
COURSE CODE : 15MPTW601
TITLE OF THE COURSE : OBG AND PEDIATRIC CARE

1. Normal Embryologic Development
   Cardiopulmonary System, Musculoskeletal System and Neurological System
2. Theories of Motor Development, Motor control, Principles and Theories of Motor Learning and Skill Acquisition
3. Normal Child Development
   a. Motor Development
   b. Somato-Sensory Development
   c. Speech / Language Development,
   d. Psychosocial Development,
   e. Oromotor Development
   f. Perceptive-Cognitive Development
4. Developmental Reflexes: Integration & Clinical Implications
5. Physical Growth Characteristics - Anthropometric changes from Birth through Adolescence
6. Development of Posture and Movement from Neonate to Childhood
7. Evaluation- Physical (Musculoskeletal, Neurological, Cardiopulmonary), Psychological, Behavioral, Social and Environmental in Paediatrics
8. Play in Infancy, Childhood and Adolescence
9. Early Intervention in High Risk Infants
10. Therapeutic Approaches in Paediatric Rehabilitation (Principles and Practice): Neuro Developmental Technique, Roods, Vojta, Sensory Integration, Myofascial release & Recent Techniques
11. Principles & Techniques of Chest Physiotherapy in Paediatrics
12. Physical Modalities in Paediatrics Rehabilitation
13. Women's Reproductive Health: Anatomy of Female Reproductive system
14. Physiology of Puberty and Menarche, Menstruation , Sexual Health, Childbirth, Purperium and Menopause
15. Anatomical and Physiological Changes during Pregnancy and their Clinical Implications
16. Primary Health Care in Obstetrics and Gynecology: Screening & Management
17. Cancer Screening in Women: Normal and High Risk Population
18. Physical Agents Application in Obstetric and Gynecological Rehabilitation
19. Prenatal diagnosis: Dual Markers, Tripple test, Glucose Challenge & Tolerance Test, Biophysical Profile, Amniocentesis, Chronic Villi Sampling, Investigations during labour – Partogram, Non-Stress Test
20. Investigations in Paediatrics : Blood Parameters, Radiographs, Magnetic Resonance Imaging & Computed Tomography

YEAR : II YEAR
COURSE CODE : 15MPTW621
TITLE OF THE COURSE : WOMEN'S HEALTH

1. Changes in Adolescence
    A. Morphological and Physiological Changes
    B. Diet and Exercise
    C. Eating Disorders
    D. Menstrual &Peri –Menstrual Problems
    E. Sexual Functions & common Sexual Issues.
2. Physiotherapy in Obstetric Care
    A. Maternal, Fetal and Placental Responses to Exercise
    B. Antenatal and Postnatal Care and Exercise Training Considerations
3. Musculoskeletal Pain and Dysfunction in Childbearing years: Physiotherapy Evaluation & Management
4. Maternal Complications and Diseases
    A. Cardiovascular and Metabolic Disorders
    B. Neurological
    C. Musculoskeletal
    D. Respiratory
5. Physiotherapy Care during Labor –
    A. Maternal Position
    B. Pain Mechanism and Management
6. Post-Partum - Anatomical and Physiological Changes
   Post -Natal Exercise Program, Post Caesarean Exercise Program
7. Physiotherapy Care in High Risk Pregnancy
8. Neonate Handling: Assessment and Management
9. The Climacteric - Anatomical, Physiological, Psychological, Cardiovascular and other Systemic Changes in Postmenopausal Stage
   Complications in Postmenopausal period: Osteoporosis, Falls & Fractures in Elderly Women.
10. Changes in Bone Mineral Density in Women: Assessment and Management
11. Physiotherapy in Gynecology :
    Pelvic Inflammatory Diseases & Pelvic Floor Dysfunction
12. Chronic Pelvic Pain Women: Assessment and Management
13. Physiotherapy following Gynecological Surgery
14. Cancer Rehabilitation
15. Lymphedema and Management
16. Exercise Prescription & Training Consideration for –
    A. Women
    B. Female Athletes&Injuries in Athletic Women.
    C. Gynecological Conditions (Polycystic Ovary Syndrome(PCOS), Infertility, Obesity)

17. Growth, Performance, Activity and Training during Adolescent period
18. Fitness Testing and Exercise Prescription in Gynecological Conditions, Infertility, PCOD, Obesity
19. Women in Workplace : Ergonomic Control of Musculoskeletal Injuries
20. Women With Special Needs

YEAR : II YEAR
COURSE CODE : 15MPTW622
TITLE OF THE COURSE : PAEDIATRIC REHABILITATION

1 Physical Development
   a. Typically Developing Children and Special Children

2 Gross and Fine Motor Assessment in Infants and Children

3 Evaluation Scales and Outcome Measures in Paediatrics

A. Musculoskeletal assessment including Gait
- Paediatric Pain Profile (PPP)
- Edinburgh Visual Gait Score
- SelectiveControlAssessment of the Lower Extremity (SCALE)
- Gillette Functional Assessment Questionnaire
- Selective motor control scale (SMC)
- POSNA Pediatric Musculoskeletal Functional Health Questionnaire
- Observational Gait Assessment(RANCHO LOS AMIGOS)

