

D. Y. Patil Education Society (Deemed to be University), Kolhapur

Re-accredited by NAAC with 'A' Grade

"Imparting knowledge with Excellence"

D. Y. PATIL COLLEGE OF PHYSIOTHERAPY

KOLHAPUR



Syllabus For

Bachelor of Physiotherapy - III

(B. P. Th.)

D. Y. PATIL EDUCATION SOCIETY, KOLHAPUR
(DEEMED TO BE UNIVERSITY)



D. Y. Patil College of Physiotherapy

SYLLABUS FOR

BACHELOR OF PHYSIOTHERAPY - III
(B. P. Th.)

Year of Implementation : 2021-22

Year of Examination : 2022-23

Vision

- To be an excellence in training Physiotherapy students
- To train future leaders for education, research and practice in Physiotherapy using advance techniques
- To promote sustainable development by using various skills and techniques in certain conditions by assuring best teaching and educational centre.
- To seek a leadership role in institutional and community research through developing innovative, multidisciplinary collaborative approaches.

Mission

- The mission of course is to impart in-depth knowledge in various specialties with regards to scope and up liftment in our profession.
- To advance basic knowledge of Physiotherapy by understanding how it works in various diseases, disorders and dysfunction.
- To develop holistic approach in society for success in life.

III- BACHELOR OF PHYSIOTHERAPY

Program Code	Exam Code	Course Name	Subject Name	Sub/Course Code
16	1601	I B.P.Th	Human Anatomy	160101
			Human Physiology	160102
			Biochemistry	160103
			Fundamentals of Kinesiology & Kinesiotherapy	160104
			Fundamentals of Electrotherapy	160105
	1602	II B.P.Th	Pathology & Microbiology	160201
			Pharmacology	160202
			Psychiatry & Psychology	160203
			Kinesiology	160204
			Kinesiotherapy	160205
			Electrotherapy	160206
	1603	III B.P.Th	Surgery I	160301
			Surgery II	160302
			Medicine I	160303
			Medicine II	160304
			Community Health & Sociology	160305
			Functional Diagnosis and Physiotherapeutic Skills	160306
	1604	IV B.P.Th	Musculoskeletal Physiotherapy	160401
			Neuro Physiotherapy	160402
			Cardio-Vascular & Respiratory Physiotherapy	160403
			Community Physiotherapy	160404

PROGRAM OUTCOME

PO1: Ability to acquire knowledge about normal- abnormal basic medical and human movement sciences, understand relevant investigations, role of drugs related to various medical conditions, surgical treatment and application of Physiotherapy interventions.

PO2: To gain knowledge about planning and problem solving abilities to delineate the cognitive, affective and psychomotor skills to perform as a competent Physiotherapist who will be able to evaluate, plan and effectively perform the physiotherapeutic skills.

PO3: Demonstrate the ability to acquire good listening potential with effective interpersonal and intra personal communication skills.

PO4: Extend the acquired knowledge to conduct research activities and publications that contribute to the upliftment in field of Physiotherapy and betterment of society.

PO5: Understand moral value, professional ethics and accountability towards patient and colleagues; develop good behaviour skills with confidentiality and humanitarian approach maintaining the respect and privacy of patient.

PO6: Develop leadership skills, time management, logical reasoning, values required for self directed and lifelong learning, soft skills for professional development and execute their professional role in society as a physiotherapist at various academic institutions, Hospital/ Clinics, Organizations, Research laboratories and Rehabilitation centres.

PO7: Understanding about society's needs in terms of health and wellness, to improve multicultural competency among professional and general public, promoting social policies that affect the demands of patients in terms of function, health and wellness, develop a character with good moral values, human values, good social behaviour, gratitude, honesty, ethics, safety, hygiene, responsibility, confidence, tolerance and critical thinking.

PO8: Able to contribute in sustainable development to achieve the national sustainable development goal, further the relationship between the environment, human health and functioning and Physiotherapy are considered and respected to mutually benefit patient's health. Ensure healthy lifestyle and promote wellbeing for all at all ages.

PO9: Demonstrate ability to acquire new knowledge skills and reflect upon their experience to enhance personal, professional growth and apply the information for patient care.

Surgery I

CO1: Ability to familiarize with principles of general surgery including various specialties like cardiovascular, thoracic, neurology & plastic surgery.

CO2: Ability to familiarize with terminology & abbreviations for efficient & effective chart reviewing & documentation.

CO3: Explore about epidemiology, pathology, primary & secondary clinical characteristics with their medical & surgical management.

CO4: Make awareness of general as well as specialty surgical conditions.

CO5: Understand effects of surgical trauma & anaesthesia.

CO6: Ability to clinically evaluate & describe surgical management of various surgical conditions including general surgical as well as neuro surgical, cardiovascular & thoracic surgery, ENT & ophthalmic surgery, plastic & reconstructive surgery.

CO7: Ability to describe pre-operative evaluation, surgical indications, management & post operative care & complications related to above mentioned areas.

CO8: Ability to read & interpret findings of relevant investigations.

Surgery II

CO1: Ability to identify & describe the classification, causes, clinical features, healing of fractures & complications of fractures of upper, lower vertebral column thorax and pelvis.

CO2: Ability to identify and describe principles of general exercise prescription & management of traumatic dislocation & subluxation of shoulder, acromio-clavicular, elbow, hip & knee joint.

CO3: Able to interpret & read salient features of x-ray of spine & extremities & correlate the radiological findings with clinical findings.

CO4: Ability to understand grades of injury, management of injuries of ligaments, bursa, fascia, muscles & tendons of upper and lower limb, whiplash of cervical spine, cervico-lumbar spine, crush injuries of hand & foot.

CO5: Ability to identify & understand causes classification physical clinical radiological features and complications of congenital & acquired deformities of upper & lower limb. Also understands principles of medical & surgical management of these deformities.

CO6: Able to discuss the etiology, path physiology, clinical manifestations and conservative or surgical management of degenerative & inflammatory conditions.

CO7: Able to understand the etiology, clinical manifestations & management of metabolic tumours.

CO8: Able to identify & understands etiology, pathophysiology, clinical manifestations and conservative and surgical management of general orthopedic conditions like carpal tunnel Syndrome, entrapment nerve injuries, compartment syndrome, ischemic contractures, avascular necrosis of bone, adult & children gangrene, backache.

CO9: Able to understand classification, causes, clinical manifestations, general description & principles of general management of benign & malignant tumours.

Medicine I

CO1: Identify & describe the etiology, pathology & clinical symptoms and management of the cardiovascular & respiratory conditions.

CO2: Identify & describe the etiology, pathology & clinical symptoms and management of the general medicine, rheumatology & gerontology.

CO3: Knowledge of various drugs used for each medical conditions to understand its effects & use during therapy.

CO4: Understand skill of history taking & clinical examination of cardiovascular, respiratory, general medicine & gerontology conditions as a part of clinical teaching.

CO5: Be able to acquire the skills of basic life support & describe the principles of management at ICU.

CO6: Understand relevant investigations which will help to know about the important medical conditions.

CO7: Acquire the knowledge in medicine that are required to be practice in community & at all levels of health care system.

Medicine II

CO1: Students should able to describe applied physiology, etiology, pathophysiology, signs & symptoms and management of various neurological and paediatric conditions.

CO2: Acquire skills of history taking and clinical examination of neurological conditions.

CO3: Acquire skills of history taking and clinical examination of Paediatric conditions as a part of clinical teaching.

CO4: Acquire knowledge of various drugs used for each medical condition to understand its effects and uses during therapy.

CO5: Acquire knowledge in brief about development of the foetus.

CO6: Student should able to describe normal development and growth of a child, importance of immunization, breast feeding & psychological factors as part of development.

CO7: Student should able to describe neuromuscular, musculoskeletal, cardiovascular and respiratory conditions related to immunological conditions, nutritional deficiencies, infectious diseases, and genetically transmitted conditions.

CO8: Acquire skill of clinical examination of a neonate / child with respect to neurological musculoskeletal & respiratory functions.

Community Health & Sociology

CO1: Ability to understand role of Physiotherapy in socio-cultural factors as determinants of health & behaviour.

CO2: Identify role of social security, medical social worker & role of NGO in relation to disabled.

CO3: Understand the role of Physiotherapy in social planning & in improvement of health & rehabilitation.

CO4: Acquire knowledge in preventive measures that are required to be practiced in community & at all levels of health care system.

CO5: Illustrative concepts influence of formal & informal social factors on personality, socialization in Hospital & Rehabilitation setting.

CO6: To identify role of rural & urban communities in public health & practices in home remedial treatment.

CO7: To understand sociology of brain death/ organ donation.

Functional Diagnosis & Physiotherapeutic skills

CO1: Ability to acquire knowledge on the clinical reasoning of the International Classification of Functioning (ICF) and its use.

CO2: Ability to acquire knowledge on assessment & examination of musculoskeletal system with its dysfunction, assessment of joints with special tests, assessment of pain in response to soft tissue trauma.

CO3: Understand the basics in manual therapy, soft tissue mobilization skills for joints & soft tissue, its applications with clinical reasoning, indications & contraindications.

CO4: Ability to acquire knowledge on assessment & examination of cardiovascular & pulmonary system with its dysfunction & assessment for fitness & health.

CO5: Ability to understand general principles of human development & maturation.

CO6: Ability understand assessment of neurotherapeutic skills & its application with clinical reasoning.

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PHYSIOTHERAPY

DEFINITION:

‘**Physiotherapy**’ is a branch of modern medical science which includes examination, assessment, interpretation, physical diagnosis, planning and execution of treatment and advice to any person for the purpose of preventing, correcting, alleviating and limiting dysfunction, acute and chronic bodily malfunction including life saving measures via chest Physiotherapy in the intensive care unit, curing physical disorders or disability, promoting physical fitness, facilitating healing and pain relief and treatment of physical and psychological disorders through modulating psychological and physical response using physical agents, activities and devices including exercise, mobilization, manipulations, therapeutic ultrasound, electrical and thermal agents and electrotherapy for diagnosis, treatment and prevention.

(Definition as per the Maharashtra State Council for Occupational therapy & Physiotherapy, 2004)

‘**Physiotherapist**’ is a qualified professional who has acquired all the above mentioned knowledge and skills for entry into practice after being awarded a bachelor degree in the subject of “Physiotherapy” from a recognised institute affiliated to the University conducting a fulltime course not less than four years and six months of internship.

PREAMBLE

Physiotherapy or Physical Therapy (P.T.) is a **Movement Science** with an established theoretical and scientific base and widespread clinical applications in the **Prevention, Restoration & Rehabilitation, Maintenance and Promotion of optimal physical function**. Physiotherapists **diagnose and manage movement dysfunction** and enhance physical and functional abilities. This physical dysfunction may be the sequel of involvement of any of the systems like Musculoskeletal, Neurological, Cardiovascular, Respiratory or other body systems.

These practitioners contribute to society and the profession through practice, teaching, administration, and the discovery and application of new knowledge about Physiotherapy experiences of sufficient excellence and breadth by research to allow the acquisition and application of essential knowledge, skills, and behaviours as applied to the practice of Physiotherapy.

Learning experiences are provided under the guidance and supervision of competent faculty, in both, classroom as well as in clinic. The designed curriculum will prepare the entry-to-practice physiotherapist (PT), to be an autonomous, effective, safe and compassionate professional, who practices collaboratively in a variety of healthcare set ups such as neonatal to geriatric, from critical care to community fitness to sports training and is responsive to the current and future needs of the health care system.

ESSENTIAL REQUIREMENTS

The following “essential requirements” specify those attributes that the faculty consider necessary for completing the professional education enabling each graduate to subsequently enter clinical practice. The purpose of this curriculum is to delineate the cognitive, affective and psychomotor skills deemed essential for completion of this program and to perform as a competent Physiotherapist who will be able to evaluate, plan & execute Physiotherapy treatment independently.

