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 (Orthopaedics)	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 -15 HRS

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 of ethics.

b) Will acquire bedside manners and communication skills in relation with patients, peers, seniors and other professionals.

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 sociocultutural values and referral practice.

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

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 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
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 relevant investigations

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 postoperative complications ii. Haemorrhage 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 feacal fistula), minimally invasive surgery. vii. Mastectomy and oncosurgery– 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 receipient, precautions.	12	10	
	b. NEUROSURGERY i. Head Injury – management ii. Intra cranial & Spinal tumors iii. Intracranial Aneurysm and AV malformation iv. Post operative Neurosurgical care	4		

Sr. No.	Topics	Didactic Hours	Clinical Hours	Total Hours
	c. E.N.T. Surgery i. Tracheostomy – indications, surgical approach & management ii. Surgical procedures in VII^{tn} cranial nerve palsy iii. Vertigo	3		
	d. Ophthalmic Surgery Surgeries for IIIrd, IV^{tn}, 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 and tubes. b. Brief description of indications, surgery, complications for following surgery : i. Surgeries of thorax i. Surgeries of the lung ii. Surgeries of pleura and pericardium iii. Surgery for coronary artery disease iv. Valvular surgeries v. Surgery for Congenital Heart Disease 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 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- reimplantation and revascularization			

CLINICAL (10 hrs)

1. Evaluation / presentation and recording of one case each in:
    a) Burns
    b) Wound & ulcer
    c) Head injury
    d) Peripheral vascular condition
    e) Post radical mastectomy
    f) Post thoracic surgery
    g) Post abdominal surgery
    h) Plastic surgery

2. 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 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 FIVE out of SIX [5 x 3 = 15] * Based on topics – **GENERAL SURGERY & PLASTIC SURGERY**	**15**
	Q-3 - Answer any FIVE out of SIX [5 x 3 = 15] * 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 (**Theory only**)**
2. **Internal Assessment to be calculated out of 10 marks**
3. **Internal assessment as per University pattern.**

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-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 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 management of 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. 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 i. Ligaments, Bursae, 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			
Sr.	**Topics**	**Didactic Hours**	**Clinical Hours**	**Total Hours**

No.				
	c. General description of following deformities : i. Deformities of the spine: a) Scoliosis b) Kyphosis c) Lordosis d) Flat back e) Torticollis ii. Deformities of the lower limb: 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, Pes planus e) Hallux valgus & varus, Hallux rigidus and hammer toe iii. Deformities of Shoulder & Upper limb a) Sprengel's shoulder, Cubitus varus, Cubitus valgus b) Dupuytren's contracture			
5	**DEGENERATIVE AND INFLAMMATORY CONDITIONS**	**6**	**3**	**9**
	a. Osteo-orthosis/Arthritis b. Spondylosis c. Spondylolysis and listhesis d. Pyogenic arthritis e. Rheumatoid arthritis f. Juvenile arthritis g. Tuberculous arthritis h. Gouty arthritis i. Haemophilic arthritis j. Neuropathic arthritis k. Ankylosing spondylitis l. Psoriatic arthritis			

Sr. No.	Topics	Didactic Hours	Clinical Hours	Total Hours
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 nerve injuries 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 of musculoskeletal system			

CLINICAL (20 HRS)

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

RECOMMENDED TEXT BOOKS

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

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 FIVE out of SIX [5 x 3 = 15]	**15**
	Q-3 - Answer any FIVE out of SIX [5 x 3 = 15]	**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 10 marks**
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 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, 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.

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) I.H.D. (Angina, Myocardial infarction) b) 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 :	**17**	**3**	
	i.Common Infectious diseases like Tuberculosis, Pneumonia, Lung Abscess, and Bronchiectasis.	3		
	ii.Diseases of Pleura like Pleural Effusion, Pneumothorax, Hydropneumothorax, and Empyema.	2		
	iii.ILD & Occupational lung diseases like Silicosis, 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 Care Unit a) Infrastructure b) Instrumentation. c) Mechanical Ventilation (settings & monitoring) d) Assessment, monitoring & management of patient in I.C.U.	3		

