Bachelor of Physiotherapy

Program Code	Exam Code	Course Name	Subject Name	Sub/Course Code
16	1601	Ist B.P.Th.	Human Anatomy	160101
			Human Physiology	160102
			Biochemistry	160103
			Fundamentals of Kinesiology & Kinesiotherapy	160104
			Fundamentals of Electrotherapy	160105
	1602	IInd B.P.Th.	Pathology & Microbiology	160201
			Pharmacology	160202
			Psychiatry & Psychology	160203
			Kinesiology	160204
			Kinesiotherapy	160205
			Electrotherapy	160206
	1603	IIIrd 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	IVth B.P.Th.	Musculoskeletal Physiotherapy	160401
			Neuro Physiotherapy	460402
			Cardio-Vascular & Respiratory Physiotherapy	160403
			Community Physiotherapy	160404

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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 sequelae 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 behaviors 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.

Vision: " Promote excellent Physiotherapy education and train General and Specialized physiotherapy professionals"

MISSION:

- Excellent Physiotherapy education and service research for community development.
- Promote community oriented Physiotherapy.
- Promote Research and quality management in Physiotherapy

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, psychomotor, and affective 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).

2. **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 apply 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 cardiopulmonary resuscitation

3. **Fine motor/hand skills:**

a. 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

clinicalsettings.

b. Safely apply and adjust the dials or controls of therapeuticmodalities.

c. Safely and effectively position hands and apply mobilization and therapeutictechniques.

4. Visual acuity to:

a. Read written and illustrated material in the English language, in the form of lecture handouts, textbooks, literature and patient'schart.

b. Observe active demonstrations in theclassroom.

c. Visualize training videos, projected slides/overheads, X-ray pictures, and notes written on ablackboard/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 movementdysfunctions.

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, withdrawaletc.

5. Auditory acuity to:

a. Hear lectures and discussion in an academic and clinicalsetting.

b. Distinguish between normal and abnormal breathing, lung and heart sounds using a stethoscope.

6. 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 clinicalsettings.

b. Receive and interpret written communication in both academic and clinical settings in a timelymanner.

c. Receive and send verbal communication in life threatening situations in a timely manner within the acceptable norms of clinicalsettings.

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 careteam.

7. **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 personalvalues.
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 ofhealth.

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 clinicalfacility and in any class where patients arepresent.

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, andBiochemistry.
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 mode

III B.P.Th.

a. Students acquire knowledge of all the clinical subjects like Orthopaedics, General Surgery, Medicine, Neurology, Paediatrics, Dermatology & Gynecology & Obstetrics, Community Medicine andSociology.
b. Students will acquire knowledge about the principles of International Classification of Functioning (I.C.F.) and its applicability in context to movementdysfunctions.
c. Students will learn the physiotherapeutic evaluation skills including electrodiagnosis 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 neurodevelopmental 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 studiedseparately.
e. Students will also acquire knowledge of Research Methodology and Biostatistics and apply the knowledge in project work in communityphysiotherapy.

INTERNSHIP

a. 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 fouryears.
b. Those candidates declared to have passed the final year examination in all subjects shall be eligible forinternship.
c. 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 ofinternship.
d. The Internship will be rotatory and shall cover clinical branches concerned with Physiotherapy such as Orthopaedics, Cardiovascular & Respiratory including ICU, Neurology & Neurosurgery Paediatrics, General Medicine, Surgery, Obstetrics and Gynecology both inpatient and outpatientservices.
e. 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 Medicine & Sociology	060
7	Obstetrics & Gynaecology	030
8	Dermatology	010
	PHYSIOTHERAPY	
9	Functional Diagnosis & Physiotherapeutic Skills	460
10	Seminar (including I.C.F.)	090
11	Supervised clinical practice	500
TOTAL		**1400**

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 & Paediatrics)	045	020	065
6	Community Medicine & Sociology	050	010	060
7	Obstetrics & Gynaecology *(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 Behaviors 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 ofethics.
b. Will acquire bedside manners and communication skills in relation with patients, peers, seniors and otherprofessionals.

Psychomotor:

a. Be able to develop psychomotor skills for physiotherapist-patientrelationship.
b. Skill to evaluate and make decision for plan of management based on sociocultutural values and referralpractice.