COGNITIVE LEARNING SKILLS: The student must demonstrate the ability to receive, interpret, remember, reproduce and use information in the cognitive, affective and psychomotor domains of learning to solve problems, evaluate work, and generate new ways of processing or categorizing similar information listed in course objectives.

PSYCHOMOTOR SKILLS: The student must demonstrate the following skills.

1. Locomotion ability:

Get to lecture, laboratory and clinical locations, and move within rooms as needed for changing groups, partners and work stations. Move quickly in an emergency situation to protect the patient (e.g. from falling).

- **Manual tasks:**

- a. Maneuver another person’s body parts to effectively perform evaluation techniques. Manipulate common tools used for screening tests of the cranial nerves, sensation, range of motion, blood pressure, e.g., cotton balls, safety pins, goniometers, Q-tips, sphygmomanometer. Safely and effectively guide, facilitate, inhibit, and resist movement and motor patterns through physical facilitation and inhibition techniques (including ability to give timely urgent verbal feedback).
- b. Manipulate another person’s body in transfers, gait, positioning exercise, and mobilization techniques. Manipulate evaluation and treatment equipment safely and accurately applied to patients. Manipulate bolsters, pillows, plinths, mats, gait assistive devices and other supports or chairs to aid in positioning, moving or treating a patient effectively.
- c. Competently perform and supervise cardio pulmonary resuscitation.

- **Fine motor/hand skills:**

1. Legibly record thoughts for written assignments (including diagrams) and tests. Document evaluations, patient care notes, referrals, etc. in standard medical charts in hospital/clinical settings in a timely manner and consistent with the acceptable norms of clinical settings.
2. Safely apply and adjust the dials or controls of therapeutic modalities.
3. Safely and effectively position hands and apply mobilization and therapeutic techniques.

- **Visual acuity to:**

- a. Read written and illustrated material in the English language, in the form of lecture handouts, textbooks, literature and patient's chart.
- b. Observe active demonstrations in the classroom.
- c. Visualize training videos, projected slides/overheads, X-ray pictures, and notes written on a blackboard/whiteboard.
- d. Receive visual information from patients, e.g., movement, posture, body mechanics, and gait necessary for comparison to normal standards for purposes of evaluation of movement dysfunctions.
- e. Receive visual information from treatment environment, e.g., dials on modalities and monitors, assistive devices, furniture, flooring, structures, etc.
- f. Receive visual clues as to the patient's tolerance of the intervention procedures. These may include facial grimaces, muscle twitching, withdrawal etc.

- **Auditory acuity to:**

- a. Hear lectures and discussion in an academic and clinical setting.
- b. Distinguish between normal and abnormal breathing, lung and heart sounds using a stethoscope.

- **Communication:**
 - a. Effectively communicate information and safety concerns with other students, teachers, patients, peers, staff and personnel by asking questions, giving information, explaining conditions and procedures, or teaching home programs. These all need to be done in a timely manner and within the acceptable norms of academic and clinical settings.
 - b. Receive and interpret written communication in both academic and clinical settings in a timely manner.
 - c. Receive and send verbal communication in life threatening situations in a timely manner within the acceptable norms of clinical settings.
 - d. Physiotherapy education presents exceptional challenges in the volume and breadth of required reading and the necessity to impart information to others. Students must be able to communicate quickly, effectively and efficiently in oral and written English with all members of the health care team.
- **Self care:** Maintain general good health and self care in order not to jeopardize the health and safety of self and individuals with whom one interacts in the academic and clinical settings.

AFFECTIVE LEARNING SKILLS: The student must be able to:

1. Demonstrate respect to all people, including students, teachers, patients and medical personnel, without showing bias or preference on the grounds of age, race, gender, sexual preference, disease, mental status, lifestyle, opinions or personal values.
2. Demonstrate appropriate affective behaviors and mental attitudes in order not to jeopardize the emotional, physical, mental, and behavioral safety of patients and other individuals with whom one interacts in the academic and clinical settings and to be in compliance with the ethical standards of the profession.
3. Acknowledge and respect individual values and opinions in order to foster harmonious working relationships with colleagues, peers, and patients.

PROFESSIONAL DRESS CODE STANDARDS:

It is important to portray a professional image. A clinician with inappropriate dress, grooming or conduct can damage the patient's confidence in the quality of their care, sometimes even resulting in a delay in the restoration of health.

Haircuts, hairstyling, and personal grooming need to be neat, conservative and inconspicuous. Grooming and style should be practical and allow one's duties to be performed without embarrassment or inconvenience

DRESS:

Modest casual wear is appropriate on campus and in class.

Clinical /Lab Dress: Aprons for all clinical assignments, any class that is held in a clinical facility and in any class where patients are present.

FRAMEWORK OF THE CURRICULUM

COURSE DURATION: Four years and Six months of Internship.

I B.P.Th

- a. Deals with the basic foundation in medical as well as Physiotherapy subjects. The foundation of human body structure & function & energy utilization is achieved by studying the subjects Human Anatomy, Physiology, and Biochemistry.
- b. Students knowledge of Physics i.e. – Mechanics, Electricity, Water , Sound & Light is recalled to apply it on human body in understanding movements and the various physiotherapeutic modalities under the subject of Fundamentals of Electrotherapy & Fundamentals of Kinesiology & Kinesiotherapy.

II B.P.Th

- a. Deals with understanding of altered Physiology by studying Pathology & Microbiology.
- b. The students get oriented to various Pharmacotherapeutic agents used along with their effects by studying Pharmacology.
- c. The students will study about normal and altered human mind & behavior by studying Psychology & Psychiatry. They will also learn skills required for effective communication with the patients and caregivers.
- d. Students will acquire the knowledge of Biomechanics as applicable to human body in the context of Kinetics & kinematics of Joints, Movements & Daily activities under subject of Kinesiology and shall acquire knowledge and learn various physiotherapeutic skills on models in subject of Kinesiotherapy.
- e. In the subject of Electrotherapeutics, students will acquire knowledge and learn application & uses of various electrotherapeutic modalities on models.

III B.P.Th

- a. Students acquire knowledge of all the clinical subjects like Orthopedics, General Surgery, Medicine, Neurology, Pediatrics, Dermatology & Gynecology & Obstetrics, Community Medicine and Sociology.
- b. Students will acquire knowledge about the principles of International Classification of Functioning (I.C.F.) and its applicability in context to movement dysfunctions.
- c. Students will learn the physiotherapeutic evaluation skills including electro diagnosis on patients to arrive at a Functional/ Physical Diagnosis in Neuromuscular, Cardiovascular & Respiratory dysfunction. They will also acquire knowledge of various specialized manual therapy and neuro developmental techniques and practice these skills on models under the subject of functional diagnosis and physiotherapeutic skills.

IV B.P.Th

- a. Students will revise, recall and integrate the knowledge of previous years to evaluate, functionally diagnose, plan and execute short and long term management of various musculoskeletal, neurological & cardiovascular- respiratory dysfunctions in hospital and community settings.
- b. Students also acquire knowledge pertaining to health promotion & disease prevention throughout lifespan in the community. They will also be able to analyze, prevent and treat problems associated with various industries in community Physiotherapy.
- c. Students will also acquire knowledge about biomechanical principles & application of variety of aids & appliances used for ambulation, protection & prevention by studying Bioengineering.
- d. Professional Practice and ethics as a subject will be studied in continuum from first year, so students will acquire the knowledge of ethical code of professional practice, as well as its moral & legal aspects. The principles of Hospital Administration, Management & Marketing will be studied separately.
- e. Students will also acquire knowledge of Research Methodology and Biostatistics and apply the knowledge in project work in community Physiotherapy.

INTERNSHIP

- A period of 6 months (26 weeks) of continuous clinical practice to enhance the clinical reasoning, judgment, programme planning, intervention, evaluation of intervention, follow up and referral skills of all the dysfunctions and impairments learnt throughout the curriculum of four years.
- Those candidates declared to have passed the final year examination in all subjects shall be eligible for internship.
- Internship shall be done in a teaching hospital recognized by the University. A degree certificate shall be awarded ONLY on successful completion of six months of internship.
- The Internship will be rotatory and shall cover clinical branches concerned with Physiotherapy such as Orthopedics, Cardiovascular & Respiratory including ICU, Neurology & Neurosurgery Pediatrics, General Medicine, Surgery, Obstetrics and Gynecology both inpatient and outpatient services.
- Successful Completion: The student must maintain 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 work done. On completion of all the postings, the duly completed logbook will be submitted to the Principal/Head of program to be considered as having successfully completed the internship program.

III B.P.Th.

TRANSCRIPT HOURS- 1400

Sr. No.	SUBJECTS	Teaching Hrs
	PROFESSIONAL PRACTICE	
1	Professional practice & Ethics	015
	MEDICAL SCIENCES	
2	Surgery-I	055
3	Surgery-II	060
4	Medicine-I	055
5	Medicine-II	065
6	Community Health & Sociology	060
7	Obstetrics & Gynecology	030
8	Dermatology	010
	PHYSIOTHERAPY	
9	Functional Diagnosis & Physiotherapeutic Skills	460
10	Seminar (including I.C.F.)	90
11	Supervised clinical practice	500
	TOTAL	1400
	Elective Course System	30

III B.P.Th.
SYLLABUS
Transcript Hours- 1400

Sr. No.	SUBJECTS	Theory Hours	Laboratory / Clinical Hours	Total Hours
	PROFESSIONAL PRACTICE			
1	Professional Practice & Ethics (College Examination in final year)	10	005	015
	MEDICAL SCIENCES			
2	Surgery-I(Cardiovascular & Thoracic Surgery, General Surgery & Plastic/Reconstructive Surgery)	030	025	055
3	Surgery-II (Orthopedics)	040	020	060
4	Medicine-I (Cardiovascular Respiratory Medicine, General Medicine, Rheumatology & Gerontology)	045	010	055
5	Medicine-II (Neurology & Pediatrics)	045	020	065
6	Community Health & Sociology	050	010	060
7	Obstetrics & Gynecology (College Examination)	020	010	030
8	Dermatology (College Examination)	010	-	010
	PHYSIOTHERAPY			
9	Functional Diagnosis & Physiotherapeutic Skills	135	325	460
10	Seminar (including ICF)	-	090	090
11	Supervised clinical practice	-	500	500
	TOTAL	385	1015	1400

**PROFESSIONAL PRACTICE AND ETHICS
(COLLEGE EXAMINATION IN FINAL YEAR)**

TOTAL -15HRS

COURSE DESCRIPTION:

This subject would be taught in continuum from first year to final year. An exam in theory would be conducted only in final year. Professional and ethical practice curriculum content addresses the Knowledge, Skills and Behaviours required of the physiotherapist in a range of practice relationships and roles. The course will discuss the role, responsibility, ethics administration issues and accountability of the physical therapists. The course will also cover the history and change in the profession, responsibilities of the professional to the profession, the public and to the health care team. This includes the application of professional and ethical reasoning and decision-making strategies, professional communication.

OBJECTIVES:

At the end of the course the student will be compliant in following domains:

Cognitive:

- a. Be able to understand the moral values and meaning of ethics.
- b. Will be able to acquire bedside manners and communication skills in relation with patients, peers, seniors and other professionals.

Affective:

- a) Be able to develop behavioral skills and humanitarian approach while communicating with patients, relatives, society at large and co-professionals
- b) Be able to develop bed side behavior, respect & maintain patients' confidentiality.

Psychomotor:

- a. Be able to develop psychomotor skills for physiotherapist-patient relationship.
- b. Skill to evaluate and make decision for plan of management based on socio cultural values and referral practice.

