



Pravara Institute of Medical Sciences

Deemed University

Loni Bk. 413 736, Tal. Rahata, Dist. Ahmednagar (M.S.)

Ref. No. PIMS/ Physiotherapy / 2014 / 1304

Date : 18 / 08 / 2014

Notification No : 33 / 2014

It is hereby notified for information of all concerned that the authorities of the university has revised syllabus of Bachelor of Physiotherapy (BPT) for implementation for teaching and examinations from the Academic year 2014-15 at the College of Physiotherapy the constituent college of Pravara Institute of Medical Sciences (Deemed University) Loni.

The revised syllabus of Bachelor of Physiotherapy (BPT) is hereby Published for information of all concerned.

The Principal, College of Physiotherapy, Loni Bk - 413 736 is requested to bring the revised syllabus of Bachelor of Physiotherapy (BPT) to the notice of all concerned faculties and all concerned students.

Place : Loni Bk – 413 736.

Date : 18 / 08 / 2014

Sd/--

A. L. Bhosale
Registrar

Copy to :

Hon'ble Chief Executive, PIMS
Hon'ble Vice- Chancellor , PIMS

Copy for information and necessary action to : -

- 1) The Principal, College of Physiotherapy, Loni Bk – 413 736
- 2) Controller of Examinations
- 3) Chief Accountant / Manager Accounts, PIMS
- 4) Asst. Registrar, (CET / Academic)
- 5) IT Manager – With a request to upload on university website.

BACHELOR OF PHYSIOTHERAPY



PRAVARA INSTITUTE OF MEDICAL SCIENCES
(DEEMED UNIVERSITY), LONI, MAHARASHTRA, INDIA, 413 736

ORDINANCE GOVERNING
BACHELOR PHYSIOTHERAPY (BPT)
COURSE 2014 – 2015



PRAVARA INSTITUTE OF MEDICAL SCIENCES
(DEEMED UNIVERSITY)

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BACHELOR OF PHYSIOTHERAPY

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1. **Preamble:** Physiotherapy is an emerging Allied health care profession. Physiotherapy has been traditionally recognized as the branch of Physical Medicine that deals with the treatment of various diseases and disorders with the Physical Medicine modalities. Physical Medicine modalities include exercises, heat, cold, therapeutic currents, joint mobilizations, joint manipulations, soft tissue mobilizations, traction, compression, massage, radiations, sound etc. Physiotherapy is a profession with a holistic approach to the prevention, diagnosis and therapeutic management of conditions affecting human movements. With the advanced research, evidence based practice concepts and the increase in first contact practice, the practice of Physiotherapy is based on contemporary scientific evidence. Physiotherapy includes a range of specialties to meet the health needs of people of all ages. Physiotherapy involves a partnership with clients to achieve better health outcomes. Physiotherapy offers health care in many different settings including private practice, hospitals, community health centers, aged care facilities, industry and clients' own homes.

The disability profile has been increasing as indicated in the recent surveys by Government of India. New fields like community health centers, industrial health centers, homes for elderly, hospices, rehabilitation centers, schools for disabled, research centers, sports medicine and training centers, non-governmental organizations show an inadequate participation from qualified Physiotherapists. Hence, there is a growing need for the qualified Physiotherapists in our country. Physiotherapy is an allied health care profession characterized by the treatment of various diseases and disorders with the help of skilled use of physiologically-based movement techniques, supplemented when necessary by electrotherapy and other physical means for the prevention and treatment of injury and disease. It is used to assist the process of rehabilitation and restoration of function, including the achievement of personal independence. The work of the Physiotherapist is therefore essential to ensure a good quality of life of individuals ranging from children to the elderly with various disabilities like physical, neurological, psychosocial, sensory and rehabilitation needs and their integration in the community. The specific objective of the therapist is to function as an integral part of a multidisciplinary team to enable those whose abilities in productivity, self-maintenance and leisure are threatened, restricted or lost due to impairment, developmental delay, ageing or lack of opportunity, to become full and productive members of the community. Physiotherapists are therefore of paramount importance in the effective operation of the health care, social welfare and education systems. Physiotherapists play an important role in preventive medicine which includes all pathologies of musculo-skeletal, neuromuscular & cardiovascular system at all ages.

The first three years of study have been designed to equip students with all the basic training needs of a Physiotherapist for general practice, including implementation of treatment after effective Physiotherapy assessment, good communication and interpersonal skills and commitment to ethical and social responsibility. The fourth year of study leads to the award of a Bachelor of Physiotherapy and is designed to meet the research aptitude requirements of the profession. The practical and clinical education training will provide the opportunity for translation of theoretical knowledge into hands-on practice of immediate relevance and will further help students in acquiring professional competence. Graduates with this degree can either pursue higher studies like Doctor of Physiotherapy, Master of Physiotherapy and post graduate diploma or seek employment locally and internationally. Physiotherapists are employable in a wide range of areas like clinics, hospitals, hospices, homes for elderly, schools, industries, sports medicine centers etc and can also choose private practice after they are awarded the Bachelor of Physiotherapy degree.

2. Objectives: Various objectives of education & training Physiotherapy graduates at PIMS are as follows;

- To teach common health problems which are referred for Physiotherapy.
- To train an individual into value based Physiotherapist capable of treating common ailments referred for Physiotherapy.
- To use active, integrated and student centered methods of teaching and learning that encourage clarity of expression, independence of judgment, scientific habits, problem solving abilities, self initiated and self directed learning.

3. Career opportunities: Currently there is shortage of qualified specialist Physiotherapist. Hence, there is demand for this specialty and employment opportunities are excellent. Graduates with this qualification are recognized throughout India and abroad. Shortage of highly qualified Physiotherapists, commands increasing employment & remuneration. They can be employed in super specialty hospitals, general hospitals, teaching institutes, rehabilitation centers for children, schools and can also practice in private setups independently.

4. Professional recognitions: The award of Bachelor of Physiotherapy qualifies the graduates for membership of Maharashtra State Council for Physiotherapy & Occupational Therapy, Indian Association of Physiotherapists. They can also apply to different councils or associations in India and abroad.

5. Eligibility: A candidate seeking admission to first year BPT course should have passed 10+2 examination with English as one of the subjects and Physics, Chemistry and Biology as other subjects and must appear for PIMS AICET ASUG competitive entrance examination and must have come in the merit list by securing not less than 40% marks in Physics, Chemistry and Biology taken together.

6. Age: A candidate seeking admission to Bachelor of Physiotherapy course should have completed 17 years of age, before the commencement of the academic year. Every candidate before admission to the course shall furnish to the Principal of the Institution a certificate of Medical Fitness from an authorized Government Medical Officer to the effect, that the candidate is physically and mentally fit to undergo Physiotherapy course.

7. Duration of the Course: Every student shall undergo a period of certified study extending over 4 academic years from the date of commencement of his/her study for the subject comprising the Physiotherapy curriculum to the date of completion of the examination followed by six months compulsory rotatory internship.

8. Medium of instructions: The medium of instructions for this course shall only be English. This includes theory lectures, practicals, laboratory works and assignments and clinical training.

9. Learning Outcomes: On completion of this course the student will be expected to

9.1 Describe:

- Physiotherapy principles and practice
- Physiotherapy practice guidelines and performance
- The importance of health promotion and wellness
- Professional accountability

9.2 Understand:

- Specific perspectives of the PT in patient care, including inter-professional
- Practice, client and family-centered care
- Common ethical, personal, and professional issues that arise in physical
- therapy practice
- The role of the PT in motivating and educating patients for self- management

9.3 Demonstrate adequate competency in:

- Collaborative effective communication
- Observational skills
- Interviewing skills
- Teaching and learning principles (Identifying, summarizing and communicating new knowledge)
- Understanding and respecting others' values and beliefs
- Cultural diversity and discrimination issues

9.4 Compare and contrast the role of Physiotherapy in various settings using evidence to support findings.

10. Dress code: Professionalism with respect to dressing is encouraged throughout the course. It is each student's responsibility to have appropriate attire during all class assignments and learning activities.

11. Course location: This course is offered at College of Physiotherapy, Pravara Institute of Medical Sciences, Loni, Taluka: Rahata, District: Ahmednagar 413 736, Maharashtra, India.

12. Total intake of students: The total intake of students will be fifty per academic year in Pravara Institute of Medical Sciences, Deemed University, Loni.

13. Course fee structure: The tuition fee and other fee structure will be as per the notifications by Pravara Institute of Medical Sciences, Deemed University given from time to time. The fee structure is different for resident Indians, non-resident Indian and foreign students.

14. Course structure: The details of BPT course structure are as follows; the total hours of academic training (teaching and practical) for all four years equals to 4000 hours. Internship which is distributed over 6 months in different departments accounts for 1200 hours of clinical practice. Credit hours for all subjects have been calculated, where 100 hours equals 5 credits. The detailed distribution in various subjects for different years is as follows:

FIRST YEAR BPT

Sl.No	Subject	Teaching hours		Total	Credits
		Theory	Practical/clinical		
1	Human Anatomy	100	200	300	15
2	Human Physiology	100	200	300	15
3	Human Biomechanics	100	200	300	15
4	Human Psychology	100	-	100	5
Total hours				1000	50

SECOND YEAR BPT

Sl.No	Subject	Teaching hours		Total	Credits
		Theory	Practical/clinical		
1	Human Pathology	100	-	100	5
2	Human Pharmacology	100	-	100	5
3	Electrotherapy	100	100	200	10
4	Exercise Therapy	100	100	200	10
5	Clinical training	-	400	400	20
Total hours				1000	50

THIRD YEAR BPT

Sl.No	Subject	Teaching hours		Total	Credits
		Theory	Practical/clinic		
1	Medicine	50	50	100	5
2	Surgery	50	50	100	5
3	Orthopedic Physiotherapy	100	100	200	10
4	Neuro-Physiotherapy	100	100	200	10
5	Clinical training	-	400	400	20
Total hours				1000	50

FOURTH YEAR BPT

Sl.No	Subject	Teaching hours		Total	Credits
		Theory	Practical/clinical		
1	Cardiothoracic Physiotherapy	100	100	200	10
2	Community Physiotherapy	100	50	150	7.5
3	General Physiotherapy	100	50	150	7.5
4	Rehabilitation and Research	50	50	100	5
5	Clinical training	-	400	400	20
Total hours				1000	50

15. Clinical Education Training: Clinical training is distributed throughout every year of the curriculum in the form of supervised clinical practice where the students are encouraged to participate in clinical reasoning through patient simulated training, mock demonstrations, group discussions, physical diagnosis, investigations and their interpretations, case presentations, observing different investigatory procedures and Physiotherapy interventions. Students will be required to attend clinical sessions on a rotation basis to maintain public service and provide continuity of patient care. To ensure a depth of learning, clinical education will be guided and workplace skills will be supervised and assessed by practicing and qualified physiotherapists.

