SGT UNIVERSITY
SHREE GURU GOBIND SINGH TRICENTENARY UNIVERSITY
(UGC Approved) Gurugram, Delhi-NCR
Budhera, Gurugram-Badli Road, Gurugram (Haryana) – 122505 Ph. : 0124-2278183, 2278184, 2278185

Faculty of Physiotherapy

Bachelor of Physiotherapy

Syllabus

2017

BACHELOR OF PHYSIOTHERAPY (B.P.T. COURSE)

PREAMBLE

Our modern lifestyle – with all its perks and benefits – has started to take a toll on our bodies. Back pain, knee pain, and neck strains have become everyday problems. Physiotherapy is one of the popular courses in modern medicine worldwide, which views human movements as central to the health and well being of individuals. Physiotherapists are trained professionals who help their injured patients get back to the highest possible range of movement. In addition to their role in maintenance and restoration of physical function& health, Physiotherapists are also responsible for promotion of health, life style, quality of life and prevention of physical dysfunction and disability

This holistic approach incorporates a broad range of physical and physiological therapeutic interventions and aids

The core skills used by Physiotherapy include manual therapy, therapeutic exercise and the application of electro therapeutic modalities. Specifically, physiotherapists improve client's quality of life by:

- *Promoting optimal mobility, physical activity and overall health and wellness;*
- *Preventing disease, injury, and disability;*
- *Geriatric care& Rehabilitation;*
- *Managing acute and chronic conditions, activity limitations, and participation restrictions*
- *Improving and maintaining optimal functional independence and physical performance;*
- *Rehabilitating injury and the effects of disease or disability with therapeutic exercise programs and other interventions; and*
- *Educating and planning maintenance and support programs to prevent re-occurrence, re-injury or functional decline.*

Students studying Physiotherapy learn about the basic sciences such as Anatomy, Physiology, Pharmacology, etc as well as Clinical Sciences such as the Orthopedics, General Surgery, and General Medicine etc. They learn to diagnose patients based on observations and taking personal histories. They also study how to collaborate with patients and family members to determine a plan of care that will be effective for all concerned.

In addition to clinical practice, other activities encompassed in the physical therapy profession include research, education, consultation, and administration. At present, in our country very few Universities are generating Health professionals specialized in Physiotherapy.

The Bachelor of Physiotherapy (BPT) programme introduced by SGT University promises to generate professionals having extensive and elaborated knowledge in the field of Physiotherapy.

At SGT University Practical training to students is imparted at state of the art Physiotherapy and Rehabilitation center where students get hands on training under the expert faculty of 665 bedded multi disciplinary SGT Hospital which is located within the premises of SGT University. Students expand their horizons of therapeutic and rehabilitative concepts through involvement in community based rehabilitation programs and other "outreach" programs. Thus the students have the advantage of excellent clinical training, besides highest level of academic activity which bridges the gap between theoretical knowledge and its practical application.

GOALS

The overall goal of the BPT Program is to prepare students to practice state of the art Physiotherapy. The educational goals of the curriculum reflect the knowledge, skills and behaviors expected of program graduates.

OBJECTIVES

- To provide comprehensive clinical and research experience in Physiotherapy.
- To provide holistic health care services to all and to produce Competent, skilled and dedicated Physiotherapists.

COURSE

Bachelors in Physiotherapy

- Is a 4.6 year couse inclusive of 6 months of compulsary internship.

  Eligibility Criteria- 50 % aggregate marks in Physics , Chemistry and Biology.
- Minimum age criteria is 17 years till 31st December of the year of admission.

- Fee Structure-Rs--------- per annum
- Total Intake-120

EXAMINATIONS:

Examination should be open to a person who is

i) having attended separately in theory and practical/clinical not less than 75 percent of the lectures delivered and practicals conducted in each of the subjects prescribed for the examination provided that deficiency in the number of lectures delivered and practicals conducted may be condoned by the Dean/HOD to the extent of5% of the lectures delivered.

ii) of having secured at least 35% marks of the total marks fixed for internal assessment in each subject, separately in order to be eligible to appear in all University examinations.

iii) of good moral character.

INTERNAL ASSESSMENT

Internal Assessment should be submitted to the Controller of Examination at least two weeks before the commencement of theory examinations. This shall be maintained in each department, which should be made available for inspection by the student concerned as well as University authorities.

The re-appear/fail students may be re-assessed, if they so desire, next time for the purpose of improvement of internal assessment, otherwise their previous score of assessment will be carried forward.

Career Opportunities

- Their demand in medical institutions is increasing since Physiotherapy plays an important role in the treatment of patients with Orthopedic and Neuromuscular disorders. Like all other medical and paramedical professionals employment opportunities for Physiotherapists are tremendous as it is a career where the demand exceeds supply.
- Physiotherapists practice in many settings such as Government hospitals
- Private hospitals
- Private Practice

- Outpatient clinics
- Health and Wellness clinics,
- In the rehabilitation Department.
- Critical care unit.
- Centers for the handicapped, schools for the mentally retarded and physically disabled children,
- Health institutions
- Physiotherapist with various sports teams.
- Defense medical establishments.
- In Multinational companies.
- Academics
- Research analyst in Research Centers
- Schools and Private homes
- They can also practice in non patient care roles like health policy, health insurance, and Health care administration and as health care executives.
- Physiotherapists are also involved in medical legal field serving as expert and performing peer reviews.

Teaching Strategies and Curricula

Unique style of teaching and experiential learning is followed. We believe in achieving excellence by integrating teaching, learning & research. Teaching strategies include Structured Interactive sessions, small group discussions, Focused group discussions, Participatory Learning experience (PLA), Institutional visits, Practical including demonstration, Problem based exercises, Slides& Video Clips, Case studies, self learning tools, tutorials, interactive learning and e-modules. The theory training will be primarily from cognitive domain and practical training will be from cognitive, psychomotor and affective domains.

Hands on training is provided to the students to enhance their skills. Various workshops are conducted in department to provide them opportunity to learn advance treatment skills.

The Course Curricula of Faculty of Physiotherapy is specifically designed to bridge the skill gap and make the Students ready for the industry.

Course distribution: The BPT Programme will be of 4. 6 yrs duration including 6 months of Internship.

Compulsory Internship

All the students after passing Final Prof B.P.T. examination shall go in for six months compulsory rotatory internship in the following departments in their College/Institution:-

i) Physiotherapy Out-Patient Department	1 month
ii) Orthopaedics	1 month
iii) Neurology &Neuro Surgery including ICU	1 month
iv)Cardiology& Cardiothoracic Surgery Including ICU.	1 month
v) General Medicine & General Surgery	1 month
vi) Community based Rehabilitation/Geriatrics	1 month

BPT 1st SEMESTER

S NO.	SUBJECT	TOPIC	DOMAIN	HRS
1.	ANATOMY-1	1. ANATOMICAL TERMINOLOGY, CELL AND TISSUES.	MUST KNOW	12
		2. INTRODUCTION TO UPPER LIMB	MUST KNOW	20
		3. NEUROANATOMY	MUST KNOW	15
		4. HEAD AND NECK	MUST KNOW	12
		5. CRANIAL NERVES	MUST KNOW	5
2.	PHYSIOLOGY-1	1. CELL STRUCTURE AND FUNCTION	MUST KNOW	8
		2. BLOOD COMPOSITION	MUST KNOW	14
		3. RESPIRATORY SYSTEM	MUST KNOW	15
		4. GASTRO INTESTINAL SYSTEM	DESIRABLE TO KNOW	7
		5. MUSCLE AND NERVE	MUST KNOW	20
3.	BIOCHEMISTRY-1	1. BIOPHYSICS	DESIRABLE TO KNOW	7
		2. CELL &SUB CELLULAR ORGANELLES	DESIRABLE TO KNOW	7
		3. CARBOHYDRATES	MUST KNOW	10
		4. LIPIDS	MUST KNOW	10
		5. PROTEINS	MUST KNOW	10
		6. ENZYMES	DESIRABLE TO KNOW	10
		7. BIOENERGETICS	MUST KNOW	10
4.	ELECTROTHERAPY-1	1. INTRODUCTORY PHYSICS	NICE TO KNOW	18
		2. DEVICES USED IN ELECTROTHERAPY MODALITIES	MUST KNOW	10
		3. SUPERFICIAL HEAT	MUST KNOW	10
		4. CRYOTHERAPY	MUST KNOW	6
		5. COMPRESSION THERAPY	MUST KNOW	6
		6. ACTINOTHERAPY	DESIRABLE TO KNOW	14

4.	SOCIOLOGY	1. INTRODUCTION TO SOCIOLOGY	MUST KNOW	3
		2. SOCIOLOGY AND HEALTH	MUST KNOW	3
		3. SOCIALIZATION	DESIRABLE TO KNOW	2
		4. SOCIAL GROUP	MUST KNOW	2
		5. FAMILY	MUST KNOW	3
		6. COMMUNITY	NICE TO KNOW	2
		7. CULTURE	NICE TO KNOW	3
		8. CASTE SYSTEM	NICE TO KNOW	2
		9. SOCIAL CHANGE	MUST KNOW	2
		10. SOCIAL CONTROL	DESIRABLE TO KNOW	3
		11. SOCIAL PROBLEMS OF THE DISABLED	MUST KNOW	3
		12. SOCIAL SECURITY	DESIRABLE TO KNOW	2
		13. SOCIAL WORKER	DESIRABLE TO KNOW	2
5.	BASIC COMPUTER APPLICATION	1. BASICS OF COMPUTER	DESIRABLE TO KNOW	16
		2. HARDWARE AND SOFTWARE	DESIRABLE TO KNOW	16
		3. MULTIMEDIA	DESIRABLE TO KNOW	16
		4. OPERATING SYSTEM	DESIRABLE TO KNOW	16
6.	ENGLISH	1. Communication Skills	DESIRABLE TO KNOW	10
		2. Conversation Skills	DESIRABLE TO KNOW	10
		3. Reading Comprehension	NICE TO KNOW	12

SEMESTER-1

Bachelor of Physiotherapy

Paper code- 03060101

Anatomy -1 (Theory)

Teaching Hours: 64

Periods/Week	Credits	Max Marks: 100
L: 4 T: 0	4	Internal: 40

Duration of Examination: 3 Hrs

S.No	TOPIC	LEARNING OBJECTIVES(At the end of the course the student shall be able to)	Teaching Guidelines	Methodology	TIME (Hrs)
I	General Anatomy, Anatomical terminology, Cell and tissues	Describe basic terminology of the anatomy , study the structure and function of cell and tissues	To cover Different subdivisions and sections of anatomy. To cover the anatomical terms & planes as a whole.	SIS	12
II	Introduction to upper limb	a) Demonstrations of all bones of upper limb. b) To cover gross anatomy of pectoral region, axilla, back ,scapula arm, forearm and hand. c) Joints of upper limb d) Details of median, ulnar and radial Nerves e) Surface Anatomy	To cover Side identification, features and attachments of upper limb bones and clinical anatomy Pectoral region-To cover structure , muscles, blood supply nerve supply and applied anatomy of breast/ mammary gland Axilla-To cover boundaries, contents relations, brachial plexus, clinical anatomy Back-Skin and fascia muscles Cutaneous nerves, superficial veins and lymphatic drainage of upper limb Arm, forearm and hand-compartments, surface	SIS, demonstration of dissected part, bones	20

			landmarks, blood supply, nerve supply, muscles and actions Major Nerves-Radial Median Ulnar Musculocutaneous etc their course relations branches and applied anatomy Joints of Upper limb-Shoulder elbow Wrist-articulating surfaces, ligaments, bursa, movements blood and nerve supply, Clinical anatomy		
III	NEUROANATOMY	Explain the Classification of nervous system , structure of spinal nerve, Meninges of the brain and Cerebrospinal fluid, blood supply	To cover Its classification, structure, function and subdivisions. Gross anatomy of spinal cord with applied anatomy	SIS	15
IV	Head and Neck	Explain in brief outline of the osteology of the head and neck Explain the anatomy of the anterior and posterior triangle of the neck Explain the gross anatomy of larynx, pharynx, temporomandibular joint with their applied anatomy and cover anatomy of facial muscles in brief. Explain in brief the parotid region, submandibular region,temporal and infratemporal regions. Explain the contents of vertebral canal	To cover All the bones forming the skull, mandible, cervical vertebrae. All the muscles covering the bones, their blood supply, nerve supply, attachments and their applied anatomy	SIS	12
V	Cranial Nerves	Brief outline of the anatomy and applied anatomy of the cranial nerves	To cover Basic anatomy of the structures involved with their functions.	SIS	5

Bachelor of Physiotherapy

Paper code- 03060101

Anatomy -1 (Practical)

Teaching Hours: 64

Periods/Week	Credits	Max Marks: 50
P: 4 T: 0	2	Internal: 20

PRACTICAL

1. Identification and description of all anatomical structures.
2. The learning of Anatomy is by demonstration only through dissected parts, slides, models, charts, etc.
3. Demonstration of dissected parts (upper extremity, face and brain).
4. Demonstration of skeleton- articulated and disarticulated.
5. During the training more emphasis will be given on the study of bones, muscles, joints, nerve supply of the limbs and arteries of limbs.
6. Surface anatomy: -surface land mark-bony, muscular and ligamentous. -surface anatomy of major nerves, arteries of the limbs.
7. Points of palpation of nerves and arteries.

Reference Books:-

1. B D Chaurasia's Human Anatomy.
2. Inderbir Singh- Textbook of Anatomy.
3. Textbook of Anatomy with color Atlas-Inderbir Singh.
4. Richard S. Snell- Clinical Anatomy.

Bachelor of Physiotherapy

Paper code-03060102

Physiology -1 (Theory)

Teaching Hours: 64

Periods/Week Credits Max Marks: 100
L: 4 4 Internal: 40

Course Description:

The course is designed to assist the students to acquire knowledge of the normal human Physiology of various body systems and understand the alternation in physiology in disease and practice of Physiotherapy as applicable for each systemic disorder.

Course Objectives

The objective of this course is that after lectures, demonstrations, practical and clinics the student will be able to demonstrate an understanding of elementary human physiology.

S NO.	TOPIC	LEARNING OBJECTIVES(At the end of the course the student shall be able to)	TEACHING GUIDELINES	METHODOLOGY	TIME
I	Cell structure and function	Describe the physiology of cell, tissues, Membranes and glands.	To cover the electron transport, homeostasis, electric potential, types of cell	SIS Explain using charts, models slides, specimen and films	8 Hrs.
II	Blood- composition,	Describe the physiology of blood as applicable to various component of blood and should be able to carry out various	To cover function, Defense mechanism of circulatory system and pathological conditions. Various blood parameters	SIS, Explain using charts, models slides, specimen and films. Demonstrate the blood cell count Estimation of Hemoglobin determination of BT & CT, Blood grouping & ESR. W.B.C. count, RBC count & indices of Blood & DLC.	14 Hrs.

		hematological examination.			
III	Respiratory system-	Describe the physiology and mechanism of respiration and control of respiration should-be able to do clinical examination of Respiratory system	To cover Functions of respiratory tract, chemical and neural control of respiration, various parameters	SIS, Explain using charts, models and films. Determination of lung, volume & capacities by spirometery. Auscultation of breath sounds.	15 Hrs.
IV	Gastro intestinal system	Describe the physiology of digestive system.	To cover its components and function.	SIS, Explain using, charts films	7 Hrs.
V	Muscle and Nerve	Describe the contraction and tone various chemical & mechanical activities taking place in muscles & Nerves	To cover types , structure, function, classification	SIS. Explain using, charts films.	20 Hrs.

Bachelor of Physiotherapy

Paper code- 03060102

Physiology -1 (Practical)

Teaching Hours: 64

Periods/Week	Credits	Max Marks: 50
P: 4	2	Internal: 20

EACH PRACTICAL-

Estimate of Haemoglobin,
R.B.C.
W.B.C.
TLC
DLC
ESR count.
Blood indices
Blood grouping
Bleeding & Clotting time.
Revision

Reference Books:-

1. Concise medical physiology Dr. S.C. Choudhary
2. Human physiology Dr. C.C. Chatterjee.
3. Sam san writes applied physiology handbook -by Cyril a keeleericB.Neil
4. Best and Taylor's physiological basic of Medical practice- C.H. Best aetal
5. Medical physiology Dr. A.C. Gutton. Review of Medical Physiology William FooGanong.

Bachelor of Physiotherapy

Paper code- 03060103

Biochemistry-1

Teaching Hours: 64

Periods/Week Credits
L: 3 T:1 4

Max Marks: 100
Internal: 40

Course Objectives:

a. To understand biochemical basis of life sciences
b. A brief description of metabolic pathways
c. Details and structures are to be avoided.

S NO.	TOPIC	LEARNING OBJECTIVES(At the end of the course the student shall be able to)	TEACHING GUIDELINES	METHODOLOGY	TIME (Hrs)
I	BIOPHYSICS:	Learn about ionic balance	To cover Concepts of pH and Buffers, Acid -base equilibrium. Osmotic pressure and its physiological applications	Student Interactive Session Explain using charts and models	7
II	CELL & SUB CELLULAR ORGANELLES	Learn about biochemical importance of cell structures.	To cover Structure & function of Cell & Sub-cellular organelles Biochemical characteristics of living matter,	Student Interactive Session Explain using charts and models	7
III	CARBOHYDRATES-	Explain brief outline of carbohydrates & its importance	To cover Definition, Functions, Sources, metabolism and mechanisms involved. Classification	Student Interactive Session Explain using charts and models	10
IV	LIPIDS-	Explain brief outline of lipids & its importance	To cover Definition Functions, Sources, Classifications, metabolism and mechanisms involved. Essential fatty acids & their importance	Student Interactive Session Explain using charts and models	10
V	PROTEINS-	Explain brief outline of proteins & its importance	To cover Definition. Sources, Functions, Classification, metabolism and mechanisms	Student Interactive Session Explain using charts and models	10
VI	ENZYMES-	Explain role of enzymes	To cover Classification &	Student Interactive	10

		,types and its importance with specific focus to muscle function	Mechanism of action. factors affecting enzyme activity. Enzyme kinetics. Diagnostic significance of enzymes & isoenzymes	Session Explain using charts and models	
VII	BIOENERGETICS	Explain about biochemical changes in the cell with specific focus on muscle function	To cover Redox reactions, phosphorylation, electron transport chain	Student Interactive Session Explain using charts.	10

SUGGESTED TEXT BOOKS

1. Biochemstry by U. Satyanarayana II Edition.
2. Text Book of Biochemstry by D.M. Vasudevan and Sreekumari S. IV Edition.
3. Textbook of Medical Biochemistry-S.K.Das Gupta.
4. Lippincott's Illustrated Reviews Biochemistry.
5. Harper's Illustrated Biochemstry by Murry et.a1.26 Edition.

Bachelor of Physiotherapy

Paper code- 03060104

Electrotherapy-1(Theory)

Teaching Hours: 64

Periods/Week Credits
L: 4 4

Max Marks: 100
Internal: 40
Duration of Examination: 3 Hrs

Course Description:

In this course the student will learn the principles, technique, and effects of basic electrotherapy as a therapeutic modality in the restoration of physical function.

COURSE OBJECTIVES

The objective of this course is that after the student will be able to recall the basic principles of Physics related to electricity, electromagnetic spectrum and construction and working of common electrical devices used in Electrotherapy modalities and to list the indications and contra indications of basics types of electrotherapeutic modalities, demonstrate the different techniques, and describe their effects.

Unit	Topic	Learning Objectives (At the end of the session the student should be able to)	Teaching Methodology	Teaching Learning Activities	Time
I	Introductory Physics	Describe the basic of Physics which is used in Electrotherapy Modalities, Explain the electrical supply of Electrotherapy modalities.	**1.** To cover basics of Electromagnetic Spectrum: production and its properties, dual nature, Laws governing radiation, depth of penetration, modes of heat & energy transfer. **2.** To cover about the basics of Electric energy: Electricity and its Units, Electron theory, Static and current electricity, Conduction of electricity, Conductors, Insulators, Potential difference& factors affecting it, Resistance &	Student Interactive Session Chart & Models Students Seminar	18 Hrs.

			Intensity, Ohm's Law- Its application to AC & DC currents and uses of Ohm's law in Physiotherapy, Polar and Chemical effects of electric currents examples in Physiotherapy, Ionization: theory of Ionization, techniques of medical ionization and surgical ionization, uses of ionization in Physiotherapy, EMF: Production of an E.MF by chemical actions, examples and uses in physiotherapy, Joule law & production of heat by Joule's law its implication in Physiotherapy, Electrical supply in Physiotherapy Department: a) Brief outline of main supply of electric current. b) Precautions - safety devices, earthing, fuses etc. Dangers of DC/AC: Short circuits, electric shocks. safety, precautions and First aid & initial management of electric shocks, Electrical and chemical burns their prevention &management. To cover about the basics of Magnetism: Definition, Properties of Magnets, Magnetic effects, Molecular theory of Magnetism, Magnetic fields& magnetic forces, Magnetic effects of an electric field, Electromagnetic induction and its uses in Physiotherapy department.		
II	Common devices used in electrotherap	Understand the working of different devices used in Electrotherapy	To Cover: Definition, Types, Principle, Construction, Working and Uses in Physiotherapy of the following	Student Interactive Session	10 Hrs.

	y modalities	Modalities	Devices: Condenser, Milli ammeter, Voltmeter, Transformer, Chokes coils, Thermionic valve, Potentiometer, Fuse	Model Presentation	
III	Superficial Heat	Describe the various superficial heating agents Application of different heating modalities.	To cover the Superficial Heat 1. Define heat and temperature (in brief). 2. Physical effects of heat- (in brief). 3. Sources of therapeutic heating and its physiological effects. 4. Paraffin wax bath: composition, Physiological &therapeutical effects, methods of applications, mode of heat transfer, depth of penetration, indications, Contraindications, precautions, operational skills of equipment & patient preparation. 5. Moist heat: types of. moist heat therapy, Physiological & therapeutical effects, methods of applications, mode of heat transfer, depth of penetration, indications, Contraindications, precautions, operational skills of equipment & patient preparation. 6. Electrical heating pads &Fluidotherapy: components, application methods, Physiological & therapeutical effects, precautions, operational skills of equipment & patient preparation	Student Interactive Session Practical Demonstration Poster Presentation Group Discussion	10 Hrs.
V	Cryotherapy	Explain Cryotherapy, Describe different methods of application of Cryotherapy.	To cover the Cryotherapy: Therapeutic cold (Cryotherapy) source, biophysical effects, types, therapeutic effects, indications, contraindications, precaution, application techniques and patient preparation.	Student Interactive Session Group Discussion Poster Presentation Practical Demonstration	6 Hrs.

VI	Mechanical Pressure	Explain the mechanism of action of Mechanical pressure in prevention and reduction of Oedema. Describe the method of application of compression therapy	To cover the Mechanical Pressure: Therapeutic mechanical pressure (Intermittent compression therapy)- principal, biophysical Effects, types, therapeutic effects, indications, contraindication, precautions, operational Skill and patient preparation.	Student Interactive Session Poster Presentation Practical Demonstration	6 Hrs.
X	Actino therapy	Describe different types of electromagnetic rays to be used for therapeutic purposes.	To cover the: Actino therapy Wavelength, frequency, types & sources of generation, techniques of irradiation, physiological and therapeutic effects, indications, contraindications, depth of penetration, dosiometry, precautions, operational skills of equipments and patient preparation in the following: • IRR • UVR • LASER	Student Interactive Session Students Seminar Poster Presentation Practical Demonstration	14 Hrs.

Bachelor of Physiotherapy

Paper code- 03060104

Electrotherapy-1(Practical)

Teaching Hours: 64

Periods/Week	Credits	Max Marks: 50
P: 4	2	Internal: 20

PRACTICAL

The student must be able to demonstrate the use of basic electrotherapy modalities applying the principles of electrotherapy with proper techniques, choice of dosage parameters and safety precautions.

1. Identify basic electrical components in electrotherapeutic equipments.
2. Reading of medical records, indentifying indications and contraindications for electrotherapy.
3. Technique of treatment and application of Hydrocollator packs, cryotherapy, contrast bath, wax therapy and compression therapy
4. Demonstrate treatment techniques of IRR
5. Demonstrate the technique of UVR exposure for various conditions – calculation of test dose
6. Calculation of dosage and technique of application of LASER

Reference Books:

1. Clayton's electrotherapy theory and practice IX Edition by Angela Forester Nigel Palastanga.
2. Clayton's electrotherapy theory and practice X Edition by Kitchen &Bazin.
3. Clinical Electrotherapy by Rogar M. Nelson& Dean P. Currier.
4. Electrotherapy explained Principles and practice III Edition by John Low& And Reed.
5. Therapeutic heat and cold by Lehmann.
6. Principle and practice of Electrotherapy by Joseph Kahn.
7. Electrotherapy: Clinics in physical therapy- Wolf.

Bachelor of Physiotherapy

Paper code- 03060105

Sociology

Periods/Week Credits
L:2 2

Teaching Hours: 32
Max Marks: 50
Internal Marks:20
Duration of Examination: 3 Hrs

Course Description: This course is to design to develop the basic knowledge of Sociology with respect to different society and its relation towards health and Physiotherapy treatment.

S. No.	TOPIC	LEARNING OBJECTIVES (at the end of course the student be able to)	TEACHING GUIDELINES	METHODOLOGY	TIME (Hrs)
1.	Introduction to Sociology	Define and describe the theory and illustrate its role in building sociological knowledge. Apply the Sociological Knowledge in Physiotherapy	To Cover • Definition of sociology • Sociology as a science of society • Uses of the study of sociology • Application of knowledge of sociology in physiotherapy and occupational therapy.	Student Interactive Session	3 Hrs
2.	Sociology & health:	Explain the relationship between sociological factors and health of an individual.	To Cover • Social factors affecting health status. • Social consciousness	Student Interactive Session	3 Hrs

			and perception of illness. • Social consciousness and meaning of illness. • Decision making in taking treatment. • Institution of health of the people		
3.	Socialization	Describe impact of sociology in hospital setting and in rehabilitation.	To Cover • Meaning of socialization influences of social factor on personality socialization in hospitals. • Socialization in rehabilitation of patients.	Student Interactive Session	2 Hrs
4.	Social Group:	Explain types of Social Groups and its role in rehabilitation.	To Cover • Concept of social group. • Influence of formal and informal groups on health and sickness. • The role of primary groups and secondary groups in the hospitals and rehabilitation setting.	Student Interactive Session	2 Hrs
5.	Family:	Describe the importance of family and its influence on individuals' health and associated diseases	To Cover • Influence of family on human personality. • Discussion of changes in the function of a family. • Influence of family on the individual's	Student Interactive Session Group Discussion	3 Hrs

			health family and nutrition. • The effect of sickness on family, and psychosomatic disease		
6.	Community:	Explain the importance, role and types of Community.	To Cover • Concept of community • Role of rural and urban communities in public health • Role of community in determining beliefs, practices and home remedies in treatment.	Student Interactive Session	2 Hrs
7.	Culture:	Describe the role of culture as social consciousness in moulding the perception of reality.	To Cover • Components of culture • Impact of culture on human behavior • Culture meaning of sickness, response & choice of treatment • Culture induced symptoms and disease, sub-culture of medical workers.	Student Interactive Session	3 Hrs
8.	Caste system:	Explain the caste system and its trends in society.	To Cover • Feature of modern caste system and its trends.	Student Interactive Session	2 Hrs
9.	Social change:	Describe Social change and its effect on health and society. Describe social planning and its influence on society and its health.	To Cover • Meaning of social change • Factors of social change • Human adoption and social change	Student Interactive Session	2 Hrs

			• Social change and stress • Social change and deviance • Social change and health programmers • The role of social planning in the improvement of health and in rehabilitation.		
10.	Social control:	Explain Social control and its influence.	To Cover • Meaning of social control, • Role of norms, folkways, customs, morals, religion, law and other means of social control in the regulation of human behavior, social deviance and disease.	Student Interactive Session	3 Hrs
11.	Social problems of the disabled:	Description of various Social problems and explain its remedies.	To Cover • Consequences of the following social problems in relation to sickness and disability remedies to prevent these problems: ***a.*** Population explosion ***b.*** Poverty and unemployment ***c.*** Beggary ***d.*** Juvenile delinquency ***e.*** Prostitution ***f.*** Alcoholism	Student Interactive Session Group Discussion	3 Hrs

			g. Problems of women in employment.		
12.	Social Security:	Enumerate and describe various Social legislatures for differently able persons.	To Cover • Social security and social legislation in relation to the disabled.	Student Interactive Session	2 Hrs
13.	Social Worker:	Explain Social worker and its role on society.	To Cover • The role of medical social worker.	Student Interactive Session	2 Hrs

Books Recommended:

1. Megee- sociology'-Drydonpressclilinois.
2. Kupuswamy- Social Changes in India -Vikas, Delhi
3. Ahuja- Social problems-Bookhive, Delhi
4. Gihnsberg- Principles of sociology-sterling publications.
5. Parter & Alder': Psychology & sociology applied to medicine- W.B.Sunders.
6. Julian- Social Problem- Prentice hall.
7. Introduction to social psychology- Akolkar- Oxford publishing house.
8. Psychology and sociology - Applied to Medicine - Porter & Alder - W. B.Saunders.