SYLLABUS

Sr. No.	Topics	Didactic Hours	Visits/ Supervision Hours	Total Hours
1.	Collecting data on psychosocial factors in Medicine / Surgery / Reproductive Health / Pediatrics	04	05	15
2.	Inter professional communication	03		
3.	Ethics in clinical practice	03		
TOTAL		10	05	15

SURGERY-I
3rd Year B.P.Th

(General Surgery, Cardiovascular & Thoracic Surgery & Plastic/ Reconstructive Surgery)

(Didactic-35hrs + Clinical -20 hrs) TOTAL =55HRS

COURSE DESCRIPTION:

This course intends to familiarize students with principles of General surgery including various specialties like cardiovascular, thoracic, neurology and plastic surgery. It also familiarizes the students with terminology and abbreviations for efficient and effective chart reviewing and documentation. It explores various conditions needing attention, focusing on epidemiology, pathology, as well as primary and secondary clinical characteristics and their surgical and medical management. The purpose of this course is to make Physiotherapy students aware of various surgical conditions general surgery and specialty surgeries so these can be physically managed effectively both pre as well as postoperatively.

Sr. No.	Topics	Didactic Hours	Clinical Hours	Total Hours
1.	GENERAL SURGERY	20	10	30
2.	CARDIO VASCULAR AND THORACIC SURGERY	10	5	15
3.	PLASTIC SURGERY / RECONSTRUCTIVE SURGERY	5	5	10
	TOTAL	35	20	55

OBJECTIVES:

At the end of the course, the candidate will be able to:

1. Describe the effects of surgical trauma & Anesthesia in general
2. Clinically evaluate & describe the surgical management in brief of
 - a. General Surgery
 - b. Neuro Surgery
 - c. Cardiovascular and Thoracic Surgery
 - d. ENT & Ophthalmic Surgery
 - e. Plastic & Reconstructive Surgery
1. Describe pre-operative evaluation, surgical indications in various surgical approaches, management and post operative care in above mentioned areas with possible complications.
2. Be able to read & interpret findings of the relevant investigations

Cognitive:

- At the end of the course, the student will be able to describe the effects of surgical trauma & Anaesthesia in general and classify, clinically evaluate & describe the surgical management in brief in
a]-wounds-ulcers b]- Burns- c]- Head injuries
- Student should be able to describe and draw surgical approaches in the form of line diagram & will be able to describe the components of soft tissues cut to reach the target tissue, & the possible Post operative complication in movement.

Affective

- Be able to develop behavioral skills and humanitarian approach while communicating with patients, relatives, society at large and co-professionals.
- Be able to develop bedside behavior, respect & maintain patient's confidentiality.

Psychomotor

- The student will be able to clinically evaluate post-operative abdominal, thoracic & peripheral vascular conditions; with special reference to the cardio-vascular & pulmonary function, & scar/wound management describe post operative management in brief.
- Will be able to read & interpret findings of the x ray-chest

SYLLABUS

Sr. No.	Topics	Didactic Hours	Clinical Hours	Total Hours
1	GENERAL SURGERY	20	10	30
	a. GENERAL: <ol style="list-style-type: none"> i. Anesthesia types, Effect, indications and contraindications and common post operative complications ii. Hemorrhage and Shock, classification, description and treatment iii. Water & Electrolyte imbalance iv. Inflammation – acute & chronic-signs, symptoms, complications & management v. Wounds & Ulcers, Cellulitis – classification, healing process, management, bandaging, Dressing solutions and its uses and debridement Procedure, hand washing and universal precautions. vi. Enumerate Common abdominal surgical incisions – classification, indications, opening – closure, advantages and disadvantages, complications (including burst abdomen and fecal fistula), minimally invasive surgery. vii. Mastectomy and onco surgery– approach, complications & management viii. Amputation – types, sites, complications & management ix. Burns – causes, complications, classification & management x. Varicose veins and PVD xi. Hernias-surgery, precautions and complications xii. Transplantation approach, risk problems related to donor and recipient, precautions. 	12	10	
	b. NEUROSURGERY <ol style="list-style-type: none"> i. Head Injury –management ii. Intra cranial & Spinal tumors iii. Intracranial Aneurysm and AV malformation iv. Post operative Neuro surgical care 	4		
	c. E.N.T. Surgery <ol style="list-style-type: none"> i. Tracheostomy – indications, surgical approach & management ii. Surgical procedures in VII cranial nerve palsy iii. Vertigo 	3		

	d. Ophthalmic Surgery Surgeries for III, IV, VI Cranial Nerve palsy	1		
2	CARDIO VASCULAR AND THORACIC SURGERY	10	5	15
	a. Introduction, Cardio respiratory resuscitation, cardiopulmonary bypass, Special investigation procedures in cardiac surgery, Basic techniques in cardiac surgery approach, incisions, Types of operation, Complications of cardiac surgery, Lines, drains and tubes. b. Brief description of indications, surgery, complications for following surgery: <ol style="list-style-type: none"> Surgeries of thorax Surgeries of the lung Surgeries of pleura and pericardium Surgeries for coronary artery disease Valvular surgeries Surgeries for Congenital Heart Disease Peripheral arterial disorder, Burger's disease, Raynaud's disease and Aneurysm Gangrene, Amputation, DVT 			
3	PLASTIC SURGERY / RECONSTRUCTIVE SURGERY	5	5	10
	a. Skin grafts & flaps – Types, indications with special emphasis to burns, wounds b. Ulcers, complications and postoperative care c. Tendon transfers, with special emphasis to hand, foot & facial paralysis, & repair of Flexor & Extensor Tendon Injuries d. Keloid & Hypertrophied scar management e. Reconstructive surgery of peripheral nerves f. Micro vascular surgery- re-implantation and revascularization			

CLINICAL (10 hrs)

- Evaluation / presentation and recording of one case each in:
 - Burns
 - Wound & ulcer
 - Head injury
 - Peripheral vascular condition
 - Post radical mastectomy
 - Post thoracic surgery
 - Post abdominal surgery
 - Plastic surgery
- Auscultation & its interpretation with special emphasis to Reading & interpretation of the X-ray chest.

RECOMMENDED TEXT BOOKS

1. Short practice of surgery-- Bailey and Love
2. Textbook of Surgery –Das

SCHEME OF UNIVERSITY EXAMINATION

THEORY		Marks
40 MARKS + I.A. – 10 MARKS		50
* The question paper will give appropriate weightage to all the topics in the syllabus.		
Section A –M.C.Qs.	Q-1 MCQs – based on important area [1 x 10]	10
Section B- S.A.Q.	Q-2 - Answer any THREE out of FOUR [3 x 5]	15
	* Based on topics – General surgery & plastic surgery	
	Q-3 - Answer any THREE out of FOUR [3 x 5]	15
	* Based on topics – Cardiovascular & thoracic surgery	
Total Marks		40

Clinical Case Presentation (COLLEGE EXAMINATION)	Marks
Conducted at the end of Preliminary examination - Based on Case presentation, Examination and Viva	20

INTERNAL ASSESSMENT:

1. One examination of Total 40 marks (Theory only)
2. Internal Assessment to be calculated out of 10marks
3. Internal assessment as per University pattern.

SURGERY-II
(ORTHOPAEDICS)
3rd Year B.P.Th

(Didactic-40hrs + Clinical -20hrs) **TOTAL =60 HRS**

COURSE DESCRIPTION:

This course intends to familiarize students with principles of orthopaedic surgery along with familiarization with terminology and abbreviations for efficient and effective chart reviewing and documentation. It also explores various orthopaedic conditions needing attention, focusing on epidemiology, pathology, as well as primary and secondary clinical characteristics and their surgical and medical management. The purpose of this course is to make Physiotherapy students aware of various orthopaedic surgical conditions so these can be physically managed effectively both pre as well as postoperatively.

Sr. No.	Topics	Didactic Hours	Clinical Hours	Total Hours
1	FRACTURES	6	3	9
2	DISLOCATIONS & SUBLUXATIONS	4	2	6
3	SOFT TISSUE AND TRAUMATIC INJURIES	4	2	6
4	DEFORMITIES AND ANOMALIES	11	3	14
5	DEGENERATIVE AND INFLAMMATORY CONDITIONS	6	3	9
6	MANAGEMENT OF METABOLIC DISORDERS	2	2	4
7	GENERAL ORTHOPAEDIC DISORDERS	5	3	8
8	TUMORS	2	2	4
	TOTAL	40	20	60

OBJECTIVES:

At the end of the course, the candidate will –

- a) Be able to discuss the, aetiology, Patho physiology, clinical manifestations & conservative /surgical management of various traumatic & cold cases of the Musculoskeletal Conditions.
- b) Gain the skill of clinical examination; apply special tests & interpretation of the preoperative old cases & all the post-operative cases.
- c) Be able to read & interpret salient features of the X-ray of the Spine & Extremities and correlate the radiological findings with the clinical findings.
- d) Be able to interpret Pathological / Biochemical studies pertaining to Orthopedic conditions.

Cognitive –

- a) Be able to discuss the, aetiology, Pathophysiology, clinical manifestations & conservative / surgical management of various traumatic & cold cases of the Musculoskeletal Conditions.
- b) Be able to interpret Pathological / Biochemical studies pertaining to Orthopaedic conditions.

Affective –

- a) Follow the principles of appropriate handling technique that is draping, hand placement, body part positioning, manual techniques, lifting and transfer techniques.
- b) Communicate with patients and their families/caregivers regarding the need and uses of various assessment techniques

Psychomotor –

- a) Gain the skill of clinical examination; apply special tests & interpretation of the preoperative old cases & all the post-operative cases.
- c) Be able to read & interpret salient features of the X-ray of the Spine & Extremities and correlate the radiological findings with the clinical findings.

SYLLABUS

Sr. No.	Topics	Didactic Hours	Clinical Hours	Total Hours
1	FRACTURES	6	3	9
	a. Definition, Classification, Causes, Clinical features, healing of fractures & Complications. b. Principles of general management of <ol style="list-style-type: none"> i. Fracture of the Upper Extremity ii. Fracture of the Lower Extremity iii. Fracture of the vertebral column, thorax and pelvis iv. Emergency care and first aid. 			
2	DISLOCATIONS & SUBLUXATIONS	4	2	6
	a. Definition, General description, Principles of general description and management of traumatic dislocation and subluxation of common joints. <ol style="list-style-type: none"> i. Shoulder joint ii. Acromioclavicular joint iii. Elbow joint iv. Hip joint v. Knee joint 			
3	SOFT TISSUE AND TRAUMATIC INJURIES	4	2	6
	a. Introduction ,Anatomy & physiology general description, grade of injury and management of injuries of <ol style="list-style-type: none"> i. Ligaments, Bursa, Fascia ii. Muscles & Tendons iii. Muscles and tendons injuries of upper and lower limb b. Cervicolumbar injuries ,Whiplash of the cervical spine c. Crush injuries of hand & foot			
4	DEFORMITIES AND ANOMALIES	11	3	14
	a. Definition ,Causes , Classification , Congenital and acquired deformities Physical and clinical and radiological features, Complications b. Principles of medical and surgical management of the deformities			

	<p>c. General description of following deformities:</p> <p>i. Deformities of the spine:</p> <p>a) Scoliosis</p> <p>b) Kyphosis</p> <p>c) Lordosis</p> <p>d) Flat back</p> <p>e) Torticollis</p> <p>ii. Deformities of the lower limb:</p> <p>a) Congenital Dislocation of Hip (C.D.H.), coxavara , coxavalga, anteversion, Retroversion</p> <p>b) Genu valgum, Genu varum, Genu recurvatum, Congenital Dislocation of Knee (C.D.K.)</p> <p>c) Talipes calcaneus equinus, varus & valgus</p> <p>d) Pescavus, Pesplanus</p> <p>e) Hallux valgus & varus, Hallux rigidus and hammertoe</p> <p>iii. Deformities of Shoulder & Upper limb</p> <p>a) Sprengel's shoulder, Cubitus varus, Cubitus valgus</p> <p>b) Dupuytren's contracture</p>			
5	DEGENERATIVE AND INFLAMMATORY CONDITIONS	6	3	9
	<p>a. Osteo-orthosis/Arthritis</p> <p>b. Spondylosis</p> <p>c. Spondylolysis and listhesis</p> <p>d. Pyogenic arthritis</p> <p>e. Rheumatoid arthritis</p> <p>f. Juvenile arthritis</p> <p>g. Tuberculous arthritis</p> <p>h. Gouty arthritis</p> <p>i. Haemophilic arthritis</p> <p>j. Neuropathic arthritis</p> <p>k. Ankylosing spondylitis</p> <p>l. Psoriatic arthritis</p>			
6	MANAGEMENT OF METABOLIC DISORDERS	2	2	4
	<p>a. Osteoporosis</p> <p>b. Osteomalacia & Rickets</p>			

