M. P. T. SYLLABUS

1. DURATION OF THE COURSE
   1.1. The duration of Master of Physiotherapy course shall be extended over a period of two continuous years on a full time basis. Any break in the career, power of extension of the course and the fixation of the term shall be rested with the university.
2. MEDIUM OF INSTRUCTION
   2.1. English will be the medium of instruction for the subjects of study and for the examination of the MPT course.

3. NOMENCLATURE
   3.1. The course will be referred to as a Master of Physiotherapy

4. OBJECTIVES OF THE COURSE
   4.1. To prepare a postgraduate student towards professional autonomy with self regulating discipline.
   4.2. To form base of professional practice by referral as well as first contact mode using evidence based practice
   4.3. To impart research basis in order to validate techniques and technologies in practice of physiotherapy
   4.4. to acquaint a student with concept of quality care at the institutional as well as at the community levels
   4.5. to inculcate appropriate professional relationship in multidisciplinary setup, patient management and co partnership basis
   4.6. To prepare students to address problems related to health education and community physiotherapy
   4.7. to practice the concept of protection of the community during referral as well as first contact practice
   4.8. To provide experience in clinical training and undergraduate training partly
   4.9. To provide honest competent and accountable physiotherapy services to the community.

5. COURSE OF THE STUDIES

5.1. The course of study, subjects and teaching schedule for I and II year MPT course is shown separately in Table 1 and 2

5.2. Table 1 : First year MPT

Sr no	Subjects	Teaching hours
1	**Basic Sciences** →Work physiology and electrophysiology	100
	→Biomechanics and bioengineering	60
	→History of physiotherapy education and practice	10
	→Principles of physiotherapy education	20
	→Education technology	50
	→Research methodology and biostatistics	70
	→Ethics, Management and planning	50
2	Physical and functional diagnosis I	50
3	Advanced physiotherapeutics I	50
4	Clinical training	1200
5	Seminars, Journal Clubs, Case presentations, teaching skills, Field works etc.	100
	TOTAL	**1760**

5.3. Table 2: Second year MPT

Sr no	Subjects	Teaching hours
1	Physical and functional diagnosis II	50
2	Advanced physiotherapeutics II (Medical)	50
	Advanced physiotherapeutics II (Surgical)	50
3	Electives: - Musculoskeletal & Sports Physiotherapy - Neurological physiotherapy - Cardio - pulmonary physiotherapy - Pediatric physiotherapy - Community physiotherapy - Sports physiotherapy - Electrophysiology and Electro diagnosis.	 300 300 300 300 300 300 300
4	Clinical training	1260
5	Seminars	50
	TOTAL	**1760**

6. DISSERTATION

6.1. Every candidate pursuing MPT degree course is required to carry out work on a selected research project under the guidance of a recognized post graduate teacher. The results of such works shall be submitted in the form of dissertation.

6.2. The dissertation should be preferably interventional/ experimental/ observational. The dissertation is aimed to train a graduate student in research methods and techniques. It includes identification of a problem, formulation of a hypothesis, research and review of the literature getting acquired with recent advances, designing of a research study, collection of data, critical analysis and comparison of results and drawing conclusions.

6.3. Every candidate shall submit their dissertation to The University in 3 copies. The synopsis should be submitted to the college.

6.4. Such synopsis will be reviewed by on ethical committee, decided by the individual college, The Chair Person should be someone from outside the college.

i) Chair Person
ii) Social Worker
iii) Lawyer
iv) Subject Expert
v) Guide
vi) One Doctor from the Medical College.

7. Every candidate shall submit their dissertation to The university in three typed written copies, as per the topics approved by the Principal of the college. No change in the dissertation topic or guide shall be made without prior approval of the university. The candidates shall submit the dissertation at the end of 3rd term. If dissertation has not been submitted in time, the candidate will not be allowed to appear in the examination.

7.1. A candidate who has submitted his dissertation once will not be required to submit a fresh dissertation if he re-appears for the examination in the same branch on a subsequent occasion, provided that the dissertation has been accepted by the examiners.

7.2. The dissertation should be written under the following heading.

7.2.1. Introduction
7.2.2. Aim or Objective of the Study.
7.2.3. Review of the literature
7.2.4. Materials and Methods
7.2.5. Results
7.2.6. Discussion
7.2.7. Conclusion
7.2.8. Summary

7.2.9. References
7.2.10. Tables
7.2.11. Annexure

7.3. The written text of the dissertation shall not be less than 50 pages and should not exceed 100 pages excluding references, tables, questionnaires, and other annexure. It should be neatly typed in double line spacing on the one side of paper (A4 size, 8.27"X 11.69 and bound properly. Spiral binding should be avoided. The guide, Head of the Department of the Institution shall certify the dissertation.

8. SCHEDULE OF EXAMINATION

8.1. The examination for MPT course shall be held at the end of 2 academic years (4 academic Terms)

8.2. There shall be two university examination session in an academic year i.e. in June and in the month of November.

9. SCHEME OF EXAMINATION

9.1. The degree of Master of Physiotherapy will be taken by papers, practical and viva voice only.

9.2. Written examination (theory)

9.2.1. A written examination consisting of 5 question papers, each of three hours duration and each paper carrying 100 marks. Recent advances in physiotherapy may be asked in any or all the 5 papers.

9.2.2. The paper 4 and 5 will be for elective subject in the branch chosen by candidates.

9.2.3. The theory examination shall be held sufficiently earlier than clinical/practical examination.

Sr no	Subject	Marks
Paper 1	Basic sciences	100
Paper 2	Physical and functional diagnosis part I and II	100
Paper 3	advanced physiotherapeutics part I and II	100
Paper 4	Elective I	100
Paper 5	Elective II	100

9.3. Clinical examination -500 marks

9.3.1. It should be aimed at examining clinical skills and competency of the candidates undertaking independent work as a specialist.

9.3.2. Viva voice – 50 marks

9.3.2.1. Viva voice examination shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The marks of viva voice examination shall be included in the clinical examination to calculate the percentage and declaration of results. The college should see that the exams are conducted in such a way that all the following is included and the result i.e. submitted shall be of the total marks only.

Major case (elective)	150 marks
Minor case 1 (elective)	75 marks
Minor case 2 (non-elective)	75 marks
Dissertation viva	50 marks
Microteaching	50 marks
Spot examination	50 marks
Viva voice	50 marks
TOTAL	**500 MARKS**

10. CRITERIA FOR DECLARING AS PASS IN UNIVERSITY EXAMINATION

10.1. To pass any M. Physiotherapy examination a student must obtain 50% marks in the theory aggregate and 50% marks in the practical aggregate in concerned examination.