Bachelor of Physiotherapy

Paper code- 03060106

Basic Computer-Practical

Teaching Hours: 64

Periods/Week Credits
P: 4 T: 0 2

Max Marks: 50
Internal: 20

S NO.	TOPIC	LEARNING OBJECTIVES(At the end of the course the student shall be able to)	Teaching Guidelines	METHODOLOGY	TIME (Hrs)
1	Basics of Computer	To study the various components of a personal computer. And to study the working of Word pad.	To cover ➢ Input devices ➢ Output Device ➢ Secondary storage Device ➢ Components of CPU	Student Interactive Session Practical demonstrations of the Word processing software.	16
2	Hardware and Software	To have working Knowledge *of* hardware and software and to Study the working of MS power point to prepare presentation	To cover ➢ Introduction about Hardware ➢ Introduction about Software ➢ To insert, delete, add images, charts, add transition effects, Header ,footer, signature, animation as well as Custom Animation in a power point Presentation etc.	Student Interactive Session Practical demonstrations of the Word processing software.	16
3	Multimedia	To have a basic knowledge *of* utility *of* multi-media.	To cover: Unimedia, Multimedia, Application of Multimedia, Characteristics of Multimedia Systems. To Study HTML (Hypertext markup Language): TO study various tags for preparation of web pages, Static and Dynamic WebPages.	Student Interactive Session Practical demonstrations of the Word processing software.	16

4	Operating system	TO have a basic knowledge of Linux, Unix, DOS, Windows OS	To study different components of Windows OS, to have the basic knowledge of Open source operating system. TO study the DOS with its commands.	Student Interactive Session Practical demonstrations of the Word processing software.	16

REFERENCE BOOK:

1. Introduction to Computer- Renu Kapoor.

Bachelor of Physiotherapy

Paper code- 03060107

English

Teaching Hours: 32

Periods/Week	Credits	Max Marks: 50
T: 2 T: 0	2	Internal: 20

Physiotherapy I Semester

COURSE SYLLABUS

Sl. No	TOPICS TO BE COVERED	Domain	Teaching Hours (32)
Unit-I	Communication Skills (Listening) • Speeches • Audio-video clippings followed by exercises • Active listening • Introduction to Communication • Importance of Communication	Desirable to know Must Know Nice to know	10 hours
Unit-II	Conversation Skills • Greetings and Introducing oneself • Framing questions and answers • Role play • Buying: asking details etc • Interviews • Note Making	Nice to know Must Know Desirable to know	10 Hours
Unit-III	Reading Comprehension • Sentence types, Clause and phrase • Simple narration and Stories • Newspaper and articles clippings • Vocabulary building: Antonyms, Synonyms, Affixation, Suffixation, One word substitution • Phrasal Verb and Idioms • Word formation strategies	Must Know Desirable to know Must Know	12 Hours

Evaluation Pattern

Sl.no	Examination	% Marks
1	Theory	30
2	Practical	20
		50

Details of internal Assessment

Sl.no		% Marks
1	Attendance	5
2	Class participation and Assignments	5
3	Sessional Theory and Practical	10
		20

The Internal Practical Examination will be conducted by the English Language faculty

BPT 2nd SEMESTER

S NO.	SUBJECT	TOPIC	DOMAIN	HRS
1.	ANATOMY-II	1. CARDIOVASCULAR SYSTEM	MUST KNOW	8
		2. LYMPHATIC SYSTEM	MUST KNOW	4
		3. INTRODUCTION TO LOWER LIMB	MUST KNOW	20
		4.THORAX	MUST KNOW	8
		5. RESPIRATORY SYSTEM	MUST KNOW	8
		6. GENITO-URINARY SYSTEM	DESIRABLE TO KNOW	8
		7. ABDOMEN, PERINEUM AND PELVIS.	DESIRABLETO KNOW	8
2.	PHYSIOLOGY-II	1. AUTONOMIC NERVOUS SYSTEM	DESIRABLE TO KNOW	8
		2. CVS	MUST KNOW	12
		3. NERVOUS SYSTEM	MUST KNOW	24
		4. GENITO URINARY SYSTEM	NICE TO KNOW	12
		5. SKIN	DESIRABLETO KNOW	4
		6. ENVIRONMENTAL AND APPLIED PHYSIOLOGY	DESIRABLE TO KNOW	4
3.	BIOCHEMISTRY-II	1. NUCLEIC ACIDS	MUST KNOW	8
		2. VITAMINS	DESIRABLE TO KNOW	8
		3. NUTRITION	MUST KNOW	8
		4. CONNECTIVE TISSUE	MUST KNOW	8
		5. MUSCLE AND NERVE	MUST KNOW	14
		6. MINERAL METABOLISM	MUST KNOW	8
		7. INVESTIGATIONS	NICE TO KNOW	10
4.	ELECTROTHERAPY -II	1. LOW FREQUENCY CURRENTS	MUST KNOW	20
		2.HIGH FREQUENCY CURRENTS	MUST KNOW	12
		3.MEDIUM FREQUENCY CURRENTS	MUST KNOW	12
		4. HIGH FREQUENCY SOUND WAVES	MUST KNOW	10
		5. OTHER THERAPEUTIC CURRENTS		10

5.	PSYCHOLOGY	1. NATURE, METHODS AND SCOPE OF PSYCHOLOGY, INTELLIGENCE AND LEARNING . 2. MOTIVATION, FRUSTATION AND PERSONALITY. 3. EMOTION AND HEALTH ; REACTIONS TO LOSS AND DISABILITY . 4. STRESS, COMPLIANCE AND APPLICATIONS OF COUNSELLING.	MUST KNOW DESIRABLE TO KNOW MUST KNOW MUST KNOW	8 8 8 8
5.	APPLIED COMPUTER APPLICATION	1. NETWORK 2. MICROSOFT 3. POWER POINT PRESENTATION 4. SCIENTIFIC POSTER DESIGNING	DESIRABLE TO KNOW DESIRABLE TO KNOW DESIRABLE TO KNOW DESIRABLE TO KNOW	16 16 16 16`

Bachelor of Physiotherapy

Paper code- 03060201

Anatomy -II (Theory)

Teaching Hours: 64

Periods/Week Credits Max Marks: 100

L: 4 4 Internal: 40

Duration of Examination: 3 Hrs

Note: For Paper setters /Examiners

S No.	TOPIC	LEARNING OBJECTIVES (At the end of the course the student shall be able to)	Teaching Guidelines	Methodology	TIME (Hrs)
I	Circulatory system	Describe Gross anatomy of vessels. Gross anatomy of the heart	To cover a) Anatomical position, location, surfaces and borders, interior of all chambers, blood supply of heart, applied aspect b) Arteries: Muscular, Elastic; Arterioles; Capillaries: Sinusoids, Veins – Anastomosis : End arterial; Vasa vasorum, nerve supply.	SIS	8
II	Lymphatic system	Describe general anatomy of Lymphatic organs, vessels, circulation	To cover Brief description of the lymphatic system Lymph vessels, Central lymphoid tissue, Peripheral lymphoid organs, Circulating lymphocytes -T and B lymphocytes	SIS	4
III	Introduction	a) Demonstrations of	d) To cover	SIS,	20

	To Lower Limb	all bones of the lower limb. b) To cover anatomy of the lower limb joints with their applied anatomy . c) To cover venous and lymphatic drainage of the lower limbs	Side identification, features and attachments of lower limb bones and clinical anatomy General anatomy of Front of thigh, medial side of thigh back of thigh with special emphasis on gen anatomy of femoral triangle, popliteal fossa, applied anatomy Anatomy of Origin, Insertion, Nerve supply and Action of the muscles of the lower limb General Anatomy of the Nerves and vessels of the Lower limb General anatomy of sole of foot, layers of foot, plantar fascia Venous and lymphatic drainage of the lower limbs Joints of lower limb-Hip knee ankle-articulating surfaces, ligaments, bursa, movements blood and nerve supply, Clinical anatomy	demonstration of dissected part, bones	
IV	Thorax	Describe Anatomy of thoracic wall with its applied anatomy Gross anatomy of pericardium, heart with applied anatomy. Gross anatomy of the lungs.	To cover Bones and joints of thorax, intercoastal muscles, movements of thorax Anatomical position, location, surfaces and borders, interior of all chambers, blood supply of heart, applied aspect. Gross description including lobes, fissures and broncho pulmonary segments of lungs	SIS Demonstration of dissected part, bones, Skeleton	8

VII	Respiratory System	Comprehend the functional anatomy of the parts of the respiratory system	To cover Structure, parts and functions of its components, Broncho-pulmonary segments and borders and surfaces of the lungs.Gross anatomy of trachea, oesophagus, thoracic duct	SIS Demonstration of dissected part, bones, Skeleton	8
VIII	Genito-Urinary System	Brief outline of the anatomy of the male and female genitalia and excretory system	To cover Anatomy of the parts of the male and female reproductive system. Kidneys-structure, function ,nerve supply and blood supply	SIS	8
IX	Abdomen, Perineum and Pelvis.	Explain the anatomy in brief of the abdominal muscles, stomach, small and large intestine, and the inguinal region. Gross anatomy of the abdomen and explain in brief about the osteology of the abdomen and pelvis.	To cover a) Bones, muscles, blood supply, nerve supply, attachments and applied anatomy of the abdomen and pelvis region. b) Gross anatomy of ovaries, fallopian tubes and uterus. c) ductus deferens, seminal vesicles and testis. d) Gross anatomy of urinary bladder ,urethra, prostate with applied anatomy	SIS ,Demonstration of dissected part, bones, Skeleton	8

Bachelor of Physiotherapy

Paper code- 03060201

Anatomy –II (Practical)

Teaching Hours: 64

Periods/Week	Credits	Max Marks: 50
P: 4 T: 0	2	Internal: 20

PRACTICAL

1. Identification and description of all anatomical structures.
2. The learning of Anatomy is by demonstration only through dissected parts, slides, models, charts, etc.
3. Demonstration of dissected parts (lower extremity, thoracic & abdominal viscera).
4. Demonstration of skeleton- articulated and disarticulated.
5. During the training more emphasis will be given on the study of bones, muscles, joints, nerve supply of the limbs and arteries of limbs.
6. Surface anatomy: -surface land mark-bony, muscular and ligamentous. –surface anatomy of major nerves, arteries of the limbs.
7. Points of palpation of nerves and arteries.

Reference Books:-

1. B D Chaurasia's Human Anatomy.
2. Inderbir Singh- Textbook of Anatomy.
3. Textbook of Anatomy with color Atlas-Inderbir Singh.
4. Richard S. Snell- Clinical Anatomy.

Bachelor of Physiotherapy

Paper code- 03060202

Physiology –II (Theory)

Teaching Hours: 64

Periods/Week Credits
L: 4 4

Max Marks: 100

Internal: 40

Duration of Examination: 3 Hrs

Course Description:

The course is designed to assist the students to acquire knowledge of the normal human Physiology of various body systems and understand the alternation in physiology in disease and practice of Physiotherapy as applicable for each systemic disorder.

Course Objectives

The objective of this course is that after lectures, demonstrations, practicals and clinics the student will be able to demonstrate an understanding of elementary human physiology.

S NO.	TOPIC	LEARNING OBJECTIVES(At the end of the course the student shall be able to)	TEACHING GUIDELINES	METHODOLOGY	TIME
I	Autonomic nervous system-	Describe the physiology of sympathetic & parasympathetic action & reflexes	To cover the types and functions	Student Interactive Session Explain using charts, models and films. Demonstrate nerve stimulus, reflex action reflexes.	8 Hrs.
II	Cardiovascular system	Describe the physiology and functions of Heart and BP regulation &	To cover Physiology of the circulatory system. Regulation of Blood pressure and	Student Interactive Session Explain using, charts films. Measurement *of* BP, Pulse, to note effect *of* exercise.	12 Hrs.

		should be able to examine the CVS & record ECG.	associated pathologies.	Circulatory efficiency test. Auscultation *of* heart sounds.	
III	Nervous system.	Describe the physiology of nervous system Demonstrate reflex action and stimulus.	To cover Types, functions, classification, reflexes	Student Interactive Session Explain using charts films. Reflexes superficial & deep demonstration. Examination of sensory system. Examination of motor system.	24 Hrs.
IV	Genito-urinary System	Describe the physiology of male and female reproductive system. Describe the physiology of excretory system.	To cover Physiology of the reproductive system and excretory system. physiology of micturition. renal function tests, body fluid distribution, volume and regulation, patho physiology of kidney-renal failure, artificial kidney, diuretics.	Student Interactive Session Explain using, charts films.	12 Hrs.
V	Skin:	Describe the physiology of Skin and Sweating	To cover Structure, blood circulation, functions, temperature regulation	Student Interactive session Explain using, charts films.	4 Hrs.
VI	Environmental and applied Physiology:	Describe the effect of Environment on normal physiology. Describe the effect of physical stimuli and exercise and muscle & nerve.	To cover Altitude, space and underwater physiology.	. Student Interactive session Explain using, charts films.	4 Hrs.

Bachelor of Physiotherapy

Paper code- 03060202

Physiology –II (Practical)

Teaching Hours: 64

Periods/Week	Credits
P: 4	4

Max Marks: 50

Internal: 20

Duration of Examination: 3 Hrs

PRACTICALS

Examination of pulse
Examination of B.P.
Examination of Respiratory rate.
Reflexes
Spirometery to measure various lung capacities & volumes, Respiratory rate, Tidal volume, IRV, IC, ERV, EC, residual volume on Spirometery

Reference Books:-

1. Concise medical physiology Dr. S.C. Choudhary
2. Human physiology Dr. C.C. Chatterjee.
3. Sam san writes applied physiology handbook -by Cyril a keeleericB.Neil
4. Best and Taylor's physiological basic of Medical practice- C.H. Best aetal
5. Medical physiology Dr. A.C. Gutton. Review of Medical Physiology William FooGanong.

Bachelor of Physiotherapy

Paper code- 03060203

Biochemistry-II

Teaching Hours: 64

Periods/Week Credits

Max Marks: 100

L: 3 T: 1 4

Internal: 40

Duration of Examination: 3 Hrs

Course Objectives:

a. To understand biochemical basis of life sciences
b. A brief description of metabolic pathways
c. Details and structures are to be avoided.

S NO.	TOPIC	LEARNING OBJECTIVES(At the end of the course the student shall be able to)	TEACHING GUIDELINES	METHODOLOGY	TIME
I	Nucleic Acid-	Explain brief outline of nucleic acid and its importance.	To cover Structure and functions of DNA. RNA, Nucleosides, Nucleotide, Genetic code Biologically important Nucleotides	Student Interactive Session Explaing using charts and models	8
II	Vitamins	Learn functions and role of vitamins in human body	To cover Classification, Daily requirement, Physiological functions, and diseases of vitamins	Student Interactive Session Explain using charts.	8

			deficiency		
III	Nutrition	Learn about the importance of nutrition	To cover Nutritional aspects of carbohydrate, fat and protein,	Student Interactive Session Explaing using charts.	8
IV	Connective Tissue	Explain the connective tissue.	- To cover TYPES, NATURE	Student Interactive Session Explaining using charts	8
V	Muscle And Nerve	To understand the biochemical nature of nerve and muscle	To cover Muscle and Nerve-composition, and metabolism, mechanism of energy production	Student Interactive Session Explaining using charts.	14
VI	Mineral Metabolism	To understand steps involved in mineral metabolism	To cover metabolism of Iron, Calcium, Phosphorous, Trace elements	Student Interactive Session Explain using charts	8
VII	Investigations	To understand the interpretation of common investigations	To cover Interpretation of common clinical biochemical investigations(LFT, KFT,PFT)	Student Interactive Session Explain using charts.	10

SUGGESTED TEXT BOOKS

1. Biochemstry by U. Satyanarayana II Edition.
2. Text Book of Biochemstry by D.M. Vasudevan and Sreekumari S. IV Edition.
3. Textbook of Medical Biochemistry-S.K.Das Gupta.
4. Lippincott's Illustrated Reviews Biochemistry.
5. Harper's Illustrated Biochemstry by Murry et.a1.26 Edition.

Bachelor of Physiotherapy

Paper code- 03060204

Electrotherapy-II (Theory)

Teaching Hours: 64

Periods/Week Credits

Max Marks: 100

L: 4 4

Internal: 40

Duration of Examination: 3 Hrs

Course Description:

In this course the student will learn the principles, technique, and effects of electrotherapy as a therapeutic modality in the restoration of physical function.

COURSE OBJECTIVES

The objective of this course is that the student will be able to list the indications and contra indications of various types of electrotherapeutic modalities, demonstrate the different techniques, and describe their effects.

Unit	Topic	Learning Objectives (At the end of the session the student should be able to)	Teaching Methodology	Teaching Learning Activities	Time
I	Low Frequency current	Describe the application of various low frequency current Identify the types of current to be used in differ conditions	To cover the: Introduction of direct, alternating & modified currents, Physiological and therapeutic effects, different variations of modified current, principles of clinical application; indications, contra indications, precautions, operational skill of equipment & patient preparation in the Direct current & Modified current. To cover the: Iontophoresis -Physical principles, principles of clinical application, different ions and their physiological and therapeutical effects indication,	Student Interactive Session Practical Demonstration Poster Presentation	20Hrs.

			contraindication, precaution, operational skill of equipment and patient preparation To cover the: Faradic Current wave form, production, physiological and therapeutical effects of classical faradic current, Faradism under pressure, Faradism under tension, Electrical stimuli and normal behavior of nerve and Muscle tissue, Type of lesion and development of reaction of degeneration, Difference between Faradic -long duration Intermittent direct current response, S.D. Curve and its application, Chronaxie, Rheobase& Pulse ratio • Pain Gate theories • Transcutaneous Electrical Nerve Stimulations (TENS):- Types, Principle of clinical application effects & uses, indications, contra indications, precautions, operational skills of equipment & patient preparation.		
II	High Frequency Currents	Describe the heat production by High frequency current Explain the selection of different high frequencies current in different musculoskeletal conditions.	To cover the High frequency currents -production, biophysical effects, types, Therapeutic effects, techniques of application, indication, contraindications, precautions, Operational skills and patient preparation, dosimetery, prescription writing of SWD ,Pulsed Electromagnetic energy MWD Long Wave Diathermy	Student Interactive Session Poster Presentation Practical Demonstration	12 Hrs.
III	Medium Frequency Currents	Describe the Medium frequency currents. Explain the selection of different high frequencies current in different musculoskeletal	To cover the Medium frequency currents - conceptual framework of medium frequency current therapy, production, biophysical effects, types, therapeutic effects, Techniques of application, indication ,contraindication, precautions, operational skill and patient preparation, prescription writing for IFT and Russian currents	Student Interactive Session Poster Presentation Practical Demonstration	12 Hrs.

		conditions.			
IV	High Frequency Sound waves	Describe the production of sound waves. Enumerate different thermal and non thermal effects of sound waves	To cover the High frequency sound waves (ultrasound)-production, biophysical effects, types, Therapeutic effects, techniques of application, indication, contraindications, precautions, operational skill and patient preparation, Dosimetery, prescription writing for therapeutic Ultra sound.	Student Interactive Session Poster Presentation Practical Demonstration	10 Hrs.
V	Advanced Therapeucti c Currents	Describe other different types of therapeutic currents and their uses	To Cover- Basics,Types, production,dosimetry,indications, contraindications,techniques of application of following- 1. Extracorporeal Shock wave therapy 2. Microcurrents	Student Interactive Session Practical Demonstration	10 Hrs

Bachelor of Physiotherapy

Paper code- 03060204

Electrotherapy-II (Practical)

Teaching Hours: 64

Periods/Week	Credits
P: 4	2

Max Marks: 50

Internal: 20

PRACTICAL

The student of Electrotherapy must be able to demonstrate the use of electrotherapy modalities applying the principles of electrotherapy with proper techniques, choice of dosage parameters and safety precautions.

1. Identify basic electrical components in electrotherapeutic equipments.
2. Reading of medical records, indentifying indications and contraindications for electrotherapy.
3. Stimulation of motor points, stimulation of individual muscle and group muscle
4. Faradic foot bath, Faradism under pressure.
5. Plotting SD graph, diagnosis using electro diagnostic test – FG test and SD curve.
6. Placement of electrodes in TENS & IFT with dosimeter for various indication
8. Application of Ultrasound for different regions-various methods of application

Reference Books:

1. Clayton's electrotherapy theory and practice IX Edition by Angela Forester Nigel Palastanga.
2. Clayton's electrotherapy theory and practice X Edition by Kitchen &Bazin.
3. Clinical Electrotherapy by Rogar M. Nelson& Dean P. Currier.
4. Electrotherapy explained Principles and practice III Edition by John Low& And Reed.
5. Therapeutic heat and cold by Lehmann.
6. Principle and practice of Electrotherapy by Joseph Kahn.
7. Electrotherapy: Clinics in physical therapy- Wolf.

Bachelor of Physiotherapy

Paper code-03060205

Psychology

Teaching Hours: 32

Periods/Week Credits

Max Marks: 50

L: 2 2

Internal: 20

Duration of Examination: 3 Hrs

Note: For Paper setters / Examiners

Course Description:

This course is to design to develop the basic knowledge of Psychology with respect to the normal development of a child. This course is also develops the Psychological condition of patient in terms of Health related Psychological introspection. This develops the utilization and importance of Psychology with respect to Physiotherapy treatment.

S.NO	Topic	Learning objectives (at the end of the session the student should be)	Teaching guidelines	Methodology	Time (Hrs)
1	Nature, Methods and Scope of Psychology ; Intelligence and Learning	• Explain Introduction to psychology its scope and methods. • Understanding of Intelligence	• Definition of psychology, methods and scope of psychology. • Methods - Observation , experimental, case study and interview method • Definition, nature	Student Interactive session	8 Hrs.

		and assessment. • Understanding learning process and its principles.	and characteristics of intelligence. • Types and theories of intelligence (Spearman's two factor theory and Thondike's multifactor theory) • Nature of learning, theories of learning (classical Vs operant conditioning, trial and error learning, insight learning) Principles of learning.		
2	Motivation, Frustration and Personality	• Describe the concept of human motivation • Understanding psychological aspects of conflicts and frustrations. • Discuss nature, determinants and theories of personality.	• Nature and characteristics of motivation; Types of motives- Biological, Psychological and Social motives. • Frustration-aggression hypothesis; causes and reactions of frustration; nature and types of conflicts. • To cover nature and determinants of personality. Theoretical approaches: psychoanalysis(Sigmund Freud),trait theory (Allport), Behavioural approaches (Bandura) •	Student Interactive session	8 Hrs.
3	Emotion	Understanding	• Nature and theories	Student	8 Hrs.

	and Health; Reactions to Loss and Disability	different kinds of human emotions, health, illness and disability	(Cannon Bard and James Lange theories); Types of emotions (Primary and secondary emotions). • Emotional needs and psychological factors in relation to health. • Reactions to loss and disability.	Interactive session	
4	Stress; Compliance and Applications of Counseling	• Reactions to daily stress and stressful life events • Compliance and non compliance • Understanding applications of counseling.	• Describe the physiological and psychological reactions to daily stress and life event stress • Nature and factors contributing to non compliance, improving compliance • Nature and techniques of counseling, applications of counseling to health and wellness.	SIS	8 Hrs.

Books Recommended:

1. Morgan, C. T., Rosen, J. W., Morgan, C. T., & King, R. A. (1975). *Study guide for Morgan and King Introduction to psychology: Fifth edition*. New York: McGraw-Hill.
2. Baron, R.A., (2001). Introduction to Psychology: Fifth edition. New Delhi : Pearson Publicatio

Bachelor of Physiotherapy

Paper code- 03060206

Applied Computer-Practical

Teaching Hours: 32

Periods/Week Credits

Max Marks: 50

P: 4 2

Internal: 20

S NO.	TOPIC	LEARNING OBJECTIVES(At the end of the course the student shall be able to)	Teaching Guidelines	METHODOLOGY	TIME
1	Network	To learn skills *of* web surfing-For literature, research relevance to the field *of* medicine	To cover ➢ To study network, types of network, Difference between Intranet, Extranet and Internet. Various devices used in network. Assistance in finding data related to medical/Physiotherapy research.	Student Interactive session Practical demonstrations of the Word processing software.	*8*
2	Microsoft	To learn the skill of spreadsheet software.	➢ To cover the working of MS – Excel; To prepare spreadsheets, to learn the various formulas used in MS-Excel inserting charts etc.	Student Interactive session Practical demonstrations of the Word processing software.	*8*
3.	Power point presentation preparation	To learn to prepare ppt	➢ To cover-prepartion of ppt	Student Interactive session Practical demonstrations	*8*

4	Scientific poster designing	To learn how to design scientific Posters.	➢ To cover how to design scientific poster for presentation using Microsoft office publisher.	Practical demo	*8*

REFERENCE BOOK:

1. Introduction to Computer- Renu Kapoor.

Bachelor of Physiotherapy

Paper code- 03060207

English

Teaching Hours: 32

Periods/Week Credits

Max Marks: 50

T: 2 2

Internal: 20

COURSE SYLLABUS

Sl. No	TOPICS TO BE COVERED	Domain	Teaching Hours (32)
Unit-I	Communication Skills • Types of Communication • Level and Flow of Communication • Barriers to Communication and ways to overcome them • Group Discussion and Panel Discussion	Desirable to know Must Know Nice to know	8 hours
Unit-II	Presentation Skills and Pronunciation) • Mode of Presentation • Kinesics and Proxemics • Presentation Strategies • Phonetics • Syllable and Stress • Intonation and Modulation	Must Know Desirable to know	10 Hours
Unit-III	Writing Comprehension • Tense, Voice, Narration • Letters: types, format, style • Paragraph: Order, Topic sentence, consistency, coherence	Desirable to know Must Know Desirable to know	14 Hours

	• Report and Proposal • Report Writing: types, characteristics • Project Writing: Features, Structure		

Evaluation Pattern

Sl.no	Examination	% Marks
1	Theory	30
2	Practical	20
		50

Details of internal Assessment

Sl.no		% Marks
1	Attendance	5
2	Class participation and Assignments	5
3	Sessional Theory and Practical	10
		20

The Internal Practical Examination will be conducted by the English Language faculty

BPT 3rd SEMESTER

S NO.	SUBJECT	TOPIC	DOMAIN	HRS
1.	PATHOLOGY	1. GENERAL PATHOLOGY	MUST KNOW	4
		2. INFLAMMATION AND REPAIR	MUST KNOW	4
		3. IMMUNO PATHOLOGY	DESIRABLE TO KNOW	4
		4. CIRCULATORY DISTURBANCES	NICE TO KNOW	5
		5. GROWTH DISTURBANCES	DESIRABLE TO KNOW	4
		6. DISEASE OF BLOOD	DESIRABLE TO KNOW	2
		7. SPECIAL PATHOLOGY	DESIRABLE TO KNOW	7
		8. CLINICAL PATHOLOGY	DESIRABLE TO KNOW	2
2.	MICROBIOLOGY	1. GENERAL BACTERIOLOGY	MUST KNOW	6
		2. SYSTEMIC BACTERIOLOGY	DESIRABLE TO KNOW	6
		3. MYCOLOGY	NICE TO KNOW	5
		4. VIROLOGY	DESIRABLE TO KNOW	6
		5. IMMUNOLOGY	DESIRABLE TO KNOW	5
		6. APPLIED MICROBIOLOGY	NICE TO KNOW	4
3.	BIOMECHANICS-I	1. BASIC CONCEPTS IN BIOMECHANICS	MUST KNOW	15
		2. JOINT STRUCTURE AND FUNCTION	MUST KNOW	10
		3. MUSCLE STRUCTURE AND FUNCTION	MUST KNOW	10
		4. BIOMECHANICS OF THORAX AND CHEST WALL	DESIRABLE TO KNOW	4
		5. TMJ	DESIRABLE TO KNOW	5
		6. POSTURE AND GAIT	MUST KNOW	20
4.	PHYSICAL ASSESSMENT	1. ELECTRO DIAGNOSIS	MUST KNOW	8
		2. ASSESSMENT AND EVALUATION OF PATIENT REGION WISE	MUST KNOW	35
		3. ASSESSMENT OF CARDIORESPIRATORY DYSFUNCTION	MUST KNOW	10
		4. ASSESSMENT OF HAND	DESIRABLE TO	6

		5. PAIN ASSESSMENT	KNOW MUST KNOW	5
5.	EXERCISE THERAPY	1. BASIC MECHANICS 2. INTRODUCTION 3. PELVIC TILT 4. ASSESSMENT TECHNIQUES 5. RELAXATION 6. THERAPEUTIC GYMNASIUM AND THERAPEUTIC EXERCISES	MUST KNOW MUST KNOW MUST KNOW MUST KNOW MUST KNOW MUST KNOW	5 21 4 24 4 6
6.	ENVIRONMENTAL SCIENCES	1. INTRODUCTION TO EVS 2. NATURAL RESOURCES 3. ECOSYSTEMS 4. BIODIVERSITY AND CONSERVATION 5. ENVIRONMENTAL POLLUTION 6. SOCIAL ISSUES AND ENVIRONMENT 7. HUMAN POPULATION AND ENVIRONMENT 8.FIELD WORK	MUST KNOW DESIRABLE TO KNOW DESIRABLE TO KNOW DESIRABLE TO KNOW DESIRABLE TO KNOW DESIRABLE TO KNOW DESIRABLE TO KNOW	3 4 3 4 3 4 3 8

BACHELOR OF PHYSIOTHERAPY
PAPER CODE –03060301
PATHOLOGY & MICROBIOLOGY

Periods/Week Credits

TEACHING HOURS: 64

T: 3 T: 1 4

MAX. MARKS: 100
INTERNAL: 40
EXTERNAL: 60
TIME: 3Hrs.