16. Attendance: Every candidate should have attendance not less than 75% of total classes conducted in theory and practical in each academic year calculated from the date of commencement of the term to the last working day as notified by the University, in each of the subjects prescribed to be eligible to appear for the University examination. A candidate lacking in the prescribed attendance and progress in any subjects in theory or practical/clinical shall not be permitted to appear for the University examination in those subjects.

17. Internal assessment: It shall be based on regular evaluation of periodic tests of assignments, clinical presentations, theory & practical test. There should be a minimum of at least 3 internal examinations and the average of best of two marks should be sent to the University before the commencement of University examination as notified by the examination section from time to time. Internal assessment paper records should be maintained for all students & should be available for scrutiny. The marks of internal assessment tests should be displayed on notice board for the students.

18. Monitoring process: A candidate pursuing B.P.Th course shall study in the concerned department of the college of Physiotherapy, Pravara Institute of Medical Sciences, Loni for the entire period as full time student. No candidate is permitted to work in any other hospital, clinic, college etc., while studying this course. No candidate should join another course of study or appear for any other examination conducted by this university or any other university in India or abroad during the period of registration. Each year shall be taken as a unit for the purpose of calculating attendance. Every student shall attend lectures, practicals, laboratory works, seminars, weekly case discussions, review meeting, tele-Physiotherapy sessions and state level conferences, national level conferences or

occasionally international conferences during each year as prescribed by the Pravara Institute of medical Sciences, Deemed University, Loni. Every candidate shall maintain a log book and record of his/her participation in the training programs conducted by the department. The log book shall be scrutinized and certified by the Head of the Department and the Principal, College of Physiotherapy, and presented in the university practical examination if called for. Every clinical case discussion, case presentation, seminars, will be monitored by faculty members, guides and peers using relevant checklists.

19. Schedule of Examination: There will be two examinations in a year, an annual Examination and a supplementary examination to be conducted as per notification issued by the University from time to time. The particulars of subjects for various examinations and distribution of marks are shown separately in tables.

20. Eligibility for Examination: To be eligible to appear for University examination a candidate: a) should have undergone satisfactorily the approved course of study in the subject or subjects for the prescribed duration. b) Should have attended at least 75% of the total number of classes in theory and practical jointly to become eligible to appear for examination in those subject/subjects. c) Should secure at least 35% of total marks assigned for internal assessment in particular subject in order to be eligible to appear in the University examination of that subject. d) Who fails in any other subject/subjects of first year BPT, has to put one academic term before he/she becomes eligible to appear for the next examination. e) Shall fulfill any other requirement that may be prescribed by the University from time to time.

21. Criteria for Pass: For declaration of pass in any subject in the university examination, a candidate should pass both in Theory & Practical examinations components separately as stipulated below:

a) For a pass in theory a candidate shall secure not less than 50% marks in aggregate i.e., marks obtained in written examination and internal assessment (theory) added together.

b) For a pass in practical examination, a candidate shall secure not less than 50% marks in aggregate, i.e., marks obtained in university practical examination and internal assessment (practical) added together.

c) A candidate not securing 50% marks in theory and practical examination in a subject shall be declared to have failed in that subject and is required to appear for both theory and practical, again in the subsequent examination in the subject.

22. Declaration of class:

- a) A candidate having appeared in the entire subject in the same examination and passed that examination in the first attempt and secure 75% of marks or more of grand total marks prescribed will be declared to have passed the examination with distinction.
- b) A candidate having appeared in the entire subject in the same examination and passed that examination in the first attempt and secure 60% of marks or more but less than 75% of grand total marks prescribed will be declared to have passed the examination in First class.
- c) A candidate having appeared in the entire subject in the same examination and passed that examination in the first attempt and secure 50% of marks or more but less than 60% of grand total marks prescribed will be declared to have passed the examination in Second class.
- d) A candidate passing the University examination in more than one attempt shall be placed in pass class irrespective of the percentage of marks secured by him/her in the examination.

23. Grading Structure: This will be as shown below taking into account that the pass mark for all modules is 50% GRADE POINT AVERAGE (GPA) under the GPA, the following letter grades and their grade point equivalent are used:

Letter Grade	Grade Point Average	Percentage Mark
A ⁺	4.00	90 to 100
A		80 to 90
A ⁻		70 to 80
B ⁺	3.00	65 to 70
B		60 to 65
C	2.00	50 to 60
F	0	<50

24. Classification of Award: The degree classification will be based on the CPA at the end of the Program as follows;

CPA (%)	CLASSIFICATION
>75	Distinction
60 to 75	First class
50 to 60	Second Class
< 50	No Award

25. Scheme of examination:

The detailed scheme of examination for theory and practical or clinical component is described here.

First year BPT

Sl.No	Subject	Theory		Practical		Total Marks
		University Max. marks	Internal assessment	University Max. marks	Internal assessment	
1.	Human Anatomy	80	20	90	10	200
2.	Human Physiology	80	20	90	10	200
3.	Human Biomechanics	80	20	90	10	200
4.	Human Psychology	80	20	-	-	100
Total						700

Second year BPT

Sl.no	Subject	Theory		Practical		Total Marks
		University Max. marks	Internal assessment	University Max. marks	Internal assessment	
1.	Human Pathology	80	20	-	-	100
2.	Human Pharmacology	80	20	-	-	100
3.	Electrotherapy	80	20	90	10	200
4.	Exercisetherapy	80	20	90	10	200
Total						600

Third year BPT

Sl. No	Subject	Theory		Practical		Total Marks
		University Max.marks	Internal assessment	University Max.marks	Internal assessment	
1.	Medicine	80	20	-	-	100
2.	Surgery	80	20	-	-	100
3.	Orthopedic Physiotherapy	80	20	90	10	200
4.	Neuro Physiotherapy	80	20	90	10	200
Total						600

Fourth year BPT

Sl. No	Subject	Theory		Practical		Total Marks
		University Max.marks	Internal assessment	University Max.marks	Internal assessment	
1.	Cardio respiratory Physiotherapy	80	20	90	10	200
2.	Community Physiotherapy	80	20	90	10	200
3.	General Physiotherapy	80	20	90	10	200
4.	Research and Rehabilitation	80	20	-	-	100
Total						700

26. Theory (written examination): A written examination will be undertaken consisting of four question papers, each of three hours duration & each paper carrying 80 marks.

27. Pattern of university question paper:

The pattern of theory question paper for all subjects shall be as follows;

Sl.No	Type of question	Distribution	Marks
1.	Long essay question(2 questions, no choice)	2X15	30
2.	Short essay question(8 questions, one choice)	6X5	30
3.	Multiple choice questions	20X1	20
TOTAL			80

28. Pattern of university clinical examination (Practical):

A clinical examination consisting of ninety marks (90) is aimed at examining depth of knowledge, logical reasoning, confidence & oral communication skills. The distribution of marks for the practical examination is given as follows;

Sl.No	Type of practical /clinical assessment	Distribution	Marks
1.	One long case	50	50
2.	Two OSPE/OSCE stations	2X10	20
3.	Viva-voce	20	20
TOTAL			90

29. Examiners: There shall be two examiners, one of them shall be an external, outside the university and the other shall be an internal preferably from the same college or as decided by the University.

30. Carry over or allowed to keep term: A candidate who has failed in their respective academic year university examination can carry over a maximum of two subjects to their next academic year, but will have to pass the subjects in the subsidiary examination before writing the examination of the next academic year.

31. Internship: There shall be six months of compulsory rotatory internship after the final year bachelor of Physiotherapy (BPT) examination. This internship should commence after the candidate is declared to have passed the examination in all the subjects. Internship should be done in a multispecialty teaching hospital recognized by the University/MCI/IAP. The internship should cover all clinical branches concerned with Physiotherapy. No candidate shall be awarded degree certificate without successfully completing six months internship. The clinical duties of the student will be recorded in a logbook. On completion of each posting, the same will have to be certified by the faculty in charge of the posting for both attendance as well as clinical work done. On completion of all the postings, the duly completed logbook will be submitted to the Principal/Head of department to be considered as having successfully completed the internship program. The various departments covered during the six month rotatory posting are: Pediatric Physiotherapy, Cardiorespiratory Physiotherapy, Community Physiotherapy, NeuroPhysiotherapy, Musculoskeletal Physiotherapy, Geriatric Physiotherapy and Sports Physiotherapy.

I BPT COURSE CONTENTS

HUMAN ANATOMY

(Subject code: PU1101)

Teaching Hours: 300 hours (Theory: 100 hours and Practical: 200hours)

Maximum Marks: 200 (Theory: 100 and Practical: 100)

Assessment: Written, Oral and Practical, Internal and University examinations

Internal Examination: 20 marks Theory and 10 marks Practical

University Examination: 80 marks Theory, 90 marks Practical and viva – voce

Objectives: The objective is to enable the student to understand, analyze and interpret the theoretical and practical concepts of Human Anatomy.

