INTEGRAL UNIVERSITY, LUCKNOW

INTEGRAL INSTITUTE OF ALLIED HEALTH SCIENCES & RESEARCH

DEPARTMENT OF PHYSIOTHERAPY

BACHELOR OF PHYSIOTHERAPY (BPT) SYLLABUS

YEAR/ SEMESTER: II/III

Integral University, Lucknow
Department of Physiotherapy
Study and Evaluation Scheme

Program: BPT **Semester-III**

S. N.	Course code	Course Title	Type of Paper	Period Per hr/week/sem			Evaluation Scheme				Sub. Total	Credit	Total Credits
				L	T	P	CT	TA	Total	ESE			
THEORIES													
1	PT201	Pathology	Core	2	1	0	40	20	60	40	100	2:1:0	3
2	PT202	Microbiology	Core	2	1	0	40	20	60	40	100	2:1:0	3
3	PT203	Exercise therapy	Core	3	1	0	40	20	60	40	100	3:1:0	4
4	PT204	Electrotherapy	Core	3	1	0	40	20	60	40	100	3:1:0	4
5	PT205	Surface Anatomy and Palpation Skills	Core	3	1	0	40	20	60	40	100	3:1:0	4
6	PT219	First Aid and Emergency Management	DSE	2	1	0	40	20	60	40	100	2:1:0	3
	PT220	Hospital Safety and Management											
PRACTICAL													
1	PT207	Exercise therapy-Lab	Core	0	0	4	40	20	60	40	100	0:0:2	2
2	PT208	Electrotherapy-Lab -	Core	0	0	4	40	20	60	40	100	0:0:2	2
3	PT209	Surface Anatomy & Palpation Skills-Lab	Core	0	0	2	40	20	60	40	100	0:0:1	1
Total				**15**	**06**	**10**	**360**	**180**	**540**	**360**	**900**	**26**	**26**

S. N.	Course code	Course Title	Type of Paper	Attributes							United Nation Sustainable Development Goal (SDGs)
				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
THEORIES											
1	PT201	Pathology	Core	√	√	√			√	√	3,4
2	PT202	Microbiology	Core	√	√	√			√	√	3,4
3	PT203	Exercise therapy	Core	√	√	√			√	√	3,4
4	PT204	Electrotherapy	Core	√	√	√			√	√	3,4,9
5	PT205	Surface Anatomy and Palpation Skills	Core	√	√	√			√	√	3,4
6	PT219	First Aid and Emergency Management	Core	√		√			√	√	3,4
	PT220	Hospital Safety and Management									
PRACTICAL											
1	PT207	Exercise therapy-Lab	Core	√	√	√			√	√	3,4, 9
2	PT208	Electrotherapy-Lab -	Core	√	√	√			√	√	3,4, 9
3	PT209	Surface Anatomy & Palpation Skills-Lab	Core	√	√	√			√	√	3,4

L: Lecture **T:** Tutorials **P:** Practical **CT:** Class Test **TA:** Teacher Assessment **ESE:** End Semester Examination,
AE= Ability enhancement, DSE- Discipline Specific Elective, **Sessional Total:** Class Test + Teacher Assessment **Subject Total:** Sessional Total + End Semester Examination (ESE)

Integral University, Lucknow

Effective from Session: 2016-17							
Course Code	**PT201**	**Title of the Course**	**PATHOLOGY**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**III**	2	1	0	**3**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	Acquire the knowledge of concepts of cell injury & changes produced thereby in different tissues & organs-; capacity of the body in healing process. Recall the etiopathogenesis, the pathological effects & the clinico-pathological correlation of common infections & noninfectious diseases.						

Course Outcomes	
CO1	Students able to understand the structure & functions of Cell, Cardinal sign of inflammation and neoplasm.
CO2	Students able to understand the Vascular & Cardiorespiratory System.
CO3	Students able to understand the bones and joints diseases.
CO4	Students able to understand the Patho-physiology and associated problems.
CO5	Students able to learn the disease related to nervous system including Myopathies, Myasthenia gravis, Muscular dystrophy

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	CELL INJURY, INFLAMMATION & NEOPLASMS	**Cells:** Brief out line of cell injury, hypertrophy, atrophy, degeneration, necrosis and gangrene. **Inflammation:** Definition, vascular and cellular phenomena, difference between transudate and exudates, granuloma. **Neoplasm:** Definition, characteristic features, benign and malignant tumor, spread of tumor, cancer pain syndrome	**6**	**CO1**
2	VASCULAR & CARDIORESPIRATORYSYSTEM:	**Circulatory Disturbance:** Odema, Hemorrhage, Embolism, Thrombosis, Infraction, Shock, Volkmann's ischemic contracture. **Blood Disorder:** Concepts of Anemia, Bleeding disorder-Hemophilia. **Cardio Vascular System (CVS):** Etiopathogenesis and Gross pathology of Atherosclerosis, coronary heart disease, Rheumatic heart disease. **Respiratory System:** Chronic Bronchitis, Asthma, Bronchiectasis, Emphysema	**6**	**CO2**
3	BONES, JOINTS & MUSCULAR SYSTEM:	**Bones:** Etiopathogenesis and gross pathology of fallowing conditions: Rickets/Osteomalacia, Osteoporosis, Osteomyelitis, Hyper parathyroidism **Joint:** Osteoarthritis, Rheumatoid Arthritis, Gout, Spondyloarthopathy (including Ankylosing Spondylitis), Osteonecrosis, Paget's disease. **Muscles:** Myositis ossificans, Myofascial Pain syndrome, Septic arthritis	**6**	**CO3**
4	HEPATO-BILIARY, ENDOCRINE & INTEGUMENTARY SYSTEM	**Hepato-Biliary System:** Jaundice Types, Etiopathogenesis and diagnosis. **Endocrine:** Diabetes Mellitus, Non Neoplastic lesion of thyroid-Thyrotoxicosis, Myxedema. **Skin:** Brief outline of Scleroderma, Psoriasis, Pressure Ulcer, and Burn.	**6**	**CO4**
5	CENTRAL NERVOUS SYSTEM:	**CNS:** Etiopathogenesis and gross pathology of fallowing conditions- Meningitis, Encephalitis, Parkinson's, Amyotrophic lateral sclerosis, Ataxias, Multiple sclerosis, Neuropathies (Carcoat Marie Tooth disease, Compression and Entrapments, diabetics G.B. Syndrome), malformation, CVA, Extredural and Intra Dural Hematoma. **Muscle Neuropathies:** Poliomyelitis, Myopathies, Myasthenia gravis, Muscular dystrophy.	**6**	**CO5**