PATHOLOGY

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

i. Acquire the knowledge of concepts of cell injury and changes Produced thereby in different tissues and organs; Capacity of the body in healing Process.
ii. Recall the Etio-pathological effects and the Clinico pathological Correlation of common infection and noninfectious diseases.
iii. Acquire the knowledge of concepts of Neoplasia with reference to the Etiology, gross and microscopic features diagnosis and prognosis in different tissues and organs of the body.
iv. Correlate normal and altered .morphology of different organ systems in different diseases needed for understanding disease process and their clinical significance (with special emphasis on neuro-musculoskeletal and cardio-respiratory system).
v. Acquire knowledge of common immunological disorders and their resultant effects on the human body.
vi. Understand in brief, about the Hematological diseases and their resultant effects on the human body.

S.No	Topic	Learning Objectives (At the end of the session the student should be able to)	Teaching Guidelines	Methodology	Time (Hrs)
1	General Pathology	Describe concepts of cell injury and changes produced thereby in different tissues	To cover a) Cell injury- causes, mechanisms with special reference Physical, Chemical and toxic injury and ionizing radiation.	Student Interactive session	4

		and organs	b) Reversible cell injury' (degenerations)-types, morphology cellular swelling, fatty change. c) Intracellular accumulations - hyaline change and mucoid, change. d) Irreversible cell injury, types of necrosis, apoptosis, Gangrene: types and etiopathogenesis, e) Pathological calcification-dystrophic and metastasis, pathogenesis and morphology f) Extra- cellular accumulation-amyloidosis. g) Pigments and pigmentations		
2	Inflammation and Repair	Describe the inflammation process and wound healing at various sites including bones, nerves and muscles	To cover a. Acute inflammations features; causes, vascular & cellular events, morphologic variations. b. Inflammatory cell & mediators, c. Chronic inflammation:- causes, types, non-specific & granulomatous with examples. d. Wound healing by primary & secondary intention factors promoting & delaying healing process, healing at various sites including bones, nerve & muscle. e. Regeneration &repair.	Student Interactive session	4
3	Immun Pathology (Basic concepts)	Describe the basic concept of immune system and organ transplantation	To cover a)Immune system: - organization, cell- Antibodies- Regulations of immune responses. or b) Hyper-sensitivity. c) Secondary immune deficiency	Student Interactive session	4

			including HIV d)Organ transplantation		
4	Circulatory disturbances	Describe the different types of disturbances in circulatory system	To cover a. Edema- pathogenesis, Types, transudate, exudates. b. Chronic venous congestion- lung, liver and spleen. c. Thrombosis- formation fate and effects. d. Embolism- types clinical effects e. Infarction- types, common sites. f. Shocks- Pathogenesis, Types, morphologic changes.	Student Interactive session	5
5	Growth Disturbance	Describe the Neoplasia with reference to the etiology ,gross and microscopic features diagnosis and prognosis in different tissues and organs of the body	To cover a. Atrophy- malformation, agenesis, dysplasia. b. Neoplasia- classification, histogenesis, biologic behavior, differences between benign & malignant tumors. c. Malignant neoplasm- grades, stages, local invasion &distal spread. d. Carcinogenesis- environmental carcinogensis i) Chemical, viruses, radiations. ii) Physical. iii) Occupational, iv) Heredity and miscellaneous factors. e. Precancerous lesions & carcinoma in situ. f. Tumor & host interactions-	Student Interactive session	4

			systemic effects- metastasis or spread of tumors especially affecting bones, spinal cord leading to paraplegia etc.		
6	Diseases of Blood	Describe the hematological diseases and their resultant effects on the human body	To cover a) Red cell disorders, anemia, polycythemia. b) Non Neoplastic disorders and neoplastic proliferation of white cell. c) Bleeding Disorders: - DIC, Thrombocytopenia, coagulation Disorders.	Student Interactive session	2
7	Topics in Special Pathology	Describe morphology of different organ systems in different diseases needed for understanding disease process and their clinical significance	To cover **a.** Cardio Vascular system: - Atherosclerosis, Ischemic heart disease- (Myocardial infarctions)-Pathogenesis, pathology, hypertension, congestive cardiac Failure, Rheumatic heart diseases and Peripheral vascular diseases. **b.** Respiratory System: - COPD, pneumonia (lobar, broncho & viral), Tuberculosis: - primary and secondary, morphologic types, pleuritis, Complications, lung collapses & atelectasis. **c.** Neuropathology:- reaction of nervous tissue to injury infection& Ischemia pyogenic tuberculous and viral meningitis, cerebrovascular diseases, Atherosclerosis, thrombosis, embolism, aneurysm, hypoxia infarction & hemorrhage, effects of Hypotension on CNS, **d.** Bone & joints:-Fracture healing, osteomyelitis, rickets, osteomalacia, bone tumors, osteoporosis, spondylosis, PID, haemarthrosis, gout, T.B. Arthritis, degenerative and inflammatory Arthritis, rheumatoid arthritis, Ankylosis	Student Interactive session	7

			spondylitis, tenosynovitis. **e.** Hepatic diseases:- Jaundice		
8	Clinical pathology	To understand and describe the clinical implications of Anemia,total leucocyte, differential leucocyte count,Deficiency disorders of vitamin A,B,C,D	To cover Anemias, total leucocyte count, differential leucocyte count, eosinophilia, ESR, C P K, Deficiency disorders of vitamin A,B,C,D	Student Interactive session	2

Text books:-

1. Text book of pathology by Harsh Mohan
2. Basic pathology by cotran Kumar Robbins

MICROBIOLOGY

Objectives: Only brief descriptions of the following topics are necessary so that the student get a general idea of the fundamental aspects of the topics elaborate descriptions are to be avoided

S.No	Topic	Learning Objectives (At the end of the session the student should be able to)	Teaching guidelines	Methodology	Time
1	General Bacteriology	Describe basic concept of medical microbiology,its importance in diagnosis and describe the natural ecology of microorganisms,human use of microorganisms and how they function in disease	To cover 1 Introductions and background Importance of medical microbiology in diagnosis &prevention of infectious diseases 2. Definition a) Medical microbiology which includes the Bacteriology, Virology, Mycology, Parasitology and Immunology, infection, pathogen I common salsymbiosis, Host vector,contagiousdisease,infections disease, Epidemic, endemic, pandemic &Zoonosis, normal flora of the human body. b) Source, mode of infection, route of infection and endogenous and exogenous infections, reservoirs of infection. 3. Morphology of Bacteria-Bacterial cell morphology, method ofstudying of· bacteria, staining methods and their principles especially gram and ziehl nelson staining, their importance in presumptive diagnosis. 4. Physiology of BacteriaNutritional requirements, growth curve, culture media:-definition, classifications and application and methods	Student Interactive Session	6

			5 IdentificationofbacteriaSpecimencollection, transportation and processing of specimens for microbiology, 6.Sterlization and disinfection Definition of sterilization disinfection asepsis antisepsis, discussion of physical methods of sterilization which includes principles and their application details on workingautoclave , hot air oven and koch's steamer modes of action of chemical		
2	Systemic Bacteriology	Describe the bacteriology and its morphology, pathogenesis and laboratory diagnosis.	To cover 1.Grampositivecocci Staphylococcus/Streptococcus/Pneumococcus: morphology, pathogenesis, laboratory diagnosis. 2. Gram negative cocci Neisseria – morphology, pathogenesis laboratory diagnosis 3.Gram positive bacilli Mycobacterium tuberculosis: Classification, morphology, growth on L.J medium, Pathogenesis, laboratory diagnosis, M. Leprae : classification morphology 4. C.I. welchi, C.I. Tetani Classification morphology, pathogenesis,klaboratorydiagnoss, prevention 5.Corynbacterium diphtheria; morphology , pathology , laboratory diagnosis and prevention	Student Interactive Session	6
3	Mycology	Describe the mycology and its classification,morphology, pathogenesis and	To cover **1** General mycology Characterstics of fungi, morphological and clinical classification of fungi mention briefly.	Student Interactive Session	5

		laboratory diagnosis	2 Subcutaneous mycetoma , spirotridhosis 3 Systemic myosis Candida, Cryptococcus , morphology , pathogenesis lab diagnosis with cultural characteristic		
4	Virology	Describe the virology and its classification ,morphology, pathogenesis and laboratory diagnosis	To cover 1. General virology Morphology, classification of viruses, Laboratory diagnosis of viral infections 2. Herpes virus Morphology, classification & pathogenesis in brief 3. Hepatitis Viruses Hepatitis-B,C: Morphology, laboratory diagnosis, prophylaxis in detail, (Mention briefly about the other hepatitis viruses) 4. Picorna viruses Morphology pathogenesis clinical feature Immunoprophylaxis. (Polio Virus) 5. Paramyxoviruses relation Important feature of measles in to physiotherapy (SSPE) 6. HIV/AIDS, Morphology, pathogenesis, lab diagnosis, universal precautions, specific precaution and Prophylaxis for	Student Interactive Session	6

5	Immunology	Describe the basic concept of immunology ,and different national immunization programme	To cover 1.Introduction- Definition immunity, active and passive immunity, local immunity and herd immunity. 2. Antigens Definition, nature, structure, classes, 3. Antibodies Physical and biological properties of immunoglobulins ,principles types and application of precipitation ,Aglutination,complement ,ELISA,Antigen antibody reactions 4. Immune response Humeral CMI 5. Hypersensitivity Definition, classification, difference between immediate (Type 1) and delayed reactionstype 2, mechanism and manifestation of anaphylaxis 6.Vaccination National immunization programme. nature of vaccines rationale and dosage	Student Interactive Session	5

6	Applied Microbiology	Describe the various infections affecting respiratory system,joints,bones. Describe how we mange biomedical waste	To cover 1 Lower respiratory tract infections. 2 Infection of central nervous system 3 Wound infection and pyogenic infections 4 Bone and joint infections . 5Hospital infections role of laboratory in cross infections control policies. 6 Biomedical waste management	Student Interactive Session	4

Books recommended :

1.Text book of microbiology for dental student: Baveja.

2.Text book of medical microbiology: Rajesh Bhatia. 3,. Textbook of medical microbiology: Arora&cArora. 4. Text book of medical parasitology Arora&cArora.

3. Text book of microbiology -R. Anantha Narayan & C.K JayaramPaniker

BACHELOR OF PHYSIOTHERAPY

PAPER CODE – 03060302

BIOMECHANICS -1

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100

INTERNAL: 40

EXTERNAL: 60

TIME: 3 Hrs.

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COURSE DESCRIPTION

This Course Supplements the Knowledge of anatomy and enables the student to have a better understanding of the principles of biomechanics and their application in musculoskeletal and various other dysfunctions.

S No.	TOPIC	Learning Objectives	Content	Methodology	Time (Hrs)
1	Basic Concept in Biomechanics: Kinematics And Kinetics	Describe the mechanics of force system, equilibrium, lever and pulley.	To cover Types of Motion planes of motion direction of motion and quantity of motion. 1. Define forces force vectors components of forces. 2. Describe gravity segmental centers of gravity centers of gravity line of gravity of the human body stability and centers of gravity relocation of the centers of gravity. 3. Describe reaction forces Newton low of reaction. 4. Describe equilibrium- low of inertia and establishing equilibrium of an object. 5. Describe objects in motion low of acceleration joint distraction in a linear force system and force of friction. 6. Describe concurrent force system: composition of forces muscle action lines total muscle force vector divergent muscle	SIS charts models, videos Students Seminar	15 Hrs.

			pulls anatomic pulleys. 7. Describe parallel force systems: First class levers second class levers- Third class levers - Torque- Mechanical Advantage. 8. Define moment arm. Moment arm of a muscle force. Moment arm of gravity and Anatomic pulleys. 9. Describe equilibrium of a lever.		
2	Joint Structure And Function. Biomechanics of Connective Tissue	Describe the joint structure and function of joints And biomechanics of Connective tissue	To Cover 1. Joint design 2. Materials used in human joints 3. General properties of connective tissues 4. Human joint design 5. Joint function 6. Joint motion 7. General effects of disease, injury and immobilization 8. Biomechanics of Connective tissue-Ligament, tendon, cartilage, bone	SIS Explanation through, charts models, videos	10 Hrs.
3	Muscle Structure And Function.	Describe the muscle structure and function of muscles	To Cover 1. Mobility and stability functions of muscles 2. Elements of muscle structure 3. Muscle function 4. Effects of immobilization, injury and aging	Student Interactive session Explanation through , charts models, videos Poster presentation	10 Hrs.
4	Biomechanics of the Thorax and Chest wall	Describe the biomechanics of the thoracic and chest wall	To cover 1. General structure and function 2. Rib cage and the muscles associated with the rib cage 3. Ventilatory motions: its coordination and integration 4. Developmental aspects of structure and function 5. Changes in normal structure and function I relation to pregnancy, scoliosis and COPD	Student Interactive session Explanation through, charts models, videos Horizontal integerated teaching	4 Hrs.
5	The Temporomandi-bular Joint	Describe the temporo mandibular joint structure,	To cover 1. General features, structure , function and dysfunction	Student Interactive session	5 Hrs.

		function and dysfunction		Explanation through, charts models, videos	
6	Analysis of Posture and Gait	Describe the analysis of posture and gait during static and dynamic movement	To cover 1. Static and dynamic posture, postural control, kinetics and kinematics of posture, ideal posture analysis of posture, effects of posture on age, pregnancy, occupation and recreation; general features of gait, gait initiation, kinematics and kinetics of gait, energy requirements, kinematics and kinetics of the trunk and upper extremities in relation to gait, stair case climbing and running, effects of age, gender, assistive devices, disease, muscle weakness, paralysis, asymmetries of the lower extremities, injuries and mal alignments in gait; Movement Analysis : ADL activities like sitting – to standing, lifting, various grips , pinches.	Student Interactive session	20 Hrs.

BACHELOR OF PHYSIOTHERAPY

PAPER CODE – 03060302

BIOMECHANICS -I- PRACTICAL

Periods/Week Credits

TEACHING HOURS: 64

P: 4 2

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

PRACTICAL

1. Identify anatomical landmarks of body
2. Identify Muscle work of various movements in body at different angle.
3. Identify normal and abnormal posture.
4. Normal gait with it parameters and identify abnormal gait with the problems in it.

Reference books

1. Biomechanical principles: Frenkel
2. Joint Structure & Functions : Norkins
3. Biomechanics- Nordin

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060303
EXERCISE THERAPY-1- THEORY

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100
INTERNAL: 40
EXTERNAL: 60
TIME: 3 Hrs.

At the end of the course, the candidate will have a better understanding of the principles of exercise therapy both basic and advanced. The student's skill will be enhanced through hands on training provided during the practical hours.

S NO.	TOPIC	LEARNING OBJECTIVES (At the end of the session the student should be able to)	Teaching Guidelines	Methodology	HRS
1	Basic Mechanics	• Define the various terms used in Mechanics, • Recall the basic principles of Physics related to mechanics of movement/ motion	To cover the following terms and describe the principles involved with suitable examples. i. Force: Composition of force, parallelogram of forces. ii. Equilibrium: Stable, unstable, neutral. iii. Gravity: Center of gravity, line of gravity. iv. Levers: 1st order, 2nd order, 3rd order, their examples in the human body and their practical applications in physiotherapy, forces applied to the body levers. v. Pulleys: Fixes, movable. f. Springs: Series, parallel. vi. Tension.	Student Interactive Session Students Seminars	5

			vii. Elasticity: Hook's law. viii. Axis: sagittal, frontal, transverse, vertical. ix. Planes: Sagittal, frontal, horizontal. x. Definition of speed, velocity, work, energy, power, acceleration, momentum, friction and Inertia.		
2	Introduction to exercise therapy Types of movements	Describe basic concepts of exercise therapy-positions, types of movements, classification	To cover the following terms-introduction to exercise therapy, principles, technique and general areas of its application, assessment & its importance.	Student Interactive Session Practical demonstration Hands on training	4
	Fundamental and derived positions	Acquire knowledge of different starting & derived positions	Fundamental starting position and derived position including joint positions, muscle work, stability, effects and uses.		4
	Resistance exercises	Acquire knowledge of Movements – Classification, Principles, and Techniques & Uses.	To cover classification of movements - Describe the types, technique of application, indication, contraindications, effects and uses of the following: Active movement. Passive movement. Active assisted movement.		3
		Acquire knowledge of resisted exercises , types and techniques	To cover Definition of strength, power, endurance. Guiding principle of resisted exercise, determinants, types Manual and Mechanical Resistance Exercise, Isometric Exercise, Dynamic Exercise - Concentric and Eccentric, Dynamic Exercise - Constant and Variable Resistance, Isokinetic Exercise, Open-Chain and ClosedChain Exercise, precautions, contraindications Progressive Resistance Exercise - de Lormes, Oxford, MacQueen, Circuit Weight		6

	Suspension therapy	Describe principles, techniques and clinical application of suspension therapy	To cover the principles, techniques of application, indication, contraindication, precaution, effects and uses of suspension therapy.		4
4	PELVIC TILT	Describe types of pelvic tilt, normal and abnormal, muscle work involved	To cover: Normal pelvic tilt, alteration from normal, anterior tilt (forward), posterior til(backward), lateral tilt. Muscles responsible for alteration and pelvic rotation. Identification of normal pelvic tilt, pelvic rotation and altered tilt and their corrective measures.	Student Interactive Session Explain using PPTs and videos Practical Demonstration Problem based learning	4
5	ASSESSMENT TECHNIQUES 1. MMT 2. DYNAMOMETRY 3. GONIOMETRY, INCLINOMETER	Demonstrate principles, application of techniques like goniometry, MMT	To cover Principles and application techniques of manual muscle testing. Testing position, procedure and grading of muscles of the upper limb, lower limb and trunk, Respiratory muscles Other methods of muscle testing-dynamometry To cover Principle techniques and application of Goniometry, inclinometer Testing position, procedure and measurement of R.O.M. of the joints of upper limbs, lower limbs and trunk.	Student Interactive Session Practical Demonstration Hands on training	14 10
6	Relaxation	Acquire knowledge & skill of Relaxation techniques	To cover relaxation, muscle fatigue, muscle spasm and tension (mental & physical). Factors contributing to fatigue & tension. Techniques of relaxation (local and general). Effects, uses & clinical application. Indication and contraindication To cover Alexender method of relaxation Jacobson's method of relaxation	Student Interactive Session Explain using PPTs and videos Practical Demonstration	4

				Poster presentation	
7	Therapeutic Gymnasium AND Therapeutic exercises 1.Therapeutic gymnasium 2.Therapeutic exercises	Describe & acquire the skill of use of various tools of the Therapeutic gymnasium Describe types, indications contraindications precautions of therapeutic exercises Be able to demonstrate General Fitness exercises & understand principles of General Fitness	To cover Setup of gymnasium & its importance. Various equipments in the gymnasium. Operation skills, effects & uses of each equipment To cover the Principles classification techniques physiological &therapeutic effects indications & contraindications of therapeutic exercises. Exercise for the normal person -importance and effects of exercise to maintain optimal health & its role in the prevention of diseases Types advantages, disadvantages, indications, contraindications & precautions for all age group.	Student Interactive Session Explain using PPTs and videos Practical Demonstration Hands on training	3 3

BACHELOR OF PHYSIOTHERAPY

PAPER CODE – 03060303

EXERCISE THERAPY-1- PRACTICAL

Periods/Week Credits

TEACHING HOURS: 64

P: 4 2

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

Exercise therapy -II (practical)

1. Starting positions and derived positions
2. Range of motion (PROM, AROM, AAROM) exercises to all joints
3. Measurement of joint range using goniometer
4. General and local Relaxation techniques
5. Suspension exercise to all major joints
6. Manual muscle testing of individual muscles .
7. To practice assessment & evaluative procedures including motor, sensory, neuromotor, co-ordination, vital capacity, limb length & higher functions.
8. To study & practice the various techniques of progressive strengthening exercise of muscles
9. To study & practice the various techniques of progressive strengthening exercise of muscles region wise. .
10. To assess & evaluate ADL's and practice various training techniques.

Books recommended:

1) Practical exercise therapy - Hollis Blackwell scientific publication.
2) Therapeutic exercises basmajian William & Wilkins.
3) Therapeutic exercises foundations and techniques kisner& Colby La Davis.
4) Principle of exercise therapy Gardiner cbs Delhi.
5) Orthopedic physical therapy woods Churchill Livingstone.
6) Manual examination and treatment of spine and extremities wads worth.

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060304
PHYSICAL ASSESSMENT- (THEORY)

Periods/Week	Credits
T: 4	4

TEACHING HOURS: 64

MAX. MARKS: 100
INTERNAL: 40
EXTERNAL: 60
TIME: 3 Hrs.

COURSE OBJECTIVES

The objective of this course is that after lectures, demonstrations and Practical the student will be able to evaluate/assess the conditions of patient and plan and execute specific treatment according to the patient condition. The student will also learn and demonstrate various manual therapy techniques.

S No.	Topic	Learning Objectives(At the end of the course the student shall be able to)	Teaching Guidelines	Methodology	Time
I	Electro diagnosis	Describe the electrical activities of nerve and muscle. Differentiate the nerve and muscle lesions. Identify different types of lesions in nerve and muscles.	To cover • SD. Curve, Integrated EMG, use of Biofeedback unit for assessment of muscle function. (a) Principles of Electro-myography- Motor unit Normal Characteristics- activity at rest, recruitment/ frequency pattern at minimal activity, interference pattern, abnormal EMG Pattern (b) Principles of nerve conduction (c) Late responses-F-wave, H-reflex, Blink reflex.	SIS Practical Demonstration Case Discussion	8 Hrs.

			(d) Electro-physiological principles of assessment of myoneural junction. (e) EMG instrumentation, basic components, panel diagram, types of electrodes.		
II	Assessment AND Evaluation	Describe the Region wise Physical Therapy assessment & evaluation of patient.	To cover Assessment of patient (region wise) to plan a therapeutic programme - Shoulder, Forearm –complex, Wrist and Hand, Hip, Knee, Ankle, Foot and Spine. The Assessment and evaluation should include -patient history, observation, examination, functional assessment, joint play movements, diagnostic imaging and diagnosis.	SIS Practical Demonstration Case Discussion Hands on training	35 Hrs.
III	Assessment of Cardio-pulmonary dysfunction	Describe the cardiopulmonary assessment of patient. Demonstration and interpretation of different test used in Cardiopulmonary Assessment	To cover Chest expansion, Abnormal breath sounds, Quality of life questionnaires, Borg scale, Principles of exercise tolerance test, assessment of vital parameters in simple functional test, 6-minute test/symptom limited test, breath holding test, Spirometry, Peak-flowmetry, Theoretical bases of Bruce's protocol, Astrand Protocol and step test.	SIS Practical Demonstration Case Discussion Hands on training Horizontal Integerated teaching	10 Hrs.
IV	Assessment of Hand	Describe the Physical Assessment of hand.	To cover – pinches, grip, routine sensory motor evaluation, stereogonosis. The Assessment and evaluation should include Clinical reasoning and decision making , patient history, observation, examination, functional assessment, joint play movements,	SIS Practical Demonstration Case Discussion Hands on training	6 Hrs.

			diagnostic imaging and diagnosis.		
V	Assessment of pain	Describe the pain in terms of intensity and quality. Identify different scales used in pain assessment	To cover Intensity, Quality, objective assessment/documentation	SIS Case Discussion	5 Hrs.

BACHELOR OF PHYSIOTHERAPY

PAPER CODE – 03060304

PHYSICAL ASSESSMENT- (PRACTICAL)

Periods/Week Credits

TEACHING HOURS: 64

P: 4 2

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

TIME: 3 Hrs.

Practical Hours:

PRACTICAL

1. Practical demonstration & interpretation of various tests used in Physical assessment of Cardiopulmonary conditions
2. Practical demonstration & interpretation of various tests used in Physical assessment orthopedics conditions.
3. Practical demonstration & interpretation of various electro diagnostic tests used in Physical assessment- SD curve, EMG, NVC & Biofeedback.
4. Practical demonstration & interpretation of various tests & scales used in Physical assessment of hand dysfunction.
5. Student must maintain a logbook. The duly completed logbook should be submitted during practical examination.