Affective:

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

SYLLABUS

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

SURGERY-I

(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 & Anaesthesia ingeneral
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
3. Describe pre-operative evaluation, surgical indications in various surgical approaches, management and post operative care in above mentioned areas with possible complications.
4. Be able to read & interpret findings of the relevantinvestigations

SYLLABUS

Sr. No.	Topics	Didactic Hours	Clinical Hours	Total Hours
1	**GENERAL SURGERY**	**20**	**10**	**30**
	a. GENERAL: i. Anaesthesia types, Effect, indications and contraindications and common postoperativecomplications ii. Haemorrhage and Shock,classification, description andtreatment iii. Water & Electrolyteimbalance 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 feacal fistula), minimally invasivesurgery. vii. Mastectomy and oncosurgery– approach, complications &management viii. Amputation – types, sites, complications &management ix. Burns – causes,complications, classification &management x. Varicose veins andPVD xi. Hernias-surgery, precautionsand complications xii. Transplantation approach, riskproblems related to donor and receipient, precautions.	12	10	
	b. NEUROSURGERY i. Head Injury –management ii. Intra cranial & Spinaltumors iii. Intracranial Aneurysm andAV malformation iv. Post operative Neurosurgicalcare	4		

	c. E.N.T.Surgery i. Tracheostomy – indications, surgical approach &management ii. Surgical procedures in VIIth cranialnerve palsy iii. Vertigo	3		
	d. Ophthalmic Surgery Surgeries for IIIrd, IVth, VIth Cranial Nerve palsy	1		
2	**CARDIO VASCULAR AND THORACIC SURGERY**	**10**	**5**	**15**
	a. Introduction, Cardiorespiratory 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 andtubes. b. Brief description of indications, surgery, complications for following surgery: i. Surgeries ofthorax i. Surgeries of thelung ii. Surgeries of pleura andpericardium iii. Surgery for coronary arterydisease iv. Valvularsurgeries v. Surgery for Congenital HeartDisease vi. Peripheral arterial disorder,Burger's disease, Raeynaud's disease and Aneurysm vii. 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 andpostoperative care c. Tendon transfers, with special emphasis to hand, foot & facial paralysis, & repair of Flexor & Extensor TendonInjuries d. Keloid & Hypertrophied scarmanagement e. Reconstructive surgery of peripheral nerves f. Micro vascular surgery-reimplantation andrevascularization			

CLINICAL (10 hrs)

1. Evaluation / presentation and recording of one case eachin:
   a) Burns
   b) Wound &ulcer
   c) Head injury
   d) Peripheral vascularcondition
   e) Post radicalmastectomy
   f) Post thoracicsurgery
   g) Post abdominalsurgery
   h) Plasticsurgery

2. Auscultation & its interpretation with special emphasis to Reading & interpretation ofthe X-raychest.

RECOMMENDED TEXT BOOKS

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

SCHEME OF UNIVERSITY EXAMINATION

THEORY 40 MARKS + I.A. – 10 MARKS * The question paper will give appropriate weightage to all the topics in the syllabus.		**Marks** **50**
Section A –M.C.Qs.	Q-1 MCQs – based on **MUST KNOW** area [1 x 10]	**10**
Section B- S.A.Q.	Q-2 - Answer any THREE outof FOUR [3 x 5] * Based on topics – General surgery & plastic surgery	**15**
	Q-3 - Answer any THREE outof FOUR [3 x 5] * Based on topics – Cardiovascular & thoracic surgery	**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 (Theoryonly)**
2. **Internal Assessment to be calculated out of 10marks**
3. **Internal assessment as per Universitypattern.**

SURGERY-II
(ORTHOPAEDICS)

(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, Pathophysiology, 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-operativecases.

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 Orthopaedic conditions.

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 managementof i. Fracture of the UpperExtremity ii. Fracture of the LowerExtremity iii. Fracture of the vertebralcolumn, thorax andpelvis iv. Emergency care and firstaid.			
2	**DISLOCATIONS & SUBLUXATIONS**	**4**	**2**	6
	a. Definition, General description, Principles of general description and management of traumatic dislocation and subluxation of commonjoints. i. Shoulderjoint ii. Acromioclavicularjoint iii. Elbow joint iv. Hip joint v. Kneejoint			
3	**SOFT TISSUE AND TRAUMATIC INJURIES**	**4**	**2**	**6**
	a. Introduction ,Anatomy & physiology general description, grade of injury and management of injuriesof i. Ligaments, Bursae,Fascia ii. Muscles &Tendons iii. Muscles and tendons injuries of upper and lowerlimb b. Cervicolumbar injuries ,Whiplash of the cervicalspine c. Crush injuries of hand &foot			
4	**DEFORMITIES AND ANOMALIES**	**11**	**3**	**14**
	a. Definition ,Causes , Classification , Congenital and acquired deformities Physical and clinical andradiological features,Complications b. Principles of medical and surgical management of thedeformities			

	c. General description offollowing deformities: i. Deformities of thespine: a) Scoliosis b) Kyphosis c) Lordosis d) Flatback e) Torticollis ii. Deformities of the lowerlimb: a) C.D.H., coxa vara , coxa valga , anteversion,Retroversion b) Genu valgum, Genu varum, Genu recurvatum, C.D.K. c) Talipes calcaneous equinus, varus &valgus d) Pes cavus, Pesplanus e) Hallux valgus & varus, Hallux rigidus and hammertoe iii. Deformities of Shoulder & Upperlimb a) Sprengel's shoulder, Cubitusvarus, Cubitus valgus b) Dupuytren'scontracture		
5	**DEGENERATIVE AND INFLAMMATORY CONDITIONS**	**6**	**3**
	a. Osteo-orthosis/Arthritis b. Spondylosis c. Spondylolysis andlisthesis d. Pyogenic arthritis e. Rheumatoidarthritis f. Juvenilearthritis g. Tuberculousarthritis h. Goutyarthritis i. Haemophilicarthritis j. Neuropathic arthritis k. Ankylosingspondylitis l. Psoriaticarthritis		