Theory Contents

I. Myology

- Overview
- Classification
- Function
- Upper and lower limb myology
- Spinal and facial myology

II. Osteology

- Overview
- Structure and Composition
- Classifications
- Functions
- Extremities and spine osteology

III. Arthrology

- Overview
- Classifications
- Functions
- Movements
- Peripheral and spinal arthrology

IV. Neuroanatomy

- Overview
- Central nervous system
- Peripheral nervous system
- Sympathetic nervous system
- Parasympathetic nervous system

V. Respiratory Anatomy

- Overview
- Airway and Lungs:
- Pleura
- Mediastinum
- Diaphragm and Intercostals muscles

VI. Cardiovascular Anatomy

- Pericardium
- Valves of heart
- Heart
- Major arteries and Major veins of the body
- lymphatic drainage of the body

VII. Abdomen

- Spleen
- Liver
- Pancreas
- Stomach
- Intestines

VIII. Pelvic organs

- Female reproductive organs
- Male reproductive organs
- Kidneys and ureters
- Urinary bladder and urethra
- The rectum and anal canal

IX. Special senses

- Eyes
- Nose
- Ear
- Skin
- Tongue

X. Applied Anatomy

- Clinical anatomy
- Surface anatomy
- Surgical anatomy
- Living anatomy
- Radiological anatomy

Practical contents

1. Dissection of upper and lower extremity
2. Demonstration of the muscles of the whole body and organs in thorax and abdomen in a cadaver
3. Surface Anatomical land marks in upper extremity, lower extremity, head & neck, brain and spinal cord, thorax and abdomen
4. Demonstration of nerves and arteries.
5. Demonstration of movements in important joints.
6. X-ray: Identification of anatomical structure
7. Identification of body prominences on inspection and by palpation especially of extremities

8. Identification of Arches of foot and Arches of hand
9. Identification of Popliteal fossa and Cubital fossa
10. Identification of Axilla and Mammary gland.

Suggested Reading

1. Kadasne D K: Textbook OF Anatomy Upper and Lower Extremities, Thorax, Abdomen and Head, Neck, Face and Brain Pelvis, 1st Ed, Jaypee Brothers Medical Publisher, New Delhi 2009.
2. Chaurasia BD: Human Anatomy – Regional and Applied: Volume I, Volume II and Volume III, 4th Ed, CBS Publisher and Distributors, New Delhi, 2010.
3. Standring Susan: Gray's Anatomy – The Anatomical Basis of Clinical Practice, 4th Ed, Elsevier Churchill Livingstone, London, 2005.
4. John Basmajian, Charles Slonecker: Grant's Method of Anatomy, 11th Ed, Lippincott Williams and Wilkins, Baltimore, 2005.
5. Snell R S: Clinical Anatomy by region, 8th Ed, Lippincott Williams and Wilkins, Baltimore, 2009.
6. Derek F: Anatomy and Human Movement: Structure and function, 4th Ed, Heinman medical books London, 1997.
7. Romanes G J: Cunningham Manual of Practical Anatomy. Vol I, II, III, 5th Ed, Oxford Medical Publication, Oxford, New York, 2005.
8. Moorie Kieth L: Clinically Oriented Anatomy, 3rd Ed, Williams and Wilkins, Baltimore, 2006.
9. Neeta Kulkarni: Clinical Anatomy for Students, 1st Ed, Jaypee Brothers Medical Publisher, New Delhi, 2007.
10. John Peginen : Clinical Anatomy in Action, Vol I, Vol II, Vol III, 1st Ed, Churchill Livingstone, Edinburgh, 1986.

HUMAN PHYSIOLOGY

(SUBJECT CODE: PU 1102)

Teaching Hours: 300 hours (Theory: 100 hours & practical 200 hours)

Maximum Marks: 200 (Theory: 100 and practical: 100)

Assessment: Written, practical and oral internal and university examinations.

Internal examinations: 20 marks theory and 10 marks practical.

University examinations: 80 marks theory and 90 marks practical.

Objectives: To understand the normal muscle physiology, neurophysiology, cardiac physiology, pulmonary physiology, endocrine physiology, integration physiology, renal physiology, gastrointestinal physiology and cellular physiology of human body.

Theory contents

- I. **Cellular physiology**
 - Overview
 - Connective tissue & blood
 - Osseous tissue
 - Muscular tissue
 - Nervous tissue
- II. **Muscle Physiology**
 - Overview
 - Composition
 - Types & properties
 - Contraction
 - Electromyography
- III. **Neurophysiology**
 - Overview
 - CNS
 - ANS
 - PNS
 - EMG
- IV. **Cardiac physiology**
 - Overview
 - Hemodynamics
 - Cardiac cycle
 - Blood pressure
 - ECG
- V. **Pulmonary physiology**
 - Overview
 - Mechanics of breathing
 - Control of respiration
 - Hypoventilation & hyperventilation
 - Resuscitations & Spirometry

- VI. **Endocrine physiology**
 - Overview
 - Classifications
 - Functions of hormones
 - Regulation of hormones
 - Hormonal disorders
- VII. **Integration physiology**
 - Overview
 - Special senses
 - Skin
 - Metabolism
 - Thermoregulation
- VIII. **Gastrointestinal physiology**
 - Overview
 - Functions of GI
 - Digestion
 - Vomiting
 - Deglutition
- IX. **Renal physiology**
 - Overview
 - Functions of renal system
 - Glomerular filtration
 - Micturation
 - Incontinence
- X. **Applied physiology**
 - Sports physiology
 - Exercise physiology
 - Under water physiology
 - Physiology of ageing
 - Mountaineering & space physiology

Practical Contents

1. Practicals

- Peripheral pulses
- Bleeding time
- Clotting time
- Complete blood count
- ESR
- Hemoglobin assessment
- Blood grouping
- EMG
- Muscle strength assessment
- Muscle power assessment
- Superficial & deep reflexes
- Reaction time
- Assessment of sensation

- Heart rate
- Heart sounds
- Blood pressure
- ECG
- Harvard step test
- 6 minute walk test
- 12 minute run test
- Respiratory rate
- Breath sounds
- Chest expansion
- PFT & Spirometry
- Effects of breath hold
- Resuscitations

2. Demonstrations

- Amphibian muscle experiments
- RPE
- Exercise ECG
- Exercise tolerance test
- ABG
- Blood lactate sampling
- NCV
- EEG

Suggested Readings

1. Dr.C.C.Chatterjee:Human Physiology vol 1&2, 11th edition,Kolkata, April 2004.
2. Prof A.K.Jain:Textbook of Physiology vol 1&2,3rd edition reprint 2008, Avichal Publishing Company.
3. Prof Dr.G.K.Pal:Textbook of Medical Physiology,1st edition, Ahuja Publishing House,New Delhi,2009.
4. K.C.Mathur: Short textbook of Physiology,1st edition,Jaypee Brothers Medical Publishers(P)Ltd. New Delhi,2006
5. Chaudhuri: Concise Medical Physiology. 6th Ed, New Central Book Agency, Kolkata, 2008.
6. McArdle WD, Katch FI, Katch VL: Exercise Physiology: Energy, Nutrition, and Human Performance. 6th Ed, Lippincott Williams & Wilkins, USA,2006.
7. Toratora GJ & Grabowski RS: Principles of Anatomy and Physiology, 7th Ed, Harper Collins College Publishers, USA, 1993.
8. Keele CA, Neil E, Joels N: Samson & Wright's Applied Physiology. 13th Ed, Oxford University Press, London / Mohan Makhijani & Rekha Printers, New Delhi, 1982.
9. Guyton AC, Hall JE: Textbook of Medical Physiology. 10th Ed, W.B.Saunders, Philadelphia, 2006.
10. John.J.Bray, Patricia.A.Cragg, Roland.G.Mills,Anthony D.C.Macknight: Lecture notes on Human Physiology,4th edition, Blackwell science.

HUMAN BIOMECHANICS

(Subject code: PU1 103)

Teaching Hours: 300 hours (Theory: 100 hours and Practical: 200hours)

Maximum Marks: 200 (Theory: 100 and Practical: 100)

Assessment: Written, Oral and Practical, Internal and University examinations

Internal Examination: 20 marks Theory and 10 marks Practical

University Examination: 80 marks Theory, 90 marks Practical and viva – voce

Objectives: The objective is to enable the student to understand, analyze and interpret the theoretical and practical concepts of Biomechanics of human movement.