7	GENERAL ORTHOPAEDIC DISORDERS	5	3	8
	<ul style="list-style-type: none"> a. Carpel tunnel syndrome/Entrapment nerve injuries b. Compartment syndrome, Ischemic contracture c. Avascular necrosis of bone in adult and children <ul style="list-style-type: none"> i. Gangrene ii. Backache/Prolapsed Intervertebral disc (P.I.V.D.) 			
8	TUMORS	2	2	4
	<ul style="list-style-type: none"> i. Classification, Principles of general management ii. General description of benign and malignant tumours of musculoskeletal system 			

SCHEME OF UNIVERSITY EXAMINATION

THEORY 40 MARKS + I.A. – 10 MARKS		Marks
* The question paper will give appropriate weightage to all the topics in the syllabus.		50
Section A .MCQs	Q-1 - MCQs – based on important area [1 x 10]	10
Section B- S.A.Q	Q-2 - Answer any THREE out of FOUR [3 x 5] Based on fractures/Dislocations & subluxations /Soft tissue and traumatic Injuries/Deformities and anomalies	15
	Q-3 - Answer any THREE out of FOUR [3 x 5] Based on Degenerative and inflammatory conditions/ Management of metabolic/Disorders/General orthopedic disorders/Tumors	15
Total Marks		40

Clinical Case Presentation (COLLEGE EXAMINATION)	Marks
Conducted at the end of Preliminary examination - Based on Case presentation, Examination and Viva	20

INTERNAL ASSESSMENT:

1. One examination of Total 40 marks (Theory only)
2. Internal Assessment to be calculated out of 10marks
3. Internal assessment as per University pattern

MEDICINE- I
3rd Year B.P.Th
(Cardiovascular Respiratory Medicine, General Medicine & Gerontology)

(Didactic- 45 hrs + Clinical-10 hrs) **TOTAL-55 HRS**

COURSE DESCRIPTION:

This course intends to familiarize students with medical terminology & abbreviations for efficient & effective chart reviewing & documentation. It also explores selected systemic diseases, focusing on epidemiology, pathology, histology, etiology as well as primary & secondary clinical characteristics & their management. Discusses & integrates subsequent medical management of General, Rheumatology, Gerontology, Cardio-vascular & Respiratory systems, to formulate appropriate intervention, indications, precautions & contraindications.

Sr. No.	Topics	Didactic Hours	Clinical Hours	Total Hours
1	CARDIO-VASCULAR & RESPIRATORY MEDICINE	30	05	35
2	GENERAL MEDICINE, RHEUMATOLOGY & GERONTOLOGY	15	05	20
	TOTAL	45	10	55

OBJECTIVES:

At the end of the course, the candidate will:

1. Be able to describe Etiology, Pathophysiology, Signs & Symptoms & Management of the various Endocrinal, Metabolic, Geriatric & Nutrition Deficiency conditions.
2. Be able to describe Etiology, Pathophysiology, Signs & Symptoms, Clinical Evaluation & Management of the various Rheumatologic Cardiovascular & Respiratory Conditions.
3. Acquire skill of history taking and clinical examination of Musculoskeletal, Respiratory, Cardio-vascular & Neurological System as a part of clinical teaching.
4. Be able to interpret auscultation findings with special emphasis to pulmonary system.
5. Study Chest X-ray, Blood gas analysis, P.F.T. findings & Haematological studies, for Cardiovascular, Respiratory, and Neurological & Rheumatological conditions.
6. Be able to describe the principles of Management at the Intensive Care Unit.
7. Be able to acquire the skills of Basic Life Support.
8. Acquire knowledge of various drugs used for each medical condition to understand its effects and its use during therapy.

Cognitive –

- a. Be able to describe Etiology, Pathophysiology, Signs & Symptoms & Management of the various Endocrinal, Metabolic, Geriatric & Nutrition Deficiency conditions.
- b. Be able to describe Etiology, Pathophysiology, Signs & Symptoms, Clinical Evaluation & Management of the various Rheumatologic Cardiovascular & Respiratory Conditions.
- c. Acquire knowledge of various drugs used for each medical condition to understand its effects and its use during therapy

Affective –

- a. Acquire skill of history taking and clinical examination of Musculoskeletal, Respiratory, Cardio-vascular & Neurological System as a part of clinical teaching.
- b. Be able to interpret auscultation findings with special emphasis to pulmonary system.
- c. Study Chest X-ray, Blood gas analysis, P.F.T. findings & Haematological studies, for Cardiovascular, Respiratory, Neurological & Rheumatological conditions

Psychomotor –

- a. Be able to describe the principles of Management at the Intensive Care Unit.
- b. Be able to acquire the skills of Basic Life Support.

SYLLABUS

Sr. No.	Topics	Didactic Hours	Clinical Hours	Total Hours
1	CARDIO-VASCULAR & RESPIRATORY MEDICINE :	30	5	35
	a. Cardio-Vascular Diseases	11	2	
	i. Hypertension – systemic	1		
	ii. Cardiac Conditions- a) Ischemic Heart Disease (I.H.D.) - Angina, Myocardial infarction b) Rheumatic Heart Disease (R.H.D.) c) Infective Endocarditis d) Cardio myopathy e) Heart Failure	4		
	iii. Valvular Heart Disease a) Congenital b) Acquired	2		
	iv. Congenital Heart Disease	1		
	v. Investigations a) Basics of E.C.G. [Normal & Abnormal (Ischaemia, Infarction & Arrhythmias)] b) Observation of conduction of stress test on patient c) 2D Echo (Ejection Fraction & Wall motion Abnormality)	3		
	b. Diseases of the Respiratory System :	19	3	
	i. Common Infectious diseases like Tuberculosis, Pneumonia, Lung Abscess, Bronchiectasis and COVID - 19, aetiology, signs & symptoms, clinical features, causes and management	5		
	ii. Diseases of Pleura like Pleural Effusion, Pneumothorax, Hydropneumothorax, and Empyema.	2		
	iii. Interstitial Lung Diseases (ILD) & Occupational lung diseases like Silicosis, Asbestosis, Pneumoconiosis, Brucellosis, Farmer's Lung.	2		
	iv. Chronic Obstructive Pulmonary Diseases (C.O.P.D. with Cor Pulmonale, Pulmonary Hypertension, Bronchial Asthma & Cystic Fibrosis)	3		
	v. Intensive Care Unit a) Infrastructure b) Instrumentation. c) Mechanical Ventilation (settings & monitoring) d) Assessment, monitoring & management of patient in I.C.U.	3		

	vi. Basic Life Support : Introduction & Demonstration	2		
	vii. Investigation: Normal & Abnormal <ol style="list-style-type: none"> 1. Chest X-ray 2. Blood Gas Analysis 3. Pulmonary Function Testing (PFT) - Observation of conduction on patient 	2		
2	GENERAL MEDICINE, RHEUMATOLOGY & GERONTOLOGY:	15	05	20
	a. General Medicine <ol style="list-style-type: none"> i. Disorders of Endocrine system (Diabetes) Introduction, patho physiology, types, role of physical activity, complications of diabetes (autonomic neuropathy, myopathy, weakness) & medications. ii. Thyroid, Pituitary & Adrenal conditions Cushing's syndrome iii. Obesity iv. Nutrition Deficiency Disease (Rickets, Vitamin E, Vitamin D, Vitamin B, Micro nutrients (Zn, Se) v. Intoxication (Drug abuse; Alcohol, smoking, cocaine dependence) 	7	2	
	b. Rheumatologic Conditions <ol style="list-style-type: none"> i. Rheumatoid Arthritis ii. S LE iii. S SA iv. Gout v. Polymyositis vi. Fibromyalgia vii. Ankylosing spondylitis 	5	2	
	c. Geriatric Conditions <ol style="list-style-type: none"> i. Aging Process (physiological changes due to aging) ii. Cardio Vascular & Respiratory complications iii. Osteoporosis 	3	1	

RECOMMENDED TEXT BOOKS

1. API- Text book of Medicine, 5th edition
2. Medicine-- P.J. Mehta

RECOMMENDED REFERENCE BOOK

1. Principles & Practice of Medicine --Davidson

CLINICAL - 10 HRS

1. History taking, Evaluation –General Examination & Systemic examination (Inspection, Palpation, Percussion & Auscultation)
2. Presentation and recording of Two cases Each in:
 - a. Muscular disorders
 - b. Respiratory Conditions
 - c. Cardio Vascular Conditions
 - d. Degenerative / Rheumatologic Condition
 - e. Obesity
 - f. Nutritional disorders
 - g. Diabetes Mellitus & Metabolic bone disorders.

SCHEME OF UNIVERSITY EXAMINATION

THEORY		Marks
40 MARKS + I.A. – 10 MARKS		
* The question paper will give appropriate weightage to all the topics in the syllabus.		50
Section A .MCQs	Q-1 -MCQs – based on important area [1 x 10]	10
Section B- S.A.Q	Q-2 - Answer any THREE out of FOUR [3 x 5] * Based on topics – general medicine, rheumatology & gerontology	15
Section B- S.A.Q	Q-3 - Answer any THREE out of FOUR [3 x 5] * Based on topics – cardiovascular & respiratory medicine	15
Total Marks		40

Clinical Examination (COLLEGE EXAMINATION)	Marks
Conducted at the end of Preliminary examination	
1. General Medicine, Rheumatology -10 Marks & Gerontology	20
2. Cardio-Vascular & Respiratory Medicine -10 Marks	

INTERNAL ASSESSMENT:

1. One examination of Total 40 marks (Theory only)
2. Internal Assessment to be calculated out of 10marks
3. Internal assessment as per University pattern

MEDICINE-II
(Neurology & Paediatrics)
3rd Year B.P.Th

(Didactic – 45 hrs + Clinical – 20 hrs) **TOTAL – 65 HRS**

COURSE DESCRIPTION:

This course intends to familiarize students with medical terminology & abbreviations for efficient & effective chart reviewing & documentation, It also explores select systemic diseases, focusing on epidemiology, etiology, pathology, histology as well as primary & secondary clinical characteristics & their management. It discusses & integrates subsequent medical management of Neurological & Pediatric conditions to formulate appropriate intervention, indications, precautions & contraindications.

Sr. No.	Topics	Didactic Hours	Clinical Hours	Total Hours
1	NEUROLOGY	25	10	35
2	PAEDIATRICS	20	10	30
		45	20	65

OBJECTIVES:

At the end of the course, the candidate will:

1. Be able to describe Aetiology, Patho physiology, signs & Symptoms & Management of the various Neurological & Pediatric conditions.
2. Acquire skill of history taking and clinical examination of Neurological & Pediatric conditions as a part of clinical teaching.
3. Acquire knowledge of various drugs used for each medical condition to understand its effects and its use during therapy.
4. Acquire knowledge in brief about intra-uterine development of the foetus.
5. Be able to describe normal development & growth of a child, importance of Immunization, breast-feeding & psychological aspect of development.
6. Be able to describe neuromuscular, musculoskeletal, cardio-vascular & respiratory conditions related to immunological conditions, nutritional deficiencies, infectious diseases, & genetically transmitted conditions.
7. Acquire skill of clinical examination of a neonate / child with respect to neurological, Musculoskeletal & respiratory function.

Cognitive

- a. Be able to describe Aetiology, Pathophysiology, signs, Symptoms & Management of the various Neurological & Paediatric conditions.
- b. Acquire knowledge of various drugs used for each medical condition to understand its effects and its use during therapy.
- c. Be able to describe normal development & growth of a child, importance of Immunization, breast-feeding & psychological aspect of development.
- d. Be able to describe neuromuscular, musculoskeletal, cardio-vascular & respiratory conditions related to immunological conditions, nutritional deficiencies, infectious diseases, & genetically transmitted conditions.