6	**MANAGEMENT OF METABOLIC DISORDERS**	**2**	**2**	**4**
	a. Osteoporosis b. Osteomalacia &Rickets			
7	**GENERAL ORTHOPAEDIC DISORDERS**	**5**	**3**	**8**
	a. Carpel tunnel syndrome/Entrapment nerveinjuries b. Compartment syndrome, Ischemic contracture c. Avascular necrosis of bone in adult and children i. Gangrene ii. Backache/P.I.D.			
8	**TUMORS**	**2**	**2**	**4**
	i. Classification, Principles of general management ii. General description of benign and malignant tumours ofmusculoskeletal system			

CLINICAL (20 HRS)

3. Independent clinical orthopaedic evaluation presentation & recordingof:
   a) One acute soft tissue lesion (including nerveinjury)
   b) Two cases of degenerative arthritis of extremity joint (One each in Upper Extremity and One LowerExtremity)
   c) Two cases of spine (one P.I.D., onetraumatic)
   d) One post operative case of fractures of extremities with fixation/ replacementknee/ hip
   e) One paraplegia /quadriplegia

RECOMMENDED TEXT BOOKS

1. Outline of Fractures–Adams
2. Outline ofOrthopedics.--Adams
3. Apley's systems of orthopedics and fractures by Louis Solomon, 9thedition

SCHEME OF UNIVERSITY EXAMINATION

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

(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 Deficiencyconditions.
2. Be able to describe Etiology, Pathophysiology, Signs & Symptoms, Clinical Evaluation& Management of the various Rheumatologic Cardiovascular & RespiratoryConditions.
3. Acquire skill of history taking and clinical examination of Musculoskeletal, Respiratory, Cardio-vascular & Neurological System as a part of clinicalteaching.
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, Neurological & Rheumatologicalconditions.
6. Be able to describe the principles of Management at the Intensive CareUnit.
7. Be able to acquire the skills of Basic LifeSupport.
8. Acquire knowledge of various drugs used for each medical condition to understand its effects and its use duringtherapy.

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. CardiacConditions- a) I.H.D. (Angina, Myocardialinfarction) b) R.H.D. c) InfectiveEndocarditis d) Cardio myopathy e) Heart Failure	4		
	iii. Valvular Heart Disease a) Congenital b) Acquired	2		
	iv. Congenital HeartDisease	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 :	**17**	**3**	
	i. Common Infectious diseases likeTuberculosis, Pneumonia, Lung Abscess, andBronchiectasis.	3		
	ii. Diseases of Pleura like Pleural Effusion, Pneumothorax, Hydropneumothorax, and Empyema.	2		
	iii. ILD & Occupational lung diseases likeSilicosis, Asbestosis, Pneumoconiosis,Brucellosis,Farmer's Lung.	2		
	iv. Obstructive Airway Diseases (C.O.P.D. with Cor Pulmonale, Pulmonary Hypertension,Bronchial Asthma & Cystic Fibrosis)	3		
	v. Intensive CareUnit a. Infrastructure b. Instrumentation. c. Mechanical Ventilation (settings & monitoring) d. Assessment, monitoring & management of patient inI.C.U.	3		
	vi. Basic Life Support :Introduction & Demonstration	2		
	vii. Investigation: Normal &Abnormal 1. Chest X-ray 2. Blood GasAnalysis 3. PFT(Observation of conduction onpatient)	2		
2	**GENERAL MEDICINE, RHEUMATOLOGY & GERENTOLOGY:**	**15**	**05**	**20**

	a. GeneralMedicine i. Disorders of Endocrine system (Diabetes) Introduction, pathophysiology, types, role of physical activity, complications of diabetes (autonomic neuropathy, myopathy, weakness) & medications. ii. Thyroid, Pituitary & Adrenalconditions Cushing'ssyndrome iii. Obesity iv. Nutrition Deficiency Disease (Rickets, Vit. E, Vit. D, Vit. B , micro nutrients,(Zn,Se) v. Intoxication (Drug abuse; Alcohol,smoking, cocainedependence)	7	2	
	b. RheumatologicalConditions i. RheumatoidArthritis ii. S LE iii. S SA iv. Gout v. Polymyositis vi. Fibromyalgia vii. Ankylosingspondylitis	5	2	
	c. GeriatricConditions i. Aging Process (physiological changes dueto aging) ii. CVS & RScomplications 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 Eachin:
   a. Musculardisorders
   b. RespiratoryConditions
   c. Cardio VascularConditions
   d. Degenerative / RheumatologicalCondition
   e. Obesity
   f. Nutritionaldisorders
   g. Diabetes Mellitus & Metabolic bonedisorders.