Reference Books:

1. Text book of Pathology - by Harsh Mohan
2. Textbook of Pathology By Boyd
3. General Pathology – by Bhende
4. Pathologic basis of diseases by Cotran, Kumar, Robbins

e-Learning Source:

1.https://youtu.be/WFm9j1rNkQs
2.https://youtu.be/vLCg_kyuyw4
3. https://youtu.be/xLEw7ceog8M
4.https://youtu.be/80bzLTdAN4w
5. https://youtu.be/dHURMD4v8Kk

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	-	3	-	2	-	-	1	2	-	1	**3**	-	**1**	**1**	-
CO2	3	3	-	2	-	2	-	-	2	3	-	1	**3**	-	**1**	**1**	-
CO3	3	3	-	3	-	2	-	-	1	2	-	1	**3**	-	**2**	**2**	-
CO4	3	3	-	3	-	2	-	-	1	2	-	1	**3**	-	**1**	**1**	-
CO5	3	3	-	2	-	2	-	-	1	3	-	1	**3**	-	**1**	**1**	-

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
PT201	**PATHOLOGY**	√	√	√			√	√	**3,4**

Integral University, Lucknow

Effective from Session: 2016-17							
Course Code	**PT202**	**Title of the Course**	**MICROBIOLOGY**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**III**	2	1	0	**3**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	At the end of the course, the candidate will have sound knowledge of the agent responsible for causing human infections, pertaining to Immunology, Virology, Bacteriology, & Mislaneous condition. Microbiology involves the study of common organisms causing diseases including nosocomial infections and precautionary measures to protect one from acquiring infections. The knowledge and understanding of Microbiology of diseases is essential to institute appropriate treatment or suggest preventive measures to the patient.						

Course Outcomes	
CO1	Students able to understand Morphology, Nutritional Requirements, Metabolism, Growth, Classification and identification of Microbii.
CO2	Students able to understand nature of immunity like innate and acquired.
CO3	Students able to understand invegination of various types of bacteria.
CO4	Students able to understand invegination of various types of viruses.
CO5	Students able to understand various types of Parasitology and precautionary measurement against them.

Unit No.	**Title of the Unit**	**Content of Unit**	**Contact Hrs.**	**Mapped CO**
1	GENERAL MICROBIOLOGY	Introduction and history of Medical Microbiology. Morphology, Nutritional Requirements, Metabolism, Growth, Classification and identification of Bacteria. Sterilizations and Disinfection.	**6**	**CO1**
2	IMMUNOLOGY	Infection, Immunity, Antigens, antibody, antigen-Antibody, Reaction, Complement System. Structure and Function of Immune system, Immune Response. Immuno-deficiency Diseases, Hypersensitivity, Autoimmunity.	**6**	**CO2**
3	BACTERIOLOGY	Staphylococcus, Streptococcus, Pneumococcus, Neisseria, Corny bacterium, Clostridium, Bacillus, Enterobacteriaceae, Pseudomonas, Vibrio. Mycobacteria, Treponema.	**6**	**CO3**
4	VIROLOGY	General Characteristics and Classification of Virus, Virus-Host Interaction, DNA and RNA Virus Measles, Mumps, Rubella, Polio, Influenza, Rabies, Dengue, Hepatitis, HIV.	**6**	**CO4**
5	MISLANEOUS	Medical Mycology, Parasitology, Normal Microbial Flora of The Human Body, Hospital Acquired Infection, Universal Precautions.	**6**	**CO5**

Reference Books:

1. Textbook of Parasitology- K. D. Chatterjee (12thEd.)
2. Text Book of Microbiology – Panikkar (9thEd.)
3. Essentials of Medical Microbiology-Sastry Apurba Shankar (1stEd.)
4. Textbook of Microbiology –P. Chakraborty

e-Learning Source:

1. https://youtu.be/BV3fDTNqFEQ
2. https://youtu.be/cMVyrrdgaYk
3. https://youtu.be/ev_mLporfOU
4. https://youtu.be/wdo3E2w0cI8

Course Articulation Matrix: (Mapping of Cos with Pos and PSOs)

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	-	1	-	1	-	-	1	1	-	1	2	-	1	1	-
CO2	2	3	-	2	-	2	-	-	-	1	-	2	3	-	2	2	-
CO3	3	3	-	1	-	1	-	-	1	1	-	1	2	-	1	1	-
CO4	2	3	-	1	-	2	-	-	-	1	-	2	2	-	1	1	-
CO5	2	3	-	1	-	2	-	-	-	1	-	2	3	-	1	1	-

1. Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	**Course Title**	**Attributes**							**SDGs No.**
PT202	**MICROBIOLOGY**	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
		√	√	√	√		√	√	**3,4**

Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	**PT203**	**Title of the Course**	**EXERCISE THERAPY**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**III**	3	1	0	**4**
Pre-Requisite	NIL	**Co-requisite**	NIL				
Course Objectives	To describe & and also acquire the skill of use of various tools of the Goniometry and measure range of motion. Acquire the skill of application of various manual muscle testing procedures & and describe the Physiological effects, therapeutic use, merits / demerits of the same and also know about various tools used in strengthening exercise. To acquire a skill of assessment of Gait, Posture and uses of Ambulatory devices and their measurement on models. Recall the basic principles of Physics related to mechanics of movement / motion & and to understand the application of such principles to the simple equipment designs & and; their efficacy in therapeutic gymnasium.						

Course Outcomes	
CO1	Student able to understand the basic concepts of exercises and its effect on various system of the body.
CO2	Demonstrate the effective exercise therapeutic skills Goniometry measurement with strong theoretical knowledge on patients
CO3	Student able to evaluate functional muscular strength and design the various strengthening protocols.
CO4	Students must know about the different types of Equipments used in Gymnasium, and their setup of equipments and also their utilization, also able to use suspension therapy unit for rehabilitation.
CO5	Student able to learn the posture and various types of gait in order to enhance normal walking pattern which is used in ADL.