Theory Contents

I. Fundamental concepts

- Force – Motion, Torque, Gravity, Equilibrium
- Energy, work, Power
- Axis and planes with clinical application
- Levers ,anatomic pulleys
- General properties of connective tissues-(Bone, muscles, cartilage, tendons and ligaments, capsule)

II. Temporomandibular joint biomechanics

- Anatomical aspects
- Kinetics
- Kinematics
- Integrated function
- Clinical biomechanics

III.Spine biomechanics

- Anatomical aspects
- Kinetics
- Kinematics
- Integrated function
- Clinical biomechanic

IV. Shoulder biomechanics

- Anatomical aspects
- Kinetics
- Kinematics
- Integrated function
- Clinical biomechanics

V. Elbow biomechanics

- Anatomical aspects
- Kinetics
- Kinematics
- Integrated function
- Clinical biomechanics

VI. Wrist and hand biomechanics

- Anatomical aspects
- Kinetics
- Kinematics
- Integrated function
- Clinical biomechanics

VII. Pelvis and hip biomechanics

- Anatomical aspects
- Kinetics
- Kinematics
- Integrated function
- Clinical biomechanics

VIII. Knee biomechanics

- Anatomical aspects
- Kinetics
- Kinematics
- Integrated function
- Clinical biomechanics

IX. Ankle and foot biomechanics

- Anatomical aspects
- Kinetics
- Kinematics
- Integrated function
- Clinical biomechanics

X. Applied biomechanics

- Posture
- Gait
- Respiratory biomechanics
- Sports biomechanics
- Pathomechanics
-

Practical contents

- Posture analysis
- Gait analysis
- Movement analysis
- Axes and plane identification
- Grip testing
- Open and closed kinematic chain
- Limb length measurement
- Limb girth measurement
- Chest symmetry and expansion
- Goniometry

Suggested Readings

1. Levangie PK, Norkins CC: Joint Structure and Function: A Comprehensive Analysis. 3rd Ed, Jaypee Brothers Medical Publishers, New Delhi, 2001.
2. Smith, Weiss, Lehmkuhl: Brunnstrom's Clinical Kinesiology. 5th Ed, Jaypee Brothers, New Delhi, 1998.
3. Joseph Hamill, Kathleen .M. Knutzen: Biomechanical basis of human movement. 2nd Ed, Lippincott Williams and Wilkins.
4. Joseph.E.Muscolino: Kinesiology: The skeletal system and muscle function. Mosby Elsevier, 2006
5. Lippert LS: Clinical Kinesiology for Physical Therapy Assistants. 3rd Ed, Jaypee Brothers, New Delhi, 2002.
6. Jones and Barker: Human Movement Explained.3rd Ed, Butterworth- Heinemann, London, 2000.
7. Michael.W.Whittle: Gait analysis- an introduction.3rdEd, Butterworth-Heinemann, 2003
8. Iwan.W.griffiths: Principles of Biomechanics and motion analysis. Lippincott Williams and Wilkins, 2006
9. Norkin C, White JD: Measurement of Joint Motion: A Guide to Goniometry. 2nd Ed, Jaypee Brothers, Daryaganj, 1995.
10. Duane Knudson:Fundamentals of Biomechanics:2nd Ed, Springer,2007

HUMAN PSYCHOLOGY

(Subject code: PU1104)

Teaching Hours: 100 hrs

Maximum Marks: 100 (Theory: 100)

Assessment: Written examinations, Internal and University examination

Internal examination: 20 marks

University examination: 80 marks

Objectives: To understand the basic terminologies and basic concepts of human psychology and to acknowledge application of clinical psychology in relation to Physiotherapy.

Theory contents

I. Introduction to psychology:

- Historical background
- Definition
- Schools of Psychology
- Fields & subfields of Psychology
- Recent advances

II. Attention

- Overview
- Types and features
- Factors influencing attention
- Steps to eliminate distraction
- Attention Deficit Hyperactive Disorder (ADHD)

III. Perception

- Overview
- Principles and types
- Factors influencing perception
- Tests for perception
- Disorders of perception

IV. Learning

- Overview
- Types of learning
- Theories of learning
- Factors influencing learning
- Types of learning styles

V. Memory

- Overview
- Functions
- Types
- Forgetting
- Memory training

VI. Emotion and motivation

- Overview
- Physiology of emotion & motivation
- Types
- Conflicts and frustration
- Bodily response and coping

VII. Behavior

- Overview
- Behavior modification
- Cognitive behaviors
- Psychoanalysis
- Psychotherapy

VIII. Personality

- Overview
- Types
- Theories
- Factors influencing personality
- Defense mechanisms

IX. Psychological testing

- Intelligence quotient testing
- Creativity testing
- Aptitude testing
- Emotional quotient testing
- Personality projective tests

X. Applied psychology

- Developmental psychology
- Educational psychology
- Sports psychology
- Rehabilitation psychology
- Clinical psychology and counseling

Suggested Readings

1. Malini Shrivastav: Psychology in Physiotherapy Practice, 1st Edition, Ahuja Publishing House, Delhi, 2009.
2. B. K. Mishra: Psychology: Study of human behaviour, 2nd Edition, PHI learning Private Ltd, 2008
3. Dr. Saraljeet Kaur: A concise textbook of human Psychology, 1st Edition, B. Jain Publishing, 2008
4. Amarpreet Kaur: Textbook of Psychology, 1st edition, Pec-Vee Publishing,
5. Prof. S. Dandapani: General Psychology, 1st Edition, Neelkamal Publishers, 2001.
6. Morgan & Co : Introduction to Psychology, 7th Edition, Tata Mcgraw-Hill, 1993

7. James D Page: Abnormal Psychology, 5th Edition, Tata Mcgraw – Hill, 1970
8. Elizabeth B Hurlock: Developmental Psychology, 5th Edition, Tata Mcgraw-Hill, 1981
9. Irwing G Sarason, Barbara R Sarason: Abnormal Psychology- Problem of maladaptive behaviour, 11th Edition, PHI Learning Pvt Ltd 2010
10. Robert M Kaplan: Psychological testing & Assessment, 1st Edition, Cengage Learning, 2009

II BPT COURSE CONTENTS

ELECTROTHERAPY

(Subject code: PU1105)

Teaching Hours: 200 hours (Theory: 100 hours & practical 100 hours)

Maximum Marks: 200 (Theory: 100 and Practical: 100)

Assessment: Written, Oral and Practical, Internal and University examinations.

Internal Examination: 20 marks Theory and 10 mark Practical.

University Examination: 80 marks Theory and 90 mark Practical.

Objectives:

1. To understand the basic electrotherapy terminologies and concepts.
2. To understand the classifications and laws pertaining to various physical agents.
3. To understand various physiological and therapeutic effects of physical agents.
4. To understand the indications and contraindications for physical agents.
5. To acquire the clinical skill of physical agents application for the treatment.

Theory contents

I. Fundamental Concepts

- History
- Biophysics
- Electromagnetic Spectrum
- Electromagnetism
- Electric Shock

II. Thermotherapy

- Thermoregulation
- Superficial Thermal Agents
- Deep Thermal Agents
- Methods & Techniques of Applications
- Indications & Contraindications

III. Cryotherapy

- Principles of Cryotherapy
- Physiological Effects
- Therapeutic Effects
- Methods & Techniques of Applications
- Indications & Contraindications

IV. Neuro-Muscular Electrical Stimulation

- General Physiological Principles
- Classification of Currents
- Effects of Different Parameters
- Physiological & Therapeutic Effects
- Methods & Techniques of Applications

V. Therapeutic ultrasound

- The Nature, Production & Transmission of Sonic Waves
- Physiological & Therapeutic Effects
- Methods & Techniques of Applications
- Phonophoresis
- Indications & Contraindications

VI. Phototherapy

- Overview
- IRR
- UVR
- LASER
- Ionozone Therapy

VII. Biofeedback

- Overview
- Principles & Mechanism
- Types
- Uses
- Advantages & Disadvantages

VIII. Electrodiagnosis

- Overview
- Electro diagnostic Tests
- Interpretation
- Advantages & Disadvantages
- Indications

IX. Clinical Reasoning / Decision Making

- Overview
- Basic Knowledge
- Cognitive Skills
- Planning
- Implementation

X. Recent Advances

- Overview
- Electro-analgesia
- NMES
- Healing
- Thermotherapy

Practical Contents

- Preparation and testing of machines or modalities.
- Preparation of patient for application of physical agents.
- Screening of patients for contraindications prior to application of physical agents.
- Techniques of application of various physical agents.
- Technique of performing electrodiagnostic tests.

Suggested Readings

1. Watson T: Electrotherapy evidence based practice, 12th Ed, Churchill Livingstone, New York, 2008.
2. Khatri SM: Basics of Electrotherapy. Jaypee Brothers, New Delhi, 2003.
3. Sheila Kitchen: Electrotherapy Evidence based practice. 11th Ed, Elsevier, New York, 2006.
4. Forster & Palastanga: Clayton's Electrotherapy Theory & Practice. 9th Ed, Bailliere Tindall, WB Saunders, New York, 2000.
5. Khan J: Principles & Practice of Electrotherapy. 3rd Ed, Churchill Livingstone, Edinburgh, 1994.
6. Nelson RM, Hayes KW, Currier DP: Clinical Electrotherapy. 3rd Ed, Appleton & Lange, London, 1999.
7. Robinson AJ, Lynn SM: Clinical Electrophysiology: Electrotherapy and Electrophysiologic Testing, 4th Ed, Williams & Wilkins Lippincott, USA, 2008.
8. Baxter DG: Therapeutic Laser, Theory & Practice. 1st Ed, Churchill Livingstone, New York, 1994. **Low reed cameron**
9. Lehmann JF: Therapeutic heat & cold. 3rd Ed, Williams & Wilkins, Philadelphia, 1982.
10. Behrens BJ, Mechlovitz SL: Physical agents-theory and practice for Physical therapists Assistant. 1st Ed, FA Davis, Philadelphia, 1996.

EXERCISE THERAPY

(Subject code: PU1106)

Teaching Hours: 200 hours (Theory: 100 hours and Practical: 100hours)

Maximum Marks: 200 (Theory: 100 and Practical: 100)

Assessment: Written, Oral and Practical, Internal and University examinations.

Internal Examination: 20 marks Theory and 10 mark Practical.

University Examination: 80 marks Theory and 90 mark Practical.

Objectives: To develop an understanding of theoretical knowledge and practical skills pertaining to various therapeutic movements used in the treatment of various diseases and disorders by Physiotherapists.