B. Developmental and Neurological Assessment: Principles of Evaluation & Screening
- Milani – Comparetti Motor Development Screening Test
- Denver II Development Screening Test
- Neurological Examination of Full Term New Born Infant
- Brazelton Neonatal Behavioral Assessment Scale
- Neurological Assessment of Preterm & Full Term Infant by Dubowitz&Dubowitz
- Movement Assessment of Infants
- Test of Infant Motor Performance and Development
- Alberta Infant Motor Scale
- Gross Motor Performance Measures
- Peabody Developmental Motor Scales
- Bruininks-Oseretsky Test of Motor Proficiency (BOTMP)
- Comprehensive Developmental Scales.
    - ❖ Gessell Developmental Schedules
    - ❖ BayleyScales of Infant Development
    - ❖ Neonatal Behavioral Assessment Scale
- Early Intervention Developmental Project
- Gross Motor Function Measure (GMFM)
- Assessment of Functional Capabilities
    - ❖ Paediatric Evaluation of Disability Inventory
    - ❖ Functional Independence Measure for Children
- Cardiopulmonary Assessment
    - ❖ Neonatal Pain Scales,
    - ❖ Energy Expenditure Index
    - ❖ Exercise Testing Protocols for Children

4 Physiotherapy Assessment & Management of the following conditions

A. Cardio Pulmonary Diseases & Disorders
   - Respiratory distress Syndrome, Bronco Pulmonary Dysplasia
   - Meconium Aspiration Syndrome
   - Neonatal /Congenital Pneumonia
   - Persistent pulmonary Hypertension of the newborn

B. Respiratory Tract Disorders and Parenchymal Lung Diseases
C. Congenital Heart Defects and Cardiomyopathies
D. Congenital Abnormalities of Chest
E. Respiratory Care: Neonatal &Paediatric Intensive Care- Evaluation and Management. – Monitoring in PICU & NICU & Mechanical Ventilation

5 Physiotherapy Assessment & Management in Neonatal Cardio Pulmonary & General Surgical Conditions

6 Evaluation and Management of Childhood Orthopaedic Conditions(Physiotherapy perspective) : Congenital and Acquired

7 Neurological Diseases and Disorders in Children

- Diseases of the Brain and Spinal Cord
- Diseases of the Peripheral Nervous System
- Diseases of Neuro-muscular Junction & Muscles
- Traumatic Brain Injury
- Complications of Prematurely
- Genetic Disorders, Infectious Diseases
- Cerebral Palsy.
- Brain and Spinal Cord Injury: Traumatic and Acquired
- Myelodysplasia and Hydrocephalus
- Brachial Plexus Injuries
- Developmental Coordination Disorders
- Cognitive Impairment and Pervasive Developmental Delay
- Learning Disability,Autism&Attention Deficit-Hyperactivity Disorder (ADHD)
- High Risk Infant –
  Assessment & Intervention, Clinical Assessment of Gestational Age, High Risk Conditions – Perinatal Asphyxia, Hypoglycemia, Hyperbilirubinemia, Hypoxia Ischaemic Encephalopathy, Intraventricular Hemorrhage, Meconium Aspiration, Metabolic Abnormalities, Neonatal Convulsions

Physiotherapy Perspective in Assessment and Management of above Clinical Disorders

8 Hematology / Oncology- Hemophilia, Cancers, Immune Deficiency Syndrome

9 Endocrine & Metabolic Disorders in Paediatrics

10 Burns in Children and Rehabilitation

11	Behavioral and Learning Problems in Special Children
12	Barriers and Facilitators for Paediatric Rehabilitation
13	Orthotic and Adaptive/Assistive aids in Paediatric Rehabilitation
14	Environmental risks-Drug Exposure, Lead Poisoning, Fetal Alcohol Syndrome, Nutritional disorders
15	Physical Fitness in Paediatrics- Testing, Prescriptions and Training.(Typical Developing & Special children)
16	Electrodiagnosis in Paediatrics – Electromyography Nerve Conduction Studies, Evoked Potentials
17	Evidence Based Examination and Intervention of Children with Disabilities
18	Advances in Paediatric Physiotherapy

YEAR : **II YEAR**
COURSE CODE : **15MPTN602**
TITLE OF THE COURSE : **RECENT ADVANCES AND EVIDENCE BASED PRACTICE. NEURO SCIENCES**

Method of Assessment - Written

1. Stroke Rehabilitation
2. Polyneuropathies
3. Vestibular rehabilitation
4. Inflammatory diseases of CNS
5. Spina Bifida
6. SCI & Cerebellum disorders
7. Myopathies
8. NMJ Disorders
9. Parkinsonism
10. Traumatic brain injury
11. Gait rehabilitation
12. Assistive devices in Neuro rehabilitation
13. Hand function in neuro rehabilitation
14. Balance in neuro rehabilitation
15. Management of tonal abnormalities

YEAR : II YEAR
COURSE CODE : 15MPTO602
TITLE OF THE COURSE : RECENT ADVANCES AND EVIDENCE BASED PRACTICE. ORTHOPEADICS

1. Manual Therapy
2. Advance electrotherapeutics
3. Sport Psychology
4. Sport Physiology
5. Sport Pharmacology
6. Pain
7. Amputation
8. Joint Replacements
9. Footwear in Sports
10. Doping
11. Taping
12. MET
13. Neuro dynamics & Neural mobilization
14. Women athletes
15. Advanced care of back & neck