10.2. Award of classes:

10.2.1. First class with distinction: 75% and above in aggregate provided the candidates pass the examination in first attempt

10.2.2. First class: 60% and above in aggregate provided the candidate pass in first attempt.

10.2.3. Pass class: 50% of marks in theory aggregate and 50% of maximum marks in clinical and viva-voice aggregate.

11. DEFINITION OF TRIAL

11.1. First trial is deemed to take place when the candidate is due to appear for the examination irrespective of his/her actual appearance, provided that non-appearance is not a result of reasons beyond his/her control. Similarly 2^{nd}, 3^{rd}, etc. trials relating to subsequent examination.

12. TYPE OF QUESTIONS IN WRITTEN PAPER

12.1. Theory: 100 marks each paper

12.1.1. Long essay (2 questions) – 2x20 = 40 marks

12.1.2. Short essay (6 questions) – 6x10 = 60 marks

13. COURSE CONTENTS – I YEAR MPT

13.1. **PAPER – I BASIC SCIENCES**

13.1.1. **Work physiology**

13.1.1.1. Physiological and physical work

13.1.1.2. Ergonomic aspects of work, energy transfer, oxygen intake and oxygen debt, cardio-respiratory and thermo regulatory changes during muscular work.

13.1.1.3. Body composition, nutrition and caloric balance. Obesity and weight control.

13.1.1.4. Individual and environmental factors influencing muscle work and environmental control.

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

13.1.1.6. Cardiovascular and respiratory dynamics (including neuro-humoral control)

13.1.1.7. Acute effect of steady level exercise on following parameters – blood flow, heart rate, blood pressure and temperature, respiratory rate, acid base balance, body temperature and fluid-electrolyte balance and subtract utilization.

13.1.1.8. Nutritional deficiencies, effects and management

13.1.1.9. Conditioning effects of various levels of submaximal exercises

13.1.1.10. Physiological movements – biophysics of connective tissue, response to mechanical loading.

13.1.1.11. Articular neurophysiology and principles of applications.

13.1.2. Electrophysiology

13.1.2.1. Characteristics and components of electrotherapeutic stimulation systems and characteristic and components of electro physical assessment devices.

13.1.2.2. Electrical excitability of muscle and nerve and composition of peripheral nerves

13.1.2.3. Muscle plasticity in response to electrical stimulation

13.1.2.4. Neurobiology of afferent pain transmission and central nervous system mechanisms of pain modulation

13.1.2.5. Electrical stimulation and circulation

13.1.2.6. Clinical electrophysiological testing
13.1.2.7. Bioelectricity (RMP- action potential)
13.1.2.8. Neurotransmitters. Synapse and synaptic transmission
13.1.2.9. Classification – muscle fibers, nerve fibers and motor units
13.1.2.10. Propagation of nerve impulse and physiology of muscle contraction.
13.1.2.11. Reflex - classification and properties
13.1.2.12. Sensations – pathways and classification
13.1.2.13. Type of nerve injury and Wallerian degeneration
13.1.2.14. Applied electrotherapy –
13.1.2.14.1. Instrumentation electrodes
13.1.2.14.2. EMG - normal and abnormal, application of NCV
13.1.2.14.3. Application of NCV i.e.
13.1.2.14.3.1. Sensory/motor
13.1.2.14.3.2. F wave
13.1.2.14.3.3. H reflex
13.1.2.14.3.4. Blink reflex
13.1.2.14.3.5. SSEP

13.1.3. **Biomechanics**
13.1.3.1. Material properties of bones and soft tissues.
13.1.3.2. Internal and external forces during posture and activities
13.1.3.3. Biomechanics of respiration, circulation, hand function and gait.
13.1.3.4. Methods of kinetics and kinematics investigation, anthropometrics measurements.
13.1.3.5. Neural control of locomotor functions
13.1.3.6. Forces, equilibrium, livers – laws, mechanical advantage, material properties of bones and soft tissues
13.1.3.7. Applied mechanics in the evaluation procedures
13.1.3.8. Analysis of functional hazards related to environment/industry and clinical reasoning for the appropriate ergonomic advice
13.1.3.9. Applied mechanics in the application of prosthesis, orthosis and mobility aids – materials, designs and bio-mechanical compatibility

13.1.4. History Of Physiotherapy Education And Practice
13.1.4.1. History of Physiotherapy and developments

13.1.5. Principles of Physiotherapy Education

13.1.5.1. Strategies of teaching **,** Planning of teaching**,** Organization, writing lesson plans**,** Audio visual aids**,** Teaching methods – Socialized teaching methods.

13.1.6. Education Technology

13.1.6.1. **Education**, Educational aims**,** Agencies of education**,**Formal and informal education**,** Major philosophies of education (naturalism, idealism, pragmatism, realism) including Gandhi and Tagore. Modern and contemporary philosophies of education (Existentialism, Progressivism, Reconstructionism, Perennialism).Philosophies of education in India – past, present and future. Role of educational philosophy**,** Current issues and trends in education.

13.1.6.2. **Concepts of teaching and learning:** Theories of teaching, Relationship between Teaching and Learning**,** Psychology of Education**,** Dynamics of behavior, Motivational process of learning, Perception, Individual differences, Intelligence personality.

13.1.6.3. **Curriculum:** Curriculum committee**,** Developments of a curriculum for P.T.**,**Types of curriculum**,** Formation of philosophy,Courses objectives.Placing, Course placements, Time allotment. Selection and organization of learning experience master plans of courses. Master rotational plan – individual rotational plan, Correlation of theory and practice**,** Hospital and community areas for clinical instruction**,** Clinical assignments**,** Current trends and curriculum planning.

13.1.6.4. **Principles and methods of teaching :** Strategies of teaching, Planning of teaching**,** Organization, writing lesson plan, Audio visual aids**,** Teaching methods – Socialized teaching methods.

13.1.6.5. **Measurement and evaluation :** Nature of measurement of education, meaning, process, personal, Standardized, Non-standardized tests. Steps of constructing a test, measurement of cognitive domain, assessment techniques of affective and psychomotor domains, administering scanning and reporting. Standardized tools, important tests of intelligence, attitude, instrument, personality, achievement and status scale. Programme evaluation Cumulative evaluation.