Affective –

- a. Be able to develop behavioural skills and humanitarian approach while communicating with Patients, relatives, society at large and co-professionals
- b. Be able to develop bedside behaviour, respect & maintain patients' confidentiality
- c. To maintain proper communication with the model/ subjects for correct delivery of instruction during demonstration
- d. To follow the appropriate principle of the handling technique eg. Hand placement, stabilization, fixation etc.
- e. To perform safe, respectful and effective handling during demonstration.

Psychomotor -

- a. Acquire skill of history taking and clinical examination of Neurological & Paediatric conditions as a part of clinical teaching.
- b. Acquire skill of clinical examination of a neonate / child with respect to neurological, musculoskeletal & respiratory function.

SYLLABUS

Sr. No.	Topics	Didactic Hours	Clinical Hours	Total Hours
1	NEUROLOGY	25	10	35
	a. Introduction to Nervous System i. Applied anatomy ii. Applied physiology	1		
	b. Cerebro Vascular Accidents i. Thrombosis, Embolism, Haemorrhage ii. Level of Lesion & symptoms iii. Management	3	1	
	c. Extra Pyramidal lesions – Basal Ganglia i. Parkinsonism ii. Athetosis, Chorea, Dystonia	2	1	
	d. Differential diagnosis of muscle wasting i. Approach to neuropathies ii. Myopathies and neuromuscular junction disorders.	5	2	
	e. Disorders of Anterior Horn cell with differential diagnosis of Motor Neuron Disease, Spinal Muscular Atrophy (S.M.A.), Syringomyelia, Peroneal Muscular Atrophy, and Poliomyelitis.	2	2	
	f. Multiple Sclerosis	1		
	g. Infections of the nervous system: Encephalitis, Neurosyphilis, H.I.V. infection, Herpes, Meningitis, Tabes Dorsalis	2		
	h. Tetanus	1		
	i. Epilepsy	1		
	j. Alzheimer's Disease, Dementia	1		
	k. Disorders of cerebellar function	1	2	
	l. Disorders of cranial nerves & Special Senses	2		
	m. Disorders of Spinal cord i. Syndromes ii. Bladder dysfunction iii. Autonomic dysfunction	3	2	
2	PAEDIATRICS	20	10	30
	a. Normal intra-uterine development of foetus with special reference to Central Nervous System, Neuromuscular System, Cardiovascular Respiratory System	1		
	b. Normal development & growth	2		
	c. Immunization and breast-feeding	1	1	
	d. Sepsis, Prematurity, Asphyxia Hyper bilirubinemia and birth injuries	1		
	a. Cerebral Palsy- Medical Management including early intervention	2	2	

f. Developmental disorders associated with spinal cord: Spinal Dysraphism, Spina Bifida, Meningocele, Myelomeningocele, hydrocephalus	1	2
g. Common infections		
a) C.N.S.& Peripheral Nervous System	2	1
b) Typhoid, Rubella, Mumps, Measles, Diphtheria, Chickengunia, Malaria		
h. Epilepsy	1	
i. Mental Retardation and Down's Syndrome	1	1
j. Genetically transmitted neuro-muscular conditions	2	
k. Malnutrition and Vitamin deficiency conditions	1	
l. Juvenile R. A. & other Rheumatologic conditions of Musculoskeletal system	1	1
m. Common diseases of the Respiratory system: Asthma, Bronchitis, Bronchiectasis, T.B., Pneumonia, Lung collapse, Pleural effusion.	2	2
n. Respiratory distress in neonate	1	
o. Rheumatic & Congenital Heart disease	1	

CLINICAL (10 HRS)

1. History taking and general examination in neonate and child
2. Examination of neonate and neonatal reflexes.
3. Examination of the nervous system
4. Examination of respiratory system
5. Examination of cardiovascular system
6. Examination of musculoskeletal system
7. Ventilator care in neonate and child.

RECOMMENDED TEXT BOOKS:

1. Essentials of Paediatrics – O.P. Ghai-Inter Print publications
2. Clinical Paediatrics – Meherban Singh

SCHEME OF UNIVERSITY EXAMINATION

THEORY 40 MARKS + I.A. – 10 MARKS		Marks
** The question paper will give appropriate weightage to all the topics in the syllabus.		50
Section A .MCQs	Q-1 -MCQs – based on important area [1 x 10]	10
Section B- S.A.Q	Q-2 - Answer any THREE out of FOUR [3 x 5] * Based on topics – pediatrics	15
Section B- S.A.Q	Q-3 - Answer any THREE out of FOUR [3 x 5] * Based on topics – neurology	15
Total Marks		40

Clinical Examination (COLLEGE EXAMINATION)	Marks
Conducted at the end of Preliminary examination 1. Neurology -10Marks 2. Pediatrics -10Marks	20

INTERNAL ASSESSMENT:

1. One examination of Total 40 marks (Theory only)
2. Internal Assessment to be calculated out of 10marks
3. Internal assessment as per University pattern.

COMMUNITY HEALTH & SOCIOLOGY

TOTAL 60 HRS

3rd Year B.P.Th

(Didactic- 30 Hours + Visits -10 Hours) **Total 40hrs**

COURSE DESCRIPTION

The course is organized to introduce the concept of health care and management issues in Health Services. It will help them in assuming a leadership role in their profession and assume the responsibility of guidance. It will help them assume wider responsibilities at all levels of health services. It will help them in improving their performance through better understanding of the health services at all the levels of community.

OBJECTIVES:

At the end of the course, the candidate shall be able to understand the contents given in the syllabus.

Cognitive –

- a. Recall the details about communicable disease and non- communicable diseases.
- b. Describe about the various maternal and child health disorders within community.
- c. Detailed information regarding health care delivery systems, primary health care centres and National health policies.
- d. Analyse the influence of community, family and culture on health.

Affective –

- a. Ability to develop inter- relationship within society and community.
- b. Ability to develop knowledge about socio- economic and cultural environment in health and diseases.

Psychomotor -

- a. Describe concept, dimensions and determinants of health.
- b. Understand the importance of family planning, immunization programme and physical & Mental health.
- c. Describe the influence medical social worker in community.
- d. Describe the disciplines of sociology and theoretical perspective of sociology.

SYLLABUS

Sr. No.	Topics	Didactic Hours
1	GENERAL CONCEPTS & DETERMINANTS OF HEALTH & DISEASES:	04
	a. National & International Definition of Health, Role of Socio-Economic & Cultural Environment in Health & Disease.	1
	b. Epidemiology–Definition & scope, uses with relevance to Physiotherapy	1
	c. Environmental Hygiene including man & his surrounding, Occupational & Industrial hygiene, Village & Town Sanitation, Bacteriology of Water, Milk, & Food Hygiene.	2
2	NATIONAL PUBLIC HEALTH ADMINISTRATION	1
3	HEALTHCARE DELIVERY SYSTEM:	2
	a. Healthcare Delivery System of India	
	b. National Health Programs	
	c. Role of W.H.O.	
	d. Millennium Development Goals for All	
4	PRIMARY HEALTHCARE:	1
	a. Definition	
	b. Principles,	
	c. Elements & its application	
5	EPIDEMIOLOGY OF SOCIO-ECONOMICAL & CULTURAL ISSUES - related to morbidity in relation to the following vulnerable groups	6
	a. Women:	1
	i. Pregnant and lactating women, maternal health(ANC,PNC,INC)	
	ii. Perimenopausal women's health: physical & psychological	
	b. Infants: (Low Birth Weight, Breast feeding, Complimentary feeding, IYCN,IMNCI Vaccine preventable diseases, Immunization programs, Infant and childhood mortality)	2
	b. Children:	2
	Child health, Growth monitoring under five clinic, ICDS, PEM	
	d. School aged population health:	1
	Early detection and prevention of disabilities, behavioral problems	
6	DEMOGRAPHY AND OBJECTIVES OF NATIONAL FAMILY WELFARE PROGRAMMES AND NATIONAL POPULATION POLICY	2
7	COMMUNICABLE DISEASES	3
	An over-view [including prevention & control] T.B., H.I.V., Leprosy, Vector borne diseases- Malaria / Filariasis / Dengue/ Chikungunya/ Japanese encephalitis.	
8	NON COMMUNICABLE DISEASES:	2
	Diabetes Mellitus, Hypertension, Coronary Heart Disease / Obesity / Blindness/ Accidents /Stroke/ Cancer.	
9	NUTRITIONAL DISEASES:	4
	Malnutrition, Nutritional disorders and National nutrition programs, Osteomalacia, Rickets, Neuropathies due to Vitamin - deficiency, Skeletal Deformities.	
10	MENTAL HEALTH:	2
	a. Socio-economical & cultural aspects	
	b. Substance abuse and addiction –tobacco, alcohol and others	

11	OCCUPATIONAL HEALTH:	1
	Occupational diseases & hazards-definition, scope, prevention & legislations, Occupational lung diseases & Physical injuries/pains.	
12	GERIATRIC HEALTH:	1
	a. Physical, social, economical aspects	
	b. Osteoporosis, Malnutrition, Alzheimer's disease, Parkinson's disease	
13	HOSPITAL WASTE MANAGEMENT:	1
	Universal Safety Precautions, Immunization of health care providers including their vaccination.	
COMMUNITY VISITS : Community health centers: Urban & Rural – 10 Hours		

RECOMMENDED TEXT BOOKS

1. Park's Textbook of Preventive & Social Medicine - K. Park
2. Textbook of Preventive & Social Medicine - P. K. Mahajan & M. C. Gupta
3. Essential of Community Medicine – Baride and Kulkarni

B-SOCIOLOGY

Total 20hrs

COURSE DESCRIPTION:

This course covers the basic knowledge and concepts of sociology to with the aim to help them understand the impact of group, culture and environment on the behaviour and health of the patients. Make them realize the importance of the relationship of the physical therapist and the patient and the environment around them.

OBJECTIVES:

At the end of the course, the candidate shall be able to understand the contents given in the syllabus.

Cognitive –

- a. Analyse the influence of community, family and culture on health.
- b. Detailed information about the social groups, social problem, social control and population groups

Affective –

- a. Ability to develop inter- relationship socially.
- b. Ability to develop decision making in social factors affecting health status.
- c. Develop knowledge about sociology of brain death or organ donation.

Psychomotor –

- a. Describe concept, dimensions and determinants of health.
- b. Understand the importance of family, culture, socialization, urban and rural community in health.
- c. Describe the influence medical social worker in community.
- d. Describe the disciplines of sociology and theoretical perspective of sociology.

SYLLABUS

Sr. No.	Topics	Didactic Hours
1	INTRODUCTION: Definition & Relevance with Physiotherapy and social factors affecting Health status, Decision Making in taking treatment.	1
2	SOCIALIZATION: Definition, Influence, of Social Factors, on Personality, Socialization in the Hospital & Rehabilitation of the patients.	1
3	SOCIAL GROUPS: Concepts, Influence of formal & informal groups of Health & Diseases, Role of Primary & Secondary Groups in the Hospital & Rehabilitation Setting.	1
4	FAMILY: Influence on human personality, Role of family in health and disease	1
5	COMMUNITY ROLE: Rural & Urban communities in Public Health, Role of community in determining Beliefs, Practices & Home Remedies in treatment.	1
6	CULTURE: Component's impact on human behavior, Role of community in determining beliefs, practices and health seeking behavior and home remedies	1
7	SOCIAL CHANGE FACTORS: Human Adaptation, Stress, Deviance, Health Programme Role of Social Planning in the improvement of Health & in Rehabilitation.	1
8	SOCIAL CONTROL: Definition, Role of norms, Folkways, Customs, Morals, Religion, Law & other means of social controls in the regulation of Human Behavior, Social Deviance & Disease	1
9	POPULATION GROUPS : a. Children: Street children, Child labour, Juveniledelinquency b. Women's: Victims of domestic violence and addiction, C.S.W., physically and /or mentally challenged c. Role of NGOs, Social supports systems	5
10	Social Security & Social Legislation in relation to the Disabled	1
11	Role of a Medical Social Worker	1
12	Sociology of Brain Death and/ or Organ donation:	1
13	SOCIAL PROBLEMS: Population explosion, Poverty, Dowry, Illiteracy- Causes, prevention & Control measures.	4

RECOMMENDED TEXT BOOKS

1. An Introduction to Sociology – Sachdeva & Bhushan
2. Indian Social Problems - Madan, Vol-I-Madras

SCHEME OF UNIVERSITY EXAMINATION (THEORY ONLY)

THEORY		Marks
80 MARKS + I.A. – 20 MARKS		
* The question paper will give appropriate weightage to all the topics in the syllabus.		100
Section A- 2	Q. 1 MCQs – based on important area ➤ based on COMMUNITY HEALTH [1x10] ➤ based on SOCIOLOGY [1x10]	20
Section B	Q-2 SAQ - Answer any SIX out of SEVEN [6 x 5] Questions based on COMMUNITY HEALTH	30
	Q-3 SAQ – Answer any SIX out of SEVEN [6 x 5] Questions based on SOCIOLOGY	30
Total Marks		80

INTERNAL ASSESSMENT:

1. Two exams – Terminal and preliminary examination of 80 marks each TOTAL - 160marks
2. Internal Assessment to be calculated out of 20marks.
3. Internal assessment as per University pattern.