SCHEME OF UNIVERSITY EXAMINATION

THEORY 40 MARKS + I.A. – 10 MARKS * The question paper will give appropriate weightage to all the topics in the syllabus.		**Marks** **50**
Section A .MCQs	Q-1 -MCQs – based on MUST KNOW area [1 x 10]	**10**
Section B- S.A.Q	Q-2 - Answer any THREE outof FOUR [3 x 5] * Based on topics – **general medicine, rheumatology & gerontology**	**15**
Section B- S.A.Q	Q-3 - Answer any THREE outof 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. GeneralMedicine, Rheumatology &Gerontology -10 Marks 2. Cardio-Vascular & Respiratory Medicine -10Marks	**20**

INTERNAL ASSESSMENT:

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

MEDICINE-II

(Neurology & Paediatrics)

(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 & Paediatric 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**
TOTAL		**45**	**20**	**65**

OBJECTIVES:

At the end of the course, the candidate will:

1. BeabletodescribeAetiology,Pathophysiology,signs&Symptoms&Managementof the various Neurological &Paediatric conditions.
2. Acquire skill of history taking and clinical examination of Neurological&Paediatric conditions as a part of clinicalteaching.
3. Acquire knowledge of various drugs used for each medical condition to understandits effects and its use duringtherapy.
4. Acquire knowledge in brief about intra-uterine development of thefoetus.
5. Be able to describe normal development & growth of a child, importance of Immunization, breast-feeding & psychological aspect ofdevelopment.
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 toneurological, musculoskeletal & respiratory function.

SYLLABUS

Sr. No.	Topics	Didactic Hours	Clinical Hours	Total Hours
1	**NEUROLOGY**	**25**	**10**	**35**
	a. Introduction to NervousSystem i. Applied anatomy ii. Applied physiology	1		
	b. Cerebro VascularAccidents 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 toneuropathies ii. Myopathies and neuromuscular junctiondisorders.	5	2	
	e. Disorders of Anterior Horn cell with differential diagnosis of Motor Neuron Disease, S.M.A., Syringomyelia, Peroneal Muscular Atrophy, and Poliomyelitis.	2	2	
	f. MultipleSclerosis	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. Bladderdysfunction iii. Autonomicdysfunction	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 Hyperbilirubinemia and birth injuries	1		
	e. 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 NervousSystem b) Typhoid, Rubella, Mumps, Measles, Diphtheria, Chicken gunia,Malaria	2	1
h. Epilepsy	1	
i. Mental Retardation and Down's Syndrome	1	1
j. Genetically transmittedneuro-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 andchild
2. Examination of neonate and neonatalreflexes.
3. Examination of the nervoussystem
4. Examination of respiratorysystem
5. Examination of cardiovascularsystem
6. Examination of musculoskeletalsystem
7. Ventilatory care in neonate andchild.

RECOMMONDED TEXT BOOKS:

1. Essentials of Paediatrics – O.P. Ghai-Inter Printpublications
2. Clinical Paediatrics - MeherbanSingh

SCHEME OF UNIVERSITY EXAMINATION

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

AC COMMUNITY HEALTH

(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**.**

SYLLABUS

Sr. No.	Topics	Didactic Hours
1	**GENERAL CONCEPTS & DETERMINANTS OF HEALTH & DISEASES:**	**04**
	a. National&InternationalDefinitionofHealth,Roleof Socio-Economic&CulturalEnvironmentinHealth&Disease. b. Epidemiology–Definition&scope,useswithrelevanceto physiotherapy c. Environmental Hygiene including man & hissurrounding, Occupational & Industrial hygiene, Village & Town Sanitation, Bacteriology of Water, Milk, & Food Hygiene.	1 1 2
2	**NATIONAL PUBLIC HEALTH ADMINISTRATION**	**1**
3	**HEALTHCARE DELIVERY SYSTEM:**	**2**
	a. Healthcare Delivery System ofIndia b. National HealthProgrammes c. Role ofW.H.O. d. Millennium Development Goals forAll	
4	**PRIMARY HEALTHCARE:**	**1**
	a. Definition b. Principles, c. Elements & itsapplication	
5	**EPIDEMIOLOGY OF SOCIO-ECONOMICAL & CULTURAL ISSUES** - related to morbidity in relation to the following vulnerable groups.	**6**
	a. Women: i. Pregnant and lactating women, maternal health(ANC,PNC,INC) ii. Perimenopausal women's' health: physical &psychological	1