Books Recommended:

1. Physical Assessment: David J Magee
2. Tetraplegia & Paraplegia- Bromley- W.B. Saunders.
3. Physical Rehabilitation: O’ Sullivan
4. Cardiopulmonary Physical Therapy: Donna Frownfelter
5. Rheumatological Physiotherapy- David – Mosby
6. Orthopaedic Physiotherapy- Tids well – Mosby
7. Physiotherapy for amputee- Engstrom& Van de van - Churchill Livingsstone
8. Sports Injuris: Diagnosis and management: Norris Butterworth Heinman

BACHELOR OF PHYSIOTHERAPY-
PAPER CODE- 03060305
ENVIRONMENTAL SCIENCES

Periods/Week Credits

TEACHING HOURS: 32

T: 2 2

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

TIME: 3 Hrs

S. No	Topic	Learning Objectives (At the end of the session the student should be able to)	Teaching Guidelines	Methodology	Time (Hrs)
1	The multidisciplinary nature of environmental studies	Describe definition ,scope and importance of multidisciplinary nature of environmental studies.	To cover Definition, scope and importance Need for public awareness	Student Interactive Session	3
2	Natural Resources Renewable and non-renewable resources	Describe various natural resources and role of an individual in conservation of natural resources	To cover Natural resources and associated problems. (a) Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people. (b) Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.	Student Interactive Session Students seminars Group discussion	4

			(c) Mineral resources: Use 2and exploitation, environmental effects of extracting and using mineral resources, case studies. (d) Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies. (e) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, case studies. (f) Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification. □□□Role of an individual in conservation of natural resources. □□□Equitable use of resources for sustainable lifestyles.		
3	Ecosystems	Describe concept of an ecosystem including its type characteristic features,structure and functions	□□□cover □□□Concept of an ecosystem □□□Structure and function of an ecosystem □□□Producers, consumers and decomposers □□□Energy flow in the ecosystem □□□Ecological succession □□□Food chains, food webs and ecological pyramids	Student Interactive Session Students seminars Group discussion	3

			□□□Introduction, types, characteristic features, structure and function of the following ecosystem: a. Forest ecosystem b. Grassland ecosystem c. Desert ecosystem d. Aquatic ecosystems (ponds streams, lakes, rivers, ocean estuaries)		
4	Biodiversity and its conservation	Describe concept of biodiversity and its conservation	To cover □□□Introduction – Definition: genetic, species and ecosystem diversity □□□Bio geographical classification of India □□□Value of biodiversity: consumptive use, productive use, social, ethical aesthetic and option values □□□Biodiversity at global, national and local levels □□□India as a mega-diversity nation □□□Hot-spots of biodiversity □□□Threats to biodiversity: habitat loss, poaching of wildlife, man wildlife conflicts □□□Endangered and endemic species of India □□□Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity	Student Interactive Session	4
5	Environmental Pollution	Describe various types of environmental pollution their causes, effects and measures of control.	To cover Definition,□Causes, effects and control measures of: a. Air pollution	Student Interactive Session Students seminars Group	3

			b. Water pollution c. Soil pollution d. Marine pollution e. Noise pollution f. Thermal pollution g. Nuclear pollution □□□Solid waste management: Causes, effects and control measures of urban and industrial wastes. □□□Role of an individual in prevention of pollution □□□Pollution case studies □□□Disaster management: floods, earthquake, cyclone and landslides	discussion	

6	Social Issues and the Environment	Describe the concept social issues and environment	□□□cover □□□From unsustainable to sustainable development □□□Urban problems and related to energy □□□Water conservation, rain water harvesting, watershed management □□□Resettlement and rehabilitation of people; its problems and concerns. Case studies. □□□Environmental ethics: Issues and possible solutions □□□Climate change, global warming, acid rain, ozone layer depletion, nuclear accidents and holocaust. Case studies. □□□Wasteland reclamation □□□Consumerism and waste products □□□Environmental Protection Act □□□Air (Prevention and Control of Pollution) Act □□□Water (Prevention and control of Pollution) Act □□□Wildlife Protection Act □□□Forest Conservation Act □□□Issues involved in enforcement of environmental legislation □□□Public awareness	Student Interactive Session	4

7	Human Population and the Environment	Describe the concept of Human population and the Environment	□□□cover □□□Population growth, variation among nations □□□Population explosion – Family Welfare Programmes □□□Environment and human health □□□Human Rights □□□Value Education □□□HIV / AIDS □□□Women and Child Welfare □□□Role of Information Technology in Environment and Human Health □□□Case Studies	Student Interactive Session	3
8	Field Work		□□□□cover □□□Visit to a local area to document environmental assetsriver/ forest/grassland/hill/mountain □□□Visit to a local polluted site – Urban / Rural / Industrial / Agricultural □□□Study of common plants, insects, birds □□□Study of simple ecosystems-pond, river, hill slopes, etc (Field work equal to 5 lecture hours)		8

BOOKS RECOMMENDED:

1. A PRESESPECTIVE TO ENVIRONMENTAL STUDUES BY CP KAUSHIK
2. ENVIROMNENTAL SCIENCE BY G.TYLER

BPT 4th SEMESTER

S NO.	SUBJECT	TOPIC	DOMAIN	HRS
1.	PHARMACOLOGY	1. GENERAL PHARMACOLOGY	MUST KNOW	6
		2. ANS	DESIRABLE TO KNOW	8
		3. PNS	MUST KNOW	5
		4. CNS	MUST KNOW	12
		5. ENDOCRINES	DESIRABLE TO KNOW	6
		6. GIT	NICE TO KNOW	4
		7. CHEMOTHERAPY	NICE TO KNOW	12
		8. CVS&BLOOD	NICE TO KNOW	5
		9. MISC. TOPIC	NICE TO KNOW	6
2.	BIOMECHANICS	1. VERTEBRAL COLUMN	MUST KNOW	15
		2. BIOMECHANICS OF SHOULDER JOINTS	MUST KNOW	10
		3. BIOMECHANICS OF ELBOW JOINT	MUST KNOW	3
		4. BIOMECHANICS OF WRIST & HAND JOINTS	MUST KNOW	6
		5. BIOMECHANICS OF HIP JOINTS	MUST KNOW	10
		6. BIOMECHANICS OF KNEE JOINTS	MUST KNOW	10
		7. BIOMECHANICS OF ANKLE & FOOT JOINTS	MUST KNOW	10
3.	MANUAL THERAPY	1.MANUAL THERAPY AND CLINICAL REASONING	MUST KNOW	34
		2.MOTOR LEARNING AND MOTOR CONTROL	MUST KNOW	10
		3.ASSESSMENT OF MOVEMENT DYSFUNCTION	MUST KNOW	10
		4.INTERPRETATION OF VARIOUS INVESTIGATIONS	DESIRABLE TO KNOW	10
4.	EXERCISE THERAPY	1.NEUROMUSCULAR COORDINATION	MUST KNOW	2
		2. SOFT TISSUE MANIPULATION	MUST KNOW	10
		3. STRETCHING	MUST KNOW	5
		4.INCOORDINATION & FUNCTIONAL RE-EDUCATION	MUST KNOW	6
		5. AEROBIC EXERCISES	MUST KNOW	3
		6.POSTURE BALANCE AND GAIT	MUST KNOW	20

		7.HYDROTHERAPY 8.SPECIAL TECHNIQUES 9.MISCLLANEOUS	NICE TO KNOW MUST KNOW NICE TO KNOW	5 10 5
5	BASICS OF RADIO PHYSICS	1.REGIONAL RADIOGRAPHY 2.BASICS OF MAMMOGRAPHY 3.ULTRASOUND 4.ECHOCARDIOGRAPHY 5.CT SCAN 6.MRI 7.ADVANCEMENT IN CT	MUST KNOW NICE TO KNOW MUST KNOW NICE TO KNOW NICE TO KNOW MUST KNOW DESIRABLE TO KNOW	20 2 10 5 10 10 7
6.	GERIATRIC CARE & REHABILITATION	1. INTRODUCTION 2. PHYSIOLOGICAL CHANGES WITH AGE 3. PHYSIOTHERAPIST ASSESSMENT 4. GERIATRIC INJURIES 5. COMPLEXITY OF IMMOBILITY & MANGEMENT OF IMMOBILE ELDERLY 6. BEDS & CHAIRS 7. PROTECTION FROM FALL 8. ASSESSMENT & TREATMENT OF BALANCE & RETRAINING 9. EXERCISE PRISCRIPTION 10. OSTEOPOROSIS 11. AQUATIC PHYSIOTHERAPY FOR ELDERLY 12. PHYSIOTHERAPY FOR PELVIC DYSFUNCTION 13. PAIN IN ELDERLY	NICE TO KNOW NICE TO KNOW NICE TO KNOW NICE TO KNOW NICE TO KNOW NICE TO KNOW NICE TO KNOW NICE TO KNOW NICE TO KNOW NICE TO KNOW NICE TO KNOW NICE TO KNOW NICE TO KNOW	4 5 5 4 8 4 4 9 5 4 4 4 4

BACHELOR OF PHYSIOTHERAPY-
PAPER CODE- 03060401
PHARMACOLOGY

Periods/Week Credits

TEACHING HOURS: 64

T: 3 T: 1 4

MAX. MARKS: 100

INTERNAL: 40

EXTERNAL: 60

TIME: 3 Hrs

S.No	Topic	Learning Objectives (At the end of the session the student should be able to)	Teaching Guidelines	Methodology	Time (Hrs)
1	GENERAL PHARMACOLOGY	Describe pharmacology ,its division ,routes of administration,factor affecting dose of a drug and various mechanism of action of a drug.	To cover: 1. Definition division of pharmacology, dosage, forms, drug nomenclature. 2. Routes of administration, advantages & disadvantages of commonly used routes of administration. 3. Factors affecting dose of a drug, bioavailability and other important pharmacokinetic parameters. 4. Various mechanism of action of a drug. 5. Adverse drug reaction include drug. 6. Adverse drug reaction including drug allergy idiosyncrasy. Drug interactions synergism	SIS	6

			antagonism etc		
2	AUTONOMIC NERVOUS SYSTEM	Describe the various drugs including their mechanism ,uses ,therapeutic uses and adverse effects on Autonomic Nervous System	To cover 1. Sympatho mimetic drug, therapeutic uses of adrenaline etc. 2. Beta adrenergic blockers & alpha adrenergic blockers. 3. Para sympatomimetic drug, their therapeutic uses and uses and adverse effects and treatment of myasthenia gravis. 4. Atropine, Atropine substitute & treatment of organ phosphorus poisoning	SIS	8
3	PERIPHERAL NERVOUS SYSTEM &AUTOCOIDS	Describe the various drugs including their mechanism ,uses ,therapeutic uses and adverse effects on Peripheral Nervous System with special emphasis on muscle relaxants	To cover 1. Skeletal muscle relaxants. 2. Centrally acting muscle relaxants. 3. Local anaesthetics. 4. Anti histaminics (HI blockers).	SIS	5
4	Central nervous system	Describe the various drugs including their mechanism ,uses ,therapeutic uses and adverse effects on Central Nervous System With special emphasis on anti parkinsonian drugs and NSAIDS	To cover 1. Pre Anaesthetic medication & G.A. and steps of anaesthesia. 2. Analgesics - NASID's Opioids.etc. 3. Anti - Parkinsonian drug & Treatment of neurodegenerative disorders. 4. Sedative & hypnotics & Treatment of Insomnia. 5. Antiepileptic drug & Treatment of epileptics. 6. Ethyl alcohol drug of	SIS	12

			addiction treatment of Methyl alcohol poisoning 7. Drug used in common psychiatric disorders		
5	ENDOCRINES	Describe the various drugs including their mechanism ,uses ,therapeutic uses and adverse effects on Endocrine System	To cover 1. Anti diabetes drug Treatment of Diabetes mellitus & Diabetic keto acidosis. 2. Gluco corticoids. 3. Anabolic steroids. 4. Ca++Metabolism, Treatment of osteoporosis etc. 5. Thyroid and anti thyroid drugs	SIS	6
6	GIT	Describe the various drugs including their mechanism ,uses ,therapeutic uses and adverse effects on Gastrointestinal System	To cover 1. Laxative & purgative and treatment of constipation. 2. Anti diarrhoeal drugs & treatment of diarrhoea. 3. Drug for gastric and peptic ulcer. 4. Anti emetics	SIS	4
7	CHEMO-THERAPY	Describe the various drugs used in chemotherapy and their indications	To cover (General consideration with use of AMA) 1. Penicillin's &Sulphonamides. 2. Broad spectrum Antibiotics. 3. Aminoglycosides & Treatment of urinary tract infection. 4. Macrolides & Misc. AMA. 5. Quinolones. 6. Anti TB, HIV, AIDS drugs. 7. Anti leprosy drug 8. Introduction to anti cancer drugs	SIS	12

			9. Treatment of amoebiasis, helminthes infection. 10. Antifungal drugs. 11. Anti septic& disinfectants		
8	CVS & BLOOD	Describe drugs used for cardiovascular disorders and heamatological diseases	To cover 1. Anti hypertensive& Treatment of hypertension etc. 2. Anti angina drug& Treatment of MI. 3. Drugs used in shock, Treatment of anaphylactic shock and Hemorrhagic shock etc. 4. Iron - deficiency anemia and other anaemias. 5. Antiplatelet drug, anticoagulants, fibrinoyltic agents	SIS	5
9	MISC. TOPIC	Describe drugs acting on skin and their mechanism Describe drugs used bronichial asthma Describe general principles of treatment of poisioning Describe various drugs banned in sports Describe various vaccinations	To cover 1. Drug acting on skin e.g. Lotions liniments ointments. 2. Vitamins 3. Heavy metal antagonists & general principles of treatment of poisoning. 4. Antitussives & Bronchial asthma drugs. 5. Drugs banned in sports & Athletes. 6. Vaccines & sera, Immunization schedule.	SIS	6

RECOMMENDED BOOKS

1. Essentials of pharmacology by Surendra Singh
2. Pharmacology by Bhattacharya Sen ray choice editor P.K. Das
3. Clinical Pharmacology by Sennet.

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060402
BIOMECHANICS-II (THEORY)

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100
INTERNAL: 40
EXTERNAL: 60
TIME: 3 Hrs

COURSE DESCRIPTION
This Course Supplements the Knowledge of anatomy and enables the student to have a better understanding of the principles of biomechanics and their application in musculoskeletal and various other dysfunctions.

S No.	TOPIC	Learning Objectives	Content	Methodology	Time (Hrs)
1	Biomechanics of the vertebral column	Describe the biomechanics of structure and function of vertebral column	To cover 1. General structure and function 2. Regional structure and function – Cervical region, thoracic region, lumbar region, sacral region 3. Lumbar - pelvic rhythm 4. Muscles of the vertebral column 5. General effects of injury and aging 6. Kinetics and kinematics during different activities such as squatting, sitting, standing waking, bending	Student Interactive session Explanation through ppt, charts models, videos	15 Hrs.
2	Biomechanics of the peripheral joints	Describe the biomechanics of the peripheral joints such as shoulder complex, elbow complex, wrist	To cover 1. The shoulder complex: Structure and components of the shoulder complex and their integrated function including dynamic stability of the gleno humeral join, Scapulo humeral rhythm, scapulo thoracic and gleno humeral contributions 2. The elbow complex: Structure and function of the elbow joint – humeroulnar	Student Interactive session Explanation through ppt, charts models, videos Students Seminars Group Discussions	10 Hrs

		complex, hip complex, knee complex and ankle, foot complex	and humeroradial articulations, superior and inferior radioulnar joints; mobility and stability of the elbow complex; the effects of immobilization and injury. 3. The wrist and hand complex: Structural components and functions of the wrist complex;structure of the hand complex; prehension; functional position of the wrist and hand. 4. The hip complex: structure and function of the hip joint; hip joint pathology- arthrosis, fracture, bony abnormalities of the femur including function of hip- Rotation, between pelvis, lumbar spine and hip, Pelvis motion, anterior posterior pelvic tilting, lumbar pelvic rhythm, lateral pelvic tilting, pelvic rotation. 5. The knee complex: structure and function of the knee joint – tibiofemoral joint and patellofemoral joint; effects of injury and disease including tibiofemoral joint: range of motion, flexion and extension, rotation, abduction and adduction, locking and unlocking. 6. The ankle and foot complex.: structure and function of the ankle joint, subtalar joint talo calcaneonavicular joint, transverse tarsal joint, tarso metatarsal joints, metatarsophalangeal joints, inter phalangeal joints, structure and function of the plantar arches, muscles of the ankle and foot, deviations from normal structure and function – Pes Planus and Pes Cavus	Problem based learning	3 Hrs 6 Hrs 10 Hrs 10 Hrs 10 Hrs

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060402
BIOMECHANICS-II (PRACTICAL)

Periods/Week Credits
TEACHING HOURS: 64
P: 4 2
MAX. MARKS: 50

INTERNAL: 20
EXTERNAL: 30

PRACTICAL –Teaching hrs-64

1. Identify anatomical landmarks of body
2. Identify Muscle work of various movements in body at different angle.

Recommended Books:

1. Biomechanical principles: Frenkel
2. Joint Structure & Function- Cynthia Norkins
3. Biomechanics- Nordins

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060404
MANUAL THERAPY (THEORY)

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100

INTERNAL: 40

EXTERNAL: 60

TIME: 3 Hrs

COURSE OBJECTIVES

The objective of this course is that after lectures, demonstrations and Practical the student will be able to evaluate/assess the conditions of patient and plan and execute specific treatment according to the patient condition. The student will also learn and demonstrate various manual therapy techniques.

S No.	Topic	Learning Objectives(At the end of the course the student shall be able to)	Teaching Guidelines	Methodology	Time
I	Basics in Manual Therapy and application with clinical reasoning:	Describe and Demonstrate different techniques of Manual Therapy	To cover (a) examination of joint- stability- normal/ abnormal. (b) Mobility assessment of accessory movement and End Feel (c) Assessment of articular and extra articular soft tissue status- differentiation of spasm, acute and muscle hold/ tightness, pain- original and referred (d) Basic Principles of mobilization skills for joints and soft tissues- (Maitland, Kaltenborn, Mulligan's, Mckenzie, Muscle energy technique, myofascial	Lecture presentation Practical Demonstration Hands on training Horizontal Integerated teaching	34 Hrs.

			stretching, Cyriax, trigger points, PNF neural tissue mobilization i.e. slump, butler, and ULTT). Indication, contraindication, Principles of Manipulative therapy, basic skills of mobilization (Kaltenborn, Mulligan's, Maitland and Cyriax friction massage only, PRT), Basics of Therapy that can be used adjunct to Physiotherapy- dry needling, cupping therapy, acupuncture, naturopathy etc		
II	Motor Learning and Motor Control	Describe the motor Learning and Motor Control Identify and application of different theories of Motor control	To cover (b) Introduction to motor learning: 1. Classifications of motor skills 2. Measurement of motor performance. (c) Introduction to motor control: 1. Theories of motor control 2. Applications 3. Learning Environment 4. Learning of Skill	Student Interactive session Practical Demonstration Students Seminar Hands on training Horizontal Integerated teaching	10 Hrs.
III	Assessment of movement dysfunction	Describe the Physical Assessment of Movement Dysfunction Identify the different causes of Movement Dysfunction.	- To cover higher function, cranial nerve, altered muscle strength, power, balance, endurance, tone. Spasticity, in coordination, abnormal deep and superficial reflexes, limb length discrepancy, trick movement, special test, assessment scales, altered posture and gait, functional analysis as per I.C.I.D.H. norms, functional diagnosis.	Student Interactive session Practical Demonstration Case Discussion Hands on training	10 Hrs.

IV	Interpretation of various investigations	Describe and interpret various routine investigations, eg; X-Rays, biochemical and electro diagnostic test	To cover interpretation of Radiological (X-Rays), routine biochemical investigations. Electro diagnostic findings.	Lecture Presentation Practical Demonstration Case Discussion	10 Hrs.

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060404
MANUAL THERAPY (PRACTICAL)

Periods/Week	Credits
P: 4	2

TEACHING HOURS: 64

MAX. MARKS: 50
INTERNAL: 20
EXTERNAL: 30

Practical Hours:
PRACTICAL

1. Interpretation of various investigations like- Radiological (X-Rays), routine biochemical investigations.
2. Practical demonstration & interpretation of various tests & scales used in Physical assessment of movement dysfunction.
3. Student must maintain a logbook. The duly completed logbook should be submitted during practical examination.

Books Recommended:

1. Physical Assessment: David J Magee
2. Tetraplegia & Paraplegia- Bromley- W.B. Saunders.
3. Physical Rehabilitation: O' Sullivan
4. Orthopaedic Physiotherapy- Tids well – Mosby
5. Physiotherapy for amputee- Engstrom& Van de van - Churchill Livingsstone
6. Sports Injuris: Diagnosis and management: Norris Butterworth Heinman

BACHELOR OF PHYSIOTHERAPY-
PAPER CODE – 03060403
EXERCISE THERAPY-II (THEORY)

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100
INTERNAL: 40
EXTERNAL: 60
TIME: 3 Hrs

Note: For Paper setters / Examiners

- Paper setters required to set 4 questions from the entire syllabus.
- Question No. one will be compulsory which carries 15 marks (long essay).
- Student will be required to attempt five more questions out of seven carrying thirteen marks each.

Course Objective-
At the end of the course, the candidate will have a better understanding of the principles of exercise therapy both basic and advanced. The student's skill will be enhanced through hands on training provided during the practical hours.

S NO.	TOPIC	LEARNING OBJECTIVES (At the end of the session the student should be able to)	Teaching Guidelines	Methodology	HRS
1	Neuromuscular coordination	Acquire knowledge of neural control and methods of training co-ordination & Balance	To cover Neuro muscular Incoordination- etiology, mechanism and treatment	Student Interactive session Practical demonstration Hands on training	4
2	Soft tissue manipulations	Acquire the skill of application of various soft tissue manipulations & Describe	Soft Tissue Manipulation (Therapeutic massage) History, various types of soft tissue manipulation techniques. Physiological effects of soft tissue manipulation on the following	Student Interactive session Practical Demonstration	10

		Principles, Physiological effects, Therapeutic use, Merits & Demerits.	systems of the body circulatory, Nervous, Musculoskeletal, Excretory, Respiratory & Integumentary system and metabolism. Classify, define and describe:- effleurage, stroking, kneading, Petrissage, deep friction, vibration and shaking etc. Preparation of patient: effects, uses, indication and contraindications of the above manipulation.	Hands on training	
		Acquire knowledge and skill of various stretching exercises	Stretching: Definition, properties of soft tissue, mechanical and neurophysiological properties of connective tissue, mechanical properties of non contractile tissue. Determinants, type and effect of stretching, precautions, general applications of stretching technique.		5
3	1. Neuro-muscular Incoordination	Describe mechanism of neuro muscular coordination, etiology of incoordination and treatment techniques	To cover the mechanism of normal neuromuscular coordination, etiogenesis of neuromuscular in co-ordination &general therapeutic techniques effects indications, Contraindication& precautions.	Student Interactive session Explain using PPTs and videos Practical Demonstration	3
	2.Functional Reeducation	Describe and demonstrate principles of reeducation and its importance in rehabilitation of patient	General therapeutic techniques to reeducate ADL function(Functional Re-education)	Hands on training	3
	3. Aerobic and exercises	Acquire knowledge & skill of Aerobic exercises	To cover the Definitions, Physiological response to Aerobic Exercise, Evaluation of aerobic capacity – exercise testing, Determinant of Aerobic Exercise, Physiological Changes with Aerobic Training, Aerobic Exercise Program.		3

4	Posture balance gait and gait training	Describe normal and abnormal posture, gait, causes of abnormal posture, gait and its treatment	To cover the following 1. Normal posture-overview of the mechanism of normal posture. 2. Abnormal posture - assessment types aetiogenesis management including therapeutic Exercise. 3. Static and dynamic balance-assessment & management including therapeutic exercise. 4. Gait-overview of normal gait &its components. 5. Gait-deviations-assessment, types, aetiogenesis, management including therapeutic exercise. 6. Types of walking aid indications effects & various training techniques.	Student Interactive session Explain using PPTs and videos Practical Demonstration Hands on training Problem based learning	3 3 4 5 3 4
5	Hydrotherapy	Describe principles, indications contraindications and operational skills involved in hydro therapy	To cover the Basic principles of fluid mechanic as they relate to hydrotherapy. Physiological & therapeutic effects of hydrotherapy including joint mobility, muscle strengthening & wound care etc. Types of hydrotherapy equipment, indications, contraindications, operations skill & patient preparation.	SIS Explain using PPTs and videos Practical Demonstration Visit to Hydrotherapy deptt	5

6	Special techniques: . 1. Traction 2. Breathing Exercises 3. Group Therapy 4. Yoga Therapy	Describe and demonstrate principles , indications and application of techniques such as Traction, breathing exercises, group therapy etc Describe the skill & significance of Group & Recreational Exercises & their Advantages & Disadvantages Be able to describe Principles of Yoga, its types, its physiological & psychosomatic effects & demonstrate standard yoga postures used by the beginners	To cover the Principles of traction physiological & therapeutic effects classification types indications contraindications techniques of application operational skill & precautions. Review normal breathing mechanism, types, techniques, indication, contraindications, Therapeutic effects & precautions of breathing exercise. Group theory -types, advantages & disadvantages. Yoga Therapy	Explain using PPTs and videos Practical Demonstration Hands on training	3 2 2 3
7	Miscellaneous Topics	To acquire basic concepts, skills of different exercise techniques used in the rehab of patients.	To cover the following- Swiss ball exercises Pilates concept Core Stabilization Thera band exercises Plyometrics Mcgill exercises	Practical Demonstration Hands on training	6 Hrs

BACHELOR OF PHYSIOTHERAPY-
PAPER CODE – 03060403
EXERCISE THERAPY-II (PRACTICAL)

Periods/Week Credits

TEACHING HOURS: 64

P: 4 2

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

TIME: 3 Hrs

Exercise therapy -II (practical)

1. STM – upper limb, lower limb, back, face
2. To practice assessment & evaluative procedures including motor, sensory, neuromotor, co-ordination, vital capacity, limb length & higher functions.
3. 12.To study & practice the use of various ambulation aids in gait training.
4. 13.To assess & evaluate ADL's and practice various training techniques.
5. 14.To study practice mat exercise.
6. 15.To assess & evaluate normal & abnormal posture & practice various corrective techniques.
7. 16.To assess & evaluate equilibrium balance & practice various techniques to improve

Books recommended:

1. Practical exercise therapy - Hollis Blackwell scientific publication.
2. Therapeutic exercises basmajian William & Wilkins.
3. Therapeutic exercises foundations and techniques kisner& Colby La Davis.
4. Proprioceptive neuromuscular facilitation - Voss et.al- Williams and Wilkins.
5. Principle of exercise therapy Gardiner cbs Delhi.
6. Orthopedic physical therapy woods Churchill Livingstone.
7. Manipulation ad mobilization extremities and spinal techniques Edmond.
8. Aquatic exercise therapy bates and Hanson wb Saunders.
9. Manual examination and treatment of spine and extremities wads worth.
10. Hydrotherapy: principles and practice - camp ion Butterworth Heinemann.

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060405
BASICS OF RADIO PHYSICS-THEORY

Periods/Week Credits
TEACHING HOURS: 64
T: 4 4
MAX. MARKS: 100

INTERNAL: 40
EXTERNAL: 60
TIME: 3 Hrs

Course Objectives:

a. To understand basics of Radiography.
b. Interpretation of different techniques of Radiography .

S NO.	TOPIC	LEARNING OBJECTIVES(At the end of the course the student shall be able to)	TEACHING GUIDELINES	METHODOLOGY	TIME
I	REGIONAL RADIOGRAPHY	Learn about various views and interpretations used in Radiography.	To cover Upper limb, Lower Limb, Skull, Vertebral column, Chest and Abdomen.	SIS Explain using charts, models, X-ray films and interpretation of reports.	20
II	BASICS OF MAMMOGRAPHY	Learn about the basics of Mammography and its technique.	To cover indications and interpretation of mammography film.	SIS Explain using charts models, mammography films.	02
III	ULTRASOUND	Basics of Sonography, and their clinical applications.	To cover sonography of Abdomen, pelvis and thorax. Coloured Doppler.	SIS Explain using charts models, practical demonstration., interpretation of various reports.	10
IV	ECHOCARDIOGRAPHY	To learn about basics of echocardiography and their clinical interpretation.	To cover indications, use of colour Doppler in echocardiography, and echocardiography in different conditions.	SIS Explain using charts and models, practical demonstration, interpretation of various reports.	05
V	CT SCAN	To learn basics of CT Scan principle and	To cover basic principle of ct scan, advantages,	SIS Explain using charts	10

		interpretation.	disadvantages, NCCT, CECT Brain , face, sinus, neck, mastoid, temporal bone, thorax, abdomen, pelvis, extremities. Contrast media used in CT.	and models and films of CT Scans.	
VI	MRI	To learn basics of MRI principle and interpretation.	To cover basic principle, co agent used in MRI, hazards effects and safety in MRI, (plain and contrast): brain, sinus, neck, mastoid, pitu salivary gland, thorax, abd pelvis, whole spine, extremitie	SIS Explain using charts and models, films of MRI.	10
VII	ADVANCEMENT IN CT	To learn about basics of advancement in CT.	To cover Cardiac multislice CT, CT fluoroscopy, CT Angiography, CT guided Biopsy.	SIS Explain using charts and models and films of CT.	07

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060405
BASICS OF RADIO PHYSICS-PRACTICAL

Periods/Week Credits

TEACHING HOURS: 64

P: 4 2

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

PRACTICAL

The student of Radiotherapy must be able to identify and interpret different films of Radiography.

1. Identify basic X- Ray films and their interpretation..
2. Identify basic CT SCAN films and their interpretation
3. Identify basic advancement in CT films and their interpretation
4. Identify basic MRI (both plain and contrast) films and their interpretation
5. Identify basic Echocardiography and Mammography and their interpretation.