GYNAECOLOGY & OBSTETRICS
(COLLEGE EXAMINATION)

3rd Year B.P.Th

(Didactic - 20 hrs + Clinical – 10 hrs) **TOTAL 30 HRS**

COURSE DESCRIPTION:

This course intends to provide introduction to women's health which includes problems related to pregnancy, osteoporosis, and other disorders specific to women. Topics will focus on medical terminology, clinical examination, evaluation, comparing contemporary, traditional interventions and the impact of evolving technology in this area. It also emphasises on evaluation & medical treatment of pelvic floor dysfunctions.

Sr. No.	Topics	Didactic Hours	Practical/Lab Hours	Total Hours
1	PHYSIOLOGY OF PUBERTY & MENSTRUATION	2		2
2	PHYSIOLOGY OF PREGNANCY	3		3
3	PHYSIOLOGY OF LABOUR	4		4
4	POST NATAL PERIOD	2	5	7
5	INFERTILITY	1		1
6	URO-GENITAL DYSFUNCTION	3	1	4
7	GYNAECOLOGICAL SURGERIES	2	1	3
8	PRE, PERI & POST MENOPAUSE	2	1	3
9	PELVIC INFLAMMATORY DISEASES	1	2	3
	TOTAL	20	10	30

OBJECTIVES:

At the end of the course, student will be able to describe:

- a. Normal & abnormal physiological events, complications and management during Puberty.
- b. Normal and abnormal physiological events, complications and management of pregnancy (Pregnancy, Labour, Puerperium)
- c. Normal and abnormal physiological events, complications and management of menopause.
- d. Normal and abnormal physiological events, complications and management of uro- genital dysfunction.(Antenatal, Postnatal, during menopause)
- e. The student will be able to acquire the cognitive skill of clinical examination of the pelvic floor.

Cognitive –

- a. At the end of the course, the student will be able to describe the anatomy, Physiology of various obstetrics and Gynecological conditions relevant to Physiotherapy.
- b. Students should be able to describe the normal and abnormal physiological events during puberty, Pregnancy, labor, Puerperium & pre, peri & post menopause.

Affective –

- a) Be able to develop behavioral skills and humanitarian approach while communicating with patients, relatives, society at large and co-professionals.
- b) Be able to develop bedside behavior, respect & maintain patient's confidentiality.

Psychomotor –

- a) The student will be able to develop skills of the clinical examination of obstetrics & gynaecological condition.
- b) Will be able to demonstrate skill in evaluation of clinical examination of pelvic floor and urogenital dysfunction. (Antenatal, Postnatal, during menopause)

SYLLABUS

Sr. No.	Topics	Didactic Hours	Practical/Lab Hours	Total Hours
1	PHYSIOLOGY OF PUBERTY & MENSTRUATION: Abnormalities & common problems of Menstruation	2		2
2	PHYSIOLOGY OF PREGNANCY : a. Development of the foetus, Normal/ Abnormal / multiple gestations, b. Common Complications during pregnancy: i. Anaemia, ii. PIH iii. Eclampsia iv. Diabetes, v. Hepatitis, vi. TORCH infection or HIV	3		3
3	PHYSIOLOGY OF LABOUR a. Normal – Events of I, II & III Stages of labour b. Complications during labour & management c. Caesarean section- elective/ emergency & post operative care	4		4
4	POST NATAL PERIOD a. Puerperium & Lactation b. Complications of repeated childbearing with small gaps c. Methods of contraception	2	5	7
5	INFERTILITY a. Management with emphasis on PCOS/PCOD	1		1
6	URO-GENITAL DYSFUNCTION a. Uterine prolapse – Classification & Management (Conservative /Surgical) b. ii) Cystocele, Rectocele, Enterocoele, Urethrocele	3	1	4
7	GYNAECOLOGICAL SURGERIES (Pre and post surgical management)	2	2	4
8	PRE, PERI & POST MENOPAUSE a. Physiology b. Complications& c. Management	2	1	3
9	PELVIC INFLAMMATORY DISEASES with special emphasis to backache due to Gynecological / Obstetrical conditions	1	1	2

CLINICAL (10 hrs)

1. **Evaluation & presentation** of One case Each in:
 - a. Uro-genital dysfunction
 - b. Antenatal care
 - c. Postnatal care
 - d. Following normal labour
 - e. Following Caesarean section
 - f. Pelvic Inflammatory Diseases
2. **Observation**—One Normal & One Caesarean delivery & One Hysterectomy/Repair of the Uro-Genital Prolapse

RECOMMENDED TEXT BOOKS

1. Text book of Gynaecology – Datta – New Central Book Agency
2. Text book of Obstetrics --Datta – New Central Book Agency

SCHEME OF COLLEGE EXAMINATION (THEORY ONLY)

THEORY ONLY		Marks
50 marks [There shall be no LAQ in this paper]		
*Emphasis to be given to the Urogenital dysfunction / Obstetrical conditions / age related Gynaecological problems		50
Section -A	Q-1 MCQs – based on important area [20X1]	20
Section-B-	Q-2SAQ-to answer any THREE out of FOUR [3x5]	15
	Q-3 SAQ-to answer any THREE out of FOUR [3x5]	15
Total Marks		50
Should secure at least 50% of total marks for passing in the college level examination.		

DERMATOLOGY
(COLLEGE EXAMINATION)
3rd Year B.P.Th

TOTAL - 10 HRS

OBJECTIVES:

At the end of the course, the student will be able to describe the Patho physiology, Signs & Symptoms, Clinical Features, Examination & Management of Common Skin Conditions like Leprosy, Psoriasis, Bacterial & Fungal Infections of the skin, connective tissue disorder, hand eczema, drug reaction, cutaneous manifestation of HIV, & Sexually Transmitted Diseases

Cognitive –

- a. At the end of the course, the student will be able to describe the pathophysiology of skin conditions like leprosy, psoriasis, bacterial & fungal infection of skin, connective tissue disorders, eczema cutaneous manifestation of HIV & sexually transmitted diseases.
- b. Student should be able to describe signs & symptoms, clinical features of skin conditions & diseases.
- c. Student should be able to describe examination & management with drug reaction of all skin conditions like leprosy, psoriasis, bacterial & fungal infection of skin, connective tissue disorders, enema, cutenous, manifestation of HIV & sexually transmitted disorder.

Affective -

Student will be able to

- a. Develop behavioural skills & humanitarian approach while communication with patients, relatives, society & Co-professionals.
- b. Develop bedside behaviour, respect & maintain patient's confidentiality.
- c. To perform safe, respectful & confidentiality handling of the patient while performing assessment & management of skin disorder.

Psychomotor –

- a. The student will be able to develop psychomotor skills for physiotherapist patient relationship.
- b. Will be able to perform assessment of the skin disease with signs & symptoms & tests.
- c. Develop the skill to evaluate and make decisions for plan of management based on socio-cultural values & referral practice.

SYLLABUS

Sr. No.	Topics	Didactic Hours
1	Introduction to Dermatology, basic skin lesions & History taking	1
2	a. Skin infections (Part I) – Scabies / Pediculosis /Bacterial infections b. Skin infection (Part II) Viral / Fungal / Cutaneous T.B.	2
3	Connective tissue disorder-Scleroderma, S.L.E., Dermatomyositis, Morphia	1
4	a. Hand eczema, Psoriasis, Psoriatic arthritis, Reiter's Syndrome b. Cutaneous hyperplasia-Keloid, Hypertrophic scar, Corn, Callosity	1
5	Leprosy & Deformity	2
6	a. Cutaneous Manifestation of HIV b. Hyperhydrosis	1
7	a. Drug reaction b. Urticaria Genodermatosis -Epidermolysisbullosa c. Sexually Transmitted skin lesions PUVA Treatment	2
	TOTAL	10

RECOMMENDED TEXT BOOK

1. Textbook of dermatology – Dr. Khopkar

SCHEME OF COLLEGE EXAMINATION (THEORY ONLY)

THEORY		Marks
25 marks [There shall be no LAQ in this paper]		25
* The question paper will give appropriate weightage to all the topics in the syllabus.		
Section A-	Q-1MCQs – based on important area [10X1]	10
Section-B-	Q-2SAQ - Answer any THREE out of FOUR [3x5]	15
Total Marks		25
Should secure at least 50% of total marks for passing in the college level examination.		

FUNCTIONAL DIAGNOSIS & PHYSIOTHERAPEUTIC SKILLS

3rd Year B.P.Th

COURSE DESCRIPTION:

1. Functional Diagnosis & Physiotherapeutic Skills is a stepping stone to introduce students to actual concepts of PT assessment and later to the treatment concepts
2. Functional Diagnosis focuses on the assessment of all the body systems i.e. Musculoskeletal, Neurological and Cardiovascular-Respiratory in order to study the various impairments and their impact on activity and participation of the individual taking into consideration the contextual factors as well. It also emphasizes on the clinical reasoning of the underlying components of a universal evaluation tool (ICF) for a better understanding of the patient in a holistic manner. The student is also subjected to learn basics of manipulative, cardiovascular-respiratory and neuro-therapeutic skills on models so that he/she will be able to apply these principles eventually on patients.
3. The student will also gain a sound knowledge of electro-diagnosis, which is an integral part of Functional Diagnosis.

Sr. No.	Topic	Didactic Hours	Practical / Laboratory Skills Hours	Total Hours
1.	<u>SECTION-I</u> INTERNATIONAL CLASSIFICATION OF FUNCTION, DISABILITY & HEALTH (ICF)	05	-	005
2.	<u>SECTION-II</u> MUSCULOSKELETAL EVALUATION & MANIPULATIVE SKILLS	40	140	180
3.	<u>SECTION –III</u> CARDIO VASCULAR RESPIRATORY EVALUATION & RELATED SKILLS	40	055	095
4.	<u>SECTION – IV</u> NEUROTHERAPEUTIC EVALUATION & ELECTRO DIAGNOSIS	50	130	180
TOTAL		135	325	460

OBJECTIVES:

Cognitive:

At the end of the course, student will be able to:

1. Understand the use of ICF.
2. Acquire the knowledge of human growth and development from new life to birth and adulthood
3. Understand structure and function of nerve and muscle as a base for understanding the electro-diagnostic assessment.
4. Understand the use of appropriate tools or instruments of assessment in Musculoskeletal, Neurological and Cardio-vascular conditions.
5. Understand the theoretical basis and principles of manipulative skills, neuro therapeutic skills and skills of cardiopulmonary care and resuscitation
6. Document results of assessment to evaluate the patient from time to time.