	b. Infants:(LowBirthWeight,Breastfeeding,Complimentaryfeeding, IYCN,IMNCI Vaccine preventable diseases,Immunization programmes, Infant and childhood mortality)	2
	c. Children: Child health, Growth monitoring under five clinic, ICDS, PEM	2
	d. School aged populationhealth: Early detection and prevention of disabilities, behavioral problems	1
6	**DEMOGRAPHYANDOBJECTIVESOFNATIONALFAMILY 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, Nutrional disorders and National nutrition programmes, Osteomalacia, Rickets, Neuropathies due to Vitamin - deficiency, Skeletal Deformities.	
10	**MENTAL HEALTH:**	**2**
	a. Socio-economical & culturalaspects b. Substance abuse and addiction –tobacco, alcohol andothers	
11	**OCCUPATIONAL HEALTH:**	**1**
	Occupationaldiseases&hazards-definition,scope,prevention& legislations,Occupationallungdiseases&Physicalinjuries/pains.	
12	**GERIATRIC HEALTH:**	**1**
	a. Physical, social, economicalaspects 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**		

RECOMMONDED 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 andKulkarni

B-SOCIOLOGY

Total 20 hrs

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.

SYLLABUS

Sr. No.	Topics	Didactic Hours
1	**INTRODUCTION:**	1
	Definition & Relevance with Physiotherapy and social factors affecting Health status, Decision Making in taking treatment.	
2	**SOCIALIZATION:**	1
	Definition, Influence, of Social Factors, on Personality, Socialization in the Hospital & Rehabilitation of the patients.	
3	**SOCIAL GROUPS:**	1
	Concepts, Influence of formal & informal groups of Health & Diseases, Role of Primary & Secondary Groups in the Hospital & Rehabilitation Setting.	
4	**FAMILY:**	1
	Influence on human personality, Role of family in health and disease	
5	**COMMUNITY ROLE:**	1
	Rural & Urban communities in Public Health, Role of community in determining Beliefs, Practices & Home Remedies in Treatment.	
6	**CULTURE:**	1
	Component's impact on human behavior, Role of community in determining beliefs, practices and health seeking behavior and home remedies	
7	**SOCIAL CHANGE FACTORS:**	1
	Human Adaptation, Stress, Deviance, Health Programme Role of Social Planning in the improvement of Health & in Rehabilitation.	
8	**SOCIAL CONTROL:**	1
	Definition,Roleofnorms,Folkways,Customs,Morals,Religion,Law & other means of social controls in theregulation of Human Behavior, Social Deviance & Disease	
9	**POPULATION GROUPS :**	5

	a. Children: Street children, Child labour, Juveniledelinquency b. Women's: Victims of domestic violence and addiction,C.S.W., physically and /or mentallychallenged c. Role of NGOs, Social supportsystems	
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:**	**4**
	Population explosion, Poverty, Dowry, Illiteracy- Causes, prevention & Control measures.	

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 80 MARKS + I.A. – 20 MARKS * The question paper will give appropriate weightage to all the topics in the syllabus.		**Marks** **100**
Section A- 2	Q. 1 MCQs – based on **MUST KNOW** area ➢ based on **COMMUNITY MEDICINE**[1x10] ➢ basedon**SOCIOLOGY** [1x10]	**20**
Section B	Q-2 SAQ - Answer any SIX outof SEVEN [6 x 5] Questions based on **COMMUNITY MEDICINE**	**30**
	Q-3 SAQ – Answer any SIX outof 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 Universitypattern**

GYNAECOLOGY & OBSTETRICS

(COLLEGE EXAMINATION)

(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, duringmenopause)

e) The student will be able to acquire the cognitive skill of clinical examination of the pelvicfloor.

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 :**	3		3
	a. Development of the foetus,Normal/ Abnormal / multiplegestations, b. Common Complicationsduring pregnancy: i. Anaemia, ii. P IH iii. Eclampsia iv. Diabetes, v. Hepatitis, vi. TORCH infection orHIV			
3	**PHYSIOLOGY OF LABOUR**	4		4
	a. Normal – Events of Ist, IInd &IIIrd Stages oflabour b. Complications during labour &management c. Caesarean section- elective/ emergency & post operativecare			
4	**POST NATAL PERIOD**	2	5	7
	a. Puerperium &Lactation b. Complications of repeated childbearing with smallgaps c. Methods ofcontraception			
5	**INFERTILITY**	1		1
	a. Management with emphasis on PCOS/PCOD			
6	**URO-GENITAL DYSFUNCTION**	3	1	4
	a. Uterine prolapse – Classification & Management (Conservative /Surgical) b. ii) Cystocoele, Rectocoele,Enterocoele, Urethrocoele			
7	**GYNAECOLOGICAL SURGERIES** (Pre and post surgical management)	2	2	4
8	**PRE, PERI & POST MENOPAUSE**	2	1	3
	a. Physiology b. Complications& c. Management			
9	**PELVIC INFLAMMATORY DISEASES** with special emphasis to backache due to Gynaecological / Obstetrical conditions	1	1	2