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Reference Books:

Radiographic positioning-Clark

BPT 5TH SEMESTER

S NO.	SUBJECT	TOPIC	DOMIAN	HRS
1.	GENERAL MEDICINE WITH PAEDIATRICS -I	1. INFECTIOUS &METABOLIC CONDITIONS	DESIRABLE TO KNOW	8
		2. DISEASES OF RESPIRATORY SYSTEM	MUST KNOW	8
		3. DISEASES OF CVS	DESIRABLE TO KNOW	8
		4. DISEASES OF HEMATOLOGICAL CONDITIONS	NICE TO KNOW	8
		5. INTRODUCTION TO PEDIATRICS	MUST KNOW	1
		6. GROWTH AND DEVELOPMENT	MUST KNOW	2
		7. DEVELOPMENTAL MILESTONES	MUST KNOW	2
		8. CONGENITAL DEFORMITIES	MUST KNOW	2
		9. ACQUIRED DEFORMITIES	MUST KNOW	2
		10. SPINA BIFIDA MENINIGOCELE	MUST KNOW	2
		11. SCOLIOSIS	MUST KNOW	2
		12. CDH	MUST KNOW	1
		13. CP	MUST KNOW	3
		14. RICKETS	DESIRABLE TO KNOW	1
		15. SCURVY	NICE TO KNOW	1
		16. PEM	NICE TO KNOW	2
		17. MUSCULAR DYSTROPHY	MUST KNOW	3
		18. DOWN SYNDROME	DESIRABLE TO KNOW	1
		19. EPILEPSY	NICE TO KNOW	2
		20. WORM INFESTATION	NICE TO KNOW	1
		21. RHEUMATIC FEVER	MUST KNOW	2
		22. PNEUMONIA	MUST KNOW	2

2.	GENERAL SURGERY WITH OBS. & GYNECOLOGY	1. GENERAL PRINCIPLES OF SURGERY	DESIRABLE TO KNOW	5
		2. RESUSCITATION AND SUPPORT	MUST KNOW	5
		3. WOUNDS&ULCER	MUST KNOW	5
		4. VENOUS DISORDERS	DESIRABLE TO KNOW	4
		5. LYMPHATICS&LYMPH NODES	DESIRABLE TO KNOW	5
		6. ARTERIAL DISORDERS	DESIRABLE TO KNOW	5
		7. CARDIAC SURGERIES	DESIRABLE TO KNOW	10
		8. ANATOMY OF FEMALE REPRODUCTIVE SYSTEM	MUST KNOW	2
		9. PHYSIOLOGY OF PREGNANCY		
		10. APH&PPH	MUST KNOW	2
		11. ANTENATAL AND POST NATAL EXERCISES	DESIRABLE TO KNOW MUST KNOW	2 3
		12. COMMON GYNAECOLOGICAL PROBLEMS	DESIRABLE TO KNOW	3
		13. COMMON OBSTETRICAL PROBLEMS	DESIRABLE TO KNOW	3
3.	ORTHOPEDICS-	1. TRAUMATOLOGY	MUST KNOW	24
		2. INFLAMMATORY AND INFECTIVE CONDITIONS	MUST KNOW	20
		3. DEFORMITIES	MUST KNOW	20
4.	NEUROLOGY -I	1. REVIEW OF BASIC ANATOMY	MUST KNOW	10
		2. PHYSIOLOGY OF SPINAL CORD	MUST KNOW	10
		3. INFECTIOUS DISORDERS OF NERVOUS SYSTEM	DESIRABLE TO KNOW	4
		4. DISEASES OF MUSCLES	MUST KNOW	10
		5. PERIPHERAL NERVE DISORDERS	MUST KNOW	10
		6. NEUROLOGICAL ASSESSMENT	MUST KNOW	20

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060501
GENERAL MEDICINE WITH PEDIATRICS-I

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100

INTERNAL: 40

EXTERNAL: 60

TIME: 3 Hrs

COURSE OBJECTIVE

The objective of this course is that after 200 hours of lectures, demonstrations, in addition to clinics the student will be able to demonstrate a general understanding of the diseases that therapists would encounter in their practice. They should have a brief idea of the etiology and pathology, what the patient's symptoms and the resultant functional disability. This would help the candidates to understand the limitation imposed by the diseases on any therapy that may be prescribed.

S No	Topic	Learning Objectives(At the end of the session the student should be able to)	Teaching guidelines	Teaching Learning Activities	Time
1	Outline of Infectious and Metabolic disorders	Describe the etiology, classification, symptoms & its management of infectious & metabolic disorders	To cover Tuberculosis, Tetanus, Typhoid fever, bacillary dysentery, amoebiasis, HIV Infection, AIDS, mumps, Measles& Nosocomial infection. Metabolic & deficiency disease Diabetes mellitus, Obesity, Vitamin deficiency disease.	SIS, Visit to IPD and OPD for case discussion	8 hrs
2	Diseases of Respiratory System	Describe the etiology, classification, symptoms & its management of Diseases of	To cover Asthma, Bronchitis, Collapse, Bronchiectasis, pneumonia, lung abscess, Empyema, Pleural effusion COPD (Chronic bronchitis & Emphysema), Intercostal	SIS Visit to IPD and OPD for case discussion	8 hrs

		Respiratory System (Anatomy & Physiology aspects)	drainage tube		
3	Diseases of cardiovascular system	Describe the etiology, classification, symptoms & its management of diseases of cardiovascular system	To cover Hypertension, Congestive Heart Failure, rheumatic fever, infective endocarditis. Pericarditis, Valaular heart diseases (mitral stenosis, mitral regurgitation, aortic stenosis, aortic regurgitation). Congenial heart disease (Atrial Septal Defect, Ventricular Septal Defect, Patent Ductus Arteriosus, tetra logy of Failot), Eisenmenger syndrome. Ischemic heart diseases. Myocardial infarction. Deep vein thrombosis & pulmonary embolism. 4. Hematology:	SIS Visit to IPD and OPD for case discussion	8 hrs
4	Diseases of Hematological conditions	Describe the etiology, classification, symptoms & its management of Diseases of Hematological conditions	To cover, • Anemia (Iron deficiency anemia, Megalobiastic anemia, Hemolytic anemia & Aplastic anemic). • Thrombocytopenia (idiopathic thrombocytopenia, Purura). • Leukemia (Acute Lymphoid Leukemia, Chronic Hyeloid Leukemia, Chronic Lymphoid Leukemia, Acute Hyeloid Leukemia). • Hemophilia, lymphadenopathy &spenomegaly	SIS Visit to IPD and OPD for case discussion	8 hrs

PAEDIATRICS

Course Objective:- The objective of this course is to achieve the clinical competencies and theoretical knowledge of Pediatrics to incorporate for providing physiotherapeutic management . Demonstrating advanced knowledge and understanding of the epidemiology, aetiology and patho physiology of selected congenital, acute, chronic musculoskeletal conditions, growth developmental disorders and neurological disorders.

S.NO	Topic	Learning Objective(at the end of the session student should be able to	Teaching guidelines	Methodology	TIME
1	Introduction to Pediatrics	Student will learn about importance of pediatrics to handle paediatrics patients for physiotherapy management.	To cover, Introduction and importance of pediatrics in physiotherapy, management and clinical practice.	SIS	1 Hr
2	Growth and Development	Student will learn about Importance of growth and development and abnormal growth disorders.	To cover, Laws of Growth, Factors affecting growth and development, developmental decay.	SIS	2 hrs
3	Developmental milestone	Student will learn about different normal, social and motor milestones.	To cover, Normal developmental milestones, importance and clinical implication Motor, adaptive and social milestones.	SIS	2 hrs
4	Congenital deformities	Student will learn about various congenital deformities in pediatrics.	To cover, Cleft lip, cleft palate, chondatresia, imperforate Introduction, etiology, Clinical presentation, diagnosis and management of given deformities.	SIS	2 hrs
5	Acquired Deformities	Student will learn about various acquired deformities in	To cover, Club foot, Flat foot, Knock knees, Bow legs. Introduction, etiology,	SIS	2 hrs

		pediatrics.	Clinical presentation, diagnosis and management of given deformities.		
6	Spina Bifida, meningocele	Student will learn about various congenital deformities of spine.	To cover, Introduction, etiology, Clinical presentation, diagnosis and management of given conditions.	SIS Case discussion in Paed OPD.	2 hrs
7	Scoliosis.	Student will learn about postural deformity in pediatrics.	To cover, Introduction, etiology, Clinical presentation, diagnosis and management of given condition.	SIS	2 hrs
8	Congenital dysplasia Hip	Student will learn about congenital dysplasia of hip.	To cover, Introduction, etiology, Clinical presentation, diagnosis and management of given condition	SIS	1hrs
9	Cerebral Palsy	Student will learn about cerebral palsy in detail and will learn to handle cases.	To cover, Introduction, etiology, Clinical presentation, diagnosis and management of given condition	SIS Case discussion in Pediatrics OPD.	3 hrs
10	Rickets	Student will learn about Rickets.	To cover, Introduction, etiology, Clinical presentation, diagnosis and management of given condition	SIS	1hrs
11	Scurvy	Student will learn about Scurvy.	To cover, Introduction, etiology, Clinical presentation, diagnosis and management of given condition	SIS	1hr
12	PEM	Student will learn about protein energy malnutrition and nutritional therapy for managing cases.	To cover, Introduction, etiology, classification, Clinical presentation, diagnosis and management, nutritional therapy of given condition	SIS	2 hrs
13	Muscular Dystrophy	Student will learn about Muscular Dystrophy in	To cover, Introduction, etiology, classification, Clinical presentation,	SIS Case	3 hrs

		detail.	diagnosis and management of given condition	Presentation	
14	Down Syndrome	Student will learn about Down syndrome in detail.	To cover, Introduction, etiology, classification, Clinical presentation, diagnosis and management of given condition	SIS	1hrs
15	Epilepsy.	Student will learn about Epilepsy.	To cover, Introduction, etiology, classification, Clinical presentation, diagnosis and management of given condition.	SIS	2 hrs
16.	Worm Infestation	Student will learn about various methods of worm infestation.	To cover, Introduction, types and treatment.	SIS	1hr
17	Rheumatic fever	Student will learn about Rheumatic fever in detail.	To cover, Introduction, diagnosis criteria, complications and treatment.	SIS	2 hrs
18	Pneumonia	Student will learn about Pneumonia in detail.	To cover, Cause, sign, symptom and treatment.	SIS	2hrs

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060501
GENERAL MEDICINE WITH PEDIATRICS-I (PRACTICAL)

Periods/Week	Credits
P: 4	2

TEACHING HOURS: 64

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

Case Presentation Marks-15
Viva Voce-15

Reference Books:-

1. Davidson principle and practice of medicine.
2. Clinical methods of medicine by Hutchinson
3. Nelson text book of pediatrics-Behraman & varghan.
4. Essential pediatric by O.P Ghai

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060502
GENERAL SURGERY WITH OBS. & GYNECOLOGY-I (THEORY)

Periods/Week Credits

TEACHING HOURS:64

T: 4 4

MAX. MARKS: 100
INTERNAL: 40
EXTERNAL: 60
TIME: 3 Hrs

Course Objective: -The objective of this course is that after 200 hours of lectures, demonstrations, in addition to clinics the student will be able to demonstrate a general understanding of the surgical procedures that therapists would encounter in their practice. They should have a brief idea of the surgical procedures, what the patient's symptoms and the resultant functional disability. This would help the candidates to understand the limitation imposed by the diseases on any therapy that may be prescribed.

S No	Topic	Learning objectives(At the end of the session the student should be able to)	Teaching guidelines	Methodology	Time
1	General principles of surgeries	Describe the principle and procedures of surgeries	To cover General principles of surgeries Describe different events accompanying in general anesthesia, principles of procedures, blood transfusion, body response to surgeries, anesthesia and blood trans fusion, Different types of anesthesia, complication and their management	SIS Visit to IPD and OPD for case discussion	5 hrs
2	Resuscitation & support	Describe the Resuscitation & support	To cover a. Shock: types, clinical features, pathogenesis & treatment. b. Hemorrhage: types, clinical features & management.	SIS Visit to IPD and OPD for case discussion	5 hrs

			c. Fluid & electrolyte balances. d. Blood transfusion: Indications & management		
3	Wounds & ulcer	Describe the Wounds & ulcer	To cover a. Healing by 1st& 2ndintention. b. Factors influencing would healing. c. Pathogenesis of healing. e. Scars: i) Hypertrophic scar. ii) Keloid.	SIS Visit to IPD and OPD for case discussion	5 hrs
4	Venous Disorders	Describe the Venous Disorders	To cover a. Varicose veins. b. Deep vein thrombosis.	SIS Visit to IPD and OPD for case discussion	4 hrs
5	Lymphatics & Lymph Nodes	Describe the Lymphatics & Lymph Nodes	To cover a. Lymphomas. b. Filariasis. c. Lymphangitis d. Lymphoedema . . e.cystichygroma	SIS Visit to IPD and OPD for case discussion	5 hrs
6	ARTERIAL DISORDERS	Describe the ARTERIAL DISORDERS	To cover a. Acute & Chronic arterial obstruction with investigations & management - embolism and thrombi. b. Amputations: types, Indications and decision Making, surgical procedures, Complications and their management. c. Gangrene - types, etiology, pathogenesis and management	SIS Visit to IPD and OPD for case discussion	5 hrs
7	CARDIO-THORACIC	Describe the Type of incision,	To cover **1.** CARDIAC SURGERY	SIS Visit to IPD and OPD for	10 hrs

	SURGERY	General principles of surgery, Outline indications, Contra-indication, site of incision, p pre and post operative Assessment, management and complications of Cardiothoracic Surgery and their management	a. Valvotomy and Valve Replacement. b. Open Heart Surgery/Cardiac By pass Surgery. c. Surgery on Pericardium. d. Operations in congenital disorders. e. Heart transplantation. f. Pacemaker. f. Coronary Angioplasty. Vascular Surgery (Outline surgery of Artery and veins). **2.** THORACIC SURGERIES • Lobectomy • Pneumonectomy • Segmentectomy • Pleura pneumonectomy • Thoracoplasty • Decortication a. Tracheostomy Clinical features and management of the following: Fracture of ribs, Flail chest, stove-in chest, Pneumothorax, Lung Contusion and Laceration and injury to Vessels, Haemothorax, and Pulmonary embolism b. Clinical features and management of following-Fracture ribs,flailchest,pneumothorax,lungcontusion,laceration and injury to vessels,hemothorax and pulmonary embolism	case discussion	10Hrs

			c. Describe in detail the following procedures: Endotracheal tubing, Tracheal suction, weaning the patient from ventilator, Extubation and Post-extubation care. Describe the principles of Cardio-pulmonary Resuscitation, Cardiac massage, Artificial Respiration, Defibrillators and their uses.		

OBS GYNAECOLOGY-

Course Objective:- The objective of this course is that student at the end of course should have a broad understanding about medical diseases, which they would be handing as a physiotherapist. They should have a brief idea about the diseases, so that he/she as a physiotherapist with physician should help the patient to achieve cure and /or ameliorate his/her illness and sufferings.

S.NO	Topic	Learning Objective (at the end of the session student should be able to)	Teaching guidelines	Methodology	TIME
1	Anatomy of female reproductive system	In the end student will be able to learn about the anatomy of the female reproductive system.	To cover, 1.External genital. 2.Ovaries, fallopian tubes, uterus and vagina. 3.Blood and nerve supply of genital organs.	SIS	2hrs
2	Physiology of Pregnancy	In the end student will be able to learn about the physiology of pregnancy, mensural cycle and various changes in the systems during the cycle.	To cover, 1.Mensuration 2. Pregnancy and fetal development. 3.Physiological changes in various maternal system and organs. 4.endocrine system in pregnancy.	SIS	2 hrs
3	APH &PPH	In the end student will be able to learn about managing cases with APH & PPH.	To cover, Introduction, etiology, and its management.	SIS	2hrs
4	Antenatal and post natal cases	In the end student will be able to learn about managing the antenatal and postnatal cases and plan their physiotherapy management.	To cover, 1.Antenatal care 2. Normal pregnancy-symptoms, signs, investigations, immunization,nutrition and supplements. 3.Normal delivery 4.Post natal care 5. Normal Puerperium. 6. Role of physiotherapy in pregnancy, delivery, puerperium.	SIS	3hrs

5	Common gynecological problems and role of physiotherapy	In the end student will learn about various gynaecology conditions and the role of physiotherapy in these conditions.	To cover, 1. Disorders of menstruation , menorrhagia.DUB menopause , menarche. 2. Pelvic inflammatory disease. 3. Fibroid uterus. 4.Stress incontinent 5.Prolapse uterus	SIS	3hrs
6.	Common obstetrics and gynecological problems	In the end student will learn about common obstetrics and gynecology problems.	To cover, 1.Caesarean 2.Hysterectomy 3.D&E 4.MTP 5.Tubectomy 6. Prevention of thrombo embolsim. 7. Post operative care.	SIS	3hrs

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060502
GENERAL SURGERY WITH OBS. & GYNECOLOGY-I (PRACTICAL)

Periods/Week Credits

TEACHING HOURS: 64

P: 4 2

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

- Evaluation & presentation of cases each in burns, wound & ulcer, Head Injury,peripheral vascular condition, post Radical mastectomy, post thoracic surgery,post abdominal surgery
- Auscultation of chest & its interpretation, Reading & interpretation of the X-ray chest.

Case Presentation marks-30
Viva voce-30

BOOK REFERENCE:-

1. Bailey &Love
2. Surgery by Nan
3. General surgery operations by R.M Kirk & R.C.N Williston
4. Standard surgrical techniques- Shriram Bhatt
5. Manipal Manual Surgery- K. Rajgopal Shenoy
6. OBG-Textbook of Obstetrics by DC Dutta
7. Textbook of Gynecology by DC Dutta
8. Textbook of Obstetrics by JB Sharma

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060503
GENERAL ORTHOPAEDICS-I (THEORY)

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100

INTERNAL: 40

EXTERNAL: 60

TIME: 3 Hrs

COURSE DESCRIPTION

Following the basic science course, this course introduces the student to the orthopedic conditions which commonly cause disability. Particular effort is made in this course to avoid burdening the student with any detail pertaining to diagnosis which will not contribute to their understanding of the limitation imposed by orthopaedic pathology on the functioning of the individual.

Unit	Topic	Learning Objectives (At the end of the session the student should be able to)	Content	Methodology	Time (Hrs)
1	Traumatology	Describe traumatology fracture of upper limb lower limb spine	To cover various Bony Injuries 1. Fractures (General) & Dislocations, classification, healing of fracture, factors affecting healing, early& late complications, general principles of management. 2. Specific: Types, Complications, Management of the following fractures. a. Upper limb Fractures: Clavicle, Scapula, Humerus, Ulna, Radius, Carpals, phalanges, Crush injuries of Hand. b. Lower limb Fractures: Pelvis, Femur, Patella, tibia, Fibula, tarsals, Metatarsals. C. Spine: Cervical, Thoracic, Lumbar	SIS Visit to IPD and OPD for case discussion	24
2	Inflammatory and Infective	Describe the inflammatory	To cover Etiology, pathology, clinical features, operative and non operative management of	SIS	

	Conditions	and infective conditions	Tuberculosis and pyogenic osteomylitis. a. Etiology, pathology, clinical features, Investigations, Operative and non operative management of Rheumatoid Arthritis, tuberculosis arthritis, pyogenic arthritis, ankylosing spondylitis, gouty arthritis, Neuropathic Joints, Hemophilic joints. b. Poliomyelitis, etiology, Classification, pathology, clinical presentation, Post polio residual paralysis, non operative and operative management. c. Synovitis, capsulitis.	Visit to IPD and OPD for case discussion	20
3	Deformities:	Describe the various deformity such as CTEV, CDH etc	To cover Etiology, epidemiology, Clinical Presentation, investigations, management of the following: Torticolis, Cervical rib, CTEV, CDH, PesCavus, PesPlanus, spina Bifida, Klippelfeil Syndrome, Goucher's diseases, scoliosis, Kyphosis, Increased lumbar lordosis, coxavara, Genu varum, Genu valgum, genu recurvatum, hallux valgus, hammer toe.	SIS Visit to IPD and OPD for case discussion	20

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060503
GENERAL ORTHOPAEDICS-I (PRACTICAL)

Periods/Week	Credits
P: 4	2

TEACHING HOURS: 64

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

Practical- Evaluation & presentation of cases each in trauma, inflammatory and infective conditions, and deformities.

Case Presentation-30 MARKS
Viva voce-30 MARKS

Books Recommended:

1. Orthopedics & Traumatology - Natrajan
2. Outline of Fracture by Adams
3. Outline of Orthopedics- By Adams
4. Orthopedics Physical Assessment- magee
5. Textbook of Orthopedics _ Kalava
6. Physiotherapy in Orthopedics – Alkinsons

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060504
NEUROLOGY-I (THEORY)

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100

INTERNAL: 40

EXTERNAL: 60

TIME: 3 Hrs

Course Objective: -.The objective of this course is that after 120 hours of lectures & demonstrations. In adding to clinics, the students will be able to demonstrate an understanding of neurological conditions causing disability and their management in addition, the student will be able to fulfill with 75% accuracy (as measured by written, oral& practical, internal evaluation) the following objectives of the course.

S. No.	Topic	Learning Objectives (At the end of the course the students shall be able to)	Teaching guidelines	Methodology	Time
1	Review the Anatomy of Nervous System	Describe the Basic Anatomy of Spinal Cord & brain	To cover, anatomy of the brain and spinal cord including: Blood supply of the brain and spinal cord, anatomy of the visual pathway, connections of the cerebellum, and extra pyramidal system, relationship of the spinal nerves to the spinal cord segments, long tracts of the spinal cord, the brachial and lumbar plexuses, and cranial nerves.	SIS Students seminar	10 hrs
2	Review the physiology of nervous system	Describe the Basics Physiology of Spinal Cord & brain	To cover the Review of Neurophysiologic basic of disorder of tone posture, bladder control, muscle contraction, movement control and pain	SIS Group discussion Students seminar	10 hrs
3	Infectious disorders of Nervous	Describe the a)Pyogenic Meningitis	To cover, Definition , classification, etiology, symptomatology & its management	SIS Practical demonstration	4 hrs

	system	sequel. b)Tuberculosis		Group discussion	
4	Diseases of the muscle: management	Describe the a)Muscular Dystrophy: b)Myasthenia Gravis: c)Myopathy:	To cover the definition, classification, course and management. Definition, course and management. definition, classification, course and management	SIS Practical demonstration Group discussion	10 hrs
5	Peripheral nerve disorders.	Describe a)Peripheral nerve injuries: b) Entrapment neuropathies. c)Peripheral neuropathies.	To cover definition, causes ,classification ,localization and its management	SIS Practical demonstration Group discussion	10 hrs
6	Assessment of neurological system	Clinical assessment of neurological function includes history taking, sensory & motor system	To cover 1. Basic history taking to determine whether the brain, spinal cord of peripheral nerve is involved. 2. Assessment of higher mental function such as orientation, memory, attention, speech and language. 3. Assessment of cranial nerves. 4. Assessment of motor power. 5. Assessment of sensory function: touch, pain and position. 6. Assessment of tone: spasticity, rigidity and hypotonia. 7. Assessment of cerebellar function. 8. Assessment of higher cortical function: apraxia, etc. 9. Assessment of gait abnormalities.	SIS Practical demonstration Group discussion Patient assessment	20 hrs

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060504
NEUROLOGY-I (PRACTICAL)

Periods/Week	Credits
P: 4	2

TEACHING HOURS: 64

MAX. MARKS: 50
INTERNAL: 20
EXTERNAL: 30

Practical-
Case presentation : 30 MARKS
Viva voce :30 MARKS

a. Practical demonstration of Physical assessment in Neurological conditions.
b. Practical demonstration of basic principles of assessment, functional assessment in Various Neurological conditions.

References Book:

1. Adams & Victor, Principals of Neurology by maurica Victor & Allan H. Rupper.
2. Neurology & Neurosurgery Illustrated By Kenneth W. Lindsay & Ian Bone Brains Diseases of Nervous system system edited By Michael Dowaghy
3. Blue Book of Practical neurology- Movement Disorder By CD Marsden & S. Fahn

BPT 6TH SEMESTER

S NO.	SUBJECT	TOPIC	DOMIAN	HRS
1.	GENERAL MEDICINE WITH GERIATRICS -II	1. DISEASES OF GASTRO INTESTINAL SYSTEM	NICE TO KNOW	8
		2. DISEASES OF KIDNEY	NICE TO KNOW	4
		3. DISEASES OF ENDOCRINAL SYSTEM	DESIRABLE TO KNOW	5
		4. DERMATOLOGICAL CONDITION	NICE TO KNOW	8
		5. PSYCHIATRIC CONDITIONS	DESIRABLE TO KNOW	5
		6. MISCALLNEOUS DIDORDERS	DESIRABLE TO KNOW	8
		7. SPECIAL THERAPY	DESIRABLE TO KNOW	6
		8. AGEING	MUST KNOW	4
		9. HEALTHY LIFE STYLE IN OLD AGE	MUST KNOW	6
		10. FALLS AND MANAGEMENT	MUST KNOW	6
		11. INCONTINENCE	MUST KNOW	6
		12. BED SORES IN OLD AGE	MUST KNOW	4
		13. OLD AGE DISEASES	MUST KNOW	10
		14. EXAMINATION IN OLD PERSON	MUST KNOW	4
2.	GENERAL SURGERY WITH ENT & OPTHALMOLOGY	1. ABDOMINAL SURGERY	MUST KNOW	8
		2. NEURO SURGERY	DESIRABLE TO KNOW	10
		3. BURNS AND PLASTIC SURGERY	DESIRABLE TO KNOW	8
		4. BREAST SURGERY	DESIRABLE TO KNOW	5
		5. SMALL AND LARGE INTESTINE	DESIRABLE TO KNOW	5
		6. RECTUM AND ANAL SURGERIES	NICE TO KNOW	2
		7. UROGENITAL SYSTEM	NICE TO KNOW	2
		8. SINUSITIS	NICE TO KNOW	2
		9. OTITIS MEDIA	DESIRABLE TO KNOW	2
		10. OTOSCLEROSIS	NICE TO KNOW	2
		11. HEARING LOSS	NICE TO KNOW	2
		12. AUDIOLOGY	DESIRABLE TO KNOW	2
		13. ANATOMY	DESIRABLE TO	2

			KNOW	
		14. EXAMINATION OF EYE	MUST KNOW	2
		15. COMMON INFLAMMATORY CONDITIONS OF EYE	DESIRABLE TO KNOW	2
		16. INFECTIOUS CONDITIONS OF EYE	NICE TO KNOW	2
		17. CATARACT	NICE TO KNOW	2
		18. REFRACTIVE ERRORS	DESIRABLE TO KNOW	2
		19. ACCOMODATION ANOMALIES	DESIRABLE TO KNOW MUST KNOW	2
3.	ORTHOPEDICS	1. DEGENERATIVE AND METABOLIC CONDITIONS	MUST KNOW	20
		2. BONE TUMORS AND AMPUTATION	DESIRABLE TO KNOW	15
		3. ORTHOPEDIC SURGERIES	DESIRABLE TO KNOW	14
		4. MISCLLANEOUS CONDITIONS	DESIRABLE TO KNOW	15
4.	NEUROLOGY	1. CONGENITAL DISORDERS	MUST KNOW	8
		2. CVA	MUST KNOW	15
		3. TRAUMATIC DISORDERS	MUST KNOW	15
		4. DISEASES OF SPINAL CORD	MUST KNOW	10
		5. DEMYLIENATING DISEASES	DESIRABLE TO KNOW	6
		6. DEGENERATIVE DISORDERS	MUST KNOW	5
		7. MISCLLANEOUS CONDITIONS	DESIRABLE TO KNOW	5

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060601
GENERAL MEDICINE WITH GERIATRICS-II (THEORY)

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100
INTERNAL: 40
EXTERNAL: 60
TIME: 3 Hrs

The objective of this course is that after 200 hours of lectures, demonstrations, in addition to clinics the student will be able to demonstrate a general understanding of the diseases that therapists would encounter in their practice. They should have a brief idea of the etiology and pathology, what the patient's symptoms and the resultant functional disability. This would help the candidates to understand the limitation imposed by the diseases on any therapy that may be prescribed.