13.1.6.6. **Guidance and counseling :** Philosophy, principles and concepts, Guidance and counseling, Services of student and faculty. Faculty development and development of personnel for P.T. services

13.1.7. **Research methodology and biostatistics**

13.1.7.1. Meaning of research, objectives, motivation and type of research

13.1.7.2. Research process and criteria for good research

13.1.7.3. Problems encountered by researchers in India and defining the research problem

13.1.7.4. Research design and sampling design

13.1.7.5. Measurement and scaling techniques. Methods of data collection

13.1.7.6. Processing and analysis of data. Sampling fundamentals

13.1.7.7. Testing of hypothesis and Chi square test

13.1.7.8. Analysis of variance and co-variance

13.1.7.9. Role of computer in research and ethical concepts

13.1.8. **Ethics Management and Planning**

13.1.8.1. **P.T Ethics:** Morals and ethics, Ethical analysis of moral problems, Ethical issues in physical therapy, Rules and regulations of Indian Association of Physiotherapists, Ethical rules, Aims and objectives of Indian Association of Physiotherapists.

13.1.8.2. **Physical therapy and Law :** Medico-legal aspects of physical therapy, Liability, Negligence, Malpractice, Licensure, Workman's compensation.

13.1.8.3. **Management and Planning:** P.T. Department management policies and procedures recruitment, Interview, Orientation probationary period, Salary, Hours of work, Leave facilities, Retirement, Referred policy, Equipment maintenance records, Statistics, Functioning, Department planning, design and construction, Planning and innovation, Growth and expansion, Type and size of hospital, Services and activities, Space requirements, Number of functional area, elements, Occupancy time, Gymnasium, Patient waiting areas, storage facilities, lighting, Floor surfaces.

13.2. **Physical and Functional diagnosis-I**

13.2.1. Clinical examination in general and declaration of movement dysfunction.

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

13.2.3. Developmental screening, development diagnosis, neurodevelopment assessment and motor learning – Voluntary control assessment.

13.2.4. Anthropometric measurements

13.2.5. Physical fitness assessment by

13.2.5.1. ROM
13.2.5.2. Muscle strength, endurance and skills
13.2.5.3. Body composition
13.2.5.4. Cardiac efficiency tests and spirometry
13.2.5.5. Fitness test for sports

13.2.6. Psycho-physiological and neuro-psychological tests

13.2.7. Electro-diagnosis, clinical and kinesiological electromyography and evoked potential studies. Biophysical measurements, physiotherapy modalities, techniques and approaches. Electro-diagnosis, conventional methods, electromyography, sensory and motor nerve conduction velocity studies, spinal and somatosensory evoked potentials.

13.2.8. ICIDH and ICF

13.3. **Advanced Physiotherapeutics - I**

13.3.1. Physiotherapy in pain management such as electromagnetic radiations, ultrasound, electro acupuncture etc.

13.3.2. Maternal and child care in general physiotherapy

13.3.3. Applied neuro anatomy and neuro physiotherapy

13.3.4. Theories of motor learning

13.3.5. Therapeutic biofeedback and psychosomatic training

13.3.6. Combination therapy

13.3.7. Functional training – respiratory exercises, training for feeding, bladder and bowel training, coughing and compression, artificial respiration, inhalation therapy and intensive care unit procedures.

13.3.8. Yogasanas and Pranayama
13.3.8.1. Physiological and therapeutic principles of yoga
13.3.8.2. Yogasanas for physical culture, relaxation and meditation
13.3.8.3. Application of Yogasanas in physical fitness, flexibility, cardiac rehabilitation and neuromotor learning
13.3.8.4. Pranayama and respiratory physiology
13.3.8.5. Kriyas and their physiological significance. Therapeutic application of yoga
13.3.8.6. Yoga – a holistic approach

13.3.9. Acupuncture – definition, principles, techniques, physiological effects, indications, contra-indications, dangers and integration of acupuncture with physiotherapy.

13.3.10. Magneto therapy

13.3.11. Naturopathy

13.3.12. History of manual therapy, overview of manual therapy approaches for all the joints

13.3.13. Clinical reasoning and differential clinical diagnosis based on different approaches such as – Maitland, Kaltenborne, Cyriax, Mulligan and McKenzie

13.3.14. Soft tissue approaches – myofascial release techniques, neural tissue mobilization, muscle energy techniques (MET)

13.3.15. Practical application of various manual therapy modes given in No xiii and xiv above.

14. COURSE CONTENTS – II YEAR MPT

14.1. Physical and functional diagnosis – II

14.1.1. Massage, mobilization and manipulations

14.1.2. Geriatric physiotherapy

14.1.3. Aids and appliances, adaptive functional devices to improve neurological dysfunction

14.1.4. Inhibition and facilitation techniques

14.1.5. Exercise ECG testing and monitoring

14.1.6. Pulmonary function testing

14.1.7. Cardiovascular function disorders and principles of management, cardio respiratory function disorders and assessment

14.1.8. Physical disability evaluation and disability diagnosis. Gait analysis and diagnosis

14.2. Advanced physiotherapeutics (medical) II

14.2.1. Physiotherapy in common conditions of skin

14.2.2. Physiotherapy in common vascular diseases

14.2.3. Physiotherapy in deficiency diseases

14.2.4. Physiotherapy in respiratory disorders

14.2.5. Physiotherapy management of ischemic heart disease

14.2.6. Cardiopulmonary medications and their effects on activity performance

14.2.7. Exercise planning and prescriptions

14.2.8. Ergonomic aspects of exercise on oxygen, energy consumption, MET value of various exercises and activity

14.2.9. Effect of aerobic, anaerobic as well as isometric and isokinetic exercise on cardiac functions

14.2.10. Physiotherapy in psychiatry

14.2.11. Management of pain in neurological and musculoskeletal disorders.

14.2.12. Physiotherapy management in arthritis and allied conditions

14.3. Advanced physiotherapeutics (surgical) II

14.3.1. Physiotherapy management of postoperative patients in cardiopulmonary disorders

14.3.2. Monitoring systems and defibrillator. Artificial respirators

14.3.3. Physiotherapy in postoperative management of metabolic, hormonal, neoplastic and infective conditions of bones and joints

14.3.4. Physiotherapy following arhtroplasty, implants and soft tissue repairs.

14.3.5. Pre and post operative physiotherapy in tendon transfer. Electrical stimulation and biofeedback procedures

14.3.6. Physiotherapy management following head injuries, in intensive care and neurosurgical procedures

14.3.7. Physiotherapy following general surgery

14.3.8. Physiotherapy following urosurgery

14.3.9. Physiotherapy following plastic surgery

14.3.10. Physiotherapy management following selective and common cases of oncologic surgeries

14.3.11. Physiotherapy following obstetric and gynecological disorders.

14.4. ELECTIVE SUBJECTS

14.4.1. Physiotherapy in neurological conditions

14.4.1.1. Objectives

14.4.1.1.1. The course shall enable the candidate to expertise in early intervention acquisition and application of neuromotor and sensory integration skills on adults and pediatric neurological conditions as a first contact practitioner. Such candidate shall also attain an ability to acquire a position as consultant in the team of health care professionals involved in electrodiagnosis, disability evaluation, as well work in the management of patients at the intensive care area and/or in the rehabilitation neurologically affected adults and children/neonates. the subspecialties are:

14.4.1.1.1.1. Adult neurological and psychosomatic conditions and applied neurology

14.4.1.1.1.2. Developmental and pediatric neuropathological conditions

14.4.1.1.1.3. Applied biomechanics and bio engineering

14.4.1.1.1.4. Geriatrics

14.4.1.1.1.5. Electro diagnosis

14.4.1.1.1.6. Intensive care

14.4.1.2. Syllabus

14.4.1.2.1. Anatomy and physiology of central nervous system and peripheral nervous system

14.4.1.2.2. Clinical symptomatology and pathophysiology of the neurological disorders.
14.4.1.2.3. Clinical assessment and investigations along with differential diagnosis
14.4.1.2.4. Electro diagnosis, conventional methods – strength duration curves, accommodation, skin temperature, resistance and blood flow.
14.4.1.2.5. Electromyography especially with reference to pathophysiology and pathomechanics. Quantitative EMG
14.4.1.2.6. Evoked potential studies
14.4.1.2.7. Evaluation on ANS dysfunction with reference to psycho physiological testing. Biofeedback training
14.4.1.2.8. Neuropsychological functions, perception testing and training
14.4.1.2.9. Motor control assessment, reflexes and autonomic reactions – voluntary control, feedback mechanism
14.4.1.2.10. Motor learning and motor control training techniques
14.4.1.2.11. Functional electrical stimulations and biofeedback methods
14.4.1.2.12. Learning skills, ADL and functional activities
14.4.1.2.13. Aids and appliances in neurological disorders. Prescriptions, testing and training
14.4.1.2.14. Associated functional disturbances of higher functions and their testing and training
14.4.1.2.15. Community based rehabilitation of neurological dysfunction, disability evaluation and management
14.4.1.2.16. Learning techniques of neurophysiotherapy, emphasis on Bobath, Roods, NDT, PNF and Brunnstrom
14.4.1.2.17. Assessment of neurogenic hand and foot
14.4.1.2.18. Neurophysiology of aging and its effects on movement, posture and gait
14.4.1.2.19. Developmental and pediatric neuropathological conditions
14.4.1.2.20. Geriatrics
14.4.1.2.21. Intensive care units
14.4.1.2.22. diagnostic procedures in movement disorders

14.4.2. Physiotherapy in Musculoskeletal conditions and Sports

14.4.2.1. Objectives

14.4.2.1.1. This course shall enable the candidate to establish first contact physiotherapy for the management of musculoskeletal disorders and pain, expertise in the skills of manual medicine, advanced electro-diagnostic therapeutic skills, and ability to function as a consultant in the team of health professionals concerned with sports sciences, hand rehabilitation, women's health as well as geriatric health and industrial set up. The subspecialties are

14.4.2.1.1.1. Advances in manual medicine and pain management

14.4.2.1.1.2. Rehabilitation of hand

14.4.2.1.1.3. Sports sciences

14.4.2.1.1.4. Industrial health and ergonomics

14.4.2.1.1.5. Women's health and geriatric health

14.4.2.1.1.6. Applied biomechanics and bio-engineering

14.4.2.2. Syllabus

14.4.2.2.1. Applied anatomy with emphasis on biomechanics, kinesiology, work physiology and locomotor functions

14.4.2.2.2. Clinical assessment and rationale of laboratory investigations along with differential diagnosis

14.4.2.2.3. Clinical symptomatology, pathophysiology and pathomechanics of musculoskeletal conditions

14.4.2.2.4. Functional assessment (hand function, gait, posture, ADL, occupational work)

14.4.2.2.5. Kinetic and kinematics analysis

14.4.2.2.6. Analysis and classification of sports and sports injuries

14.4.2.2.6.1. Various Fitness & Performance tests

14.4.2.2.6.2. Gait evaluation & foot wear modification

14.4.2.2.7. Assessment of locomotor impairments, disabilities and disability evaluation

14.4.2.2.8. Physiotherapy management of locomotor disorders, principles of Medical and Surgical aspects, sports psychology and retraining.

14.4.2.2.9. Prevention of athletic injuries

14.4.2.2.9.1. Tapping Techniques & other protective gears

14.4.2.2.10. Management of sports injuries, sports fitness/rehabilitation of pediatric musculoskeletal disorders.

14.4.2.2.11. Nutrition for Sports

14.4.2.2.11.1. Optimal Nutrition for exercise, Nutrition for Physical Performance, Pre-Game meal, Carbohydrate loading, Alcohol, Mega Vitamin Therapy, Food for various athletes of different disciplines, Fluid and energy replacement in prolonged exercise

14.4.2.2.12. Doping

14.4.2.2.12.1. Various methods of doping, anabolic androgenic steroids, caffeine, legal aspects of doping

14.4.2.2.13. Off season, In-season, Post –season training

14.4.2.2.14. Female Specific Problems.

14.4.2.2.14.1. Sports Amenorrhoea, Injury to female reproductive tract, Menstrual Synchrony, Sex determination, Exercise and pregnancy.

14.4.2.2.15. Orthopedic implants – designs, materials, indications, post operative assessments and training

14.4.2.2.16. External aids, appliances, adaptive self help devices, prescription, biomechanical compatibility, check out and training

14.4.2.2.17. Manual therapies: soft tissue manipulations and mobilizations, neural mobilizations, acupressure

14.4.2.2.18. Joint manipulation – peripheral joints and vertebral joints.

14.4.2.2.19. Neurological complications of locomotor disorders, conservative electrodiagnosis, electromyography and evoked potential studies

14.4.2.2.20. Community based rehabilitation in musculoskeletal disorders

14.4.2.2.21. Rehabilitation of hand

14.4.2.2.22. Industrial health and ergonomics

14.4.2.2.23. Women and geriatric health

14.4.2.2.24. Fitness testing and sports and industry

14.4.3. Physiotherapy in cardio-pulmonary conditions

14.4.3.1. Objectives

14.4.3.1.1.1. The course shall enable the candidate in the knowledge and skill of

operating advanced instrumentation at the intensive care area as well as modern investigative procedures such as stress testing in the presence of a physician. Such candidate shall also attend an ability to function as an essential team member of intensive care units, as well as team of experts in the Cardio-Pulmonary rehabilitation general fitness and health promotion at the hospital set ups industrial/geriatric set ups, health clubs, sports fitness/training and women's health. The sub-specialties are:

14.4.3.1.1.1.1. Adult and pediatric emergency
14.4.3.1.1.1.2. Cardiac rehabilitation and management
14.4.3.1.1.1.3. Pulmonary rehabilitation
14.4.3.1.1.1.4. Geriatric and industrial health
14.4.3.1.1.1.5. Women's health
14.4.3.1.1.1.6. Sports sciences and health promotion

14.4.3.1.2. Syllabus

14.4.3.1.2.1. Anatomy and physiology of cardio vascular and pulmonary systems
14.4.3.1.2.2. Epidemiology, symptomatology and pathophysiology of Cardio-Pulmonary disorders
14.4.3.1.2.3. Clinical assessment, rationale of laboratory investigations and differential diagnosis
14.4.3.1.2.4. Evaluation of pulmonary dysfunctions, lung function tests – volumetric, analysis of blood gases, x-ray chest
14.4.3.1.2.5. Evaluation of cardiac dysfunctions
14.4.3.1.2.6. evaluation of peripheral vascular disorders: clinical, blood flow studies, temperature plethysmography, ANS dysfunction testing
14.4.3.1.2.7. Risk factors and preventive measures
14.4.3.1.2.8. Cardio-pulmonary emergencies and management principles – medication, critical care, indications of surgical interventions, stabilization of vital functions – defibrillation
14.4.3.1.2.9. Intensive care unit – concept and set up, equipment for advanced methods of

resuscitation, monitoring and patient management: artificial airways, ventilators, pulse oxymeter, defibrillator

14.4.3.1.2.10. Cardio-pulmonary resuscitation

14.4.3.1.2.11. Respiratory physiotherapy – lung hygiene, humidifiers, nebulizers, intermittent positive pressure breathing etc. And rehabilitation

14.4.3.1.2.12. Medical, surgical and physiotherapy management of peripheral vascular disorders

14.4.3.1.2.13. Exercise testing, planning and prescription, aerobic and anaerobic exercise training

14.4.3.1.2.14. Cardiac rehabilitation – conservative and post operative management

14.4.3.1.2.15. CBR in cardiovascular and pulmonary conditions

14.4.3.1.2.16. Physiotherapy management in PICU, NICU, emergency trauma care, ICU, CCU, MICU

14.4.3.1.2.17. pharmacological agents used in ICUs

14.4.3.1.2.18. Pulmonary rehabilitation

14.4.3.1.2.19. Geriatric and industrial health

14.4.3.1.2.20. Women's health

14.4.3.1.2.21. Sports sciences and health preparations

14.4.3.1.2.22. Diagnostic procedures in cardio-pulmonary conditions

14.4.3.1.2.23. Fitness testing in sports and industry

14.4.4. Community and rehabilitation Physiotherapy

14.4.4.1. Objectives

14.4.4.1.1. At the end of the course the candidate will

14.4.4.1.1.1. Acquire the in-depth understanding of the concept of community based rehabilitation

14.4.4.1.1.2. Be able to assist in planning and organization of camps at community level

14.4.4.1.1.3. Be able to impart services and training at the community level effectively with minimum resources

14.4.4.1.2. The course shall enable the candidate to expertise in the community health and function in the general set up as consultant. Such candidate shall attain ability as a consultant and mandatory member of health professionals, involved in the following sub-specialties

14.4.4.1.2.1. Sports sciences and health promotion

14.4.4.1.2.2. Movement and psycho-somatic conditions

14.4.4.1.2.3. Cardio-pulmonary rehabilitation

14.4.4.1.2.4. Mother and child care

14.4.4.1.2.5. Industrial health

14.4.4.1.2.6. Geriatrics

14.4.4.2. Syllabus

14.4.4.2.1. Institute based rehabilitation and multi-disciplinary approach

14.4.4.2.2. methodology of CBR with reference to national health care delivery system

14.4.4.2.3. role of national institutes, district rehabilitation centre and primary health centre (with appropriate exposure)

14.4.4.2.4. Public awareness to the various disabilities, communication. Message generation and dissipation.

14.4.4.2.5. persons with disability act – 1995 and related government infrastructure

14.4.4.2.6. Role of government in CBR, inter-sectoral programs and co-ordination. Implementation of the act

14.4.4.2.7. role of non-government organizations in CBR

14.4.4.2.8. scope of community Physiotherapy

14.4.4.2.9. Disabilities detection and early intervention. Disability evaluation, compensation and legislation

14.4.4.2.10. physical fitness, stress management through yoga and psychosomatic approaches

14.4.4.2.11. home exercise programs for various classifications of disabilities

14.4.4.2.12. physiotherapist as a master trainer in CBR

14.4.4.2.13. Physiotherapy in maternal and child health care

14.4.4.2.14. holistic Physiotherapy for the aged

14.4.4.2.15. Physiotherapy role in the industry – preventive, intervention, ergonomic and rehabilitative
14.4.4.2.16. community Physiotherapy as home care program, transfers of skills to non-professional workers as well as the family members
14.4.4.2.17. concept of multipurpose health workers – Anganwadi workers
14.4.4.2.18. epidemiological research, problem identification – preventive measures, community participation
14.4.4.2.19. role of Physiotherapy in training of multipurpose, health purpose
14.4.4.2.20. sports sciences and health promotions
14.4.4.2.21. movement in psychosomatic disorders
14.4.4.2.22. Cardio-Pulmonary rehabilitation

14.4.5. pediatric physiotherapy

14.4.5.1. Objectives
14.4.5.1.1. The course shall enable the candidate to expertise in the early intervention in the management of neonates and high risk babies, neurodevelopmental, musculoskeletal and cardio-pulmonary conditions in the pediatric population (the intensive care, hospital or community set up, school and sport clubs). The sub-specialties are
14.4.5.1.1.1. Pediatric musculoskeletal conditions
14.4.5.1.1.2. Pediatric neurological and psychosomatic conditions
14.4.5.1.1.3. Neonatal care and early intervention
14.4.5.1.1.4. Mother and child care
14.4.5.1.1.5. Cardio-pulmonary conditions in pediatrics including intensive care
14.4.5.1.1.6. Sports in children
14.4.5.2. Syllabus
14.4.5.2.1. Genetic bases of pediatric disorders, embryology and genetic counseling
14.4.5.2.2. Growth and development of a child and its disorders
14.4.5.2.3. Neurodevelopmental assessment, developmental diagnosis, developmental screening
14.4.5.2.4. Cardio-pulmonary assessment of neonate and infant and related pediatric disorders
14.4.5.2.5. Assessment of progressive locomotor disorders – neuropathic and myopathic