CLINICAL (10 hrs)

1. **Evaluation & presentation** of One case Eachin:
   a) Uro-genitaldysfunction
   b) Antenatalcare
   c) Postnatalcare
   d) Following normallabour
   e) Following Caesareansection
   f) Pelvic InflammatoryDiseases

2. **Observation**–OneNormal&OneCaesareandelivery&OneHysterectomy/Repairofthe Uro-genitalProlapse

RECOMMENDED TEXT BOOKS

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

SCHEME OF COLLEGE EXAMINATION (THEORY ONLY)

THEORY ONLY 50 marks [There shall be no LAQ in this paper] *Emphasis to be given to the Urogenital dysfunction / Obstetrical conditions / age related Gynaecological problems		Marks **50**
Section -A	Q-1 MCQs – based on **MUSTKNOW**area [20X1]	**20**
Section-B-	Q-2SAQ-to answer any THREE outofFOUR [3x5]	**15**
	Q-3 SAQ-to answer any THREE outofFOUR [3x5]	**15**
Total Marks		**50**
Passing in the exam is Mandatory Grades: A+ = 75% & above, A = 66 to 74.5%, B + = 55 to 65 %, B = 50 to 54.5%, C = less than50%.		

DERMATOLOGY

(COLLEGE EXAMINATION)

TOTAL - 10 HRS

OBJECTIVES:

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

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 / CutaneousT.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 ofHIV b. Hyperhydrosis	1
7	a. Drugreaction b. Urticaria Genodermatosis -Epidermolysis bullosa c. Sexually Transmitted skinlesions PUVATreatment	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] * The question paper will give appropriate weightage to all the topics in the syllabus.		**25**
Section A-	Q-1MCQs – based on MUSTKNOWarea [10X1]	**10**
Section-B-	Q-2SAQ - Answer any THREE outofFOUR [3x5]	**15**
Total Marks		**25**

Passing in the exam is Mandatory

Grades: A+ = 75% & above, A = 66 to 74.5%, B + = 55 to 65 %, B = 50 to 54.5%, C = less than50%.

FUNCTIONAL DIAGNOSIS & PHYSIOTHERAPEUTIC SKILLS

(Didactic - 135 hrs + Clinical – 325 hrs) **TOTAL 460 HRS**

COURSE DESCRIPTION:

1. Functional Diagnosis & Physiotherapeutic Skills is a stepping stone to introduce students to actual concepts of PT assessment and later to the treatmentconcepts
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 onpatients.
3. The student will also gain a sound knowledge of electro-diagnosis, which is an integral part of FunctionalDiagnosis.

Sr. No.	Topic	Didactic Hours	Practical / Laboratory SkillsHours	Total Hours
1.	SECTION-I INTERNATIONAL CLASSIFICATION OF FUNCTION, DISABILITY & HEALTH (ICF)	05	-	005
2.	SECTION-II MUSCULOSKELETAL EVALUATION & MANIPULATIVE SKILLS	40	140	180
3.	SECTION –III CARDIO VASCULAR RESPIRATORY EVALUATION & RELATED SKILLS	40	055	095
4.	SECTION – IV 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 ofICF.
2. Acquire the knowledge of human growth and development from new life to birthand adulthood
3. Understand structure and function of nerve and muscle as a base forunderstanding the electro-diagnosticassessment.
4. Understand the use of appropriate tools or instruments of assessment in Musculoskeletal, Neurological and Cardio-vascularconditions.
5. Understand the theoretical basis and principles of manipulative skills, neurotherapeutic skills and skills of cardiopulmonary care andresuscitation
6. Document results of assessment to evaluate the patient from time totime.

Psychomotor:

Student will be able to:

1. Perform assessment of measures of body structures and functions related totissue mechanics.
2. Perform assessment of measures of body structures and functions related tomotor control affecting activity and participation, quality of life andindependence.
3. Perform the skill of electro-diagnosis (SD Curve) and observe skills of EMGand NCV studies, to understand the documentation of finding of thesestudies.
4. Interpretation and analysis of assessment andfindings.
5. Demonstrate skills of manual therapy musculoskeletal, neurotherapeutics and cardiovascular and respiratory skills on models (Laboratorywork).

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 transfertechniques.
4. Communicate with patients and their families/caregivers regarding the need anduses of various assessment techniques.