Theory Contents

I. Body measurements

- Anthropometry
- Goniometry
- Manual muscle testing
- Postural measurement
- Dynamometry

II. Therapeutic exercises

- Balance and Co-ordination
- Stretching and strengthening
- Postural exercises
- Aerobic
- Exercise prescription

III. Functional re-education

- Overview
- Trunk and limb activities
- Gait re-education
- Transfer activities
- Clinical applications

IV. PNF

- Overview
- Principles and techniques
- Effects and uses
- Patterns
- Clinical applications

V. Relaxation

- Overview
- Types
- Methods and techniques
- Advantages
- Clinical applications

VI. Suspension

- Overview
- Principles and types
- Equipments and techniques
- Effects and uses
- Indications, precautions and contraindications

VII. Hydrotherapy

- Overview
- Principles and properties of water
- Effects
- Indications, precautions and contraindications
- Clinical applications

VIII. Soft tissue and joint manual therapy

- Overview
- Effects
- Classification
- Techniques
- Indications and contraindications

IX. Posture and gait

- Overview
- Postural mechanism
- Postural analysis and training
- Gait analysis and training
- Pathological gaits

X. Specific exercises

- Kegel's exercises and Burger's exercises
- Frankel's exercises and William's exercises
- Breathing exercises and postural drainage
- Group and recreational exercises
- Therapeutic Yogasanas

Practical Contents

1. Anthropometric measurements, strength, range of motion, coordination, balance, posture and gait.
2. Exercise with or without equipment (e.g., passive, active assisted, active, resisted, stretching, neuromuscular coordination i.e. Frenkel's exercises, vestibular, muscle patterning, PNF, suspension)
3. Perform - joint mobilization, joint manipulation, soft tissue techniques
4. Physical fitness / conditioning / endurance exercise programs
5. Posture training and re education techniques
6. Gait mobility education and training with or without equipment including crutch measurement techniques
7. Neurodynamic techniques (e.g., nerve gliding/flossing exercises, balance training /proprioceptive training)
8. Techniques to optimize oxygen transport and facilitate airway clearance (e.g., postural drainage, breathing exercises, secretion clearance, forced expiratory techniques)
9. Mechanical agents (e.g., traction, continuous passive movement)
10. Transfer techniques, relaxation techniques and therapeutic yogasanas.

Suggested Readings

1. Carolyn Kisner, Lynn Allen Colby: Therapeutic Exercise. 3rd Ed, Jaypee brothers, New Delhi, 1996.
2. Gardiner DM: Principles of Exercise Therapy. 4th Ed, CBS publisher, New Delhi, 1985.
3. Hollis.M & Fletcher Cook: Practical Exercise Therapy. 4th Ed, Wiley-Blackwell, Oxford, 1999.
4. Hislop HJ & Montgomery J: Daniel's & Worthinghams Muscle Testing.: Techniques of Manual Examination. 6th Ed, WB Saunders, Philadelphia , 2003
5. Basmajain JV & Wolf SL: Therapeutic Exercise. 5th Ed, Williams& Wilkins, USA, 1990
6. Payne RA: Relaxation Techniques. 1st Ed, Churchill Livingstone, New York, 1995.
7. Holey EA, Cook EM: Evidence Based Therapeutic Massage – A practical guide for therapists. 2nd Ed, Elsevier, New York, 2003.
8. Campion.M.R: Hydrotherapy: Principles & Practice. 1st Ed, Butterworth – Heinmann, Woburn, MA, 1997
9. Hall CM & Brody LT: Therapeutic Exercise - moving toward function. Lippincott Williams & Wilkins, USA, 2004.
10. Skinner JS: Exercise testing & Exercise prescription for special cases: theoretical basis and clinical application. 3rd Ed, Lippincott Williams & Wilkins, New York, 2005.

HUMAN PATHOLOGY

(Subject code: PU1107)

Teaching Hours: Theory: 100 hours.

Maximum Marks: Theory: 100 marks.

Assessment: Written, Internal and University examination.

Internal Examination: 20 marks Theory.

University Examination: 80 marks Theory.

Objectives: This subject is intended to make the student understand the causes and mechanisms of diseases which are essential to institute appropriate treatment or suggest preventive measures to the patient.

I. Basics of general pathology

- Introduction to pathology
- Cell injuries
- Reversible cell injury
- Irreversible cell injury
- Intracellular and Extra cellular accumulations

II. Inflammation and repair

- Acute and chronic inflammation
- Inflammatory cells and mediators
- Wound healing
- Repair and regeneration
- Healing of Fracture Bone

III. Haematology and circulatory disorders

- Arterial disorders
- Venous disorders
- Lymphatic disorders
- Hemorrhage and shock
- Anaemias, leukocytic disorders and blood transfusion reactions

IV. Cardiovascular system

- Hypertension
- Peripheral vascular diseases
- Ischemic heart disease
- Cardiac failure, endocarditis, rheumatic heart disease
- Congenital heart diseases

V. Respiratory system

- Obstructive lung diseases
- Restrictive lung diseases
- Occupational lung diseases
- Lung infections
- Carcinoma of Lung

VI.Nervous system

- Congenital disorders
- Inflammation and infections
- Demyelinating disorders
- Sensory motor polyneuropathies
- Neuromuscular junction disorders and myopathies

VII. Musculoskeletal system

- Nutritional disorders
- Infectious bone disorders
- Degenerative joint disorders
- Inflammatory joint disorders
- Tumors of bone and Joints

VIII. Growth disturbances

- Basic Genetic disorders
- Basic nutritional disorders
- Immunological disorders
- Neoplasia
- Cellular disorders: aplasia, hyper/hypoplasia, atrophy, hyper/hypotrophy

IX.Infectious disorders

- Bacterial infections
- Viral infections
- Mycobacterial infections
- Fungal infections
- Parasitic infections

X. Systemic pathology

- Gastrointestinal disorders
- Endocrine disorders
- Lymphatic disorders
- Hepato-biliary disorders
- Renal disorders

Suggested readings

1. Cotran RS, Vinay Kumar, Collins T, Robbins SL: Robbins Pathologic Basis of Disease. W.B.Saunders, Singapore, 1999
2. Goodman CC, Boissonnault WG: Pathology: Implications for the Physical Therapist .W.B.Saunders, Singapore, 1998
3. Cressee J, Underwood E: General and Systemic Pathology. 4th Ed, Churchill Livingstone,New York, 2008
4. Harsh Mohan: Textbook of Pathology. 5th Ed, Anshan Publications, New Delhi, 2005
5. Copstead LEC, Banasik JL: Pathophysiology. 3rd Ed, W.B.Saunders, Philadelphia, 2005.
6. John.M.Kissane : Anderson's Pathology vol1&2, 8th edition,The C.V.Mosby company
7. J.B.Walter,M.S.Israel:General Pathology,6th edition,Churchill Livingstone,1987
8. Peter.S.Macfarlane,Robin Reid,Robin Callander: Pathology illustrated, Churchill Livingstone,2001
9. Emanuel Rubin, John.L.Farber:Pathology, J.B.Lippincott company,1988
10. Harsh Mohan:Pathology quick review,2nd edition,Jaypee Brothers Medical publishers(P)Ltd,2005

PHARMACOLOGY

(Subject code: PU1108)

Teaching Hours: Theory: 100 hours.

Maximum Marks: Theory: 100 marks.

Assessment: Written, Internal and University examination.

Internal Examination: 20 marks Theory.

University Examination: 80 marks Theory.

Objectives: The objectives are to develop an understanding of basic pharmacology, indications, side effects, contra indications of common drugs for the treatment of various diseases with emphasis on musculoskeletal, neuromuscular and cardio respiratory disorders.

Theory Contents

I.General pharmacology

- Classification of drugs
- Sources of drugs
- kinetics and dynamics
- Factors modifying drug response
- Adverse effects

II.Neuropharmacology

- Overview
- Classification
- Drugs used in ANS,PNS,CNS
- Action, therapeutic and adverse effects
- Indication and contraindications

III.Pharmacology in movement disorders

- Overview and Classification
- Drugs used in elderly(parkinsonism)
- Anti epileptics, antispasticity, skeletal muscle relaxants
- Action, therapeutic and adverse effects
- Indication and contraindications

IV.Pharmacology in inflammatory / immune conditions

- Overview
- Classification
- Pharmacokinetics
- Therapeutic and adverse effects
- Indication and contraindications

V.Pharmacology in cardiovascular system

- Overview
- Classification
- Pharmacokinetics
- Therapeutic and adverse effects
- Indication and contraindications

VI. Pharmacology in respiratory system

- Overview
- Classification
- Pharmacokinetics
- Therapeutic and adverse effects
- Indications and contraindications

VII. Immunological agents and vaccines

- Overview
- Classification
- Pharmacokinetics
- Therapeutic and adverse effects
- Indications and contraindications

VIII. Antimicrobial agents

- Overview
- Classification
- Pharmacokinetics
- Therapeutic and adverse effects
- Indications and contraindications

IX. Pharmacology in endocrine system

- Overview
- Classification
- Pharmacokinetics
- Therapeutic and adverse effects
- Indication and contraindications

X. Pharmacology in sports

- Overview
- Classification
- Pharmacokinetics
- Therapeutic and adverse effects
- Indication and contraindications

Suggested Readings

1. Craig CR, Stitzel RE: Modern Pharmacology with Clinical Applications. 6th Ed, Lippincott Williams & Wilkins, USA, 2004.
2. Ciccone CD: Pharmacology in Rehabilitation. 2nd Ed, F.A. Davis Company, Philadelphia, 1996.
3. Bennett PN, Bronen MJ: Clinical Pharmacology. 9th Ed, Churchill Livingstone, UK, 2003.
4. Richard AH, Pamela CC, Mycek MJ, Gertner SB, Perper MM: Pharmacology, 2nd Ed, Lippincott, University of Michigan, 1992.
5. Gladson Barbara: Pharmacology for Physical therapists. Paperback, New York, 2005.
6. Tripathi: Essentials of Medical Pharmacology. 5th Ed, Jaypee brothers, New Delhi, 2004.
7. Satoskar RS & Bhandark: Pharmacology and Pharmacotherapeutics. Vol I & Vol II, 14th Ed, Popular Prakashan, Mumbai, 1994.
8. Seth SD: Textbook of Pharmacology. 2nd Ed, Churchill Livingstone Pvt Ltd., New Delhi, 2000.
9. Sengupta PR: Medical Pharmacology. 1st Ed, Modern Publication, New Delhi, 2004.
10. Bhattacharya SK, Sen P, Ray A: Pharmacology. 2nd Ed, Elsevier Publication, New Delhi, (reprinted) 2005

III BPT COURSE CONTENTS

MEDICINE

(Subject code: PU1109)

Teaching hours: 100hrs (Theory: 50hrs and Practical: 50hrs)

Maximum marks: 100 (Theory: 100)

Assessment: Written, Internal and University examinations

Internal examination: 20 marks Theory

University examination: 80 marks Theory,

Objectives: To enable student to comprehend, understand clinical signs and symptoms of various general medicine and neurological conditions.