Unit No.	**Title of the Unit**	**Content of Unit**	**Contact Hrs.**	**Mapped CO**
1	OVERVIEW OF EXERCISES	**1.** Effect of exercise on Neuromuscular, cardiopulmonary system. **2.** Definition, Principles, determinates, Indication, Goals, Energy consumption and expenditure, precaution and contraindication of `Aerobic Exercises.	**8**	**CO1**
2	RANGE OF MOTION & GONIOMETRY	**3. Range of Motion:** Definition, Principles and procedures for applying ROM techniques normal range of motion, Indication, Goals, limitation, precaution and contraindication of ROM exercises, Functional range of movement, normal & abnormal End feels of the Joints. **4. Goniometry:** Definition, Principles, types, Testing position, procedure and measurement of ROM of the joints of upper limbs, lower limbs and Spine.	**8**	**CO2**
3	MANUAL MUSCLE TESTING (MMT): STRENGTHENING EXERCISE:	**1. Manual Muscle Testing (MMT):** Definition, Principles, Grading system, Indication, Contraindication, Precaution, procedure for the upper limb, lower limb, spine and face. **2. Strengthening Exercise:** Definition, Principles, strength testing procedures, different mode of Strengthening Exercise, Indication, Contraindication, Precaution, and Techniques of application of Strengthening Exercises.	**8**	**CO3**
4	THERAPEUTIC GYMNASIUM: SUSPENSION THERAPY	**1. Therapeutic Gymnasium:** Set-up of gymnasium & its importance, various equipments and their operational skills, effects, & uses. **2. Suspension Therapy:** Definition, principles, types, technique of application, indication, contraindication, precaution, effects & uses.	**8**	**CO4**
5	POSTURE, GAIT & AMBULATORY TRAINING	**1. Posture overview**: Mechanism of the normal posture. Abnormal posture: assessment, types, aetiogenesis management including therapeutic exercises. **2. Gait overview:** Definition of Gait, Gait cycle. Time-distance Parameters of Gait, determinants of gait, Gait deviations. **3. Ambulatory Training:** Walking aids and its types, indications, contraindication, effects & uses in various training techniques.	**8**	**CO5**

Reference Books:

1. Kisner and Colby. F.A. Davis, Therapeutic Exercises Foundations and Techniques
2. Gardiner, Principle of Exercise Therapy, C. B. S. Delhi.
3. Norkins & White F.A. Davis, Measurement of Joint Motion: A Guide to Goniometry.
4. Wood - W.B. Saunders, Beard's Massage.

e-Learning Source:

1.https://youtu.be/_VIiXCmpQ2M
2.https://youtu.be/Z5_McW21qsc
3.https://youtu.be/S5TlFt1BldM
4.https://youtu.be/J6slIDZOSQo

Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	1	3	2	1	2	1	1	1	1	-	-	2	2	2	1	-	1
CO2	2	2	3	2	3	1	1	1	-	2	1	1	2	2	2	3	2
CO3	2	3	3	2	3	2	1	2	-	2	-	1	3	3	1	3	1
CO4	2	2	2	1	2	1	1	1	2	-	-	2	3	2	2	2	1
CO5	1	3	3	3	3	1	2	1	1	2	-	2	3	3	3	3	2

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	**Course Title**	**Attributes**							**SDGs No.**
		Employ ability	Entrepren eurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
PT203	EXERCISE THERAPY	√	√	√	√		√	√	**3,4**

Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	**PT204**	**Title of the Course**	**ELECTROTHERAPY**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**III**	**3**	**1**	**0**	**4**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	At the end of the course, the candidate will be able to Describe the Production & Physiological effects, Therapeutic uses, merits, demerits indication & contraindications of various low, medium & high frequency modes of currents. Acquire the skill of Application of the Electro therapy modes on models, for the purpose of Assessment & Treatment. Acquire an ability to select the appropriate mode as per the tissue specific & area specific application						

Course Outcomes	
CO1	Know the principles, technique and effects of electrotherapy as a therapeutic modality in the restoration of physical function in conditions.
CO2	List the indications and contraindications of various types of electrotherapy, demonstrate different techniques and describe their effects.
CO3	Utilize Contemporary and recent methods and to select the most appropriate method to moderate and alleviate pain for patients.
CO4	Aware of the construction, Biophysical principles and effects, dangers, safety measures, judicial use, appropriate methods of application, contraindications of the various High frequency equipments.
CO5	Electro Physical Agents–I: Practice towards Scientific excellence.