S No	Topic	Learning Objectives(At the end of the session the student should be able to)	Teaching guidelines	Teaching Learning Activities	Time
1	Diseases of Gastrointestinal System:	Describe the etiology, classification, symptoms & its management of diseases of Gastrointestinal System:	To cover, Peptic Ulcer, Hematemesis, dyspepsia, diarrhea, mal-absorption syndrome, Diseases of liver. Jaundice, viral hepatitis, cirrhosis of liver, asities. Diseases of Kidney	SIS Visit to IPD and OPD for case discussion	8 hrs
2	Diseases of Kidney	Describe the etiology, classification, symptoms & its management of Diseases of Kidney	To cover Post streptococcal glomerulonephritis, Nephritic syndrome, urinary tract infection. Urinary calculi, Chronic renal failure	SIS Visit to IPD and OPD for case discussion	4 hrs
3	Diseases of	Describe the etiology,	To cover	SIS	5 hrs

	Endocrine system	classification, symptoms & its management of Diseases of Endocrine system	Hypothyroidism, Hyperthyroidism, Addison's diseases, Cushing's syndrome,	Visit to IPD and OPD for case discussion	
4	Dermatological condition	Describe the etiology, classification, symptoms & its management of Dermatological condition .	To cover Structure and function of normal skin Primary and Secondary lesion Pediculosis. • Fungal infection: Dermatophytosis, Pitysiasis vesicular, Candidacies. • Bacterial infection of the skin: impetigo & boil. • Viral infections: Herpes. • Eczema, Dermatitis & allergies. • Acne, Alopecia, Vitiligo, leukoderma. • Psoriasis. • Leprosy. • Sexual Transmitted diseases & venereal Diseases- Syphilis, Gonorrhea, HIV.	SIS Visit to IPD and OPD for case discussion	8 hrs
5	Psychiatric disorder	Describe the outline of psychiatric disorder	To cover: Definition: sign & symptoms, types of mental disorders psychosomatic complication	SIS Visit to IPD and OPD for case discussion	5 hrs
6	Miscellaneous Disorders.	Describe the etiology, classification, symptoms & its management of Miscellaneous Disorders:	To cover Psychosis, schizophrenia, delusional disorders, acute and transient psychotic disorders. • Affective disorders: depression, disorders, mania, bipolar affective disorders. • Anxiety disorders:	SIS Visit to IPD and OPD for case discussion	8 hrs

			Agoraphobia, panic disorder, Generalized anxiety disorders. • Dissociative disorders: somatoform disorders, OCD. • Organic conditions- dementia, delirium, traumatic.		
7	Special therapies:	Describe the outline of Special therapies:	To cover, Psychotherapy - psychoanalysis, narco, synerhesis, hypnosis, psychodrama. Group therapy. Shock therapy.	SIS Visit to IPD and OPD for case discussion	6 hrs

GERIATRICS

UNIT	TOPIC	LEARNING OBJECTIVES	TEACHING GUIDELINES	METHODOLOGY	TIME
I	Introduction to ageing	To Understand the ageing process.	The ageing process-Loss of sense, effect on skeletal system, altered homeostasis and how these may affect pathological process.	SIS Chart & Models Students Seminar	4hrs
II	Adopting healthy lifestyle measures.	How to make life active in old page	Healthy life style & modifying risk factors which may cause other health problems: like treating hypertension, hyper cholestremia to prevent stroke & MI.	SIS Chart & Models Students Seminar	6 hrs
III	Preventing fall injury.	Learn about the causes of frequent falls. Management of fractures.	Causes of frequent falls, common fractures associated with fall, risk factors, and management of fractures.	SIS Chart & Models Students Seminar	6 hrs
IV	Common ageing conditions.	Learn about the Aetiopathogenesis, clinical presentations, investigations and management of Stoke and Incontinence.	Urine& fecal incontinence Stroke	SIS Chart & Models Students Seminar	6 hrs
V	Bed sore care.	Palliative care, prevention, causes & management of bed sores in old age	Bed sores in old age	SIS Chart & Models Students Seminar	4 hrs
VI	Common Elderly conditions.	Brief outline of the aetiology pathology, clinical presentation and management of the old age diseases.	Depression Parkinsonism COPD. IHD & CCF. Rheumatoid arthritis, Osteoarthritis, Osteoporosis Diabetes mellitus.	SIS Chart & Models Students Seminar	10 hrs
VII	Examination	Examination and Investigations in older person	Mini mental state examination. Geriatric depression scale. Barstool ADL Book Reference	SIS Chart & Models Students Seminar	4 hrs

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060601
GENERAL MEDICINE WITH GERIATRICS-II (PRACTICAL)

Periods/Week	Credits
P: 4	2

TEACHING HOURS: 64

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

Practical-
Case Presentation-15 MARKS
Viva Voce-15 MARKS

Reference Books:-

1. Davidson principle and practice of medicine.
2. Brain's clinical neurology.
3. Medicine & neurology by Golewala
4. Surgery by Nanin
5. Clinical methods of medicine by Hutchinson
6. Skin problems by Dr JS Pasricha
7. Psychiatry by Kaplans
8. Tidy's Physiotherapy – Tomson et al, Butterworth Heinmann.
9. Geriatric Physical Therapy – Gucciona-Mosby.
10. Aging the healthcare Challenge – Levis- F A Davis.

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060602
GENERAL SURGERY WITH ENT & OPTHALMOLOGY-II (THEORY)

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100
INTERNAL: 40
EXTERNAL: 60
TIME: 3 Hrs

Course Objective: -The objective of this course is that after 200 hours of lectures, demonstrations, in addition to clinics the student will be able to demonstrate a general understanding of the surgical procedures that therapists would encounter in their practice. They should have a brief idea of the surgical procedures, what the patient's symptoms and the resultant functional disability. This would help the candidates to understand the limitation imposed by the diseases on any therapy that may be prescribed.

S. No.	Topic	Learning objectives(At the end of the session the student should be able to)	Teaching guidelines	Methodology	Time
1	Abdominal Surgery	Describe the Abdominal surgery	To cover Abdominal surgical incisions and their uses. Indications, incisions, drainage and complications and their management of various surgeries (LAPROSCOIPC AND OPEN SURGERIES)	SIS Visit to IPD and OPD for case discussion	8 hrs
2	Neuro Surgery	Describe the NEURO SURGERY	To cover A. indications, incisions, drainage & complications and their Management about various surgeries of: 1. Surgeries of cranium, scalp &brain	SIS Visit to IPD and OPD for case discussion	10 hrs

			2. Surgeries of vertebral column &spinal cord. 3. Surgeries of peripheral nerves. A. Surgical interventions in hydrocephalus, Head injury, Benign & malignant tumors of brain and other congenital anomalies of brain		
3	Burns & Plastic Surgery	Describe the Burns & Plastic Surgery	To cover a. Classification of burns by depth and surface area, calculation of burns, surface area causes, early & late complications and their management. b. List the potential deformities due to burns, methods of prevention and precautions, Mentions cosmetics and functional treatment c. Outline the plastic surgery procedures and management in burns, including common deformities and prevention of burns contractures. d. Skin grafting & other procedures. e. Principles of tendon transplant, cosmetic surgeries, types of grafts & surgeries of hands.	SIS Visit to IPD and OPD for case discussion	8 hrs
4	Breast Surgery	Describe the BREAST surgeries and its management	To cover Indications, Different incisions & post operative management of breast	SIS Visit to IPD and OPD for	5 hrs

			surgeries	case discussion	
5	Small And Large Intestine	Describe the incision and surgical procedures of small and large intestine	To cover Indications All type of incision and surgical procedures	SIS Visit to IPD and OPD for case discussion	5 hrs
6	Rectum and Anal canal surgeries	Describe anal fissure, fistula, hemorrhoids, carcinoma and rectal prolapse	To cover Anal fissure, fistula, hemorrhoids, carcinoma rectal prolapse	SIS	2 hrs
7	Urogenital system	Describe renal calculi with complications, urinary obstruction	To cover Renal calculi with complication hematuria, urinary obstruction	SIS	2 hrs

ENT-

S.NO	Topic	Learning Objective(at the end of the session student should be able to)	Teaching guidelines	Methodology	TIME
1	Acute Rhino sinusitis and Chronic sinusitis.	In the end student will learn about acute and chronic sinusitis with its management.	To cover, Clinical presentation ,pathology, complications and treatment of sinusitis.	Student Interactive Session	2 hrs
2	Otitis Media	In the end student will learn about otitis media , its clinical presentation and management.	To cover, Clinical presentation , pathology, classification, complications and treatment of Acute and Chronic Otitis Media	Student Interactive Session	2 hrs
3	Otosclerosis	In the end student will learn about otosclerosis , its clinical presentation and management	To cover, Incidence, clinical features, medical and surgical management.	Student Interactive Session	2 hr
4	Hearing Loss	In the end student will learn about hearing loss , hearing aids its clinical presentation and management	To cover, Types, methods to detect hearing loss, presbyacusis, hearing aids, hearing loss in children.	Student Interactive Session	2 hrs
5	Audiology	In the end student will learn about audiology , its clinical presentation and management	To cover, Pure tone eudiometry, Impedance audiometry,types of speech, speech defects,	Student Interactive Session	2 hr
6.	Anatomy	In the end student will learn about the oral anatomy.	To cover, Oral anatomy and larynx anatomy, swelling disorder, post laryngectomy	Student Interactive Session	2 hrs

OPHTHALMOLOGY-

S.NO	Topic	Learning Objective(at the end of the session student should be able to)	Contents	Teaching /Learning Activities	TIME
1	Examination of Eye	In the end student will learn about anatomy and physiology of eye.	To cover, 1.Anatomy 2.Physiology	Student Interactive Session	2 hrs
2	Inflammatory and Infectious diseases	In the end student will learn about common inflammation and infections of eye.	To cover, Common inflammation and infections of eye diagnosis and management.	Student Interactive Session	2 hrs
3	Infection of eyes	In the end student will learn about common infection of eye and eyelid.	To cover, Infection of the eye and eyelids.	Student Interactive Session	2 hrs
4	Cataract	In the end student will learn about cataract and its clinical presentation.	To cover, Cataract	Student Interactive Session	2 hrs
5	Refractive errors	In the end student will learn about different refractive errors and squint.	To cover, Refractive errors, binocular vision and squint.	Student Interactive Session	2 hrs
6	Accommodation & Convergence anomalies	In the end student will learn about accommodation and convergence anomalies.	To cover, Accommodation and convergence anomalies.	Student Interactive Session	2 hrs

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060602
GENERAL SURGERY WITH ENT & OPTHALMOLOGY-II (SURGERY)-PRACTICAL

Periods/Week	Credits
P: 4	2

TEACHING HOURS: 64

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

TIME: 3 Hrs

Practical-

- Evaluation & presentation of cases each in burns, wound & ulcer, Head Injury, post Radical mastectomy, post thoracic surgery, post abdominal surgery

Case Presentation-15 MARKS
Viva voce-15 MARKS

BOOK REFERENCE:-

1. Bailey &Love
2. Surgery by Nan
3. General surgery operations by R.M Kirk & R.C.N Williston
4. Standard surgrical techniques- Shriram Bhatt
5. Manipal Manual Surgery- K. Rajgopal Shenoy
6. ENT-P.L. Dhingra
7. Ophthalmology-Comprehensive Ophthalmology by AK Khurana

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060603
GENERAL ORTHOPAEDICS -II (THEORY)

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100

INTERNAL: 40

EXTERNAL: 60

TIME: 3 Hrs

Note: For Paper setters /Examiners

COURSE DESCRIPTION

Following the basic science course, this course introduces the student to the orthopedic conditions which commonly cause disability. Particular effort is made in this course to avoid burdening the student with any detail pertaining to diagnosis which will not contribute to their understanding of the limitation imposed by orthopaedic pathology on the functioning of the individual.

Unit	Topic	Learning Objectives (At the end of the session the student should be able to)	Content	Methodology	Time (Hrs)
1	Degenerative & Metabolic disorders:	Describe the degenerative and metabolic disorders	To cover Etiology, Pathology, Clinical features, Investigations, management of Osteoarthrosis of major joints, spondylosis, spondylolisthesis, PIVD. a. Etiology, Pathology, Clinical features, Investigations, management of rickets, osteomalacia, osteoporosis.	Student Interactive Session Visit to IPD and OPD for case discussion	20
2	Bone Tumours & Amputations	Describe the bone tumours and amputations	To cover Benign & Malignant, Classification, Pathology, Clinical Features, Management including chemotherapy and Radiotherapy.	Student Interactive Session Visit to IPD and OPD for case discussion	15

			a) Level and causes of amputation.		
3	Surgeries- Osteotomy, Arthoplasty Arthrodesis Tendon Transfers Soft tissue release	Describe the osteotomy, bone grafting, tendon transfer etc	To cover (Hip, Knee, Ankle, shoulder & elbow), Bone Grafting, arthrodesis, tendon transfers, Soft tissue release	Student Interactive Session Visit to IPD and OPD for case discussion	14
4	Miscellaneous conditions	Describe the miscellaneous conditions	To cover De Quervain's Disease, Dupuytren's Contracture, Myositis Ossificans, Carpal Tunnel syndrome, Chondromalacia Patellae, Perthes's Diseases, Avascular necrosis of femoral head, Internal derangement of Knee, Osteochondrosis. Plantar fascitis	Student Interactive Session Visit to IPD and OPD for case discussion	15

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060603
GENERAL ORTHOPAEDICS -II (PRACTICAL)

Periods/Week	Credits
P: 4	2

TEACHING HOURS: 64

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

Practical-

- Evaluation & presentation of cases each in degenerative, amputation, general orthopedic conditions.

Case Presentation-15 MARKS
Viva voce-15 MARKS

Books Recommended:

1. Orthopedics & Traumatology - Natrajan
2. Outline of Orthopedics- By Adams
3. Orthopedics Physical Assessment- magee
4. Textbook of Orthopedics _ Kalava
5. Physiotherapy in Orthopedics – Alkinsons

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060604
NEUROLOGY-II (THEORY)

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100

INTERNAL: 40

EXTERNAL: 60

TIME: 3 Hrs

Note: For Paper setters /Examiners

- Paper setter is required to set eight questions from the entire syllabus out of which 5 questions is to be attempted, each carrying 16 marks.

Course Objective: -.The objective of this course is that after 120 hours of lectures & demonstrations. In adding to clinics, the students will be able to demonstrate an understanding of neurological conditions causing disability and their management in addition, the student will be able to fulfill with 75% accuracy (as measured by written, oral& practical, internal evaluation) the following objectives of the course.

S no	Topic	Learning Objectives (At the end of the course the students shall be able to)	Teaching guidelines	Methodology	Time
1	Congenital disorders a) Cerebral palsy. b)Hydrocephalus. c) Spina Bifida	Describe the Congenital disorders & its management in detail.	To cover, Definition, classification, etiology & its medical management in detail	Student Interactive Session Group discussion Case Discussion Visit to OPD&IPD	8 hrs
2	CVA	Describe the Hemiplegia & Its management in detail	To cover , General classification: thrombotic, embolic, hemorrhagic& inflammatory strokes. Gross localization and sequelae & Detailed management .	Student Interactive Session Practical demonstration Group discussion	15hrs

4	Spinal cord injuries	Describe the Traumatic spinal disorders and its management	To cover, trauma-broad localization, first aid and management of sequelae of head injury and spinal cord injury	Student Interactive Session Case presentation Visit to OPD&IPD Group discussion	15 hrs
5	Spinal diseases a) Cranio cerebral junction anomalies. b) Syringomyelia c) Cervical and lumber disc lesions. d)Spinal Tumors (Intra medullary & Extra medullary) e) Spinal archnoiditis.	Describe the Diseases of spinal cords & its management in detail	To cover Definition, classification, etiology , symptoms & its medical management in detail	Student Interactive Session Case presentation Visit to OPD&IPD Group discussion	10 hrs
6	Demyelinating diseases (central and peripheral) & its management	Describe the a)Guillian- Barre syndrome. b) Acute disseminated encephalomyelitis c) Transverse myelitis. d) Multiple sclerosis.	To cover ,Definition , classification, etiology, symptomatology & its management	Student Interactive Session Practical demonstration Group discussion	6 hrs
7	Degenerative disorders.	Describe the a)Parkinson's disease. b)Dementia	To cover, Definition , classification, etiology, symptomatology & its management	Student Interactive Session Practical demonstration Group discussion	5 hrs
8	Miscellaneous condition	Describe a) Epilepsy: b) Intracranial tumors: c) Motor neuron disease. d) Dystonia	To cover, Definition, classification, symptoms and management.	Student Interactive Session Practical demonstration Group discussion Patient assessment	5 hrs

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060604
NEUROLOGY-II (PRACTICAL)

Periods/Week Credits

TEACHING HOURS: 64

P: 4 2

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

Practical-
Case presentation: 15 MARKS
Viva voce : 15 MARKS

B. Practical demonstration of Physical assessment in Neurological conditions.
C. Practical demonstration of basic principles of assessment, functional assessment in Various Neurological conditions.
D. Practical demonstration of basic principles of assessment, functional assessment in various Cranial & Spinal surgeries.

References Book:

1. Adams & Victor, Principals of Neurology by maurica Victor & Allan H. Rupper.
2. Neurology & Neurosurgery Illustrated By Kenneth W. Lindsay & Ian Bone Brains Diseases of Nervous system system edited By Michael Dowaghy
3. Blue Book of Practical neurology- Movement Disorder By CD Marsden & S. Fahn

BPT 7TH SEMESTER

S NO.	SUBJECT	TOPIC	DOMAIN	HRS
1.	PHYSIOTHERAPY IN CARDIO RESPIRATORY DISEASES	1. ANATOMY AND PHYSIOLOGY OF RESPIRATORY SYSTEM	MUST KNOW	4
		2. ASSESSMENT	MUST KNOW	6
		3. VARIOUS PHYSIOTHERAPY TECHNIQUES	MUST KNOW	6
		4. OBSTRUCTIVE LUNG DISORDERS	MUST KNOW	5
		5. PLEURAL DISEASES	DESIRABLE TO KNOW	2
		6. RESPIRATORY INFECTIOUS CONDITIONS	DESIRABLE TO KNOW	4
		7. CARCINOMA OF RESPIRATORY SYSTEM	MUST KNOW	2
		8. PARALYTIC CONDITIONS IN RESPIRATORY SYSTEM	MUST KNOW	2
		9. CHEST WALL DEFORMITIES	MUST KNOW	1
		10. PRINCIPLES OF INTENSIVE CARE PHYSIOTHERAPY	MUST KNOW	3
		11. MECHANICAL VENTILATORS	DESIRABLE TO KNOW	3
		12. PHYSIOLOGY AND ANATOMY OF CVS	DESIRABLE TO KNOW	2
		13. ISCHEMIC HEART DISEASE	MUST KNOW	4
		14. CHF	MUST KNOW	2
		15. BLOOD PRESSURE	MUST KNOW	2
		16. PERIPHERAL VASCULAR DISEASE	MUST KNOW	6
		17. LUNG SURGERIES	MUST KNOW	4
		18. HEART SURGERIES	MUST KNOW	4
2.	PHYSIOTHERAPY IN ORTHOPEDICS	1. TRAUMATOLOGY & SOFT TISSUE CONDITIONS	MUST KNOW	44
		2. DEFORMITIES	MUST KNOW	20
3.	PHYSIOTHERAPY IN NEUROLOGY	1. ANATOMY AND PHYSIOLOGY OF NERVOUS SYSTEM	MUST KNOW	12
		2. PRINCIPLES OF ASSESSMENT	MUST KNOW	12
		3. PRINCIPLES OF TREATMENT	MUST KNOW	20
		4. PERIPHERAL NERVE LESIONS	MUST KNOW	10

		5. NEUROMUSCULAR DISEASE	MUST KNOW	10
6.	PHYSIOTHERAPY IN SPORTS INJURIES	1. FITNESS ASSESSMENT	MUST KNOW	10
		2. PHYSIOLOGICAL EFFECTS OF EXERCISE	MUST KNOW	8
		3. SPORTS INJURIES	DESIRABLE TO KNOW	20
		4. SHOULDER INJURIES	MUST KNOW	10
		5. PRINCIPLES OF INJURY PREVENTION	MUST KNOW	8
		6. SPORTS IN SPECIAL AGE GROUP	DESIRABLE TO KNOW	8
6.	RESEARCH METHODOLOGY	1. INTRODUCTION TO RESEARCH	MUST KNOW	2
		2. TECHNIQUES OF DESCRIPTIVE RESEARCH	MUST KNOW	3
		3. ETHICAL ISSUES IN RESEARCH	MUST KNOW	3
		4. RESEARCH QUESTION	MUST KNOW	2
		5. RESEARCH DESIGN	MUSTKNOW	3
		6. RESEARCH PROPOSAL	MUST KNOW	3
		7. DATA COLLECTION	MUST KNOW	3
		8. RELIABILITY AND VALIDITY	DESIRABLE TO KNOW	3
		9. CRITICAL ANALYSIS	DESIRABLE TO KNOW	3
		10. WRITING RESEARCH	DESIRABLE TO KNOW	4
		11. STAGE PRESENTATION OF RESEARCH	DESIRABLE TO KNOW	3

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060701
PHYSIOTHERAPY IN CARDIORESPIRATORY CONDITIONS- (THEORY)

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100
INTERNAL: 40
EXTERNAL: 60
TIME: 3 Hrs

COURSE DESCRIPTION

This course serves to integrate the knowledge gained by the students in Clinical Cardio respiratory conditions with the skills gained in exercise therapy, electrotherapy and massage, thus enabling them to apply these in clinical situations of dysfunction due to cardio respiratory pathology.

COURSE OBJECTIVES

The objective of this course is that after 200 hours of lectures, demonstrations, practical and clinics the student will be able to identify cardio respiratory dysfunction, set treatment goals and apply their skills in exercise therapy, electrotherapy and massage in clinical situation to restore cardio respiratory function.

S No.	Topic	Learning Objectives(At the end of the course the student shall be able to)	Teaching Guidelines	Methodology	Time
I	Review of Anatomy and Physiology of Respiratory system	Describe the Physiology and Anatomy of Respiratory System Identify abnormalities in rate, rhythm and in exchange of gases	To Cover: • Structure and function of respiratory tract • Division of respiratory tract • Muscles of respiration • Mechanism of respiration • Rate and Rhythm of Respiration • Transport of gases • Exchange of gases	Student Interactive Session Explanation using Charts and Models Student Seminar Poster presentation	4 Hrs.
II	Assessment of	Describe the Assessment	To Cover:	Student Interactive	6 Hrs.

	Respiratory system	of Respiratory System Evaluate the patient condition Interpret the different test used in respiratory assessment	• History taking • Observation • Palpation • Percussion • Auscultation • Measurement of chest expansion • Invasive and non invasive investigatory procedure including Pulmonary function testing, Arterial blood gas analysis, Chest X-ray, Hematological & Biochemistry tests	Session Practical Session Case Discussion	
III	Physiotherapy techniques for the management of Cardio respiratory problems	Describe the various Physiotherapy Techniques used in treatment of Respiratory Conditions	To Cover: • Breathing Exercises • Controlled Breathing Training • Chest Mobilization Exercise • Huffing & Coughing • Postural Drainage • Chest percussion, vibration & shaking • Manual Hyperinflation • Suctioning • Humidification • Aerosol Therapy • PEP • Flutter • Inspiratory Muscle training	Student Interactive Session Practical Session Case Discussion	6 Hrs.
IV	Obstructive Pulmonary Disorders	Describe the various Obstructive lung conditions Explain the different techniques used in assessment and treatment of Obstructive lung conditions	To Cover: Definition, Patho physiology , Risk Factors, Clinical Presentation, Physiotherapy Assessment and Physiotherapy Management in • COPD • Asthma • Cystic Fibrosis • Bronchiectasis	Student Interactive Session Case Discussion	5 Hrs.
V	Pleural	Describe the various	To Cover: Definition, Patho	Student Interactive	2 Hrs.

	Diseases	Pleural diseases Evaluate and treatment of different pleural conditions	physiology , Risk Factors, Clinical Presentation, Physiotherapy Assessment and Physiotherapy Management in • Pleurisy • Pleural Effusion • Empyema • Pneumothorax	Session Case Discussion	
VI	Infectious Lung conditions	Describe the various Respiratory Infectious conditions and their treatment	To Cover: Definition, Patho physiology , Risk Factors, Clinical Presentation, Physiotherapy Assessment and Physiotherapy Management in • Lung Abscess • Pneumonia • Pulmonary tuberculosis • Rheumatic Fever	Student Interactive Session Case Discussion Vertical Integerated teaching	4 Hrs.
VII	Lung Carcinoma	Describe the Carcinoma of Respiratory Tract	To Cover: Definition, Types, Classification, Physiotherapy assessment and Physiotherapy Management in Lung Carcinoma	Student Interactive Session	2 Hrs.
VIII	Paralytic conditions	Describe the Paralytic Conditions in Respiratory System	To Cover: Definition, Patho physiology , Clinical Presentation, Physiotherapy Assessment and Physiotherapy Management in • Diaphragm Paralysis • Vocal Cord Paralysis	Student Interactive Session	2 Hrs.
IX	Chest Deformities	Describe the various Chest Wall Deformities and their consequences on respiratory functions	To Cover: Definition, Patho physiology , Clinical Presentation, Physiotherapy Assessment and Physiotherapy Management in • Barrel Chest • Pigeon Chest • Funnel Chest	Student Interactive Session Model Presentation Student Seminar	1 Hr.
X	ICU Management	Describe the Principle of Intensive Care Physiotherapy	To Cover: • Positioning of patient • Hemodynamic	Student Interactive Session Practical Session	3 Hrs.

		Incorporate different Physiotherapy Approach to a patient admitted in ICU Do's and dont's in ICU	monitoring • Removal of secretion • Oxygen Therapy • Early Ambulation • Prevention of complications	Training in ICU	
XI	Mechanical Ventilators	Describe the Ventilators Differentiate between invasive non invasive ventilators	To Cover: Definition, Purpose of Ventilator, Types, Classification and Different Modes of Ventilators	Student Interactive Session Practical Session Training in ICU	3 Hrs.
XII	Review of Anatomy and Physiology of Cardiovascular system	Describe the Physiology and Anatomy of Cardiovascular System	To Cover: • Structure and function of Cardiovascular system • Regulation Heart Rate • Regulation of Blood flow	Student Interactive Session Explanation using Charts and Models	2 Hrs.
XIII	Assessment of Cardiovascular system	Describe the Assessment of Cardiovascular System Interpret the different tests used in Cardiovascular assessment	To Cover: • History taking • Observation • Palpation • Auscultation • Invasive and non invasive investigatory procedure including ECG, Chest X-ray, Echocardiography, Angiography	Student Interactive Session Practical Session Case Discussion	2 Hrs.
XIV	Ischemic heart diseases	Describe the Ischemic Heart Disease Assess, plan and execute a rehabilitation programme for a patient with ischemic heart disease	To Cover: Definition, Pathogenesis of atherosclerosis of coronary artery, Patho physiology, Risk Factors, clinical Presentation, Physiotherapy Assessment and Physiotherapy Management in • Stable angina • Unstable Angina • Myocardial Infarction	Student Interactive Session Explanation using Charts and Models Case Discussion	4 Hrs.
XV	Congestive heart failure	Describe the congestive Heart Failure	To Cover: Definition, Types of CHF, Patho physiology, Risk Factors, clinical Presentation, Physiotherapy	Student Interactive Session Explaination using Charts and Models Case Discussion	2 Hrs.

			Assessment and Physiotherapy Management in CHF		
XVI	Blood Pressure abnormalites	Describe the Abnormalities of Blood Pressure	To Cover: Definition, Pathogenesis, Patho physiology, Risk Factors, Clinical Presentation, Physiotherapy Assessment and Physiotherapy Management in • Hypertension • Hypotension	Student Interactive Session Case Discussion Vertical integerated teaching	2 Hrs.
XVII	Peripheral Vascular Diseases	Describe the Peripheral Vascular Disease Assess, plan and execute a rehabilitation programme for a patient with peripheral vascular disease	To Cover: Definition, Pathogenesis, Patho physiology, Risk Factors, Clinical Presentation, Physiotherapy Assessment and Physiotherapy Management in • Atherosclerosis • Arteriosclerosis • Burger's Disease • Reynaud's Disease • Thrombosis & Embolism • Phlebitis & Thrombo phelbitis • Varicose Vein • Lymphedema • Gangrene	Student Interactive Session Practical Session Case Discussion	6 Hrs.
XVIII	Lung Surgeries	Identify different incision Describe the various Lung Surgeries Assess, plan and execute a rehabilitation programme for a patient with lung surgery	To Cover: Definition, Indications, Types of Incision, Pathological changes, Physiotherapy Assessment, Principle of Pre and Post -Operative Physiotherapy Management of the following conditions: • Lobectomy • Pneumonectomy • Thoracotomy • Thoracoplasty • Endoscopy & Eye Hole surgeries	Student Interactive Session Case Discussion	4 Hrs.