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 tissueflexibility ii. Joint mobility iii. Muscle strength &Endurance iv. Trick movements v. Sensations vi. Limblength vii. Abnormalposture viii. Gait deviations due tomusculoskeletal dysfunction			
	b. Assessment of Joints with special tests:	**10**	**08**	**18**
	i. **Cervical Spine**: Foraminal compression, Distraction, Shoulder depression, vertebral artery, Dizzinesstests.			
	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. Triggerpoints ii. Spasm iii. LigamentSprains iv. MuscleStrains			
	d. Basics in Manual Therapy and Applications with Clinical Reasoning:	**05**	**05**	**10**
	i. Assessment of Articular andextra-articular soft tissue status a) Contractiletissues b) Non contractiletissues ii. Examination of jointintegrity a) Accessorymovement b) Endfeel			
	e. Examination of musculoskeletal Dysfunction :	**06**	**10**	**16**
	i. Subjectiveexamination ii. Objectiveexamination iii. Specialtests iv. Functional Diagnosis usingICF			
	f. Assessment of Pain:	**04**	**05**	**09**
	i. Types of pain: Somatic, Somaticreferred, Neurogenic, Visceral ii. SubjectiveAssessment: a) Location, duration, progression, distribution, quality, diurnal variations, modifyingfactors. b) Severity, nature of pain, tissueirritability iii. Objective Measurement &Documentation- a) Visual Analogue Scale(V.A.S). b) Numerical RatingScale(N.R.S.) c) McGill's modified questionnaire(including Bodycharts)	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 ReleaseTechnique vii. Muscle EnergyTechnique viii. Neural Tissue Mobilization (Neuro DynamicTesting)	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 Hours)**			
	a. Assessment of Cardio Vascular & Pulmonary System:	**25**	**25**	**50**
	i. Vital parameters ii. Chest expansion iii. Symmetry of chestmovement iv. Breath HoldingTest v. BreathSounds 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, Gradesof Dyspnoea, Rate of Perceived Exertion,		
	a) Physiological response to immobilityand activity. b) Aerobic & Anaerobicmetabolisms c) Evaluation of Functional Capacity using sub maximal tests (Exercise Tolerance –Six Minutes Walk test) d) Theoretical bases of different protocols for maximal exercisetesting (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, BiochemicalReports 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 RespiratoryDysfunction	**05**	**05**	**10**
	i. Subjectiveexamination ii. Objectiveexamination iii. Special tests: Exercise Tolerance Testing – 6 Minutes Walk Test, Breath Holding Test, P.E.F.R. iv. Functional Diagnosis usingI.C.F.			
	c. Assessment of Fitness & Health	**10**	**25**	**35**

	i. Screening for riskfactors ii. Body composition-B.M.I., use of skin fold calipers, Girthmeasurement iii. Physical fitness: Flexibility,Strength, Endurance, Agility iv. Physical Activity ReadinessQuestionnaire v. Screening for health and fitness in childhood, adulthood and geriatricgroup vi. Quality oflife vii. Principles & components of exercise prescription forhealthy			
4	**SECTION IV:** **NEUROTHERAPEUTIC EVALUATION & ELECTRO DIAGNOSIS** **(**Didactic-50 + Practical 130= **180 Hours)**			
	a. General principles of Human development & maturation	**07**	**05**	**12**
	i. Aspects a) Physical b) motor c) Sensory d) Cognitive &Perceptive e) Emotional f) Social ii. Factors influencing human development &growth: a) Biological b) Environmentalinherited . iii. Principles of maturation in general& anatomical directional pattern– a) Cephelo – caudal b) Proximo –distal c) Centero –lateral d) Mass to specificpattern e) Gross to fine motordevelopment f) Reflex maturationtests iv. Development in specific fields - Oromotor development, sensory development, neurodevelopment of handfunction.			
	b. Basics in Neuro Therapeutics Skills & Applications with Clinical reasoning.	**20**	**55**	**75**

	i. Principles, Technique & Indicationsfor Applicationof a) Bobath b) Neuro DevelopmentalTechnique c) Rood'sTechnique 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		
	c. Assessment of Movement Dysfunction	**10**	**25**	**35**
	i. Higherfunctions ii. Cranialnerves iii. Sensations , sensory organization &body image iv. Joint mobility v. Tone vi. Reflexes-Superficial &Deep vii. Voluntarycontrol viii. MuscleStrength ix. Co-ordination x. Balance xi. Endurance xii. Trick movements xiii. LimbLength xiv. Posturedeviations xv. Gait deviations due to neurological dysfunction xvi. Functional Diagnosis usingI.C.F. xvii. Interpretation of Electrodiagnostic findings, routine Biochemical investigations			
	d. Electro diagnosis	**10**	**30**	**40**