Unit No.	**Title of the Unit**	**Content of Unit**	**Contact Hrs.**	**Mapped CO**
1	LOW FREQUENCY CURRENTS:	**1. Transcutaneous Electric Nerve Stimulation (TENS)**: History, Types of low frequency, pulse widths, frequencies & intensities used and its applications. Principle of clinical application effects & uses indications, contraindications, precautions, and operational skills of equipment & patient preparation. Theories of pain relief by TENS. **2. Muscle Stimulators (MS):** Types of frequency, pulse widths, frequencies & intensities used and its applications. Principle of clinical application effects & uses indications, contraindications, precautions, and operational skills of equipment & patient preparation. **3. Functional Electrical Stimulation (FES):** Types, pulse widths, frequencies & intensities used and its applications. Principle of clinical application effects & uses indications, contraindications, precautions, and operational skills of equipment & patient preparation.	**8**	**CO1**
2	MEDIUM FREQUENCY CURRENTS:	**1. Interferential Therapy (IFT):** History, types of medium frequency, pulse widths, frequencies & intensities used as IFT applications. Principle of clinical application, effects, uses, indications, contraindications, precautions, and operational skills of equipment & patient preparation. Theories of pain relief by IFT. **2. Iontophoresis:** Definition, Physiological & Therapeutics effects, Principle of application, Methods of Application, indications, contraindications, precautions. **3. Russian Currents (RC**): Types, pulse widths, frequencies & intensities used as RC applications. Principle of clinical application effects, uses, indications, contraindications, precautions, and operational skills of equipment & patient preparation.	**8**	**CO2**
3	HIGH FREQUENCY CURRENTS-I:	**1. Ultrasound Therapy Unit (UST):** Production, Physiological & Therapeutics effects, Principle and methods of application of UST, phonophorosis, effects, indications, contraindications, precautions, and patient preparation. **2. Long Wave Diathermy (LWD):** Production, Physiological & Therapeutics effects, Principle of application of Long Wave Diathermy, Methods of application of LWD, effects, indications, contraindications, precautions, and patient preparation. **3. Extracorporeal Shock Wave Therapy:** History & Principle, types, Principle of clinical application effects & uses, indications, contraindications, precautions, and operational skills of equipment & patient preparation.	**8**	**CO3**
4	HIGH FREQUENCY CURRENTS-II:	**1. Shortwave Diathermy (SWD):** Production, Physiological & Therapeutics effects, Principle of application, Methods of application, types of electrodes, effects, indications, contraindications, precautions, dangers and patient preparation **2. Micro Wave Diathermy (MWD):** Production, Physiological & Therapeutics effects, Principle of application, Methods of application, effects, indications, contraindications, precautions, dangers and patient preparation.	**8**	**CO4**
5	ELECTRO PHYSICAL AGENTS	**1. Cryotherapy:** Principle, Physiological effects, Methods of Application. Principle of clinical application, effects, uses, indications, contraindications, precautions, and patient preparation. Theories of pain relief by Cryotherapy. **2. Paraffin Wax Bath:** Principles, Physiological effects, Methods of Application, effects, uses, indications, contraindications, precautions, and patient preparation. **3. Hydro-collator Bath**: Principles, Physiological effects, Methods of Application of Hydro-collator Bath, effects, uses, indications, contraindications, precautions, and patient preparation. **4. Electrical Heating Pads**: Principle of application, Physiological effects, Methods of application effects, uses, indications, contraindications, precautions, and patient preparation.	**8**	**CO5**

Reference Books:

1. Clayton's Electrotherapy (theory and practice) – Clayton's AIBS publications.
2. Electrotherapy Explained by John Low and Reed, 3rd edition, B & H Publications.
3. Practical in Electrotherapy by Joseph Kahn, Churchill livingstone.
4. Electrotherapy: Evidence Based Practice by Kitchen Sheild, 11th ed.
5. Physical Agents in Rehabilitation: From Research to Practice by Cameron.

e-Learning Source:

1. https://youtu.be/PqbRvPLg-nsffghgg
2. https://youtu.be/P11P0BVTU_s

3.	https://youtu.be/TDCKqKMSrUw
4.	https://youtu.be/iPXVdTCMktM

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	3	1	2	-	1	-	1	-	2	-	2	3	2	2	2	1
CO2	1	3	-	3	-	1	-	1	-	3	-	3	2	1	1	3	2
CO3	2	3	1	2	-	1	-	1	-	2	-	3	3	2	1	3	1
CO4	1	3	-	3	-	-	-	1	-	3	-	2	2	2	2	3	2
CO5	2	3	-	2	-	1	-	1	-	2	-	3	2	1	1	2	1

1. Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	**Course Title**	**Attributes**							**SDGs No.**
PT204	ELECTROTHERAPY	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
		√	√	√			√	√	**3,4,9**

Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	**PT205**	**Title of the Course**	**SURFACE ANATOMY AND PALPATION SKILLS**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**III**	**3**	**1**	**0**	**4**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	About the reviews the surface anatomy and provide an organized approaches for locating osseous and soft tissue landmark relating to major extremity joints, (foot/ ankle, knee, hip, shoulder girdle, elbow and wrist/hand) and all regions of the spine (cervical, thoracic, lumber, pelvic). Be able to palpate the landmarks, and prominent area of the body for examination.						

Course Outcomes	
CO1	To give the overview about the palpatory process.
CO2	To make the students familiar to the different term related to the surface anatomy.
CO3	To make the students familiar to the different term related to the surface anatomy.
CO4	To make understand to the students about different anatomical landmark Shoulder girdle, Elbow and wrist.
CO5	To make understand to the students about different anatomical landmark of Hip, Knee, Ankle and Foot.

Unit No.	**Title of the Unit**	**Content of Unit**	**Contact Hrs.**	**Mapped CO**
1	INTRODUCTION OF SURFACE ANATOMY & PALPATION SKILLS	Terminology related to surface anatomy, and palpation skill. Principle of surface marking and palpation. Types of palpation and its uses in assessment. Ethical and legal issues regarding palpation techniques. Palpation of different body landmarks like bone muscles ligament and tendon	**8**	**CO1**
2	LANDMARK LOCATION AND PALPATION SKILL OF SPINE	Landmark location and palpation skill of: • Lumbo-pelvic region • Thoracic Spine • Cervical and Occipital region.	**8**	**CO2**
3	LANDMARK LOCATION AND PALPATION SKILL OF U/E	Landmark location and palpation skill of: • Shoulder Girdle • Elbow • Wrist &Hand	**8**	**CO3**
4	LANDMARK LOCATION AND PALPATION SKILL OF L/E	Landmark location and palpation skill of: • Foot & Ankle • Knee • Hip.	**8**	**CO4**
5	BASIC POSTURAL OBSERVATIONAL SKILL	Normal body alignment, symmetry and plumb line. Observation of static and dynamic posture in various positions (sitting, standing & walking) and gait.	**8**	**CO5**

Reference Books:

1. A Manual Therapist Guide to Surface anatomy and Palpation Skills by David Bayfield & Stuart Kinsinger.
2. Orthopaedics Physical Assessment. By D Magee.
3. An Introduction of fundamental Anatomy by David Sinclair.
4. Human Anatomy by B.D. Chaurasiya- All 3volumes

e-Learning Source:

1. https://youtu.be/ZyLCrf44i48
2. https://youtu.be/L6y1yE2N8hI
3. https://youtu.be/dCzuLb3Cng8
4. https://youtu.be/Jey2R9urbOM

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)															
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO4	PSO5
CO1	1	3	2	3	2	1	-	1	-	2	-	2	1	2	2	-
CO2	2	3	3	3	3	1	-	1	-	3	-	3	3	3	1	2
CO3	3	2	3	3	2	2	-	2	-	2	-	2	3	3	2	3
CO4	2	3	3	3	3	1	-	1	-	3	-	2	3	3	2	2
CO5	2	3	3	3	3	1	-	1	-	2	-	3	2	3	2	-

1. Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	**Course Title**	**Attributes**							**SDGs No.**
PT205	SURFACE ANATOMY AND PALPATION SKILLS	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	**3,4**
		√	√	√	√		√	√	

Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	**PT219**	**Title of the Course**	**FIRST AID AND EMERGENCY MANAGEMENT**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**III**	**2**	**1**	**0**	**3**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	The student will be able to demonstrate the knowledge in first aid and emergency as needed in emergency situation.						