XIX	Cardiac Surgeries	Describe the various Heart Surgeries Assess, plan and execute a rehabilitation programme for a patient with heart surgery	To Cover: Definition, Indications, Types of Incision, Pathological changes, Physiotherapy Assessment, Principle of Pre and Post -Operative Physiotherapy Management of the following conditions: • Corrective Surgeries of congenital heart defects • Angioplasties • Blood vessel grafting • Open heart surgery • Heart Transplantation	Student Interactive Session Case Discussion	4 Hrs

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060701
PHYSIOTHERAPY IN CARDIORESPIRATORY CONDITIONS- (PRACTICAL)

Periods/Week Credits

TEACHING HOURS: 64

P: 4 2

MAX. MARKS: 50
INTERNAL: 20
EXTERNAL: 30

Practical-

1. Practical demonstration of various tests used in Physical assessment of Cardio-respiratory and Peripheral vascular conditions.
2. Practical demonstration of various Physiotherapy techniques used in management of Cardio-respiratory and Peripheral vascular conditions.
3. Practical demonstration of basic principles of Physiotherapy assessment, functional assessment and application of Physiotherapy in Various Respiratory conditions.
4. Practical demonstration of basic principles of Physiotherapy assessment, functional assessment and application of Physiotherapy in Various Cardiac conditions.
5. Practical demonstration of basic principles of Physiotherapy assessment, functional assessment and application of Physiotherapy in various Peripheral vascular diseases..
6. Practical demonstration of basic principles of Physiotherapy assessment, functional assessment and application of Physiotherapy in various Lung surgeries.
7. Practical demonstration of basic principles of Physiotherapy assessment, functional assessment and application of Physiotherapy in Heart Surgeries.
8. Student must maintain a logbook. The duly completed logbook should be submitted during practical examination.

Book Recommended:

1. Cash Textbook of general medical and surgical conditions for physiotherapists- Donnie Jaypee Brothers.
2. Essential of Cariopulmonary physical therapy- Hillegass & Sadowsky W. B. Saunders.
3. Cash textbook of Chest, Heart and Vascular Disorders for Physiotherapists- Downie- J.P.

Brothers.
4. The-Brompton Guide to Chest Physical therapy
5. Cardiopulmonary Physical Therapy- Irwin and Tecknin, Mosby.
6. Cardiovascular/Respiratory physiotherapy- Smith & Ball- Mosby
7. ACSM Guidelines for exercise testing and prescription- ACSM- Williams and Wilkins.
8. Chest physiotherapy in intensive care unit- Mackenzie et al - Williams and Wilkins.
9. Cardiopulmonary Physical Therapy- Donna Frown Feltter
10. Understanding Mechanical Ventilation- Hasan
11. Physiotherapy in respiratory Care- Hough
12. Respiratory Physiotherapy- Harden
13. Respiratory Care- Fink & Hunt

BACHELOR OF PHYSIOTHERAPY

Paper Code- 03060702

Physiotherapy in Orthopedic Conditions-1 (THEORY)

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100

INTERNAL: 40

EXTERNAL: 60

TIME: 3 Hrs

COURSE DESCRIPTION

This course serves to integrate the knowledge gained by the students in Clinical Orthopaedics, with the skills gained in exercise therapy, electrotherapy and massage, thus enabling them to apply these in clinical situations of dysfunction due to musculoskeletal pathology.

S NO.	TOPIC	Learning Objectives (At the end of the course the student shall be able to)	Content	METHODOLOGY	Time (Hrs)

1	Traumatology 1. Specific fractures and their physiotherapeutic management. 2. Soft tissue injuries	Describe the traumatology bony tissues, specific fracture and soft tissue injuries	To cover the review of the following condition and various management aims, physiotherapeutic intervention and technique of physiotherapy in the following conditions:- Fracture and dislocations: Classification and type of displacement, method of immobilization, healing of fractures and factors affecting union, non union, delayed Union etc., common sites of fractures and their general physiotherapeutic management. • Upper limb: Clavicle, humerus, ulna, radius, crush injuries of hand. • Lower Limb: fracture neck of femur, shaft of femur, patella, tibia fibula, pott's fracture, fracture of tarsal and metatarsals. • Spine: fracture and dislocations of cervical, thoracic and lumbar vertebrae with and without neurological deficits. • Synovitis and Capsulitis. • Tendonitis and other tendon injuries around wrist, elbow, knee, shoulder, ankle. • Bursitis, volkman's ischemic contracture. • Tear of semilunar cartilage, menisectomy. • Injury to cruciate ligaments of knee.Internal derangement of knee. • And other overuses injuries important for a Physiotherapist.	Student Interactive Session Case presentation Teachers seminar Problem based learning	44
	Deformities	Describe the various deformities clinical and PT management	To cover Etiology, pathology, clinical presentation, diagnostic criterion general, orthotic and Physiotherapy Management of the following: Congenital torticollis, Cervical rib, CTEV, Pescavus, Pesplanus and other common congenital deformities, Scoliosis, Increased and decreased Kyphosis, increased & decreased Lordosis, Coxavara, Genu valgum, Genu varum and recurvatum.	Student Interactive Session Case presentation Students seminar Poster presentation	20

BACHELOR OF PHYSIOTHERAPY -IVYEAR

Paper Code- 03060702

Physiotherapy in Orthopedic Conditions-1

(PRACTICAL)

Periods/Week Credits

TEACHING HOURS: 64

P: 4 2

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

1. Explain various condition during clinical postings
2. Includes Clinical hours on patient examination and Physiotherapy intervention under supervision on the various conditions as outline in the syllabus.
3. Includes case presentations emphasizing on differential diagnosis and clinical reasoning skills
4. Practical demonstration of basic principles of physiotherapy assessment, functional assessment and application of physiotherapy in orthopeadics conditions.

Books Recommended:

1. Cash. textbook orthopedics and Rheumatology for physiotherapists -
   i. Downie -Jaypee brothers.
2. Tidy's physiotherapy- Tomsonet. al Butterworth Heinmann
3. Essentials of orthopedics and applied physiotherapy - Joshi and kotwal- B.L. Churchill Livingstone.
4. Tetraplegia & Paraplegia- Bromley- W.B. Saunders.
5. Orthopedics physiotherapy- Donatelli&VVooden- WB. Saunders.
6. Rheumatological Physiotherapy- David – Mosby
7. Orthopaedic Physiotherapy- Tids well – Mosby
8. Physiotherapy for amputee- Engstrom& Van de van - Churchill Livingsstone
9. Sports Injuris: Diagnosis and management: Norris Butterworth Heinmann

BACHELOR OF PHYSIOTHERAPY -IVYEAR

Paper Code- 03060703

PHYSIOTHERAPY IN NEUROLOGY-1 (THEORY)

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100

INTERNAL: 40

EXTERNAL: 60

TIME: 3 Hrs

Course Objective: -The objective of this course in that , the student will be able to identify disability due to neurological dysfunction, set treatment goals and apply their skill . In exercise therapy, electrotherapy and massage in clinical situation to restore neurological function In addition, the student will be able to fulfill with 75% accuracy (as measured by written, oral & practical internal evaluations) the following objectives of the course .

S. NO	TOPIC	LEARNING OBJECTIVES (At the end of the session the student should be able to)	TEACHING GUIDELINES	Teaching Learning Activities	Time
1	Basics of nervous system	Describe the Basic Anatomy & Physiology of brain & spinal cord	T cover, Review, the structure and function of a) neuron b) synapse c) supporting tissue, Review the organization and function of a) cerebral hemispheres b) cerebellum c) spinal cord d) peripheral nerves e) pyramidal system f) extra pyramidal system. Review the factors influencing alpha motor neuron activity. Review the neurological basis of muscle tone and movement and demonstrate the following: a) hypertonia b) spasticity and rigidity c) ataxia d) athetosis e) chorea	Student Interactive Session Students seminar	12 hrs
2	Principle of	Describe the	To cover , a) skill in history taking b)	Student	12 hrs

	Assessment of nervous system	Principles of Assessment of sensory & motor system	assessment of higher functions, cortical sensations, cranial nerves, dorsal column sensation and pain & temperature sensations c) assessment of motor function: grading of muscle power, assessment of range of movement, balance and coordination d) assessment of superficial and deep reflexes e) assessment of reflex maturation in terms of stimulus, position negative/positive reaction and their significance f) assessment of gait both normal and abnormal (spastic, ataxic and paralytic patterns) Emphasis should be placed on teaching accurate assessment .	Interactive Session Practical demonstration Group discussion	
3	Principles of Treatment	Describe the basic techniques, modalities & splints used for rehabilitation	To cover, a)Sensory re -education a) Bobath's / neuro developmental therapy, b) Motor re-education c) Strengthening exercise, d) coordination exercise, e) joint mobilization, f) PNF, g) Vojta techniques, h) biofeedback, i) Brunnstorm therapy, j) MRP, k) Sensory integeration therapy l) Treatment to improve function Free exercise, gait training with and without aids, activities of daily living, mat exercise m) Review the use of splints and braces in spastic upper motor neuron and in flaccid lower motor neuron lesions, in both upper and lower limbs n) Review the management of chronic pain in neurological conditions with respect to the type of pain treatment modalities available, selection criteria for each modality and possible complications	Student Interactive Session Practical demonstration Group discussion Demonstration on patient	20 hrs
4	Peripheral	Describe the	To cover, Identify type of peripheral	Student	10 hrs

	Nerve Lesions	Peripheral Nerve Lesions ,assessment and its pre and post operative rehabilitation	nerve lesions Assess the motor 'system: Specific muscles. Range of motion, active and passive ranges, muscle girth. Assess sensory system: touch, pain, temperature, par aesthesia, nerve reverberation. Assess autonomic function: sweating, skin condition, soft tissue atrophy Treatment: describe muscle reeducation techniques: electrical stimulation (selection of current): active, assisted, resisted movements: Passive and self assistive stretching and massage. Describe sensory reeducation and pain relief by various modalities; describe the common splints used peripheral nerve lesions. Static, dynamic and functional Isolating muscle contraction, specific muscle strengthening. Post- Operative management: Pressure bandaging reeducation after transfer. Describe a home programm.	Interactive Session Practical demonstration Group discussion Patient assessment Horizontal Integerated teaching	
6	Neuro Muscular Diseases & its physiotherapy management	Describe the A)Amyotrophic Lateral sclerosis B)Demyelinating inflammatory poly radiculoneuropathies C)Muscular Dystrophy	To cover, introduction, etio pathology, clinical sign & symptoms, impairments, disabilities evaluation Procedure, physiotherapy management. Definition of De myelinating inflammatory poly radiculoneuropathies: Introduction, etio pathology, clinical sign & symptoms, impairments, disabilities. evaluation procedure & physiotherapy management Definition of Muscular Dystrophy Describe stages of the disease ambulatory .wheelchair and bed stages. Describe significance of exercise resisted. active and free. Identify and assess common contractures and deformities. Assess range of motion and muscle power. Assess functional ability. Demonstrate treatment program for	Student Interactive Session Role model Practical demonstration Group discussion Patient assessment	10 hrs

			strengthening weak muscles: Active movements and hydrotherapy Increase range of motion by suspension therapy, powder board, passive stretching positioning etc. Demonstrate gait training with appropriate orthosis, Describe management of chest complication: breathing exercises chest percussion, drainage of secretions and assisted coughing.		

BACHELOR OF PHYSIOTHERAPY -IVYEAR

Paper Code- 03060703

NEUROLOGY-1 (PRACTICAL)

Periods/Week	Credits
P: 4	2

TEACHING HOURS: 64

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

PRACTICAL

Case presentation: 10 MARKS

Spotting : 10 MARKS

Viva voce : 10 MARKS

1. Practical demonstration of Physical assessment in Neurologoical conditions.
2. Practical demonstration of various Physiotherapy techniques used in management of Neurologoical conditions.
3. Practical demonstration of basic principles of Physiotherapy assessment, functional assessment and application of Physiotherapy in Various Neurological conditions.
4. Student must maintain a logbook. The duly completed logbook should be submitted during practical examination.

Books Recommended:

1. Cash's textbook of neurology for, physiotherapists - Dowani - J P Brothers.
2. Adult Hemiplegia - Evaluation & treatment - Bobath - Oxford ButterworthHeinm an
3. Neurological Rehabilitation - Carr&Shepherd - ButterworthHeinrnan
4. Tetraplegia and paraplegia - A guide for physiotherapist- BromleyChurchill Livingstone.
5. Neurological physiotherapy - A, Problem solving approach – Susan Edwards- Churchill Linvigstone.
6. Neurological Rehabilitation - Urmpherd - Mosby.
7. Geriatric physical therapy- Gucciona- Mosby
8. Motor assessment of Developing Infant - Piper &Darrah - W B. Saunders.
9. Pediatric phySical therapy- Teckling Lippincott
10. Treatment of cerebral Palsy and motor Delay - Levitts- Blackwell Scientific Publications, London.
11. Aging the Health care Challenge - Levis- FA Davis.
12. Physiotherapy in Pediatrics - Shepherd - Butterworth Heinrnan

BACHELOR OF PHYSIOTHERAPY -IVYEAR

Paper Code- 03060705

RESEARCH METHODOLOGY

Periods/Week Credits

TEACHING HOURS: 32

T: 2 2

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

TIME: 3 Hrs

Note For Paper setters / Examiners

Course Objective:- The objective of this course is that ,it provides a comprehensive introduction to research proposal writing, research methodologies, and foundational research theories and protocols. Students in the course learn about the cyclical nature of applied research and the iterative process of research writing. The course teaches students how to write a proposal, engage in independent studies, and work collaboratively and in Biostatistics the student will be introduced to the basic principles and methods of biostatistics, providing a sound methodological foundation for health outcomes research. The purpose of the course is to teach fundamental concepts and techniques of descriptive and inferential statistics with applications in health care research. Basic statistics, including probability, descriptive statistics and inferential statics for means and proportions, and regression methods are presented.

RESEARCH METHODOLOGY

UNIT	TOPICS	LEARNING OBJECTIVES (At the end of the session the student should be able to)	TEACHING GUIDELINES	TEACHING METHODOLOGY	TIME
1	Introduction to Research	To know about basics of research.	To Cover: Introduction and importance in clinical practice, scientific approach, Characteristics, purpose and limitations of	Student Interactive session	2 Hrs.

			research.		
2.	Techniques of descriptive research	Describe the different techniques of descriptive research	To Cover: Techniques of descriptive research- Central tendency, measures of dispersion, tables graphs, normal distributions	Student Interactive session Group Discussion	3 Hrs.
3	Ethical Issues in Research	To identify various ethical issues involved in research	To Cover: Issues in research, errors, elements of informed consent	Student Interactive session	3 Hrs
4	Research Question	Identify various steps involved in formulating a Research Question.	To Cover: Importance and need for research question and literature review.	Student Interactive session	2 Hrs.
5.	Research design	Define Research Design, Describe various research design	To Cover: Designing research, basic concepts and statics.	Student Interactive session	3 Hrs.
6.	Research proposal	Identify the contents of a research proposal	To Cover: Designing a structure of research proposal.	Student Interactive session With examples of journals shown in class.	3 Hrs.
7.	Techniques of data collection	Identify the methods of collection of data	To Cover: Questioners, surveys and sampling. Principal of Measurement	Student Interactive session Group Discussion	3 Hrs.
8.	Reliability & Validity	To know about reliability & validity	To Cover: -Definition of reliability & its type and need of reliability in research -Definition of validity & its type and need of validity in research	Student Interactive session Group Discussion	3 Hrs.
9.	Critical Analysis of Research	Identify the various steps involved in critical analysis of research	To Cover: Reading published research and critically analyzing it.	Student Interactive session Criticizing a published research in class	3 Hrs.

10.	Research writing for publication	Describe the various steps involved in research report writing and different types of report writing	To Cover: Writing research for publication:- Significance of report writing, different steps in writing report, types of reports, mechanics of writing a research report and precautions for writing research reports	Student Interactive session With examples of journals shown in class.	4 Hrs.
11.	Stage presentation of research	Identify the techniques used in stage presentation of research	To Cover: Basic concepts for stage presentations of research.	Student Interactive session Seminar presentation	3 Hrs.

Books Recommended

1. Research Methodology- CR Kothari
2. Statistics in Medicine-Colton-Little Brown. Boston
3. Research Methods for Clinical Therapist- Carolyn M Hicks
4. Research in Physical Therapy-Christopher E. Bork

BACHELOR OF PHYSIOTHERAPY

Paper Code-03060704

PHYSIOTHERAPY IN SPORTS INJURIES- THEORY

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100

INTERNAL: 40

EXTERNAL: 60

TIME: 3 Hrs

Unit	Topic	Learning Objectives(At the end of the session the student should be able to)	Teaching guidelines	Methodology	Time (Hrs)
1.	Pre-exercise evaluation. Diet and nutrition measurement of fitness components and sports skills.	Describe the pre-evaluation and diet, nutrition measurement	To cover pre-evaluation Measurement of muscular strength, Measurement of muscular endurance, Measurement of flexibility, Determination of exercise endurance. Sports specific nutrition	Student Interactive Session Teachers seminar	10
2	Physiological effects of exercise on body system-	Describe the physiological effects of exercise on body system	To cover physiological effect of Muscular system, Endocrine system, Cardio-respiratory system, Nervous system	Student Interactive Session Students seminar	8
3	Sports injuries:	Describe the various sports injuries such as ankle sprain, swimmers knee	To cover various sports injuries such as Spine-PIVD, cervical whiplash injuries, facet joint syndrome, SI joint dysfunction. Hip-muscle strain, piriformis syndrome, ITB syndrome, osteitis pubis, hamstring tendenopathy, Knee- menisci, cruciate, collateral, osteochondritis,	Student Interactive Session Students seminar Poster presentation	20

			chondromalacia patella, biceps femoris tendinitis, swimmer's knee, patellofemoral pain syndrome. Leg & ankle- shin splint, achillis tendinitis, & rupture, TA bursitis, ankle sprain, plantar fasciitis, tuff toe syndrome, Head & Face:- maxillofascial injuries, helmet compression syndrome.		
4	Sports injuries Shoulder-	Describe the various sports injuries of shoulder such as golfers elbow, tennis elbow.	To cover various sports injury such as instability, rotator cuff injury, bicep tendinitis and rupture, pectoralis major rupture, swimmers shoulder, scapular dyskinesia, and acromio-clavicular joint injuries. Elbow: tennis elbow, golfer's elbow. Wrist and Hand: carpal tunnel syndrome, game keeper's thumb.	Student Interactive Session Students seminar Group discussions	10
5	Principle of injury prevention.	Describe the principle of injury prevention and training, rehabilitation in sports	To cover various Principles of training & Rehabilitation in sports injuries.	Student Interactive Session Poster presentation	8
6	Sports in Special age groups:	Describe the sports in special age groups such as younger athlete, musculoskeletal problem.	To cover various sports specifics condition such as Female athletic triad, Younger athlete: Musculoskeletal problem, Management of children with chronic illness and nutrition. Older athlete- Physiological changes with aging, benefits, risks of exercise in elderly, exercise prescription guidelines for elderly.	Student Interactive Session Teachers seminar	8

BACHELOR OF PHYSIOTHERAPY -
Paper Code- 03060704
PHYSIOTHERAPY IN SPORTS INJURIES- PRACTICAL

Periods/Week Credits

TEACHING HOURS: 64

P: 4 2

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

Practical assessment

- Practical demonstration of basic principles of Physiotherapy assessment, functional assessment
- Application of Various Techniques in sports Physiotherapy such as: tapping, agility exercise, Swiss Ball Exercise, cardiovascular training and thera-band exercise.
- On-Field evaluation of the sports players
- Off-Field evaluation of the sports players

Recommended books:

- Brukner & Khan's Clinical Sports Medicine, by Peter Brukner (Author), Karim Khan (Author)
- Sports Physiotherapy: Applied Science and Practice, María Zuluaga
- Biomechanics evaluation of movement sports and exercise. by Carl J. Payton and Roger M. Bartlett
- 101 performance evaluation test, Brian Mackenzie

BPT 8TH SEMESTER

S NO.	SUBJECT	TOPIC	DOMAIN	HRS
1.	PHYSIOTHERAPY IN GENERAL MEDICAL & SURGICAL CONDITION	1. COMMON ABDOMINAL SURGERIES	MUST KNOW	8
		2. WOMEN HEALTH AND PHYSIOTHERAPY	MUST KNOW	8
		3. SURGERIES IN ENT AND PT MANAGEMENT	NICE TO KNOW	4
		4. TRANSPLANTATION SURGERIES AND PT MANAGEMENT	DESIRABLE TO KNOW	4
		5. WOUND ULCER AND BURN	MUST KNOW	10
		6. PHYSIOTHERAPY MANAGEMENT IN PEDIATRIC CONDITIONS	MUST KNOW	10
		7. PT MANAGEMENT IN GERIATRIC CONDITIONS	MUST KNOW	7
		8. PT MANAGEMENT IN SKIN CONDITIONS	MUST KNOW	7
		9. PT MANAGEMENT PSYCHIATRIC CONDITIONS	DESIRABLE TO KNOW	3
		10. PHYSIOTHERAPY IN DIABETES	MUST KNOW	3
		11. CANCER REHABILITATION& PALLIATIVE CARE	MUST KNOW MUST KNOW	3
		12. PT MANAGEMENT IN MASTECTOMY	MUST KNOW	3
2.	PHYSIOTHERAPY IN ORTHOPEDICS-II	1. SURGERICAL PROCEDURES	MUST KNOW	24
		2. DEGENERATIVE AND INFECTIVE CONDITIONS	MUST KNOW	20
		3. ARTHRITIS AND ALLIED CONDITIONS	MUST KNOW	20
3.	PHYSIOTHERAPY IN NEUROLOGY-II	1. CEREBRAL PALSY	MUST KNOW	8
		2. BASAL GANGLION LESIONS	MUST KNOW	8
		3. SPINAL CORD LESION	MUST KNOW	8
		4. STROKE	MUST KNOW	10
		5. CEREBRAL LESION	MUST KNOW	6
		6. POLIOMYELITIS	MUST KNOW	6
		7. MULTIPLE SCLEROSIS	MUST KNOW	5
		8. BALANCE AND VESTIBULAR DISORDERS	MUST KNOW	5
		9. NEURO SURGERIES	MUST KNOW	8

6.	BIOSTATICS	1. INTRODUCTION TO BIOSTATISTICS	MUST KNOW	8
		2. TYPES OF STATISTICS	MUST KNOW	6
		3. ANALYSIS OF VARIANCE	DESIRABLE TO KNOW	10
		4. CORRELATIONS	NICE TO KNOW	8
7.	RATIONALE OF REHABILITATION & PHYSIOTHERAPY ETHICS & LAW	1. DISABILITY AND REHAB	MUST KNOW	7
		2. BIOENGINEERING	DESIRABLE TO KNOW	7
		3. PHYSICAL MEDICINE	DESIRABLE TO KNOW	7
		4. COMMUNICATION REHABILITATION	MUST KNOW	5
		5. SOCIAL REHAB	DESIRABLE TO KNOW	2
		6. VOCATIONAL REHAB	MUST KNOW	3
		7. ADMINISTRATION	DESIRABLE TO KNOW	4
		8. ORGANIZATION	DESIRABLE TO KNOW	3
		9. HISTORY OF PHYSIOTHERAPY	DESIRABLE TO KNOW	2
		10. PHILOSPHY OF PHYSIOTHERAPY	DESIRABLE TO KNOW	2
		11. ETHICAL PRINCIPLES	MUST KNOW	2
		12. PROFESSINAL CONDUCT	MUST KNOW	4
		13. SCOPE OF PRACTICE	MUST KNOW	2
		14. RELATIONSHIP WITH PATIENTS	MUST KNOW	2
		15. RELATION SHIP WITH COLLEGUES	MUSTKNOW	2
		16. PROFESSIONAL STANDARD	MUST KNOW	2
		17. SALE OF GOODS	NICE TO KNOW	2
		18. LICENSING AND ACCREDITION	MUST KNOW	2
		19. LAW AND LEGAL CONCEPTS	MUST KNOW	4

BACHELOR OF PHYSIOTHERAPY -
Paper Code- 03060801
PHYSIOTHERAPY IN GENERAL MEDICAL & SURGICAL CONDITIONS- THEORY

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100
INTERNAL: 40
EXTERNAL: 60
TIME: 3 Hrs

Note: For Paper setters /Examiners

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- COURSE DESCRIPTION
- This course serves to integrate the knowledge gained by the students in Clinical General Medical & Surgical conditions with the skills gained in exercise therapy, electrotherapy and massage, thus enabling them to apply these in clinical situations of dysfunction due to General Medical & Surgical pathology.
- COURSE OBJECTIVES

The objective of this course is that after 240 hours of lectures, demonstrations, practical and clinics the student will be able to identify General Medical and Surgical conditions, set treatment goals and apply their skills in exercise therapy, electrotherapy and massage in clinical situation to restore patient's functional ability.

Unit	Topics	Learning Objectives (At the end of the session the student should be able to)	Teaching Guidelines	Teaching Methodology	Time
I	Physiotherapy in Abdominal Surgeries	Describe the Common Abdominal Surgery, To set treatment goals for patient with Abdominal Surgery	To Cover: Incision, Indications, Pathological changes, Principle of pre and post operative management by physiotherapy of the Common abdominal surgeries. Including GIT, liver, spleen, Kidney, bladder etc	Student Interactive Session Practical Demonstration Case Discussion	8 Hrs.
II	Physiotherapy in Women	Describe the various health related issues	To Cover: Various health related issues in	Student Interactive	8 Hrs.

	Health	of a female, Operations of Reproductive System Set treatment goals for patient with Gynecological & Obstetrics Operations Learn Antenatal and Postnatal Physiotherapy	following headings- importance of exercise in childhood, adulthood, pre para and post pregnancy, old age related health issues and role of physiotherapy Incision, Indications, Pathological changes, Principle of pre and post operative management by Physiotherapy of the Common operation of reproductive system, including surgical intervention for child delivery. Ante natal & post natal, Physiotherapy	Session Students seminar Practical Demonstration Case Discussion	
III	Physiotherapy in ENT surgeries	Describe various Operations in ENT Set treatment goals for patient with ENT Surgery	To Cover: Incision, Indications, Pathological changes, Principle of pre and post operative management by Physiotherapy of the Common operation of the ear, nose, throat & Jaw as related to Physiotherapy	Student Interactive Session Case Discussion	4 Hrs.
IV	Physiotherapy in Organ Transplantation	Describe the various Transplantation Surgery Set treatment goals for Transplanted patients	To Cover: Incision, Indications, Contraindication, Selection Criteria, Pathological changes, Principle of pre and post operative management by Physiotherapy of the Common Organ Transplantation Surgery	Student Interactive Session	4 Hrs.
V	Physiotherapy in Wounds, Burns, Ulcers & Pressure sores	Identify types of Wounds & Ulcer Evaluate severity of Burn & type of Burn Set treatment goals for patient with Wound, Ulcer or Burn	To Cover: Pathological changes and principle of pre and post operative management by physiotherapy of the following conditions: • Wounds, ulcers, pressure sores. • Burns & their complications. • Common reconstructive surgical proceedings of the management of wounds, ulcers burns & consequent contractures & deformities	Student Interactive Session Group Discussion Poster Presentation Case Discussion	10 Hrs.
VI	Physiotherapy in Pediatric conditions	Assess the Pediatric patient. Describe the various Physiotherapy Techniques to treat	To Cover: • Examination & assessment of a pediatric patient. • Pathological changes and	Student Interactive Session Students	10 Hrs.

		Pediatric Patients. Set treatment goals in common congenital and acquired musculoskeletal, neurological, nutritional and metabolic disorders	principle of management by Physiotherapy of the following conditions: 1) Common congenital and acquired muscle skeletal disorders. 2) Common congenital and acquired neurological disorders (CNS & PNS) 3) Common heredity disorders 4) Common nutritional, metabolic& vitamin deficiency disorders 5) Cerebral palsy, myopathy and muscular dystrophies	Seminar Poster Presentation Practical Demonstration Case Discussion Vertical Inteerated Teaching	
VII	Physiotherapy in Geriatric population	Overview the changes associated with ageing in all of the systems important to physical performance and functioning. Assess all aspects of a Geriatric Patient and develop a treatment programme for the individual Prepare to enhance the quality of life of geriatric patient.	To Cover: • Examination & assessment of a Geriatric patient. • Pathological changes and principle of management by Physiotherapy of the following conditions: 1) Musculoskeletal Disorders 2) Cardiopulmonary Disorders 3) Neurological Disorders (CNS, PNS) 4) Injuries & accident specific to aged	Student Interactive Session Group Discussion Field visit to Residential Aged Care	7 Hrs.
VIII	Physiotherapy in skin diseases	Describe the various Skin conditions. Identify the therapeutic exercises and electrotherapy modalities to treat various skin conditions. Set the treatment goals for different skin conditions	To Cover: Definition, Pathological changes and principles of management by Physiotherapy to the following conditions of Skin-Acne. Psoriasis, Alopecia, Leucoderma, leprosy Sexually transmitted diseases	Student Interactive Session Poster Presentation Practical Demonstration Case Discussion	7 Hrs.