Sr. No.	Topics	Didactic Hours	Clinical Hours	Total Hours
	vi. Basic Life Support :Introduction & Demonstration	2		
	vii. Investigation: Normal & Abnormal 1. Chest X-ray 2. Blood Gas Analysis 3. PFT(Observation of conduction on patient)	2		
2	**GENERAL MEDICINE, RHEUMATOLOGY & GERENTOLOGY:**	**15**	**05**	**20**
	a. General Medicine i. Disorders of Endocrine system (Diabetes) Introduction, pathophysiology, 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, Vit. E, Vit. D, Vit. B , micro nutrients,(Zn, Se) v. Intoxication (Drug abuse; Alcohol, smoking, cocaine dependence)	7	2	
	b. Rheumatological Conditions i. Rheumatoid Arthritis ii. S L E iii. S S A iv. Gout v. Polymyositis vi. Fibro myalgia vii. Ankylosing spondylitis	5	2	
	c. Geriatric Conditions i. Aging Process (physiological changes due to aging) ii. CVS & RS 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 / Rheumatological Condition
    e. Obesity
    f. Nutritional disorders
    g. Diabetes Mellitus & Metabolic bone disorders.

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 FIVE out of SIX [5 x 3 = 15] * Based on topics – **GENERAL MEDICINE, RHEUMATOLOGY & GERONTOLOGY**	**15**
Section B- S.A.Q	Q-3 - Answer any FIVE out of SIX [5 x 3 = 15] * 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 & Gerontology -10 Marks 2. Cardio-Vascular & Respiratory Medicine -10 Marks	**20**

INTERNAL ASSESSMENT:

1. **One examination of Total 40 marks (**Theory only**)**
2. **Internal Assessment to be calculated out of 10 marks**
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. Be able to describe Aetiology, Pathophysiology, signs & Symptoms & Management of the various Neurological &Paediatric conditions.
2. Acquire skill of history taking and clinical examination of Neurological &Paediatric 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.

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, 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	

Sr. No.	Topics	Didactic Hours	Clinical Hours	Total Hours
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 Nervous System 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 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. Ventilatory care in neonate and child.

RECOMMONDED 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 ** 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 FIVE out of SIX [5 x 3 = 15] * Based on topics – **PAEDIATRICS**	**15**
Section B- S.A.Q	Q-3 - Answer any FIVE out of SIX [5 x 3 = 15] * Based on topics – **NEUROLOGY**	**15**
Total Marks		**40**

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

INTERNAL ASSESSMENT:

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

COMMUNITY HEALTH & SOCIOLOGY

TOTAL 60 HRS

A- 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 & 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 Programmes 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**
Sr. No.	**Topics**	**Didactic Hours**
	a. Women: i. Pregnant and lactating women, maternal health (ANC,PNC,INC) ii. Perimenopausal women's' health: physical & psychological	1

	b. Infants: (Low Birth Weight, Breast feeding, Complimentary feeding, 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 population health: Early detection and prevention of disabilities, behavioral problems	1
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, Nutrional disorders and National nutrition programmes, 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

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 and Kulkarni

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 behavior 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, Role of norms, Folkways, Customs, Morals, Religion, Law & other means of social controls in the regulation of Human Behavior, Social Deviance & Disease	
9	**POPULATION GROUPS :**	**5**
	a. Children: Street children, Child labour, Juvenile delinquency b. Women's: Victims of domestic violence and addiction, C.S.W., physically and /or mentally challenged c. Role of NGOs, Social support systems	
`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- Q-1 &Q-2	MCQs – based on **MUST KNOW** area Q-1 based on **COMMUNITY MEDICINE** [1x20] Q-2 based on **SOCIOLOGY** [1 x10]	30
Section B-Q-3 & Q- 4	Questions based on **COMMUNITY MEDICINE** SAQ Q-3 -to answer any FIVE out of SIX [5x3=15] SAQ Q-4-to answer any THREE out of FOUR [3x5=15]	30
Section C- Q-5	Questions based on **SOCIOLOGY** SAQ – to answer any FOUR out of FIVE [4 x 5=20]	20
Total Marks		**80**

INTERNAL ASSESSMENT:

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

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, during menopause)

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

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 / multiple gestations, b. Common Complications during pregnancy: i. Anaemia, ii. P I H iii. Eclampsia iv. Diabetes, v. Hepatitis, vi. TORCH infection or HIV			
3	**PHYSIOLOGY OF LABOUR**	4		4
	a. Normal – Events of Ist, IInd & IIIrd Stages of labour b. Complications during labour & management c. Caesarean section- elective/ emergency & post operative care			
4	**POST NATAL PERIOD**	2	5	7
	a. Puerperium & Lactation b. Complications of repeated child bearing with small gaps c. Methods of contraception			
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 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 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 **MUST KNOW** area [20X1]	**20**
Section-B-Q-2	SAQ-to answer any FIVE out of SIX [5x3]	**15**
Section-C-Q-3	SAQ-to answer any THREE out of FOUR [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 Transmitted Diseases