Affective:

Student will be able to:

1. Select appropriate assessment techniques to facilitate safety, sensitive practices in patient comfort and effectiveness.
2. Demonstrate safe, respectful and effective performance of physical therapy handling techniques taking into account patient's clinical condition, need for privacy, resources available and the environment.
3. Follow the principles of appropriate handling technique that is draping, hand placement, body part positioning, manual techniques, lifting and transfer techniques.
4. Communicate with patients and their families/caregivers regarding the need and uses of various assessment techniques.

Psychomotor:

Student will be able to:

1. Perform assessment of measures of body structures and functions related to tissue mechanics.
2. Perform assessment of measures of body structures and functions related to motor control affecting activity and participation, quality of life and independence.
3. Perform the skill of electro-diagnosis (SD Curve) and observe skills of EMG and NCV studies, to understand the documentation of finding of these studies.
4. Interpretation and analysis of assessment and findings.
5. Demonstrate skills of manual therapy musculoskeletal, neuro therapeutics and cardiovascular and respiratory skills on models (Laboratory work).

SYLLABUS

Sr. No	Topic	Didactic Hours	Practical / Clinical Hours	Total Hours
1	SECTION I: Functional Diagnosis using International Classification of Function, Disability & Health (I.C.F.) (Applicable for all the Sections mentioned below)	5	-	5
2	SECTION II: MUSCULOSKELETAL EVALUATION AND MANIPULATIVE SKILLS (Didactic-40 + Practical 140= 180 Hours)			
	a. Assessment of Musculoskeletal System:	03	02	05
	i. Soft tissue flexibility ii. Joint mobility iii. Muscle strength & Endurance iv. Trick movements v. Sensations vi. Limb length vii. Abnormal posture viii. Gait deviations due to musculoskeletal dysfunction			
	b. Assessment of Joints with special tests:	10	08	18
	i. Cervical Spine: For aminor compression, Distraction, Shoulder depression, vertebral artery, Dizziness tests.			
	ii. Shoulder: Yergason's, Speed's, Drop- Arm, Supraspinatus, Impingement, Anterior & Posterior Apprehension, Allen, Adson.			
	iii. Elbow: Cozen's, Miller's, Tinel's sign			
	iv. Forearm, Wrist & Hand: Phalen's, Bunnel-Littler, Froment's sign			
	v. Lumbar Spine: Schober's, SLR, Prone Knee Bending, Slump.			
	vi. Sacro Iliac joint: Faber-Patrick's, Gaenslen, Gillet, March			
	vii. Hip: Nelaton's line, Bryant' striangle, Thomas, Ober's, Tripod sign, Trendlenburgsign			
	viii. Knee: Tests for collateral & cruciate ligaments (valgus, varus, Lachman, Sag, Drawer's, McMurray's, Fluctuation, Patellar tap, Q- angle, Clarke)			
	ix. Ankle & Foot: Anterior Drawer, Talar Tilt, Homan's & Moses (for D.V.T.)			
	c. Response of soft tissues to trauma :	02		02
	i. Trigger points ii. Spasm iii. Ligament Sprains iv. Muscle Strains			

	d. Basics in Manual Therapy and Applications with Clinical Reasoning:	05	05	10
	i. Assessment of Articular and extra-articular soft tissue status a) Contractile tissues b) Non contractile tissues ii. Examination of joint integrity a) Accessory movement b) End feel			
	e. Examination of musculoskeletal Dysfunction :	06	10	16
	i. Subjective examination ii. Objective examination iii. Special tests iv. Functional Diagnosis using ICF			
	f. Assessment of Pain:	04	05	09
	i. Types of pain: Somatic, Somatic referred, Neurogenic, Visceral ii. Subjective Assessment: a) Location, duration, progression, distribution, quality, diurnal variations, modifying factors. b) Severity, nature of pain, tissue irritability iii. Objective Measurement & Documentation- a) Visual Analogue Scale (V.A.S). b) Numerical Rating Scale(N.R.S.) c) McGill's modified questionnaire(including Body charts)	Assessment By V.A.S. & N.R.S.		
	g. Basic principles, indications, contra indications of mobilization skills for joints and Soft tissues:	10	110	120
	i. Maitland ii. Mulligan iii. Kaltenborn iv. Mckenzie v. Cyriax vi. Myofascial Release Technique vii. Muscle Energy Technique viii. Neural Tissue Mobilization (Neuro Dynamic Testing)	Practice of Manual Therapy in Kaltenborn, Maitland's, M.E.T. & Neural Mobilisation on extremities on Models only		
3	SECTION III: CARDIO VASCULAR RESPIRATORY EVALUATION & RELATED SKILLS (Didactic-40 + Practical 55= 95 Hour)			
	a. Assessment of Cardio Vascular & Pulmonary System:	25	25	50
	i. Vital parameters ii. Chest expansion iii. Symmetry of chest movement iv. Breath Holding Test v. Breath Sounds vi. Rate of Perceived Exertion(R.P.E.) vii. Energy Systems & Exercise Physiology	Identification of abnormal breath sounds, measurement of chest expansion, pattern of breathing, Vital parameters, Grades of Dyspnoea, Rate of Perceived Exertion,		

	a) Physiological response to immobility and activity. b) Aerobic & Anaerobic metabolisms c) Evaluation of Functional Capacity using sub maximal tests (Exercise Tolerance –Six Minutes Walk test) d) Theoretical bases of different protocols for maximal exercise testing (e.g.: Bruce Protocol, Modified Bruce Protocol, Balke) viii. Interpretation of reports – A.B.G., P.F.T., P.E.F.R., E.C.G.- (Normal & Variations due to Ischemia & Infarction), X-ray Chest, Biochemical Reports ix. Ankle Brachial Index x. Tests for Peripheral Arterial & Venous circulation	Ankle Brachial Index, Exercise Tolerance Testing – 6 Minutes Walk Test		
	b. Examination of Cardiovascular Respiratory Dysfunction	05	05	10
	i. Subjective examination ii. Objective examination iii. Special tests: Exercise Tolerance Testing – 6 Minutes Walk Test, Breath Holding Test, P.E.F.R. iv. Functional Diagnosis using I.C.F.			
	c. Assessment of Fitness & Health	10	25	35
	i. Screening for risk factors ii. Body composition-B.M.I., use of skin fold calipers, Girth measurement iii. Physical fitness: Flexibility ,Strength Endurance, Agility iv. Physical Activity Readiness Questionnaire v. Screening for health and fitness in childhood, adulthood and geriatric group vi. Quality of life vii. Principles & components of exercise prescription for healthy			
4	SECTION IV: NEUROTHERAPEUTIC EVALUATION & ELECTRO DIAGNOSIS (Didactic-50 + Practical 130= 180 Hours)			
	a. General principles of Human development & maturation	04	08	12

	<ul style="list-style-type: none"> i. Aspects <ul style="list-style-type: none"> a) Physical b) motor c) Sensory d) Cognitive & Perceptive e) Emotional f) Social ii. Factors influencing human development & growth: <ul style="list-style-type: none"> a) Biological b) Environmental inherited iii. Principles of maturation in general & anatomical directional pattern- <ul style="list-style-type: none"> a) Cephalo – caudal b) Proximo –distal c) Centro –lateral d) Mass to specific pattern e) Gross to fine motor development f) Reflex maturation tests iv. Development in specific fields – Oromotor development, sensory development, neurodevelopment of hand function. 			
	c. Basics in Neuro Therapeutics Skills & Applications with Clinical reasoning.	20	55	75
	<ul style="list-style-type: none"> i. Principles, Technique & Indications for Application of <ul style="list-style-type: none"> a) Bobath b) Neuro Developmental Technique c) Rood's Technique d) P.N.F. e) Brunnstrom, f) Techniques of Motor Relearning Program(M.R.P.) 	Therapeutic Skills of N.D.T., P.N.F., Bobath, Rood's Technique & Brunnstrom, M.R.P. on models only		
	d. Assessment of Movement Dysfunction <ul style="list-style-type: none"> i. Higher functions ii. Cranial nerves iii. Sensations , sensory organization & body image iv. Joint mobility v. Tone vi. Reflexes-Superficial & Deep vii. Voluntary control viii. Muscle Strength 	10	25	35

	ix. Co-ordination x. Balance xi. Endurance xii. Trick movements xiii. Limb Length xiv. Posture deviations xv. Gait deviations due to neurological dysfunction xvi. Functional Diagnosis using I.C.F. xvii. Interpretation of Electro diagnostic findings, routine Biochemical investigations			
	d. Electro diagnosis	10	30	40
	i. Physiology of resting membrane potential, action potential, Propagation of Action Potential ii. Physiology of muscle contraction iii. Motor unit & Recruitment pattern of motor unit – Size principle iv. Therapeutic current –as a tool for electro diagnosis. a) Electrophysiology of muscle & nerve b) Faradic Galvanic Test, Strength Duration Curve-tests should be carried out on relevant patients, c) Test for Sensory & Pain Threshold/ Pain Tolerance – technique only v. Electromyography a) Definition Instrumentation – Basic components like C.R.O., Filter, Amplifier & Preamplifier, and Types of Electrodes	Test for S.D.C. & Faradic/ Galvanic Test		
	b) Normal & Abnormal E.M.G. pattern i. At rest ii. on minimal contraction iii. on maximal contraction c) Nerve Conduction Studies i. Principles & Technique ii. F wave iii. H reflex			
	e. SCALES: Berg Balance, Modified Ashworth, F.I.M., Barthel Index, G.C.S., D.G.I., M.M.S., S.T.R.E.A.M. & A.S.I.A.	3	15	18

DOCUMENTATION:	
A	Documentation & Interpretation of following investigations: i. Electrodiagnosis : <u>2 each</u> a) S.D.C. b) Faradic Galvanic Test c) E.M.G. & N.C.V. Studies ii. Cardio Vascular & Pulmonary: (1 each) – A.B.G., P.F.T., E.C.G., X-ray Chest, Exercise Tolerance Test. iii. Neurological Scales (1 each) – Modified Ashworth, Berg’s Balance, D.G.I., Glasgow iv. Coma, Barthel Index, F.I.M.
B	Case presentation with Functional diagnosis : i. Total 12 cases ii. Three cases each in– a) Musculoskeletal b) Neurological c) Cardiovascular & Respiratory (<u>Including General Medical & Surgical Cases</u>) d) General & Community Health (<u>Including Fitness & Health, Women & Child Health, Occupation Health</u>)
To maintain the Record/ Journal of the term work & to get each assignment duly signed by respective Head of the Dept.	