IX	Physiotherapy in Psychological disorders	Describe the various Psychiatric conditions. Identify the various strategies to treat Psychiatric patients. Set the treatment goals for different Psychiatric conditions	To Cover: Definition, Pathological changes and Principles of management by Physiotherapy to the following conditions of Psychiatric Disorders-psychosis, Psychoneurosis ,Senile dementia	Student Interactive Session Group Discussion Problem Based Learning	3 Hrs.
X	Physiotherapy in Diabetes	Identify the types of Diabetes. Assess the patient with diabetes. Set the treatment goal for Diabetic patient	To Cover: Definition, Types, Pathological Changes, clinical presentation, complications and principles of management by Physiotherapy in diabetic patient	Student Interactive Session Students Seminar Group Discussion Case Discussion	3 Hrs.
XI	Cancer Rehabilitation& Palliative care	Identify the types of tumors, Assess the patient with cancer. Set the treatment goal for oncology patients	To Cover: Definition, Types, Pathological Changes, clinical presentation, complications and principles of management by Physiotherapy in cancer patients. Basics of palliative care in cancer patients.	Student Interactive Session Students Seminar Group Discussion Case Discussion	3 Hrs
XII	Physiotherapy in Mastectomy	Identify the need of Mastectomy. Set the treatment goals for patient with Mastectomy	To Cover: Definition, Types, Pathological Changes, clinical presentation, complications and principles of management by Physiotherapy in patient with Mastectomy	Student Interactive Session Practical Session Group Discussion Case Discussion	3 Hrs.
XIII	Women Health	Identify the role of physical activity in maintaining physical fitness of women	To cover: Assessment of women health on the basis of their physical activity level, changes on metabolism of female after menopause and related clinical conditions. Role of Physiotherapy in maintenance of women health care	Student Interactive Session Practical Session Group Discussion Case Discussion	3 Hrs

BACHELOR OF PHYSIOTHERAPY -
Paper Code- 03060801
PHYSIOTHERAPY IN GENERAL MEDICAL & SURGICAL CONDITIONS- PRACTICAL

Periods/Week	Credits
P: 4	2

TEACHING HOURS: 64

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

PRACTICAL : Practical demonstration of basic principles of physiotherapy assessment, functional assessment and application of physiotherapy in abdominal Surgery, Obstetrics & Gynecological Surgery, ENT surgery & Mastectomy

1. Prenatal and postnatal Physiotherapy
2. Practical demonstration of basic principles of physiotherapy assessment, functional assessment and application of Physiotherapy in Organ Transplantation.
3. Practical demonstration of basic principles of physiotherapy assessment, functional assessment and application of Physiotherapy in Wound, Ulcer, Pressure Sores, Diabetes Mellitus, Burn & Other skin Conditions
4. Practical demonstration of basic principles of physiotherapy assessment, functional assessment and application of Physiotherapy in Pediatric Conditions.
5. Practical demonstration of basic principles of physiotherapy assessment, functional assessment and application of Physiotherapy in Geriatrics conditions.
6. Practical demonstration of basic principles of physiotherapy assessment, functional assessment and application of Physiotherapy in Psychiatrics conditions.
7. Student must maintain a logbook. The duly completed logbook should be submitted during practical examination.

Books:

1. Cash Textbook of general medical and surgical conditions for physiotherapists- Donnie Jaypee Brothers
2. Principles of Physiotherapy in General Medical and Surgical Conditions- A Thangamani Ramalingam
3. Textbook of Rehabilitation- Sunder
4. Textbook of Physiotherapy for Obstetric & Gynecological conditions- Madhuri
5. Physiotherapy in Obstetrics & Gynecology- Margaret Polden
6. Physical rehabilitation- O' Sullivan
7. Physical Rehabilitation- Braddum

BACHELOR OF PHYSIOTHERAPY -

Paper Code- 03060802

PHYSIOTHERAPY IN ORTHOPAEDICS CONDITIONS-II (THEORY)

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100

INTERNAL: 40

EXTERNAL: 60

TIME: 3 Hrs

COURSE DESCRIPTION

This course serves to integrate the knowledge gained by the students in Clinical Orthopaedics, with the skills gained in exercise therapy, electrotherapy and massage, thus enabling them to apply these in clinical situations of dysfunction due to musculoskeletal pathology.

S NO.	TOPIC	Learning Objectives (At the end of the course the student shall be able to)	Content	METHODOLOGY	Time (Hrs)
1.	Surgical Procedures Corrective Surgeries Amputation	Describe the surgical procedure of various mentioned condition	To cover Pre and post operative physiotherapy management of common corrective procedure like arthroplasty, arthrodesis, osteotomy, patellectomy, tendon transplants, soft tissue release, grafting, including post polio residual paralysis and leprosy deformities corrections. Amputation: Level of amputation of upper limb and lower limb, stump care, stump bandaging, Pre and post operative physiotherapy management, pre and post prosthetic management including check out of prosthesis, training etc.	Student Interactive Session Visit to OPD/IPD Case Discussion	24
2.	Degenerative and	Describe the various degenerative and infective condition	To cover Etiology, pathology, clinical presentation, diagnostic criterion,	Student Interactive session	20

	infective conditions:		general, orthotic, and Physiotherapy Management of the following: Osteoarthritis of major joints, Spondylosis, Spondylitis, Spondylolisthesis, retrolisthesis, spinal stenosis, PIVD, Periarthritis of shoulder, Tuberculosis of spine, bone and major joints, and other miscellaneous orthopaedic conditions treated by Physiotherapy.	Case presentation Vertical Integerated Teaching	
3.	Arthritis and Allied conditions :	Describe the various arthritis and allied condition	To cover Etiology, pathology, clinical presentation, diagnostic criterion general, orthotic, and Physiotherapy Management of the following: • Osteo- Arthritis-generalized, Degenerative and traumatic. • Rheumatoid Arthritis, Still's disease, infective Arthritis • Spondylitis, ankylosing spondylitis. • Non articular Rheumatism, Fibrositis, trigger point, fibromyalgia, Perthes disease, Ganglion, Duputyren's contracture 1. Etio pathogenesis and physiotherapy and general management of the Edema- Traumatic, Obstructive, position dependent and Paralytic, 2. Deficiency disease- Rickets, Osteomalacia, Osteoporosis and other deficiency disorders related to Physiotherapy their clinical presentation, etio pathogenesis, management strategies including physiotherapy interventions.	Student Interactive session Case presentation Vertical Integrated teaching Problem based learning Poster presentation	20

BACHELOR OF PHYSIOTHERAPY -
Paper Code- 03060802
PHYSIOTHERAPY IN ORTHOPAEDICS CONDITIONS-II (PRACTICAL)

Periods/Week Credits

TEACHING HOURS: 64

P: 4 2

MAX. MARKS: 50
INTERNAL: 20
EXTERNAL: 30

- Explain various condition during clinical postings
- Includes Clinical hours on patient examination and Physiotherapy intervention under supervision on the various conditions as outline in the syllabus.
- Includes case presentations emphasizing on differential diagnosis and clinical reasoning skills
- Practical demonstration of basic principles of physiotherapy assessment, functional assessment and application of physiotherapy in orthopeadics conditions.

Books Recommended:

4. Cash. textbook orthopedics and Rheumatology for physiotherapists - Downie -Jaypee brothers.
5. Tidy's physiotherapy- Tomsonet. al Butterworth Heinmann
6. Essentials of orthopedics and applied physiotherapy - Joshi and kotwal- B.L. Churchill Livingstone.
7. Tetraplegia & Paraplegia- Bromley- W.B. Saunders.
8. Orthopedics physiotherapy- Donatelli&VVooden- WB. Saunders.
9. Rheumatological Physiotherapy- David – Mosby
10. Orthopaedic Physiotherapy- Tids well – Mosby
11. Physiotherapy for amputee- Engstrom& Van de van - Churchill Livingsstone
12. Sports Injuris: Diagnosis and management: Norris Butterworth Heinmann

BACHELOR OF PHYSIOTHERAPY-
PAPER CODE – 03060803
PHYSIOTHERAPY IN NEUROLOGY- II (THEORY)

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100
INTERNAL: 40
EXTERNAL: 60
TIME: 3 Hrs

Course Objective: -The objective of this course in that , the student will be able to identify disability due to neurological dysfunction, set treatment goals and apply their skill . In exercise therapy, electrotherapy and massage in clinical situation to restore neurological function In addition, the student will be able to fulfill with 75% accuracy (as measured by written, oral & practical internal evaluations) the following objectives of the course .

S. NO	TOPIC	LEARNING OBJECTIVES (At the end of the session the student should be able to)	TEACHING GUIDELINES	Teaching Learning Activities	Time
1	Cerebral palsy	Describe the cerebral palsy, its different types , etiology ,its assessment and rehabilitation	To cover, Define cerebral palsy and describe the topographical classification, monoplegia, diplegia, paraplegia, hemiplegia & tetraplegia Describe types of cerebral palsy. Assess reflex activity at different levels: Cortical, mid brain, brain stem, spinal Assess developmental milestones from birth to five years, Assess functional ability: Prone to supine (roiling) Coming to sitting, quadruped, crawling, kneeling, kneelstand, stand with support and walking. Examine for contractures as follows: hip flexion, adduction, internal rotation: Knee flexion: ankle plantar flexion, inversion, eversion. Flexion contracture of	Student Interactive Session Practical demonstration Group discussion Patient assessment Vertcal and horizontal Integerated teaching	8 hrs

			elbow, wrist & fingers and spinal deformities. Treatment - Describe and demonstrate the treatment motor dysfunction: Passive movement, stretching of soft tissue tightness, use of ice to reduce spasticity, positioning the child to prevent soft tissue contractures, to inhibit abnormal reflexes and to facilitate' volitional movement. Describe and demonstrate techniques of carrying of different type of CP children, encouraging bimanual activities in different starting positions like prone sitting and standing and activities across the midline. Describe appropriate home program for positioning the child, handling them and assisting improvement of function.		
2	Basal ganglionic disorders	Describe the basal ganglionic disorders in relation to posture and movement, its assessment and rehabilitation in detail Parkinsonism Huntingtons Wilsons Diseases	To cover, Review the natural history, course and prognosis of the disease. Identify and assess problems in posture sitting, kneeling and standing balance, voluntary and automatic movements rigidity. Tremor and gait. Assess also hearing, speech and finger dexterity. Describe disability grading according to Yulu. Demonstrate treatment: postural awareness and relaxation training. Gait training techniques: associated reactions, heel-toe gait, overcoming obstacles, start and stop on command, turning and walking backwards, forwards and sideward. Describe an appropriate home exercise programme. *Introduction to* Huntingtons Diseases	Student Interactive Session Practical demonstration Group discussion	8 hrs

		Tardive Dyskinesia. Dystonias.	*Introduction to* Wilsons Diseases *Introduction to* Tardive Dyskinesia. *Introduction to* Dystonias.		
3	Spinal Cord Lesions	Describe the Spinal Cord Lesions, its assessment and Rehabilitation in detail.	To cover , Describe types of spinal cord lesions Describe sign of tract and root Interruptions, Describe positioning of the patient in acute spinal cord injury. Describe assessment of the motor system tone, power of specific muscle range of motion and limbs girth. Describe assessment of sensory system and reflexes. Describe assessment of functional ability and balance reactions in appropriate cases. Describe assessment of respiratory function Muscles of respiration, coughing ability and vital capacity Describe how the level of lesion is ascertained. Treatment- Describe the stages of immobilization & stage when weight bearing is allowed, Describe spinal orthosis. Demonstrate motor reeducation program and program for respiratory care In high level paraplegics and quadriplegics Demonstrate progressive ambulation, mat exercises, various strengthening program , methods of decreasing spasticity and improving sitting balance Demonstrate paraplegic gaits and reeducation in functional activities transfer and protective falling. Describe common ambulatory aids used in paraplegics and common splints used in tetraplegics.	Student Interactive Session Practical demonstration Group discussion	8 hrs

			Describe the use of Hydrotherapy in paraplegics. Describe the concept of team approach in rehabilitation of these patients		
4	Stroke	Describe the Hemiplegia, its syndromes, assessment and physiotherapy management	To cover, hemiplegia and identify the following. Sensory disturbance, alterations in tone, loss of selective movement, loss of balance reactions and communications problems Treatment Describe the unilateral and bilateral approaches to treatment. Describe positioning in the supine position, on the affected and on the unaffected sides. Demonstrate activities in the recumbent position arm mobilization. Trunk elongation-scapular movement, arm elevation, activities for a recovering arm activities for the lower limb.i.e. hip and knee flexion over the side of the bed, knee extension with dorsi flexion, hip control, and isolated knee extension Mat activities demonstrate rolling on to affected and unaffected sides, sitting and kneeling. Describe the technique of making a patient sit passively and active assisted in sitting: Demonstrate Transfer Technique Describe activities in sitting equal weight transference on buttocks, shuffling on buttocks. weight transfer through arms balance reaction on trunk & head. Demonstrate activities in the standing position: standing from	Student Interactive Session Practical demonstration Group discussion Visit to OPD/IPD	10 hrs

			plinth, from chair (assisted and independent), weight bearing an affected leg, knee, control in stand weight transfers forward, backward and side wards, Gait training and stair climbing. Describe tilt board activities in the lying and sitting positions Describe additional methods of stimulation using verbal cues, ice, pressure & tapping. Describe management of shoulder pain and shoulder hand syndrome Identify 'and describe hemiplegics gait, identify synergy, Components and abnormal reflex activities. Demonstrate reeducation of gait, motor relearning techniques functional approach and use of orthosis.		
5	Cerebral lesion.	Describe & the Explain the Incoordination and its physiotherapy management including assessment.	To cover, Identify and assess abnormal tone, decomposition of movement Rapid alternate movements, proprioception, dysmetria. posture and gait. Treatment Demonstrate exercises for In coordination- Frenkel's and weighted exercises. Demonstrate techniques for reeducation of balance and equilibrium reactions by visual compensation Describe use of appropriate aids far ambulation depending in the severity of affection - walker, elbow crutches, quadruped, walking sticks, etc.	Student Interactive Session Practical demonstration Group discussion	6 hrs
6	Poliomyelitis	Describe its stages & post Polio syndromes: describe the assessment and its rehabilitation	To cover, Define poliomyelitis and review the stages in the disease - acute, recovery and residual paralysis. Describe treatment in the acute stage, chest care, positioning. Describe the assessment of a	Teachers seminar Practical demonstration Group discussion	6 hrs

			patient in the recovery stage: active and passive range of motion, soft tissue tightness, muscle power & spinal deformities Demonstrate treatment in the recovery stage: muscle strengthening- progress resistive exercises. Describe the role of suspension and hydrotherapy Describe the treatment of soft tissue tightness by passive stretching, auto-stretching, pre-operative assessment of contractures: hip flexion, TA contracture, knee flexion and foot deformities. Review orthotic aids commonly used the management of polio. Describe tendon transfer operations commonly performed, Describe functional retraining for self care, gait training and posture correction.		
7	Multiple Sclerosis	Describe Multiple Sclerosis, its assessment and management	To cover, Define Multiple Sclerosis, etiopathology, sign & symptoms, stages, examination procedure, physiotherapy treatment goals and treatment techniques.	Student Interactive Session Practical demonstration Group discussion	5 hrs
8	Vestibular Disorders,	Balance & Vestibular Disorders, its assessment and its technique.	To cover ,basic physiology and balance control, common vestibular disorder, assessment, therapeutic goals and treatment techniques	Student Interactive Session Practical demonstration Group discussion	5 hrs

9	NEURO SURGERY	Review the principle of pre and post operative management by physiotherapy	To cover, 1. Common surgeries of the cranium &. brain. 2. Common surgeries of vertebral column & spinal cord 3. Common surgeries of peripheral nerves 4. Surgical interventions in traumatic head injuries	Student Interactive Session Role model Practical demonstration Group discussion	8 hrs

BACHELOR OF PHYSIOTHERAPY
PAPER CODE – 03060803
PHYSIOTHERAPY IN NEUROLOGY- II (PRACTICAL)

Periods/Week Credits

TEACHING HOURS: 64

P: 4 2

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

PRACTICAL Hrs :
Case presentation 15 marks
Viva voce : 15 marks

1. Practical demonstration of Physical assessment in Neurologoical conditions.
2. Practical demonstration of various Physiotherapy techniques used in management of Neurologoical conditions.
3. Practical demonstration of basic principles of Physiotherapy assessment, functional assessment and application of Physiotherapy in Various Neurological conditions.
4. Practical demonstration of basic principles of Physiotherapy assessment, functional assessment and application of Physiotherapy in various Cranial & Spinal surgeries.
5. Student must maintain a logbook. The duly completed logbook should be submitted during practical examination.

Books Recommended:

1. Cash's textbook of neurology for, physiotherapists - Dowani - J P Brothers.
2. Adult Hemiplegia - Evaluation & treatment - Bobath - Oxford ButterworthHeinm an
3. Neurological Rehabilitation - Carr&Shepherd - ButterworthHeinrnan
4. Tetraplegia and paraplegia - A guide for physiotherapist- BromleyChurchill Livingstone.
5. Neurological physiotherapy - A, Problem solving approach – Susan Edwards- Churchill Linvigstone.
6. Neurological Rehabilitation - Urmpherd - Mosby.
7. Geriatric physical therapy- Gucciona- Mosby
8. Motor assessment of Developing Infant - Piper &Darrah - W B. Saunders.
9. Pediatric phySical therapy- Teckling Lippincott
10. Treatment of cerebral Palsy and motor Delay - Levitts- Blackwell Scientific Publications, London.
11. Aging the Health care Challenge - Levis- FA Davis.
12. Physiotherapy in Pediatrics - Shepherd - Butterworth Heinrnan

BACHELOROF PHYSIOTHERAPY-
8TH SEMESTER
PAPERCODE- 03060804
RATIONALE OF REHABILITATION PHYSIOTHERAPY ETHICS & LAW

Periods/Week Credits

TEACHING HOURS: 64

T: 4 4

MAX. MARKS: 100
INTERNAL: 40
EXTERNAL: 60
TIME: 3 Hrs

COURSE DESCRIPTION

Following the basic sciences and clinical science course. this course will enable the students to understand their role in the management of disability within the rehabilitation team

COURSE OBJECTIVES

The objective of this course is that after 120 hours of lectures, demonstrations In addition to clinics, the student will be able to demonstrate an understanding of

A. The concept of team approach in rehabilitation will be discussed and implemented, through practical demonstration, with contributions from all members of the team.
B. Observation and identification of diagnostic features in physical conditions will be practiced through clinical demonstration.
C. Medical and surgical aspects of disabling conditions will be explained in relation to rehabilitation.
D. Identification of residual potentials in patients with partial or total disability (temporary or permanent).
E. Formulation of appropriate goals (long & short term) in treatment & rehabilitation will be discussed.

COURSE OBJECTIVES: The objectives of this course is that after 80 hours of lectures and discussion the students is able to know about evolution of Physiotherapy, identify various laws and regulation that should be followed during clinical practice of Physical Therapy.

RATIONALE OF REHABILITATION

S No	Topic	Learning Objective(at the end of the session student should be able to)	Teaching Guidelines	Teaching Learning Activity	Time
1	Disability and rehabilitation	Student will learn about disability and rehabilitation ,understanding various community services programmes and preventive aspects causing disability	1. Introduction to disability and rehabilitation 2. Definations in phases of disability process. 3. Impairement , functional limitation and disability. 4. Disability , prevention and rehabilitation principles of physical medicine, rehab team and members. 5. CBR 6. Present Rehabilitation services. 7. Reservation and legislation , rehabilitation services for disabled. 8. Principles of prescription writing and referral services.	Student Interaction Group Discussion Community programme visit and execution	7 hrs
2	Bioengineering	Student will learn about the importance of bioengineering and wheelchair training with clinical implication of orthosis and prosthesis.	1. Definitations , principle 2. Designing and construction of orthosis and prosthesis of upperlimb, lower limb and spine. 3. Wheelchair , its modification and training.	Student interaction Practical training on wheelchair Mobilization. Practical implication of Orthosis and	7 hrs

				Prosthesis.	
3	Physical Medicine	Student will learn about importance of physical medicine and physical evaluation and assessment of physical disability.	1. Principles of physical medicine . 2. Principle of rehabilitation and disability evaluation and calculation.	Student interaction . Student seminar.	7 hrs
4	Communication Rehabilitation	Student will learn Importance and Assesment of Communication disorders with its management.	1. Principle of speech production. 2. Communication disorder secondary to brain damage. 3. Principle of management of communication disorder. 4. Non aphasic language disorders and its treatment. 5. Aphasia and its treatment. 6. Dysarthria and its treatment.	Student Interaction Student seminar	5 hrs
5	Social Rehabilitation	Student will learn importance of social rehabilitation and role of social worker in society. Student will learn about importance of social rehabilitation in Physiotherapy.	1. Principle in management of social problem. 2. Social need of the patient. 3. Role of social worker in rehabilitation. 4. Rehabilitation centre environment.	Student Interaction Group discussion	2 hrs
6	Vocational Rehabilitation	Importance of Vocational Rehabilitation and evaluation of Vocational problems.	1. Principle in management of Vocational problems. 2. Vocational evaluation. 3. Vocational Goals for the disabled for community resources.	Student interaction	3 hrs
7	Administration	Student will learn importance of administration in setting of department.	1. Description of various rehabilitation institutions, centres and attached to hospitals or	Student Interaction Group Discussion	4 hrs

			otherwise in India and abroad. 2. Space locations , climatic and environmental conditions, preparation of scheme for set up of rehabilitation units in a hospital or outside hospital with a given number of patients and specific condition. 3. Basic principles of administration and organization philosophy and approach. 4. Organizational of structure of the rehabilitation units of the handicapped including Finances, Budgets, income and expenditure statement.		
8	Organization	Student will learn importance of organizations in maintaining relationship between organizers.	1. Principle or relationship between personnel of rehabilitation unit and other department. 2. Relationship between staff and his supervisors equals and junior. 3. Personnel management , recruitment.	Student Interaction Student Seminar	3 hrs

ETHICS & LAW IN PHYSIOTHERAPY

Unit	Topics	Learning Objectives (At the end of the session the student should be able to)	Teaching Guidelines	Teaching Methodology	Time
I	History of Physiotherapy	Describe the History of Rehabilitation treatment (including therapeutic exercises) from ancient times. Describe the History of Physical Therapy Profession	To Cover: • History of Rehabilitation treatment (including therapeutic exercises) from ancient times. • History of Physical Therapy Profession - Division of Special Hospitals & Reconstruction - Development of Professional Organization - Professional & Educational Development - Social Development of Physical Therapy - Expansion of Physical Therapy Profession	Student Interactive session Poster Presentation	2 Hrs.
II	Philosophical statements of Physiotherapy	Define the Physiotherapy	To Cover: Philosophy and Philosophical statements of Physiotherapy	Student Interactive session	2 Hrs.
III	Ethical Principles in health care	Enable the students to act in the best interest of the patient/client.	To Cover: Major Ethical principles applied to moral issue in health care	Student Interactive session Group Discussion	2 Hrs.
IV	Professional conduct	The relevant ethical, moral, legal and professional considerations that underpin the thinking behind the Rules of	To Cover: Rules of professional conduct: - Scope of practice - Relationships with patients - Confidentiality - Relationships with professional staff and carers - Duty of report	Student Interactive session Group Discussion	4 Hrs.

		Professional Conduct and should be referred	- Advertising - Sales of services and goods - Personal and professional standards		
V	Scope of practice	Describe the need to work safely and competency. Identify the common law duty of care to patients	To Cover: Scope of practice : - Scope of practice of the profession - Scope of practice of the individual - Competence/continuing professional development - Extension of practice/innovation - Duty of care/civil liability - Professional liability insurance - delegation	Student Interactive session Group Discussion	2 Hrs.
VI	Relationship with patients	Describe the respect of patient in all aspects of the Physiotherapeutic relationship	To Cover: Relationship with patients: - Informed consent - Touching patients - Record keeping - Reluctance to treat a particular patient - Use of chaperones - Patient and their refusal care - Interpreters - Inappropriate relationships with patients - The legal framework within which Physiotherapists practice	Student Interactive session Group Discussion	2 Hrs.
VII	Relationship with colleagues	Enables to respect the right, knowledge and skills of colleagues and other health care Professionals	To Cover: Relationship with medical collegues: - Consultation - Patient/ Provider Relationship - Disparagement	Student Interactive session Group Discussion	2 Hrs.
VII	Professional standard	Identify the professional standards of Physical Therapist	To Cover: Professional standard - Practice - Professional Education - Continuing Education - Research	Student Interactive session Group Discussion	2 Hrs.

VIII	Sale of goods	To know about the various rules in sales of goods	To Cover: Sale of goods - Contract of sale - Transfer of property - Goods - Conditions & Warranties - Delivery of Goods to buyer - Rights of unpaid seller against the goods - Measure for compensation & damages	Student Interactive session	2 Hrs.
IX	Licensing & Accreditation	To know about various Professional & Government Licensing	To Cover: Professional and government licensing, Accreditation.	Student Interactive session Group Discussion	2 Hrs.
X	Laws & Legal concepts	Understand the laws & Regulations to be followed in Physical Therapy Practice	To Cover: Laws and legal concepts • Confidentiality and responsibility • Law. • Legal concepts • Protection from Malpractice claims. • Consumer protection Act. • Liability and Documentation	Student Interactive session Group Discussion	4 Hrs.

BACHELOROF PHYSIOTHERAPY-
PAPERCODE- 03060804
RATIONALE OF REHABILITATION PHYSIOTHERAPY ETHICS & LAW-PRACTICAL

Periods/Week Credits

TEACHING HOURS: 64

P: 4 2

MAX. MARKS: 50
INTERNAL: 20
EXTERNAL: 30

PRACTICAL:

1. Wheelchair Training and mobilization.
2. Orthosis and Prosthesis Donning and doffing off.
3. Maintenance of Log Book .
4. Viva

Book References.

1. Rehabilitation -Evans.
2. Directory for disabled people.
3. Improvement resident life for disabled people- truly.
4. Physical medicine & rehabilitation- Okawata
5. Community diagnosis & Health actlon- Bennerth.
6. Hand book of Physical medicine & rehabilitation.- Husk
7. Professionalism in Physical Therapy- Swisher
8. Medical Ethics- By. CM. Francis.

BACHELOR OF PHYSIOTHERAPY

PAPER CODE- 03060805
BIOSTATISTICS

Periods/Week Credits

TEACHING HOURS: 32

T: 2 2

MAX. MARKS: 50
INTERNAL: 20
EXTERNAL: 30
TIME: 3 HOURS

Course Objective:- The course teaches students how to write a proposal, engage in independent studies, and work collaboratively and in Biostatistics the student will be introduced to the basic principles and methods of biostatistics, providing a sound methodological foundation for health outcomes research. The purpose of the course is to teach fundamental concepts and techniques of descriptive and inferential statistics with applications in health care research. Basic statistics, including probability, descriptive statistics and inferential statics for means and proportions, and regression methods are presented.

BIOSTATISTICS

UNIT	TOPICS	LEARNING OBJECTIVES (At the end of the session the students should be able to)	TEACHING GUIDELINES	TEACHING METHODOLOGY	TIME
1	Introduction to biostatistics	The know about the purpose of basics concepts and techniques of descriptive and inferential statistics in health care	To Cover: Introduction to biostatistics- • Descriptive statistics • Inferential statistics	Student Interactive Session Problem solving exercises	8 Hrs.
2.	Types of statistics	To describe the different tests used to compare means(Application of tests with specific research design)	To Cover: Types of statistics- • Non-parametric statistics • Parametric statics	Student Interactive Session Group discussion with an example Workshop	6 Hrs.
3	Analysis of	To describe the tests	To Cover: Analysis of	Student Interactive	10

	Variance	used for multiple comparisons(Application of tests with specific research design)	variance- one way analysis of variance two way analysis of variance	Session Group discussion with an example Workshop	Hrs
4	Correlations	To describe the parametric and nonparametric test used for correlation research design(Application of tests with specific research design)	To Cover: Correlations- • Non-parametric test for correlation design • Parametric test for correlation design	Student Interactive Session Group discussion with an example Workshop	8 Hrs.

Books Recommended

1. Methods in Biostatistics- Mahajan- J P
2. Research Methodology- CR Kothari
3. Statistics in Medicine-Colton-Little Brown. Boston
4. Research Methods for Clinical Therapist- Carolyn M Hicks
5. Research in Physical Therapy-Christopher E. Bork
6. Biostatistics The manual for Statistical methods for in health and nutrition-KV Rao. JP
7. Research methods in behavioural Sciences