Course Outcomes	
CO1	To understand about First aid procedure and techniques & its application in emergency situation.
CO2	To understand aboutFirst aid in emergency & its application in emergency situation.
CO3	To understand Community emergencies and community resources & its application in emergency situation.
CO4	To understand aboutThe unconscious casualty & its application in emergency situation.
CO5	To understand abouttechniques and equipment & its application in emergency situation.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	**FIRST AID PROCEDURE AND TECHNIQUES**	Definition, aims and importance of First Aid. Rules/General principles of First Aid Preparation of first Aid kit, Dressing bandaging and splinting Transportation of injured patient CPR-Mouth to mouth, Sylvester, Schafer	6	**CO1**
2	**FIRST AID IN EMERGENCY**	Wound and bleeding, Injuries of the soft and dense tissue Injury of joint and bone, Falls, Hanging Poisoning- Ingestion, inhalation, bite and stings Basic knowledge of First aid management of burn and Heat stroke Head-to-toe examination, Monitoring vital signs	6	**CO2**
3	**COMMUNITY EMERGENCIES AND COMMUNITY RESOURCES**	Fire, Explosion, Floods, Earth-Quakes, and famines Community Resources-Police, Ambulance services Voluntary agencies-local, state national and International	6	**CO3**
4	**THE UNCONSCIOUS CASUALTY**	Breathing and circulation, Life-saving priorities Unconscious adult, Unconscious child Unconscious infant, how to use an AED	6	**CO4**
5	**TECHNIQUES AND EQUIPMENT**	Removing clothing, Removing headgear, Casualty handling, First aid materials Dressings, Cold compresses, Principles of bandaging, Roller bandages, Tubular gauze bandages, square knots, hand and foot cover Arm sling, Elevation sling, and improvised slings	6	**CO5**

Reference Books:

1. First aid and Emergency Nursing, N. N. Yalayyaswamy, CBS, CBS Publishers & Distributor
2. First aid and Emergency care, N. Haris, AITBS Publisher India
3. First aid and Emergency care, Dr. Swapna and Mala Goswami, Kumar Publishing house
4. Wahington manual of Emergency medicine, Mark D. Lewine, Walters Kluwer

e-Learning Source:

1. https://youtu.be/X5RUFXZZBH4
2. https://youtu.be/06o_XNKwuOE
3. https://youtu.be/4Sab-2E4ZDI

Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	1	3	1	3	1	-	3	2	3	-	2	2	2	2	2	2
CO2	2	3	1	3	1	2	1	1	3	1	1	3	3	3	3	3	3
CO3	3	2	2	2	2	1	1	2	2	2	2	2	3	3	3	3	2
CO4	3	1	1	2	1	1	-	1	1	1	1	3	2	2	2	2	1
CO5	2	2	3	2	3	1	-	3	2	3	-	2	2	2	2	2	1

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
PT206	FIRST AID AND EMERGENCY MANAGEMENT	√		√			√	√	**3,4**

Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	**PT220**	**Title of the Course**	**HOSPITAL SAFETY AND MANAGEMENT**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**III**	2	1	0	3
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	The student will be able to demonstrate knowledge in hospital safety and management as needed for the study and practice of physiotherapy.						

Course Outcomes	
CO1	To understand about hazard identification and assessment & its practice in hospitals and center.
CO2	To understand about hazard prevention and control.
CO3	To understand about Safety and health management system & its practice in hospitals and center.
CO4	To understand about hospital and disaster & its practice in hospitals and center.
CO5	To understand about fire safety in hospital & its practice in hospitals and center.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	**HAZARD IDENTIFICATION AND ASSESSMENT**	Hazard identification and assessment Why hazard identification and assessment is important Hazard identification and assessment: best practices and examples	6	**CO1**
2	**HAZARD PREVENTION**	Hazard prevention and Control Hazard prevention and control: best practices and examples Systems to Track Hazard Correction	6	**CO2**
3	**SAFETY AND HEALTH MANAGEMENT SYSTEM**	What safety and health management system education and training means Why safety and health management system education and training is important What safety and health management system education and training involves Education and training: best practices and examples	6	**CO3**
4	**HOSPITAL AND DISASTER**	Hospital Disaster, Expected Disaster Scenarios for Hospitals Hospital Disaster Preparedness and Response Coordination & Management Post-Disaster Recovery Patient Handling	6	**CO4**
5	**FIRE SAFETY IN HOSPITALS**	Fire Safety in Hospitals Scope Expected Levels of Fire Safety in Hospitals Structural Elements of Fire Safety Non-Structural Elements of Fire Safety	6	**CO5**

Reference Books:

1. Safety management in hospitals, SK joshi
2. Health care quality and patient safety, Girdhar J Gyani
3. Lean Hospital, Mark Graban
4. Health care administration, Lawrence F.Wolper
5. Principles of risk management and patient safety, Barbara j youngberg

e-Learning Source:

1. https://youtu.be/X5RUFXZZBH4
2. https://youtu.be/06o_XNKwuOE
3. https://youtu.be/4Sab-2E4ZDI

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)																
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	3	1	3	1	3	1	-	3	2	3	-	2	2	2	2	2	2
CO2	2	3	1	3	1	2	1	1	3	1	1	3	3	3	3	3	3
CO3	3	2	2	2	2	1	1	2	2	2	2	2	3	3	3	3	2
CO4	3	1	1	2	1	1	-	1	1	1	1	3	2	2	2	2	1
CO5	2	2	3	2	3	1	-	3	2	3	-	2	2	2	2	2	1

2- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
PT206	HOSPITAL SAFETY AND MANAGEMENT	√	√	√			√	√	**3,4**

Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	**PT207**	**Title of the Course**	**EXERCISETHERAPY LAB**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**III**	**0**	**0**	**4**	**2**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	This course involves a detailed study of physiological effects, principles, application techniques, effects, indications, and contra-indications and precautions for exercises used in Physiotherapy.						