14.4.5.2.6. Clinical symptomatology and patho-physiology of locomotor and cardio-pulmonary disorders
14.4.5.2.7. Principles of laboratory investigations for differential diagnosis
14.4.5.2.8. Neonatal care, risk babies, early intervention and management
14.4.5.2.9. Management of congenital locomotor disorders including the prosthetic and orthotic management
14.4.5.2.10. Management of neuropediatric patient (NDT)
14.4.5.2.11. Motor learning process – theory and techniques
14.4.5.2.12. Disorders of perception and sensory integration
14.4.5.2.13. Integrated approach in management of pediatric disorders
14.4.5.2.14. Pediatric surgeries and its post operative management
14.4.5.2.15. CBR in pediatric conditions
14.4.5.2.16. Pediatric musculoskeletal conditions
14.4.5.2.17. Mother and child care
14.4.5.2.18. Cardio-pulmonary conditions in pediatrics including intensive care
14.4.5.2.19. Sports in children

14.4.6. Sports physiotherapy

14.4.6.1. Objectives
14.4.6.1.1. The course shall enable the candidate to establish first contact physiotherapy for management of sports injury, emergency care, athletic first aid, prevention of sports injury. It will help to function as a consultant in the team of health professionals concern with sports science, women's health and common medical problems related to sports persons. The subspecialties are
14.4.6.1.1.1. Industrial health and geriatrics
14.4.6.1.1.2. Sports injury
14.4.6.1.1.3. Sports psychology
14.4.6.1.1.4. Sports massage
14.4.6.1.1.5. Women's health
14.4.6.2. Syllabus
14.4.6.2.1. Applied anatomy – scope, skin, muscle, bones, joints
14.4.6.2.2. Applied physiology – blood, cardiovascular, endocrine, nervous system

14.4.6.2.3. Applied pathology – inflammation and repair of soft tissue injury

14.4.6.2.4. Applied pharmacology – principles of drug action, basic pharmacokinetics, use of drugs in musculoskeletal system

14.4.6.2.5. Applied radiology – basics, imaging of body parts

14.4.6.2.6. Principles of kinematics and kinetics, biomechanical analysis of various sporting activity

14.4.6.2.7. Principles of strengthening exercises, mobilization and application of neuromuscular facilitation techniques in sports

14.4.6.2.8. Sports Nutrition*:* Carbohydrates, Fats, Proteins, Vitamins, Minerals and Water. Optimal Nutrition for exercise. Nutrition for Physical Performance. Pre-Game meal, Carbohydrate loading. Alcohol, Vitamin Therapy. Food for various athletes of different disciplines, Fluid and energy replacement in prolonged exercise.

14.4.6.2.9. Energy Transfer for Physical activity*:* Energy transfer in Body, Energy transfer in exercise. Energy expenditure during various activities. Fatigue. Biochemical responses to endurance training.

14.4.6.2.10. Cardio Vascular System and Exercise*:* Athletes Heart. Cardio Vascular adaptations to sustained aerobic exercises. Lipids and sports, protection from coronary heart disease, exercise and optimization of lipid profile. Sudden cardiac death in sports. Regulation of circulation during exercise.

14.4.6.2.11. Exercise and Respiratory System*:* Air Conditioning. Second Wind. Oxygen Debt. Breath Holding, High Pressure Ventilation. Scuba Diving. Athletes Lung. Regulation of Respiration during exercise. Exercise and air pollution.

14.4.6.2.12. *Skeletal System:* Growth and Exercise,Repair and adaptation during exercise. Pathophysiology of Back. Training for Muscular Strength and Endurance.

14.4.6.2.13. *Gastrointestinal Tract and Endocrine system:* Effect of Sports on GIT and Liver, Hormone regulation of fluid and electrolytes during exercise. Exercise and Menstrual Cycle. Stress Hormones in Exercise. Effects of exercise on various Hormones in the body. Opiods, Runners High.

14.4.6.2.14. Body Composition and Weight Control*:* Composition of Human Body, Somatotyping. Techniques of Body Composition Analysis. Obesity. Health Risks of Obesity.Weight Control.

14.4.6.2.15. Aging and Exercise: Aging and Physiological function, Exercise and Longevity.Coronary Heart Disease and Exercise. Exercise Stress Testing for Diagnosis of CHD. Exercise prescription for healthy aged. Exercise prescription for sedentary adults. Cost and benefits of exercise prescription in Osteoporosis.

14.4.6.2.16. Temperature Regulation*:* Heat Balance,Methods of Assessing Heat Balance. Effects of Climate. Effects of Exercise on Temperature Regulation. Limit of Tolerance of Heat. Acclimatization. Avoidance in Heat illness during exercise. Exercises in cold.

14.4.6.2.17. Misc. Topics*:* High Altitude Training, Sports Diving (SCUBA), Hazards of underwater environment. Special Aids to Athletic Performance:- MORA, Anabolic androgenic steroids, Caffeine, Blood Doping, Oxygen Inhalation, Sleep, Sex and performance. Assessment of Age. Muscle tissue fibre typing and its significance. Doping in international athletes. Exercise for mood enhancement & anxiety.

14.4.6.2.18. Sports Specific Biomechanics: Principles of biomechanics, Introduction to analysis equipment. Techniques in biomechanics, Pelvic mechanics and the Biomechanics of running. Gait analysis, Biomechanics of rowing. Biomechanics of throwing, Biomechanics of Swimming, Biomechanics of jumping and landing, Biomechanics of the Lumbosacral region, Shoulder and scapula.

14.4.6.2.19. Sports massage

14.4.6.2.20. Emergency care and athletic first aid : cardio-pulmonary resuscitation, shock management, internal and external bleeding, splinting, stretcher use

14.4.6.2.21. Exercise therapy in post surgical management of sports injuries

14.4.6.2.22. Acute and overuse injuries to upper limb, lower limb, chest, abdomen and their management, common medical problems associated with sports person

14.4.6.2.23. Female specific problems, pediatric sports injuries

14.4.6.2.24. Principles of therapeutic massage, cryotherapy, heat therapy, manual therapy, techniques of functional bandaging

14.4.6.2.25. Effects of exercise on different systems, obesity and weight control, aging and exercise

14.4.6.2.26. Exercise training and prescription, high altitude training, special aids for performance enhancement, doping in athletes

14.4.6.2.27. Sports psychology – definition, emotions with reference to sports performance, personality of sports person

14.4.7. Physiotherapy in electrophysiology and electrodiagnosis

14.4.7.1. Objectives

14.4.7.1.1. This course shall enable the candidate to establish first contact Physiotherapy for electrodiagnosis and functional electrical stimulations. It will help to function as a consultant in the team of health professionals concerned with electrophysiology, electrodiagnosis, electromyography, nerve conduction velocities. The subspecialties are:

14.4.7.1.1.1. Clinical and kinesiological electromyography

14.4.7.1.1.2. Sensory and motor nerve conduction velocities

14.4.7.1.1.3. S D curve

14.4.7.1.1.4. evoked potential studies

14.4.7.2. syllabus

14.4.7.2.1. Characteristics and components of electrotherapeutic stimulation systems and characteristic and components of electrophysiological assessment devices.