Theory contents

GENERAL MEDICINE (Section I)

I. Respiratory diseases & disorders

- Infectious diseases
- Inflammatory diseases
- Obstructive diseases.
- Restrictive diseases.
- Respiratory failure.

II. Cardiovascular diseases

- Congenital heart diseases
- Diseases of myocardium.
- Diseases of pericardium.
- Valvular heart diseases.
- Cardiac failure

III. Endocrinal, renal & gastrointestinal diseases

- Diabetes mellitus
- Hypo and hyper thyroidism
- Urinary tract infection
- Urinary incontinence
- Rectal incontinence

IV. Dermatology

- Eczemas
- Henson's disease
- Disorders of pigmentation
- Pressure sores
- Piloosebaceous disorders

V. Psychiatry

- Mental health
- Neuroses
- Psychoses
- Behavioral disorders
- Personality disorders

NEUROLOGY (Section II)

VI. Diseases and disorders of CNS

- Congenital
- Inflammatory and Infective disorder
- Trauma
- Vascular
- Degenerative disorders

VII. Diseases of spinal cord

- Congenital
- Traumatic
- Infective
- Inflammatory
- Intrinsic diseases

VIII. Diseases and disorders of PNS

- Neuralgia
- Neuritis
- Neuropathy
- Nerve injuries

IX. Diseases and disorders of ANS

- Overview
- Sympathetic disorders
- Parasympathetic disorders
- Investigations
- Management

X. Neuromuscular Diseases and disorders

- Myositis
- Myopathies
- Myasthenia gravis
- Poly myalgia
- Fibromyalgia

Practical contents

1. Patient assessment procedures.
2. Diagnostic Procedures
3. Handling of Monitors and other Life support equipment
4. Determine the need of Physiotherapy
5. Instruments used for Physiotherapy techniques

Suggested Reading

1. Haslett Christopher: Davidson's Principles And Practice Of Medicine, 18th edition, Churchill Livingstone Edinburgh London New York., 1999.
2. Wright F.J: Davidsons Principles And Practice Of Medicine A Textbook For Students, 11th edition And Doctors ,E.L.B.S. And Churchill Livngstone 1974.
3. Braunwald Eugene. Harrisons Principles Of Internal Medicine ,15th edition Mcgraw Hill Medical Publishing Division, New York, 2001.
4. Guenter I.A., Pulmonary Medicine, J.B.Lippincott Co.,Philadelphia, 2nd edition, 1982.
5. Datey K.K., API Textbook Of Medicine, 3rd edition, Association Of Physicians Of India, Mumbai 1979.
6. Macleod John, Clinical Examination A Textbook for students and Doctors, 6th edition, 1983.

7. Vakill, Rustomjal, Udvardia, Diagnosis and Management of medical emergencies, 2nd edition, 1975.
8. Brass, Alister- CIBA Collection of medical illustration, nervous system Part I, anatomy and physiology, 1983.
9. Jones H.R. CIBA Collection of medical illustration, nervous system Part- II, Neurologic and neuromuscular diagnosis, 1986.
10. Swash Maichael, Hutchison's clinical method, 18th edition, 1985.
11. Chung K, Electrocardiography practical application with Vectorial principles, 3rd edition, 1985.
12. Hunter, Donald, Hutchisons clinical methods, 4th edition, 1964.
13. Braunwald Eugens, Heart Diseases a textbook Cardiovascular medicine, 3^{re} edition, 1988.

SURGERY

(Subject code: PU1110)

Teaching hours: 100hrs (Theory: 50hrs and Practical: 50hrs)

Maximum marks: 100 (Theory: 100)

Assessment: Written, Internal and University examinations

Internal examination: 20 marks Theory

University examination: 80 marks Theory

Objectives: To enable the student to learn and understand the various surgical treatments incorporated in the management of various conditions.

Theory contents

General Surgery (Section A)

I. Fundamental concepts

- Historical aspects
- Classification of surgeries
- Types of incisions
- Complications of surgeries
- Role of physiotherapist

II. Thoracic surgeries

- Overview
- Indications
- Cardiac surgeries
- Lung surgeries
- Complications

III Abdominal surgeries

- Overview
- Indications
- Surgical procedures
- Complications
- Management

IV Peripheral surgeries

- Overview
- Indications
- Surgical procedures
- Complications
- Management

V. ENT, Ophthalmology & burns

- Overview
- Indications
- Surgical procedures
- Complications
- Management

Orthopedic Surgery (Section B)

VI. Trauma

- Extremities and spinal fractures
- Extremities and spinal instabilities
- Investigations
- Management
- Complications

VII. Metabolic and degenerative

- Overview
- Bone & joint disorders
- Investigations
- Management
- Complications

VIII. Congenital disorders

- Extremity disorders
- Spinal disorders
- Investigations
- Management
- Complications

IX. Inflammatory and infectious disorders

- Disorders of bone
- Disorders of joint
- Investigations
- Management
- Complications

X. Deformities

- Peripheral deformities
- Spinal deformities
- Investigations
- Management
- Complications

Practical contents

1. Evaluation and assessment procedures
2. Bandaging, Dressing, strapping & sling techniques
3. Diagnostic Procedures
4. Observation of orthopedic traction & surgical procedures
5. Orthopedic implant Implant identification
6. Determine the need of Physiotherapy

Suggested readings

1. Bakey Michael R, Year Book of General Surgery, Year Book of General Surgery, 1967.
2. Russell R.C.G, Bailey And Loves Short Practice Of Surgery, H.K Lawis And Co Ltd, 136 Gower Street London. 23rd Ed 2000.
3. Sabiston David C, Textbook of Surgery, 11th edition, W.B.Saunders, 24.28 Oval Road London, 1977.
4. Blades, Brain., Surgical Diseases Of The Chest, 2nd edition, C.V. Mosby Co. Saint Louis. 1966,
5. Belcher, J.R. Thoracic Surgical Management,, 3rd edition, Baillure Tindall And co. Cox 7 and 8 Henriett Street, London, 1962.
6. J. maheshwari, essential orthopaedics, 3rd edition, Mehta pub, new delhi.
7. Hurling, D & Kessler, R.M management of common musculoskeletal disorders physical therapy principals & methods, 3rd edition, JB Lippincott, philadelphia, 1996
8. Das Soman, Manual On Clinical Surgery, 5th Edition, Das S 13 Old, Mayors Court Calcutta, 2000.
9. Glemm, W.W.L. Baue, A.E. Ed., Thoracic And Cardiovascular Surgery, 4th edition, Appleton Century Crofts. 1983.
10. Nora P.F. Ed., Operative Surgery Principles And Techniques, 2nd edition, W.B.Saunders Co., Philadelphia, 1980.
11. Magee, D.J. orthopaedic physical assessment, 3rd edition, WB saunders, philadelphia 1997.
12. Campbell's, operative orthopaedics, 11th edition, mosby Elsevier, 2008. . Sabiston
13. David C, Davis Christopher Textbook Of Surgery The Biological Basis Of Modern Surgical Practice, 12th edition, W.B.Saunders Co., London. 1981

NEURO-PHYSIOTHERAPY

(Subject code: PU1111)

Teaching hours: 200hrs (Theory: 100hrs and Practical: 100hrs)

Maximum marks: 200 (Theory: 100 and Practical: 100)

Assessment: Written, Oral and Practical, Internal and University examinations

Internal examination: 20 marks Theory and 10 marks Practical

University examination: 80 marks Theory, 90 marks Practical and viva – voce

Objectives: To understand the goals of Physiotherapy related to neuro- surgery and to get acquainted with clinical reasoning and treatment of neurological conditions, through proper use of hands on skills required for neuro- Physiotherapy interventions.

I. Diseases & disorders of brain

- Over view
- Congenital ,Acquired (Traumatic ,non traumatic)
- Investigations
- Medical & surgical management
- Physiotherapy management

II. Diseases & Disorders of cranial nerve

- Over view
- Congenital ,Acquired (Traumatic ,non traumatic)
- Investigations
- Medical surgical management
- Physiotherapy management

III. Diseases & Disorders of spinal cord

- Overview
- Congenital ,Acquired (Traumatic ,non traumatic)
- Investigations
- Medical surgical management
- Physiotherapy management

IV. Diseases & Disorders of peripheral nervous system

- Over view
- Congenital ,Acquired (Traumatic ,non traumatic)
- Investigations
- Medical surgical management
- Physiotherapy management

V. Diseases & Disorders of autonomic nervous system

- Over view
- Congenital ,Acquired (Traumatic ,non traumatic)
- Investigations
- Medical surgical management
- Physiotherapy management

- VI. Diseases & Disorders in neuromuscular junction**
- Over view
 - Congenital ,Acquired (Traumatic ,non traumatic)
 - Investigations
 - Medical surgical management
 - Physiotherapy management
- VII. Disease & disorders of muscles**
- Over view
 - Congenital ,Acquired (Traumatic ,non traumatic)
 - Investigations
 - Medical surgical management
 - Physiotherapy management
- VIII. Psycho somatic disorders**
- Over view
 - Investigation
 - Medical management
 - Physiotherapy management
- IX. Recent advances in neurosurgery**
- Overview
 - Pre and post Operative evaluation
 - Investigations
 - Post operative complication
 - Physiotherapy management
- X. Recent advances**
- Over view
 - Stem cell therapy
 - Mental Imaginary techniques & mirror therapy
 - Neurokinetic therapy
 - Functional electrical stimulation.