Course Outcomes	
CO1	The student will understand about aerobic exercises, their effects and its importance.
CO2	To understand the type of goniometer in order to rule out Hypomobility cases used to improve the mobility of joint
CO3	The student will understand about the various pathological condition associated with myofascial problem restricting the joint mobility and helps them to learn various effect of strengthening.
CO4	The student will understand about the various equipment used as a therapeutic gym in designing the exercises associated with musculoskeletal and Neurological problem.
CO5	The student understands about the human posture and gait that usually come into existence after the pathological condition.

Experiment No.	**Title of the Experiment**	**Content of Unit**	**Contact Hrs.**	**Mapped CO**
1	AEROBIC EXERCISES	Practical and Demonstration of Aerobic Exercises	8	**CO1**
2	GONIOMETRY	Measurement of ROM of joints- upper limb, lower limb and trunk.	8	**CO2**
3	MMT & STRENGTH TRAINING	To practice the grading of muscle strength region wise upper limb and lower limb and trunk. Various techniques and modes of progressive strengthening exercises of muscles region wise	8	**CO3**
4	SUSPENSION & THERAPEUTIC GYMNASIUM	Various types of suspension therapy and its applications on various part of body-region wise. Structure and functions along with application of various equipment in a gymnasium	8	**CO4**
5	GAIT, POSTURE & AMBULATORY TRAINING	Use of various ambulation aids in gait training. Evaluate ADLs and practice various training techniques. Normal and abnormal posture & practice various corrective techniques. Plan & practice program for normal person of various age groups Demonstration of phases of gait, abnormal gait	8	**CO5**

Reference Books:

1. Kisner and Colby. F.A. Davis, Therapeutic Exercises Foundations and Techniques
2. Gardiner, Principle of Exercise Therapy, C.B.S. Delhi.
3. Norkins & White F.A. Davis, Measurement of Joint Motion: A Guide to Goniometry
4. Wood - W.B. Saunders, Beard's Massage.

e-Learning Source:

1. https://youtu.be/62pbuevDbr4
2. https://youtu.be/33JucSf61n0
3. https://youtu.be/1u6d1CX7o9c
4. https://youtu.be/pXv_jhViUVo

Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	1	2	2	1	2	1	1	1	1	-	-	2	2	2	1	-	1
CO2	2	2	3	2	3	1	1	1	-	2	1	1	2	2	2	3	2
CO3	1	3	3	2	3	2	1	2	-	2	-	1	3	3	1	3	1
CO4	2	2	2	1	2	1	1	1	2	-	-	2	3	2	2	2	1
CO5	1	3	3	3	3	1	2	1	1	2	-	2	3	3	3	3	2

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
PT207	EXERCISETHERAPY LAB	√	√	√			√	√	**3,4, 9**

Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	**PT208**	**Title of the Course**	**ELECTROTHERAPY-LAB**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**III**	0	0	4	**2**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	Acquire the skill of Application of the Electro therapy modes on models, for the purpose of Assessment & Treatment. Acquire an ability to select the appropriate mode as per the tissue specific & area specific application.						

Course Outcomes	
CO1	Know the principles, technique and effects of electrotherapy as a therapeutic modality in the restoration of physical function in conditions
CO2	List the indications and contraindications of various types of electrotherapies, demonstrate different techniques and describe their effects.
CO3	Utilize Contemporary and recent methods and to select the most appropriate method to moderate and alleviate pain for patients
CO4	Aware of the construction, Biophysical principles and effects, dangers, safety measures, judicial use, appropriate methods of application, contraindications of the various radiation equipments.
CO5	Know the principles, technique and effects of electrotherapy as a superficial therapeutic modality.

Unit No.	**Title of the Unit**	**Content of Unit**	**Contact Hrs.**	**Mapped CO**
1	BASIC OF CURRENTS & LOW FREQUENCY CURRENTS	• Sensory and motor stimulation of nerves and muscles by various types of low frequency currents on self. • Locate and stimulate different motor points region wise, including the upper and lower limb, trunk & face. • Therapeutic application different low frequency currents faradic foot bath, faradism under pressure, • Functional Electrical Stimulation (FES)	8	CO1
2	MEDIUM FREQUENCY CURRENTS	• TENS Stimulator, its operation and application - region wise. • IFT-Its operation and application –region wise. • Iontophoresis	8	CO2
3	HIGH FREQUENCY CURRENTS-I	• Short wave diathermy unit, its operation, and different methods of application - region wise. • Microwave diathermy unit, its operation, and different methods of application - region wise. • Extracorporeal Shock Wave Therapy	8	CO3
4	HIGH FREQUENCY CURRENTS-II	• Long wave therapy unit, its operation and different method of application- region wise. • Ultrasound unit, its operation, and methods of application - region wise.	8	CO4
5	ELECTRICAL REACTIONS ELECTRO-DIAGNOSTICTESTS	• Hydrocollatar bath unit, its operation and different method of application- region wise. • Paraffin wax bath unit, its operation and different method of application- region wise. • Various forms of therapeutic cold application region wise including ice, cold packs, vapocoolant sprays, etc.	8	CO5

Reference Books:

1. Clayton's Electrotherapy
2. Clinical Electrotherapy- Nelson and Currier
3. Electrotherapy Explained- Low and Reed
4. Electrotherapy in Rehabilitation-Meryl Roth Gerth
5. Electrotherapy Explained-Sheela Kitchen
6. Basic of Electrotherapy by Basant Kumar Nanda

e-Learning Source:

1. https://youtu.be/FUEow_aFy-4
2. https://youtu.be/Jzcw5YCjgN4
3. https://youtu.be/G2Mo46eLAFs
4. https://youtu.be/DeEnKiB6JvM

Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO4	PSO3	PSO4	PSO5
CO1	3	3	1	2	-	1	-	1	-	2	-	2	3	2	2	2	1	3
CO2	2	3	-	3	-	2	-	1	-	2	-	3	2	1	1	3	2	2
CO3	2	3	1	2	-	1	-	1	-	2	-	3	3	2	1	3	1	2
CO4	1	3	-	2	-	-	-	1	-	3	-	3	2	1	2	3	2	1
CO5	1	3	-	2	-	1	-	1	-	2	-	3	2	1	1	2	1	1

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	**Course Title**	**Attributes**							**SDGs No.**
PT208	ELECTROTHERAPY-LAB	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
		√	√	√			√	√	**3,4, 9**

Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	**PT 209**	**Title of the Course**	**SURFACE ANATOMY & PALPATION SKILLS LAB**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**III**	**0**	**0**	**2**	**1**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	This course involves a detailed study of Surface anatomy of Human body, Palpation Skill, indications, and contra-indications, precautions for palpation during the assessment in Physiotherapy						

Course Outcomes	
CO1	Introduction of Surface Anatomy & Palpation Skills: To give the overview about the palpatory process.
CO2	Landmark Location and Palpation Skill of Spine: To make the students familiar to the different term related to the surface anatomy.
CO3	Landmark Location and Palpation Skill of U/E: To make the students familiar to the different term related to the surface anatomy.
CO4	Landmark Location and Palpation Skill of L/E: To make understand to the students about different anatomical landmark Shoulder girdle, Elbow and wrist.
CO5	Basic Postural Observational Skill: To make understand to the students about different anatomical landmark of Hip, Knee, Ankle and Foot.

Experiment No.	**Title of the Experiment**	**Content of Unit**	**Contact Hrs.**	**Mapped CO**
1	Introduction of Surface Anatomy & Palpation Skills	To give the overview about the palpatory process used in the decision making for patient assessment in diagnostic as well as prognostic	4	CO1
2	Landmark Location and Palpation Skill of Spine	Landmark location and palpation skill of: • Lumbo-pelvic region • Thoracic Spine • Cervical and Occipital region.	4	CO2
3	Landmark Location and Palpation Skill of U/E	Landmark location and palpation skill of: • Shoulder Girdle • Elbow • Wrist &Hand	4	CO3
4	Landmark Location and Palpation Skill of L/E	Landmark location and palpation skill of: • Foot & Ankle • Knee • Hip.	4	CO4
5	Basic Postural Observational Skill	Normal body alignment, symmetry and plumb line. Observation of static and dynamic posture in various positions (sitting, standing & walking) and gait.	4	CO5

Reference Books:

1. A Manual Therapist Guide to Surface anatomy and Palpation Skills by David Byfield & Stuart Kinsinger. 2
2. Orthopaedics Physical Assessment. By D Magee. 3. An Introduction of fundamental Anatomy by David Sinclair.
3. An Introduction of fundamental Anatomy by David Sinclair.
4. Anatomy of Chaurasiya- All 3 volumes.

e-Learning Source:

1. https://youtu.be/dCzuLb3Cng8
2. https://youtu.be/Jey2R9urbOM
3. **https://youtu.be/7iA6dkaXYoo**
4. **https://youtu.be/-b_MAq6Rkwk**
5. **https://youtu.be/XrQP3AeDjiM**

Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO3	PSO4	PSO5
CO1	1	1	2	3	2	1	-	1	-	2	-	2	1	2	2	-	3
CO2	2	3	3	3	3	1	-	1	-	3	-	3	3	3	1	2	2
CO3	3	2	3	2	2	2	-	2	-	2	-	2	3	3	2	3	1
CO4	2	3	3	3	3	1	-	1	-	3	-	2	3	3	2	2	1
CO5	2	3	3	3	3	1	-	1	-	2	-	3	2	3	2	-	2

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	**Course Title**	**Attributes**							**SDGs No.**
		Employ ability	Entrepren eurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
PT209	SURFACE ANATOMY & PALPATION SKILLS LAB	√	√	√			√	√	**3,4**

INTEGRAL UNIVERSITY, LUCKNOW

INTEGRAL INSTITUTE OF ALLIED HEALTH SCIENCES & RESEARCH

DEPARTMENT OF PHYSIOTHERAPY

BACHELOR OF PHYSIOTHERAPY
(BPT)
SYLLABUS

YEAR/ SEMESTER: II/IV

Integral University, Lucknow
Department of Physiotherapy
Study and Evaluation Scheme

Program: BPT **Semester-IV**

S. N.	Course code	Course Title	Type of Paper	Period Per hr/week/sem			Evaluation Scheme				Sub. Total	Credit	Total Credits
				L	T	P	CT	TA	Total	ESE			
THEORIES													
1	PT210	General Medicine	DSE	2	1	0	40	20	60	40	100	2:1:0	3
2	PT211	Pharmacology	DSE	2	1	0	40	20	60	40	100	2:1:0	3
3	PT212	Therapeutic Techniques	Core	3	1	0	40	20	60	40	100	3:1:0	4
4	PT213	Electrotherapy & Electro diagnosis	Core	3	1	0	40	20	60	40	100	3:1:0	4
5	PT214	Basic of Biomechanics	Core	3	1	0	40	20	60	40	100	3:1:0	4
6	PT215	Ethics in Physiotherapy	AE	2	0	0	40	20	60	40	100	2:0:0	2
	PT221	Indian Human Movement Science-Yoga											
PRACTICAL													
1	PT216	Therapeutic Techniques-Lab	Core	0	0	4	40	20	60	40	100	0:0:2	2
2	PT217	Electrotherapy & Electro diagnosis-Lab	Core	0	0	4	40	20	60	40	100	0:0:2	2
3	PT218	Basic of Biomechanics-Lab	Core	0	0	2	40	20	60	40	100	0:0:1	1
Total				**15**	**05**	**10**	**360**	**180**	**540**	**360**	**900**	**25**	**25**