14.4.7.2.2. Electrotherapy and functional electrical stimulation

14.4.7.2.3. Muscle plasticity in response to electrical stimulation, instrumentation for neuromuscular electrical stimulation(NMES)

14.4.7.2.4. Neurobiology of afferent pain transmission and central nervous system mechanisms of pain modulation

14.4.7.2.5. Electrical stimulation and circulation

14.4.7.2.6. Clinical electrophysiological testing

14.4.7.2.7. bio-electricity (RMP – action potential)
14.4.7.2.8. Neurotransmitters. Synapse and synaptic transmission
14.4.7.2.9. Classification – muscle fiber, nerve fiber, motor unit
14.4.7.2.10. Propagation of nerve impulse and physiology of muscle contraction
14.4.7.2.11. Reflex –classification and properties
14.4.7.2.12. sensations – pathways and classification
14.4.7.2.13. type of nerve injury and Wallarian degeneration
14.4.7.2.14. applied electrotherapy –
14.4.7.2.14.1. instrumentation electrodes
14.4.7.2.14.2. EMG – normal and abnormal, application of NCV (sensory/motor, F wave, H reflex, blink reflex, SSEP)
14.4.7.2.15. Electrodiagnosis – clinical and kinesiological electromyography and evoked potential studies. Biophysical measurements, Physiotherapy modalities, techniques and approaches
14.4.7.2.16. Electrodiagnosis, conventional methods. Electromyography, sensory and motor nerve conduction velocities, spinal and somatosensory evoked potentials.

REFERENCE BOOKS

I year MPT

1. scientific basis of human movement – Gowitzke, Williams and Wilkins, Baltimore 1988 3rd edition
2. clinical biomechanics of spine – White A, A and Punjabi – J. B Lippincot, Philadelphia 1978
3. kinesiology – Brunnstrom Singe, F A Davis – Philadelphia 1966
4. textbook of work physiology – Guyton, Prim Books Bangalore – 1991 8th edition
5. handbook of physiology in aging – Masoro, C.R.C. Press, 1981
6. research for Physiotherapists – Hicks C. Churchill Livingstone, Edinburgh 1995 Ed. S
7. introduction to research in human sciences – Polgar S., Churchill Livingstone, London, 1988
8. elements of research in physical therapy – Currier D. P., Williams and Wilkins, Baltimore, 1990, Ed. 3
9. handbook of research method – Sproull, Scarecrow Press, 1998
10. Physical therapy research – Domholdt, W.B. Saundars, Philadelphia. 1993
11. public power and administration – Wilenski, Hale and Iremonger, 1986
12. physical therapy administration and management – Hickik Robert J
13. management principles for Physiotherapists – Nosse Lorry J.
14. human neuroanatomy – Carpenter M. B., Williams and Wilkins, Baltimore, 1983
15. physical therapy assessment in early infancy – Wilhelm Churchill Livingstone,l New York, 1993
16. physical therapy for children – Campbell Suzann K, W.B. Saunders, Philadelphia, 1994
17. physical management of multiple handicapped – Fraser, Williams and Wilkins, Baltimore.
18. elements of pediatric Physiotherapy – Eckerley P, Churchill Livingstone, Edinburgh, 1993
19. Physiotherapy in pediatrics – Shepherd R. Heinmann, London, 1980 2nd edition
20. the growth chart – WHO, Geneva, 1986
21. orthotics in neurological rehabilitation – Alsen, Demos Publication, New York 1992

II year MPT

1. manual of nerve conduction velocity techniques – De Lisa, Raven press, New York, 1982
2. electrodiagnosis in diseases of nerve and muscle – Kimura J, F A Davis Philadelphia
3. mobilization of the extremity joints – Kaltenborne, Harper and Row, Philadelphia, 1980
4. chest Physiotherapy in intensive care unit – Makenzie, Williams and Wilkins, Baltimore
5. Cardio-Pulmonary symptoms in Physiotherapy – Cohen M, Churchill Livingstone, London – 1988
6. physical rehabilitation: assessment and treatment – O'Sullivan, F A Davis, Philadelphia 1994
7. neuro rehabilitation – Faber, W B Saunders, Philadelphia 1982
8. orthopedic physical therapy – Donatteli, London, Churchill Livingstone, 1994
9. yoga therapy – Kuvalayananda Swami and Vinekar, Popular Prakashan, Bombay, 1992
10. gait analysis – Perry J., jBlack Thorofare, New Jersy, 1992
11. biofeedback – a practitioner's guide – Kerth D, Guiford press
12. the neural basis of motor control – Black I, Churchill Livingstone, London – 1987
13. physical therapy management of Parkinson's disease – Tumbell Gerode I, Churchill Livingstone, London – 1994
14. abnormal postural reflex activity caused by brain lesions – Bobath B. Aspen publications, Rockville, 1897
15. disorders of voluntary muscle, Eagal, Churchill Livingstone, Edingburgh, 1988
16. a clinicial's view of neuro muscle disorder – Brook M. H Williams and Wilkins, Baltimore, 1986
17. proprioception, neuromuscular facilitation techniques – Knot M and Voss, Harper and Row, New York 1972 2nd edition
18. stroke rehabilitation – Laidler, Capman and Hall, London 1994
19. Motor relearning programme for stroke – Carr, Aspen Publication, Rock ville, 1987
20. adult hemiplegia: evaluation and treatment – Bobath B Heinmann, London 1983
21. paraplegia and tetraplegia – Brombley, Churchill Livingstone, Edinburgh 1991
22. child with spina bifida – Anderson E M, and Spain B Methun, London 1977
23. a manual of neonatal intensive care – Robert N. R. C, Edward Arnold, London 1988
24. measurement in Physical Therapy – Churchill Livingstone, London 1988