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 -Epidermolysis bullosa 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] * The question paper will give appropriate weightage to all the topics in the syllabus.		**25**
Section A- Q-1	MCQs – based on MUST KNOW area [10X1]	**10**
Section-B- Q-2	SAQ - Answer any FIVE out of SIX [5x3]	**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 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.	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 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, neurotherapeutic skills and skills of cardiopulmonary care and resuscitation
6. Document results of assessment to evaluate the patient from time to time.

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, neurotherapeutics and cardiovascular and respiratory skills on models (Laboratory work).

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.

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**: Foraminal 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			
Sr. No.	**Topic**	**Didactic Hours**	**Practical/ Clinical**	**Total Hours**

			Hours	
	vii. **Hip:** Nelaton's line, Bryant's triangle, Thomas, Ober's, Tripod sign, Trendlenburg sign,			
	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			

Sr. No.	Topic	Didactic Hours	Practical/ Clinical Hours	Total Hours
	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 Hours)**			
	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,		

Sr. No.	Topic	Didactic Hours	Practical /Clinical Hours	Total Hours
	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			

Sr. No.	Topic	Didactic Hours	Practical/ Clinical Hours	Total Hours
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) Environmental inherited . iii. Principles of maturation in general & anatomical directional pattern – a) Cephelo – caudal b) Proximo – distal c) Centero – 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.			
	b. Basics in Neuro Therapeutics Skills & Applications with Clinical reasoning.	**20**	**55**	**75**
	i.Principles, Technique & Indications for Application of 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		

Sr. No.	Topic	Didactic Hours	Pract/Clinic Hours	Total Hours
	c. Assessment of Movement Dysfunction	**10**	**25**	**35**
	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 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. Electro-Myography a) Definition Instrumentation – Basic components like C.R.O., Filter, Amplifier & Preamplifier, and Types of Electrodes	Test for S.D.C. & Faradic/ Galvanic Test		

Sr. No.	Topic	Didactic Hours	Practical/ Clinical Hours	Total Hours
	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. Electro diagnosis : 2 each a) S.D.C. b) Faradic Galvanic Test 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 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 (Including General Medical & Surgical Cases) 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 & 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 – 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 D Mc'Ardle
8. Facilitation techniques based on NDT principles - Lois Bly Allison Whiteside
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 (3^{rd} edition)-Bone & Callander
14. Neuro-developmental Therapy –Janett Howle

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- **M.C.Qs.**	Q-1 -MCQs – based on **MUST KNOW** area [20 x 1]	**20**
Section B- **S.A.Q.**	Q-2 - Answer any FIVE out of SIX [5 x 3 = 15] Q-3- Answer any THREE out of FOUR [3 x 5 =15]	**30**
Section C- **L.A.Q.**	* Based on topics- Simulated case on all of the sections on ICF pattern **(Section II,III & IV)** Q-4] L.A.Q - 15 marks Q-5] - 15 marks OR Q-5] - 15 marks LAQ should give break up of 15 marks – e.g. [3 +5+7]	**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 History taking [05 marks] • Skill of clinical examination [15 marks] • Skill of objective diagnostic procedure [10 marks] 2. Cognitive : • Ability to justify bases for functional diagnosis by I.C.F. [15 marks] [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 (On Models) [10marks] 2. Neuro Therapeutic Skills: N.D.T. / P.N.F. / Rood's / Brunnstrom (On Models) [10 marks] **OR** Electro Diagnosis: S.D. Curve / Faradic Galvanic Test (On Patient) [10 marks] **OR** Exercise Tolerance Test: Six Minutes Walk Test (On Model) [10 marks]	**20**
SPOTS	5 spots - (5 x2 Marks= 10 Marks) 3minutes for each spot a) X ray (on section 2/3/4) b) Pulmonary Function Test c) Blood gas analysis 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 - 160 marks**
2. **Internal Assessment to be calculated out of 20 marks**
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 & Preliminary examinations**
4. **Internal assessment as per University pattern**

SCHEME OF EXAMINATIONS AT A GLANCE – III B.P.Th.

SUBJECTS	UNIVERSITY EXAMINATIONS						COLLEGE LEVEL EXAMS (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**