Practical contents

1. Neurological assessment
2. Facilitatory /Inhibitory techniques
3. Sensory integration/sensory re-education
4. Motor re-education/Therapeutic exercise
5. Motor learning/motor control techniques
6. Neural mobilization technique
7. Functional reeducation
8. Vestibular rehabilitation
9. Aids and appliances
10. Electro diagnosis/NMES/FES

Suggested Readings

1. Maurice Victor: Adams and victor's principles of neurology 9thed., McGraw Hill Professional, USA ,2009.
2. Lindsay Kenneth:Neurology and neuro surgery illustrated , 1sted.,Churchil livingstone , 1986.
3. Jhon pattern: Neurological differential diagnosis ,2nded.,Springer,new York ,2005
4. Geraint fuller :Neurological examination made easy ,3rd ed .,Elsevier, Philadelphia ,2004.
5. Campbell K .Suzann: Physical therapy for children, 3rded., W.B Saunders, Philadelphia , 2003.
6. Darcy A Umphred : Neurological rehabilitation ,5thed .,Mosby Elsevier,2007.
7. Knot M. and Voss: Proprioception neuro muscular facilitation techniques, 3rd ed.,Springer, New York, , 2008.
8. SueRane,linzi meadows,: Bobath concept theory and practice in neurological rehabilitation ,wiley Blackwell,U.K 2009.
9. Ida Bromely: Tetraplegia and Paraplegia A guide for physiotherapist ,6thed.,Churchill Livingston,Edinburgh ,2006.
10. William s.pease : Johnson's practical electro myography ,4thed.,Lippincott Williams &wilkins , USA,2007.

ORTHOPEDIC PHYSIOTHERAPY

(Subject Code: PU1112)

Teaching hours: 200hrs (Theory: 100hrs and Practical: 100hrs)

Maximum marks: 200 (Theory: 100 and Practical: 100)

Assessment: Written, Oral and Practical, Internal and University examinations

Internal examination: 20 marks Theory and 10 marks Practical

University examination: 80 marks Theory, 90 marks Practical and viva – voce

Objectives: To comprehend the fundamental concepts pertaining to orthopaedic disorders and to get acquainted with clinical reasoning and Physiotherapy techniques of treatment of various orthopaedic conditions.

Theory contents

I. Fundamental concepts

- Historical aspects
- Classification of musculoskeletal disorders.
- Musculoskeletal dysfunctions
- Psychological reactions
- Role of physiotherapist

II. Surgical investigations

- Overview
- Microbiological investigations
- Pathological investigations
- Biochemical investigations
- Radiological investigations

III. Metabolic disorders

- Overview
- Rickets & osteomalacia
- Osteoporosis
- Connective tissue syndrome
- Investigations
- Management

VI. Congenital disorders

- Overview
- Spinal disorders
- Peripheral disorders
- Investigations
- management

V. Inflammatory and degenerative disorders

- Overview
- Arthritic disorders
- Spondyloarthropathies
- Investigations
- Management

VI. Soft tissue injuries

- Overview
- Types
- Investigations
- Management
- Precautions

VII. Fractures, dislocations and deformities

- Overview
- Spinal deformities
- Peripheral deformities
- investigations
- Complications
- Management

VIII. Infective disorders

- Overview
- Infections of bone
- Infections of joints
- Investigations
- Management

IX. Amputations

- Overview
- Classification
- Indications & complications
- Prosthetic management
- Rehabilitation

X. Applied Orthopedic Physiotherapy

- Sports Physiotherapy
- Orthopedic manual therapy
- Orthopedic rehabilitation
- Evidence based practice
- Extended practice

Practical contents

1. Evaluation and assessment procedures in Orthopedic Physiotherapy
2. Bandaging, Dressing, strapping & sling techniques
3. Diagnostic Procedures
4. Observation of orthopedic traction & surgical procedures
5. Orthopedic implant identification and use
6. Determine the need of Physiotherapy

7. Orthopedic manual therapy techniques
8. Gait analysis and retraining.
9. Hand function retraining.
10. Application of physical agents.

Suggested readings

1. Magee, D.J: Orthopaedic physical assessment, 3rd edition, WB saunders, Philadelphia 1997.
2. J. Maheshwari: essential orthopaedics, 3rd edition, Mehta pub, New Delhi.
3. Hurling, D & Kessler, R.M management of common musculoskeletal disorders physical therapy principals & methods, 3rd edition, JB Lippincott, Philadephia, 1996
4. Campbell's, operative orthopaedics, 11th edition, Mosby Elsevier, 2008.
5. Jeffrey D Boyling:Grieve's modern manual therapy,the vertebral column,3rd Ed,Churchill Livingstone,2005.
6. Brukner and Khan:Clinical sports medicine,4th Ed, Mcgraw Hill,Australia,2011.
7. James M.Hunter: Rehabilitation of hand surgery and therapy,4th Ed,Mosby Elsevier,1995.
8. Stanley Hoppenfield: Treatment and rehabilitation of fractures,1st Ed,Lippincott Williams &Wilkins, USA,2000.
9. Michelle H.Cameron: Physical agents in rehabilitation from research to practice,3rd Ed, Saunders,2008.
10. Joan M.Walker: Physicl rehabilitation in Arthritis,2nd Ed,Saunders,2004.

IV BPT COURSE CONTENTS

RESEARCH AND REHABILITATION

(Subject Code: PU1113)

Teaching hours: 100hrs (Theory: 50hrs and Practical: 50hrs)

Maximum marks: 100 (Theory)

Assessment: Written, Internal and University examinations

Internal examination: 20 marks Theory

University examination: 80 marks Theory

Objectives: To understand the basic research terminologies, methods and approaches. To recognize the significance of consent, confidentiality and other ethical considerations in relation to Physiotherapy research and to understand evidence based Physiotherapy practice.

I. Basic concepts

- Meaning and definition
- Research process, types and approaches
- Objectives of research in Physiotherapy
- Barriers for research in Physiotherapy
- Research problem or research question

II. Research ethics

- Overview
- Consent
- Confidentiality
- Helsinki's declaration
- Plagiarism

III. Research designs

- Meaning and definition
- Types of research designs
- Steps in preparation of research designs
- Factors affecting research designs

IV. Sampling

- Overview
- Principles
- Methods
- Designs
- Process

VI. Research process

- Overview
- Phases
- Statistical analyses
- Research writing
- Dissemination

Rehabilitation (section II)

VI. Fundamental concepts

- Overview
- Goals
- Team
- Role of team
- Role of physiotherapist

VII. Orthopedic rehabilitation

- Overview
- Indications
- Aids and appliances
- Outcome measures
- Physiotherapeutic measures

VIII. Neuro-rehabilitation

- Overview
- Indications
- Aids and appliances
- Outcome measures
- Physiotherapeutic measures

IX. Cardiopulmonary rehabilitation

- Overview
- Indications
- Aids and appliances
- Outcome measures
- Physiotherapeutic measures

X. Community based rehabilitation

- Overview
- Indications
- Aids and appliances
- Outcome measures
- Physiotherapeutic measures

Suggested Readings

1. Jerry R. Thomas :Research methods in physical activity, 5th Ed.,human kinetics,U.S.A,2005.
2. Carolyn Hicks: Research for physiotherapists: project design and analysis, 2nd Ed., Churchill Livingstone, New York, 1995.
3. Domholdt E: Physical therapy research – Principles and applications, 2ndEd., W.B.Saunders Co, Philadelphia, 2000.

4. Drummond Avril: Research methods for therapists, 1st Ed., Chapman & Hall, Madras, 1996.
5. Thomas JR, Nelson JK: Research methods in physical Activity, 4th Ed., Human Kinetics, New Zealand, 2001.
6. Dean P. Currier: Elements of research in physical therapy, 3rd Ed., Williams & Wilkins, NY, 1990.
7. C.R.Kothari :Research methodology ;methods and techniques ,2nd Ed.,new age international publishers,delhi ,2009.
8. Stephen Polger: Introduction to research in the health sciences, 5th Ed., Churchill Livingstone, New York, 2008.
9. David S Moore. W H Freeman :The basic practice of statistics, USA, 1999.
10. Michael Quinn Patton, Sage:Qualitative evaluation and research methods, USA, 1990.

CARDIO-RESPIRATORY PHYSIOTHERAPY

(Subject Code:PU1114)

Teaching Hours: 200 hours (Theory: 100 hours and Practical: 100hours)

Maximum Marks: 200 (Theory: 100 and Practical: 100)

Assessment: Written, Oral and Practical, Internal and University examinations

Internal Examination: 20 marks Theory and 10 marks Practical

University Examination: 80 marks Theory, 90 marks Practical and viva – voce

Objectives: The objective is to enable the student to understand, analyze and interpret the theoretical and practical concepts of Cardiorespiratory Physiotherapy.