25. Soft tissue pain and disability – Cailliet Rene, Jaypee Brothers, New Delhi 1992
26. Myofascial Pain and dysfunction – Travell, Williams and Wilkins, Baltimore 1983
27. Physical therapy for the low back – Twomoy, Churchill Livingstone, London 1995
28. sports injuries of the shoulder – Souza Thomas A, Churchill Livingstone, London 1994
29. Vertebral manipulation – Maitland G D, Boston, Butterworth and Co. Boston, 1997
30. Peripheral manipulation – Maitland G D, Boston, Butterworth and Co. Boston, 1997
31. Sports and physical therapy – Bernhardt Donna, Churchill Livingstone, London 1995
32. Hand rehabilitation – Christine, Churchill Livingstone, London 1995
33. Cardio-Pulmonary symptoms in Physiotherapy practice – Cohen M. Churchill Livingstone, London 1988
34. Clinical application of ventilatory support- Kinby, Churchill Livingstone, New York 1990
35. Cardio-Pulmonary Physiotherapy – Irwin C V, Mosby, St. Louis 1990
36. Pulmonary rehabilitation: guidelines to success – Hoidkins, Butterworth, Boston 1984
37. Cardiac rehabilitation – Amundsen L R, Churchill Livingstone, London 1988
38. Obstetrics and Gynecological physical therapy – Wilder Elnine, Churchill Livingstone, New York 1988
39. Physiotherapy in obstetrics and gynecology – Polden and Mantle, Jaypee Brothers, New Delhi 1994
40. physical therapy of the cancer patient – McGaryex Charles, Churchill Livingstone, New York 1989
41. Industrial Therapy – Key G L, Mosby, St. Louis 1987
42. Sports Medicine- Richard Irvin, Churchill Livingston, Newyork.

JOURNALS

1. Journal of Indian Association of Physiotherapy
2. physical therapy (APTA, America)
3. Physiotherapy (CSP, London)
4. American Journal of Physical Medicine and rehabilitation
5. Physiotherapy (Canada)
6. Physiotherapy – Theory and Practice
7. Australian Journal of Physiotherapy
8. Clinical Kinesiology
9. Journal of biomechanics
10. American Journal of Sports Exercises
11. Pediatric physical therapy
12. Journal of rehabilitation – Research and Development
13. Archives of Physical Medicine and rehabilitation
14. Journal of pediatric Orthopedics
15. Journal of neurological sciences

MODEL CHECKLIST FOR EVALUATION OF JOURNAL REVIEW PRESENTATIONS

Name of the student:

_____

Name of the faculty:

_____

Date: _____/_____/_____

Sr No	**Items for observation during presentation**	**Poor (0)**	**Below Average (1)**	**Average (2)**	**Good (3)**	**Very Good (4)**
1	Article chosen was					
2	Extent of understanding of scope and objectives of the paper by candidates					
3	Whether cross references have consulted					
4	Whether other relevant publications consulted					
5	Ability to respond to questions on the paper/subject					
6	Audio-visual aids used					
7	Ability to defend the paper					
8	Clarity of presentation					
9	Any other observation					
	Total score					

MODEL CHECKLIST FOR EVALUATION OF SEMINAR PRESENTATION

Name of the student:
_____

Name of the faculty:
_____

Date: _____/_____/_____

Sr No	**Items for observation during presentation**	**Poor (0)**	**Below Average (1)**	**Average (2)**	**Good (3)**	**Very Good (4)**
1	Whether other relevant publications consulted					
2	Whether cross references have been consulted					
3	Completeness of preparation					
4	Clarity of presentation					
5	Understanding of subject					
6	Ability to answer the questions					
7	Time schedule					
8	Appropriate use of audio-visual aids					
9	Any other observation					
	Total score					

MODEL CHECKLIST FOR EVALUATION OF WORK

Name of the student:

_____

Name of the faculty:

_____

Date: _____/_____/_____

Sr No	**Points to be considered**	**Poor (0)**	**Below Average (1)**	**Average (2)**	**Good (3)**	**Very Good (4)**
1	Regularity of the attendance					
2	Punctuality					
3	Interaction with colleagues and supportive staff					
4	Maintenance of case records					
5	Presentation of cases during rounds					
6	Investigation work up					
7	Besides manners					
8	Rapport with patients					
9	Treatment approaches and techniques					
10	Overall quality of ward work					
	Total score					

EVALUATION OF CLINICAL PRESENTATION

Name of the student:
_____

Name of the faculty:
_____

Date: _____/_____/_____

Sr No	**Points to be considered**	**Poor (0)**	**Below Average (1)**	**Average (2)**	**Good (3)**	**Very Good (4)**
1	Completeness of history					
2	Whether all relevant points elicited					
3	Clarity of presentation					
4	Logical order					
5	Mentioned all positive and negative points of importance					
6	Accuracy of general physical examination					
7	Whether all physical signs elicited correctly					
8	Whether any major signs missed or misinterpreted					
9	Diagnosis					
10	Investigation required, Special investigation					
11	Aims					
12	Means					
13	Treatment techniques					
14	Other					
	Total score					

MODEL CHECKLIST FOR EVALUATION OF TEACHING SKILL PRACTICE

Name of the student:
_____

Name of the faculty:
_____

Date: _____/_____/_____

Sr No	**Details**	**Poor (0)**	**Below Average (1)**	**Average (2)**	**Good (3)**	**Very Good (4)**
1	Communication of the purpose of the talk					
2	Evokes audience interest in the subject					
3	The introduction					
4	The sequence of ideas					
5	The use of practical examples &/or illustrations					
6	Speaking style (enjoyable, monotonous, etc. specify)					
7	Attempts audience participation					
8	Summary of main points at the end					
9	Asks questions					
10	Answer questions asked by the audiences					
11	Rapport of the speaker with his audience					
12	Effectiveness of the talk					
13	Uses audio-visual aids appropriately					

MODEL CHECKLIST FOR EVALUATION OF DISSERTATION PRESENTATION

Name of the student:

_____

Name of the faculty:

_____

Date: _____/_____/_____

Sr No	**Points to be considered**	**Poor (0)**	**Below Average (1)**	**Average (2)**	**Good (3)**	**Very Good (4)**
1	Interest shown in selecting topic					
2	Appropriate review of literature					
3	Discussion with guide and other faculty					
4	Quality of protocol					
5	Preparation of proforma					
	Total score					

CONTINUOUS EVALUATION OF DISSERTATION OF DISSERTATION WORK BY GUIDE

Name of the student:

_____

Name of the faculty:

_____

Date: _____/_____/_____

Sr No	**Items for observation during presentation**	**Poor (0)**	**Below Average (1)**	**Average (2)**	**Good (3)**	**Very Good (4)**
1	Periodic consultation with guide					
2	Regular collection of case material					
3	Depth of analysis / discussion					
4	Departmental presentation of findings					
5	Quality of final output					
6	Others					
	Total score					