RECOMMENDED TEXT BOOKS

1. Orthopedic Physical Examination –Magee
2. Clinical Electro Therapy – Nelson – Carrier --- Appleton & Lange publication
3. Clinical Electromyography – Mishra
4. Therapeutic Exercises - Colby & Kisner
5. Physical Rehabilitation, Assessment and treatment - Susan B O’s Sullivan
6. Neurological Examination – John Patten

RECOMMENDED REFERENCE BOOKS

1. Maitland's book on Manual therapy,
2. Mobilisation of Extremities – Kalten born
3. Clinical Electromyography –Kimura
4. Orthopaedic Physical therapy –Donnatelli
5. NAGS, SNAGS and MWMS - Brian Mulligan
6. Exercise & Heart –Wenger
7. Exercise Physiology – William DMC'Ardle
8. Facilitation techniques based on NDT principles - Lois Bly Allison White side
9. Movement therapy in Hemiplegia –Brunnstrom.
10. Cash textbook of Physiotherapy in neurological conditions – Patricia Downie
11. Physical Dysfunction – Trombly Scoot
12. Infant Motor Development- Jan Piek
13. Neurology & Neurosurgery Illustrated (3rd edition)-Bone & Callander
14. Neuro-developmental Therapy –Janett Howle

SCHEME OF UNIVERSITY EXAMINATION

THEORY		Marks
80 MARKS + I.A. – 20 MARKS		
* The question paper will give appropriate weightage to all the topics in the syllabus.		100
Section A-	<p>Q-1 -MCQs – based on important area [20 x 1]</p> <p><u>Section-I International Classification Of Function, Disability & Health (ICF) - 1 marks</u></p> <p><u>Section-Ii Musculoskeletal Evaluation & Manipulative Skills – 7 Marks</u></p> <p><u>Section –Iii Cardio Vascular Respiratory Evaluation & Related Skills – 5 marks</u></p> <p><u>Section – Iv Neurotherapeutic Evaluation &</u></p> <p>Electro Diagnosis – 7 marks</p>	20
Section B-	<p>Q-2 - Answer any SIX out of SEVEN (6 x 5]</p> <p><u>Section-I International Classification Of Function, Disability & Health (ICF) - 1 Questions</u></p> <p><u>Section-Ii Musculoskeletal Evaluation & Manipulative Skills – 2 Questions</u></p> <p><u>Section –Iii Cardio Vascular Respiratory Evaluation & Related Skills – 2Questions</u></p> <p><u>Section – Iv Neurotherapeutic Evaluation & Electro Diagnosis – 2 Questions</u></p>	30
	<p>Q.3 Long Answer Question (LAQ) (Answer any 1 out of 2) (1x15) = 15 marks</p> <p>1. Based on topics – Simulated traumatic case on musculoskeletal evaluation and manipulative skills on ICF pattern. Or</p> <p>1. Based on topics – Simulated non-traumatic case on musculoskeletal evaluation and manipulative skills on ICF pattern.</p> <p>Q.4 Long Answer Question (LAQ) (Answer any 1 out of 2) (1x15) = 15 marks</p> <p>1. Based on topics – Simulated case on Neurological evaluation on ICF pattern (Adult/Pediatric) Or</p> <p>1. Based on topics – Simulated case on Cardio – Vascular Respiratory evaluation on ICF pattern.</p>	30
Total Marks		80

Elective course system
Subject – ICF for Musculoskeletal conditions
Syllabus – Total 30 hours

Sr. No	Topic	Didactic Hours
01	An Overview of applied musculoskeletal Anatomy & Physiology.	01
02	Introduction to international classification of functioning disability & handicap (ICF)	02
03	History taking & evaluation of Musculoskeletal conditions	02

Clinical hours (Total 15 hours)

Independent Clinical Musculoskeletal evaluation & recording using ICF for following conditions each:

01	Dislocation & subluxation of upper limb	01
02	Dislocation & subluxation of Lower limb	01
03	Fracture of upper limb	01
04	Fracture of Lower limb	01
05	Deformities of spine	01
06	Deformities of lower limb	01
07	Deformities of upper limb	01
08	Degenerative & inflammatory conditions	01
09	Metabolic disorders	01
10	Tumors	01
11	PID / Backache / Gangrene	01
12	Nerve injuries	01
13	Vascular neurosis	01
14	Soft tissue & Injury for upper limb	01
15	Soft tissue & Injury for lower limb	01

Assignment : 10 hours

Texts Books:

1. Orthopedic physical Examination – Magee
2. Physical Rehabilitation, Assessment and treatment - Susan B O's Sullivan

Reference Book:

1. Clinical Electromyography –Kimura
2. Orthopedic Physical therapy –Donnatelli

Elective course system
3rd Year B.P.Th
Subject – ICF for Neurological Conditions
Syllabus: Total Hours 30

Sr. No	Topic	Didactic Hours
01	An Overview of applied Neuro Anatomy & Neuro Physiology.	01
02	Introduction to international classification of functioning disability & handicap (ICF)	02
03	History taking & evaluation of Neurological conditions	02

Clinical hours (total 15 hours)

Independent Clinical Neurological evaluation & recording using ICF for following conditions each:

Sr. No	Topic	Hours
01	Stroke	01
02	Acquired brain injuries	
03	Spinal cord injury	01
04	Peripheral nerve injuries	01
05	Vestibular disorders, 7 th cranial nerve injuries	01
06	Demyelinating diseases -Multiple sclerosis, & G.B. syndrome Myopathies,	01
07	Cerebellar disease and Ataxia	01
08	Extrapyramidal diseases – Parkinson's disease	01
09	Anterior horn cell disease - M.N.D, S.M.A.& Myopathies,	01
10	Disorders of A.N.S, Psychosomatic pain	01
11	Cerebral palsy	01
12	Spina bifida & hydrocephalus, Down's syndrome, DMD, SMA	01
13	Brachial plexus injuries – Erb's palsy & Klumpke's paralysis	01
14	Paediatric infectious disorders, extra pyramidal disorders	01
15	Post Poliomyelitis Residual Paralysis	01

Assignment: 10 hours

Recommended textbooks:

1. Physical rehabilitation assessment and treatment- Susan Bo's Sullivan
2. Neurological examination- John Patten

Reference books:

1. Movement therapy in Hemiplegia- Brunstrom
2. Cash textbook of Physiotherapy in neurological conditions- Patricia Downie

Subject – ICF for Cardio- Pulmonary
Syllabus – Total 30 hours

Sr. No	Topic	Didactic Hours
01	An Overview of applied Cardio-Pulmonary Anatomy & Physiology.	01
02	Introduction to international classification of functioning disability & handicap (ICF)	02
03	History taking & evaluation of Cardio-Pulmonary conditions	02

Clinical hours (total 15hours)

Independent Clinical Cardio-Pulmonary evaluation & recording using ICF for following conditions each:

Sr. No	Topics	Hours
01	Bronchial Asthma	01
02	Bronchiectasis	01
03	Chronic bronchitis	01
04	Emphysema	01
05	Pulmonary function testing	01
06	Arterial blood gases	01
07	Bronchial Hygiene	01
08	Humidification	01
09	Artificial Ventilation	01
10	Congenital Heart disease	01
11	Pre-Post Operative management of CABG	01
12	Myocardial Infarction	01
13	Pulmonary surgeries	01
14	Peripheral vascular diseases	01
15	Metabolic Syndrome	01

Assignment: 10 hours

Texts Books:

1. Cash's Textbook for Physiotherapists in Chest, Heart & Vascular Diseases
2. Cash's Textbook in General Medicine & Surgical conditions for Physiotherapists

Reference Book:

1. Cardiopulmonary Physical therapy – Irwin Scott
2. Physiotherapy in respiratory and cardiac problems – Pryor and prasad

Elective course system
3rd Year B.P.Th
Subject – ICF for Post Natal & Geriatric Conditions
Syllabus: Total Hours 30

Sr. No	Topic	Didactic Hours
01	An Overview of applied physiological changes occurring during pregnancy and age-related physiological changes in elderly.	01
02	Introduction to international classification of functioning disability & handicap (ICF)	02
03	History taking & evaluation of post- natal and geriatric conditions	02

Clinical hours (total 15 hours)

Independent Clinical community evaluation & recording using ICF for following conditions:

Sr. NO	TOPIC	Hours
01	Emergency LSCS	01
02	Elective LSCS	01
03	FTNVD	01
04	FTNVD (Instrument Assisted)	01
05	Post- Natal Complications (Depression, Infection etc.)	01
06	Urinary Incontinence Secondary to Multiparous pregnancies	01
07	Osteoarthritis in elderly	01
08	Adhesive Capsulitis in geriatric population	01
09	Rheumatoid Arthritis in elderly	01
10	Chronic Obstructive Pulmonary Disease and Asthma in geriatric	01
11	Alzheimer's disease in geriatric	01
12	Post- CABG in geriatric	01
13	Stroke/ Parkinson's Diseases in geriatric	01
14	Peripheral Neuropathy condition in elderly	01
15	Fear of Fall in geriatric population	01

Assignment: 10 hours

Texts Books:

1. Physiotherapy in Gynecological & Obstetrical conditions- Mantle
2. Text book of Community Health for Physiotherapists- Bhaskar Rao

Reference Book:

1. Musculoskeletal Disorders in work place: Principle & Practice – Nord in
2. Women's Health- Sapsford.
3. Mural K F – Ergonomics; Man in his working environment

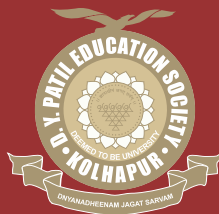
SCHEME OF EXAMINATION SATAGLANCE– III B.P.Th.

SUBJECTS	UNIVERSITY EXAMINATIONS						COLLEGELEVEL ELEXAMS (Theory only)
	Theory			Clinical / Practical			
	University	I.A.	Total	University	I.A.	Total	
Surgery-I (General Surgery + Cardio vascular & Thoracic Surgery + Plastic/ Reconstructive Surgery)	40	10	50	---	---	---	---
Surgery-II (Orthopaedics)	40	10	50	---	---	---	---
Medicine-I (Cardiovascular Respiratory Medicine +General Medicine + Gerontology)	40	10	50	---	---	---	---
Medicine-II (Neurology &Paediatrics)	40	10	50	---	---	---	---
Community Health & Sociology	80	20	100	---	---	---	---
Functional Diagnosis and Physiotherapeutic Skills	80	20	100	80	20	100	---
Gynecology& Obstetrics	---	---	---	---	---	---	50
Dermatology	---	---	---	---	---	---	25
Total	320	80	400	80	20	100	75

**Standard of Passing
B.P.Th**

1. Minimum pass marks shall be 50 % in each of the theory and practical papers separately
2. A Candidate must have minimum of 80 % attendance (irrespective of the kind of absence in theory and practical in each subject for appearing for examination
3. A Candidate must have 80 % Attendance in each of the practical areas before award of degree,
4. A Candidate has to pass in theory and practical exam separately in each of the paper
5. If candidate fails in either theory and practical paper he/she has to re-appear for both the papers (Theory and practical)
6. The candidate if fails in two subject he/she can be permitted for admission to next year
7. The candidate shall have to clear all the previous examination before appearing for final year examination
8. No institution shall be submit average internal marks of the test students more than 75% i.e. if 40 students are admitted in a course the average score of the 40 students shall not exceed 75% of total internal marks (Example of 5 students : A=25, B=20, C= 22, D=21, E=24 average score =89.6%
9. The maximum period to complete the course successfully should not exceed 8 years
10. Maximum number of candidates for practical examination should not exceed 20 per day
11. 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.
12. Who fails in any other subject/subjects of first year B.P.Th, has to put one academic term before he/she becomes eligible to appear for the next examination.
13. Should secure at least 35% of total marks in college exam in subject for which University exam not recommended.
14. 1st Year B.P.Th subjects need to be cleared before writing into 3rd year B.P.Th. 2nd year B.P.Th subject need to be cleared before writing into 4th year B.P.Th.
15. Grace marks will be given in only one subject student securing 39 marks in any one of the subject will be eligible for grace marks
16. Declaration of class will be as per University norms.
17. A candidate who has failed in their respective year university examination can carry over a maximum of two subjects to their next year, but will have to pass the subjects in the subsidiary examination before writing the examination of the next academic year.
18. A candidate who failed in 3 subject and more will not be allowed to keep the term.

19. Internship: There shall be six months of rotatory structured Internship after the final examination for candidate declared to have passed the examination in all the subjects. Internship should be done in a teaching hospital recognized by the university. No candidate shall be awarded degree certificate without successfully completing six months Internship. The internship should be rotatory and cover all clinical branches concerned with Physiotherapy. End of the posting oral evaluation will be done.
20. Project work: Interns has to take up a project work in the internship period. The project work shall be termed as Short Project. The protocol approval shall be obtained in the 1st month of Internship; data shall be collected in the next 3 months after the approval of the protocol and project shall be submitted at the mid of 6th month. Submission of article to the journal shall be completed by end of 6th month. The written text of the project shall be of minimum 50 pages excluding references, tables, questionnaires and other annexure. It should be neatly typed in double line spacing on one side of paper (A4 size, 8.27" x 11.69") times new Roman, 12 font and bound properly. Spiral binding should be avoided. The intern shall provide plagiarism declaration in his/her project. The guide, head of the institution shall certify the written text of the project. Three copies of project work thus prepared shall be submitted to the head of the institution. The completion certificate of internship will be issued only after completing the research project.



**D. Y. Patil Education Society
(Deemed to be University), Kolhapur**

Re-accredited by NAAC with 'A' Grade