Theory Contents

I. Cardiac disorders

- Overview
- Congenital
- Ischemic
- Cardiac muscle dysfunction
- Cardiac failure

II. Respiratory Physiotherapy

- Obstructive lung diseases
- Restrictive lung diseases
- Inflammatory & infective
- Occupational lung diseases
- Respiratory failure

III. Vascular disorders & Physiotherapy

- Hypertension
- PVD
- Cellulitis
- Treatment
- Complications & precautions

IV. Cardiothoracic surgeries & Physiotherapy

- Overview
- Indications
- Preoperative Physiotherapy
- Post operative Physiotherapy
- Complications

V. Cardiopulmonary investigations

- ECG
- PFT
- ABG
- Imaging

- ETT

VI Chest Physiotherapy techniques

- PD
- Breathing exercises
- Suctioning
- Nebulization
- Chest manipulations

VII. Intensive care Physiotherapy

- Patient monitoring
- Therapeutic Positioning
- Artificial airway
- Bronchial hygiene
- Cardio-pulmonary resuscitation

VIII. Cardiac Rehabilitation

- Introduction
- Team
- Equipments
- Phases
- Exercise interventions

IX. Pulmonary rehabilitation

- Introduction
- Team
- Equipments
- Phases
- Exercise interventions

X. Cardiorespiratory fitness

- Assessment & Screening
- Prescription
- Cardiopulmonary conditioning
- Prevention
- Complications

Practical contents

1. Bedside assessment of the patient-Adult & Pediatric
2. Postural Drainage,
3. Manual techniques – Percussion, Vibration and Shaking, Rib Springing,
4. ACBT, Autogenic Drainage,
5. Facilitation of Cough and Huff

6. PNF techniques for respiratory muscles
7. Suctioning
8. Manual hyperinflation in ICU
9. Quality of life Questionnaires
10. Treatment planning & Documentation

Suggested reading

1. Hillegas, E.A. & Sadowsky, H.S: Essentials of cardiopulmonary physical therapy, 2nd ed, Harcourt Brace & Company, Toronto, 2001.
2. Irwin, S. & Teklin, J.S: Cardiopulmonary physical therapy, 4th ed. St. Louis, Mosby. 2004.
3. Frownfelter, D. & Dean, E: Cardiovascular and pulmonary physical therapy: Evidence and practice, 4th ed, St. Louis, Mosby. 2005.
4. Kisner, C. & Colby, L: Therapeutic exercise: Foundations and techniques, 5th ed, F.A. Davis Company, Philadelphia, 2007.
5. Prayer, J. A.: Physiotherapy for Respiratory and Cardiac Problem, 3rd edition, Churchill Livingstone, Edinburgh, 2005.
6. Hough Alexandra: Physiotherapy in Respiratory Care, 3rd edition, Chennai Micro (P) Ltd Chennai - 292001.
7. Downie Patricia A.: Cash's Textbook Of Chest Heart And Vascular Disorders For Physiotherapists, 4th edition, Jayvee Brothers Medical Publishers, New Delhi
8. Ne Morgan Mike: Practical Pulmonary Rehabilitation, Chapman and Hall, London, 1997.
9. Pierce L. N. B: Management of the Mechanically Ventilated Patient, 2nd edition, Saunders Elsevier St Louis Missouri, 2007.
10. Dhalavi Girinath: Cardiac Rehabilitation for Physiotherapist, 1st edition, New Delhi 2000.
11. Desai Armaiti N: Yogic Life A Cure For Asthma And Bronchitis, 1st edition, Jayandra Yogendra And Yoga Instiute Prabahat Colony, Santacruz Mumbai, 1997.

COMMUNITY PHYSIOTHERAPY

(Subject Code: PU1115)

Teaching Hours: 200 hours (Theory: 100 hours and Practical: 100hours)

Maximum Marks: 200 (Theory: 100 and Practical: 100)

Assessment: Written, Oral and Practical, Internal and University examinations

Internal Examination: 20 marks Theory and 10 marks Practical

University Examination: 80 marks Theory, 90 marks Practical and viva – voce

Objectives: The objective is to enable the student to understand, analyze and interpret the theoretical and practical concepts of Community Physiotherapy .

Theory Contents

I. National health care delivery

- Need for NHCD
- State level health care delivery
- National level health care delivery
- National health programs
- World health organizations

II. Disability evaluation

- Overview
- Neurological disorders
- Orthopedic disorders
- Cardio respiratory
- Disability acts

III. Disaster management

- Overview
- Team role of physiotherapist
- Disaster assessment
- Advances in disaster management
- DM agencies and their operations

IV. Community pediatric

- Overview
- Indications
- Equipments
- Intervention/Methods
- Rehabilitation

V. Community geriatric

- Overview
- Indications
- Equipments
- Intervention/Methods
- Rehabilitation

VI. Community neuro

- Overview
- Indications
- Equipments
- Intervention/Methods
- Rehabilitation

VII. Community ortho

- Overview
- Indications
- Equipments
- Intervention/Methods
- Rehabilitation

VIII. Community based rehabilitation

- Rehabilitation team & role& principles
- IBR & CBR differences
- Cancer rehabilitation
- Burns rehabilitation
- Industrial rehabilitation & ergonomics

IX. Obstetrics & gynecology community Physiotherapy

- Overview
- Indications
- Equipments
- Intervention/Methods
- Rehabilitation

X. Cardio- pulmonary community Physiotherapy

- Overview
- Indications
- Equipments
- Intervention/Methods

- Rehabilitation

Practical contents

1. Screening for health problems
2. Ergonomic assessment and interventions
3. Fitness program for workers
4. Stress management
5. Home modifications
6. Fitness program for geriatrics
7. Gait training for geriatrics
8. Disability evaluation
9. Antenatal and postnatal Physiotherapy
10. Exercise prescription for different health problems

Suggested reading

1. ORV.C. Karan and Stephen: Community rehabilitation services for people with disabilities. Greenspan 1995.
2. Karen whalley Hammell: Perspectives on disability and rehabilitation, contesting assumptions; challenging practice, Churchill Livingstone. Elsevier 2006
3. John V. Basmajian and Sikhar N. Banerjee: Clinical decision making in rehabilitation Churchill Livingstone, 1996.
4. David Werner: Disabled village children-A guide for community health workers, rehabilitation workers & families, 2nd Ed, The Hesperian foundation, Berkeley, CA.
- 5 John Bond, Senga Bond: Sociology & health care an introduction for nurses & other health care professionals, 2nd Ed, Churchill Livingstone
6. Andrew A. Guccion: Geriatric physical therapy, 2nd Ed, Mosby Elsevier, 2010.
7. Jane Singleton, Susan McLaren: Ethical foundations of health care responsibilities in decision making, Mosby Elsevier
8. Demeter, Anderson, Smit: Disability evaluation, Mosby Elsevier
9. Glenda. Z. Key: Industrial therapy, Mosby Elsevier, 2002
10. Rebacca Dutton: Clinical reasoning in physical disabilities, Lippincott Williams & Wilkins, USA

GENERAL PHYSIOTHERAPY

(Subject Code: PU1116)

Teaching Hours: 200 hours (Theory: 100 hours and Practical: 100hours)

Maximum Marks: 200 (Theory: 100 and Practical: 100)

Assessment: Written, Oral and Practical, Internal and University examinations

Internal Examination: 20 marks Theory and 10 marks Practical

University Examination: 80 marks Theory, 90 marks Practical and viva – voce

Objectives: The objective is to enable the student to understand, analyze and interpret the theoretical and practical concepts of General Physiotherapy.

Theory Contents

I. Burns & skin graft

- Overview
- Types
- Assessment
- Interventions
- Rehabilitation

II. Wounds ,ulcers and skin conditions

- Overview
- Classifications
- Phases of healing
- Assessments
- Interventions

III. Cancer

- Overview
- Classifications
- Assessment
- Interventions
- Rehabilitation

IV. Clinical reasoning, functional diagnosis & evidence based practice

- Overview
- Need
- Models/theories
- Implications
- Limitations

V. Exercise prescription for health problems

- Overview
- Principles

- Prescription kits
- Exercise adherence
- Special population

VI. Stress management

- Overview
- Signs & symptoms
- Psychosomatic problems
- Measurement
- Interventions

VII. Pain

- Overview
- Theories
- Classifications
- Measurement
- Interventions

VIII. Functional capacity

- Overview
- Indications
- Equipments
- Measurements
- Implications

IX. Women's health and abdominal surgeries

- Overview
- Indications
- Assessments
- Interventions
- Postoperative Physiotherapy

X. Miscellaneous

- Physiotherapy in PVD
- Physiotherapy in ENT conditions
- Physiotherapy in Ophthalmology
- Renal rehabilitation
- Physiotherapy in Endocrine disorders

Practical contents

1. Evaluation and management of burns
2. Cancer management and post operative Physiotherapy techniques

3. Application of various therapeutic modalities
4. Evaluation and management of various surgical conditions
5. Observation of diagnostic procedures
6. Exercise prescription for various conditions
7. Evaluation and management of gynecological conditions
8. Evaluation and management of wounds, ulcers
9. Familiarization with concept of quality of life
10. Home program and patient education

Suggested reading

1. American College of Sports Medicine: Guidelines for exercise testing and prescription, 4th ed, Lea & Febiger, Philadelphia, 1991.
2. Michael Stubblefield Michael O'Dell M: Cancer Rehabilitation: Principles and Practice, Demos Medical, new York. 2009.
3. Andrew A. Guccione : Geriatric Physical therapy, 2nd Ed, Mosby Elsevier, 2010.
4. Patricia Downie: cash's text book of medical And Surgical Conditions for Physiotherapists, Jaypee brothers, New Delhi, 1993.
5. Ian Edwards, Mark Jones, Judi Carr, Annette Braunack-Mayer and Gail M Jensen: Clinical Reasoning Strategies in Physical Therapy. Physical Therapy April 2004 vol. 84 no. 4 312-330.
6. Scott M. Fishman, Jane C. Ballantyne, James P. Rathmell: Bonica's management of pain, 4th Ed, Lippincott Williams & Wilkins, USA, 2009.
7. Margaret Polden & Jill mantle: Physiotherapy in obstetric and gynecology, Butterworth-Heinmann, 1999.
8. Rosemary A Pyne: Relaxation Technique- A practical handbook for health care professional, 2nd Ed, Churchill Livingstone, 2000.
9. Nicole Glassey: Physiotherapy for burns and plastic reconstruction of hand, 1st Ed, Wiley 2004.
10. Carrie Susman: Wound care: A collaborative Practice manual For health professionals, 3rd Ed, Lippincott Williams & Wilkins, USA, 2006.