	i. Physiology of restingmembrane potential, action potential, Propagation of ActionPotential ii. Physiology of musclecontraction iii. Motor unit & Recruitment pattern of motor unit – Sizeprinciple 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 relevantpatients, c) Test for Sensory & Pain Threshold/ Pain Tolerance – technique only v. Electro-Myography a) Definition Instrumentation – Basic components like C.R.O., Filter, Amplifier &Preamplifier, and Types ofElectrodes	Test for S.D.C. & Faradic/ Galvanic Test		
	b) Normal & Abnormal E.M.G.pattern i. atrest ii. on minimalcontraction iii. on maximalcontraction c) Nerve ConductionStudies i. Principles &Technique ii. Fwave iii. Hreflex			
	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. Electro diagnosis : 2 each a) S.D.C. b) Faradic GalvanicTest c) E.M.G. & N.C.Studies ii. Cardio Vascular & Pulmonary: (1 each) – A.B.G., P.F.T., E.C.G., X-ray Chest, Exercise ToleranceTest. iii. Neurological Scales (1 each)– Modified Ashworth, Berg'sBalance, D.G.I., Glasgow iv. Coma, Barthel Index,F.I.M.
B	Case presentation with Functional diagnosis : i. Total 12cases ii. Three cases each in– a) Musculoskeletal b) Neurological c) Cardiovascular & Respiratory (Including General Medical & SurgicalCases) d) General & Community Health (Including Fitness &Health, Women & Child Health, Occupation Health)
To maintain the Record/ Journal of the term work & to get each assignment duly singed by respective Head of the Dept.	

RECOMMENDED TEXT BOOKS

1. Orthopaedic Physical Examination –Magee
2. Clinical Electro Therapy – Nelson – Currier --- Appleton & Langepublication
3. Clinical Electromyography –Mishra
4. Therapeutic Exercises - Colby &Kisner
5. Physical Rehabilitation, Assessment and treatment - Susan B O'sSullivan
6. Neurological Examination - JohnPatten

RECOMMENDED REFERENCE BOOKS

1. Maitland's book on Manualtherapy,
2. Mobilisation of Extremities – Kaltenborn
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 AllisonWhiteside
9. Movement therapy in Hemiplegia –Brunnstrom
10. Cash textbook of Physiotherapy in neurological conditions - PatriciaDownie

11. Physical Dysfunction - TromblyScoot
12. Infant Motor Development- JanPiek
13. Neurology & Neurosurgery Illustrated (3rd edition)-Bone &Callander
14. Neuro-developmental Therapy –JanettHowle

SCHEME OF UNIVERSITY EXAMINATION

THEORY 80 MARKS + I.A. – 20 MARKS * The question paper will give appropriate weightage to all the topics in the syllabus.		**Marks** **100**
Section A-	Q-1 -MCQs – based on **MUSTKNOW**area [20 x 1]	**20**
Section B-	Q-2 - Answer any SIX out of SEVEN [6 x 5] Based on topics- Simulated case on all of the sections on ICF pattern **(Section II,III & IV)**	**30**
	Q-3- Answer any SIX out of SEVEN [6 x 5] Based on topics- Simulated case on all of the sections on ICF pattern **(Section II,III & IV)**	**30**
Total Marks		**80**

PRACTICAL 80 MARKS + I.A. – 20 MARKS		Marks 100
LONG CASE	[Time maximum 30 minutes for students for evaluation] 1. Psychomotor &affective: • Skill of Historytaking [05marks] • Skill ofclinicalexamination [15marks] • Skill of objective diagnostic procedure [10marks] 2. Cognitive: • Ability to justify bases for functional diagnosis byI.C.F. [15marks] [To be evaluated in cognitive, psychomotor and affective domains.]	**45**
SHORT CASE	Two Short cases on 1. Mobilization Technique: Kaltenborn, Maitland,M.E.T. or Neural Mobilisation (OnModels) [10marks] 2. Neuro Therapeutic Skills: N.D.T. / P.N.F. / Rood's / Brunnstrom (OnModels) [10marks] **OR** Electro Diagnosis: S.D. Curve / Faradic GalvanicTest (OnPatient) [10 marks] **OR** Exercise Tolerance Test: Six Minutes Walk Test (OnModel) [10marks]	**20**
SPOTS	5 spots - (5 x2 Marks= 10 Marks) 3minutes for each spot a) X ray (on section2/3/4) b) Pulmonary FunctionTest c) Blood gasanalysis d) E.C.G. e) E.M.G. / N.C.studies	**10**
JOURNAL	Documentations- Assessment, Evaluation, Diagnosis with I.C.F.	**5**
Total Marks		**80**

INTERNAL ASSESSMENT:

1. **Two exams – Terminal and preliminary examination (**Theory & Practical**) of 80 marks each TOTAL - 160marks**
2. **Internal Assessment to be calculated out of 20marks**
3. **In Practicals of Terminal & Preliminary examinations Spots will be of 15 marks instead of 10 marks (**3 marks X 5**), No marks will be allotted for the journal in Terminal & Preliminaryexaminations**
4. **Internal assessment as per Universitypattern**

SCHEME OF EXAMINATIONSATAGLANCE– IIIB.P.Th.

SUBJECTS	UNIVERSITY EXAMINATIONS						COLLEGELEV 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	---
Gynaecology & Obstetrics	---	---	---	---	---	---	50
Dermatology	---	---	---	---	---	---	25
Total	**320**	**80**	**400**	**80**	**20**	**100**	**75**