S. N.	Course code	Course Title	Type of Paper	Attributes							United Nation Sustainable Development Goal (SDGs)
				Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
THEORIES											
1	PT210	General Medicine	DSE	√	√	√			√	√	**3,4**
2	PT211	Pharmacology	DSE	√		√			√	√	**3,4**
3	PT212	Therapeutic Techniques	Core	√	√	√			√	√	**3,4,9**
4	PT213	Electrotherapy & Electro diagnosis	Core	√	√	√			√	√	**3,4,9**
5	PT214	Basic of Biomechanics	Core	√	√	√			√	√	**3,4**
6	PT215	Ethics in Physiotherapy	AE	√	√	√			√	√	**3,4**
	PT221	Indian Human Movement Science-Yoga									
PRACTICAL											
1	PT216	Therapeutic Techniques-Lab	Core	√	√	√			√	√	**3,4,9**
2	PT217	Electrotherapy & Electro diagnosis-Lab	Core	√	√	√			√	√	**3,4,9**
3	PT218	Basic of Biomechanics-Lab	Core	√	√	√			√	√	**3,4**

L: Lecture **T:** Tutorials **P:** Practical **CT:** Class Test **TA:** Teacher Assessment **ESE:** End Semester Examination,
AE= Ability Enhancement, DSE- Discipline Specific Elective, **Sessional Total:** Class Test + Teacher Assessment **Subject Total:** Sessional Total + End Semester Examination (ESE)

Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	**PT210**	**Title of the Course**	**GENERAL MEDICINE**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**IV**	**2**	**1**	**0**	**3**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	Be able to describe Etiology, Pathophysiology, Signs & Symptoms, and Clinical Evaluation & Management of the various clinical Conditions.						

Course Outcomes	
CO1	Student able to understand about different infectious diseases
CO2	Student able to understand about disorder related to electrolyte imbalance & endocrine system.
CO3	Student able to understand about the conditions and disorders related to Digestive system & Urogenital system.
CO4	Student able to understand about the skin related conditions.
CO5	Student able to understand about the psychiatry illness.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	**INFECTIOUS DISEASES**	**Bacterial Diseases:** Tuberculosis, Rheumatic fever, Typhoid fever, Diphtheria. **Viral Diseases:** Swine Flu, Measles, HIV, Hepatitis B & C, Covid-19 **Fungal:** Candidiasis, Ring Worm. **Parasitic diseases:** Malaria, Dengue	6	CO1
2	**ELECTROLYTE & ENDOCRINE DISORDER**	1. **Electrolyte imbalance:** Electrolyte imbalance and Acid Base Disorder: (as per ABG) 2. **Endocrine Disorders:** Hypo & hyper thyroidism, Goiter, Grave's, Acromegaly, Diabetes Mellitus, Obesity.	6	CO2
3	**DISEASES OF THE DIGESTIVE SYSTEM & UROGENITAL DISEASE**	**Diseases of the digestive system:** GERD, Gastric & Peptic Ulcer disease, Pancreatitis, Ulcerative Colitis, Diarrhea, Cirrhosis of liver. **Urogenital disease:** Urinary calculi. Upper and lower urinary tract infection and ARF and CRF, nephrotic syndrome	6	CO3
4	**DISEASES OF SKIN**	1. Leprosy 2. Herpes 3. Urticaria 4. Psoriasis 5. Alopecia 6. Lichen planus 7. Acne	6	CO4
5	**PSYCHIATRIC DISORDERS**	1. Anxiety 2. Depression 3. Psychosis 4. Schizophrenia 5. Hysteria 6. Obsessive compulsive disorder	6	CO5

Reference Books:

1. Principles & Practical Medicine –Davidson
2. Medicine for students –Golwalla
3. Principle of Internal Medicine –Harrisson
4. Principles & Practical Medicine – Kumar &Clarke

e-Learning Source:

1. https://youtu.be/rTWx1DE-kOM
2. https://youtu.be/mLmKq5bQOg0
3. https://youtu.be/Tz07Uqx7_VY
4. https://youtu.be/pNn7pICPAvU

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)															
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO4	PSO5
CO1	3	3	3	3	-	-	-	-	-	2	-	2	3	3	2	3
CO2	3	3	3	2	-	-	-	-	-	1	-	3	3	3	3	3
CO3	3	3	3	2	-	-	-	-	-	2	-	2	3	2	2	3
CO4	3	3	3	3	-	-	-	-	-	3	-	3	3	3	2	3
CO5	3	3	3	2	-	2	-	-	2	2	-	2	3	2	3	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
PT210	GENERAL MEDICINE	√	√	√			√	√	**3,4**

Integral University, Lucknow

Effective from Session: 2016-17							
Course Code	**PT211**	**Title of the Course**	**PHARMACOLOGY**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**IV**	2	1	0	**3**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	Acquire knowledge of various drugs used for each medical condition to understand its effects and its use during therapy						

Course Outcomes	
CO1	General Pharmacology & ANS: Possess a relevant knowledge in basic principles of pharmacology and its recent advances.
CO2	Autacoids, PNS & Resp. System: Understand the basic pharmacology of common drugs used, their importance in the overall treatment including Physiotherapy.
CO3	CVS, GIT & Miscellaneous: Understand the general principles of drug action and the handling of drugs by the body.
CO4	CNS & Hormones: Understand the contribution of both drug and physiotherapy factors in the outcome of treatment
CO5	Anti - Microbial Agents: Learn the various drugs such as Anti-leprotic& Anti-fungal Drugs, Anti-malarial Drugs, Anti-tubercular Drugs

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	GENERAL PHARMACOLOGY & ANS	Routes of Drug Administration, Pharmacokinetics, Pharmacodynamics, Adverse Drug Reactions, Cholinergic & Anti-cholinergic, Adrenergic & Anti-adrenergic	6	CO1
2	AUTACOIDS, PNS &RESP.SYSTEM	Autacoids & Antihistaminics, Drug Therapy of Migraine, NSAIDs, Anti- Gout & Anti-Rheumatoid, Skeletal muscle Relaxants, Local Anesthetics, Drug acting on Respiratory System	6	CO2
3	CVS, GIT&MISCELLANEOUS	Anti-anginal Drugs, Anti-hypertensive Drugs, Drugs for Peptic Ulcer, Anti-emetic Drugs, Drugs acting on Kidney, Drugs affecting bleeding &coagulants, Chelating Agents, Anti septics &Disinfectants	6	CO3
4	CNS& HORMONES	General Anaesthesia, Sedatives & Hypnotics, Alcohols, Opioid Analgesics, Insulin & Oral Hypoglycemic Drugs, Corticosteroids, Estrogen, Progestins & OCPs, Calcium Balance	6	CO4
5	ANTI - MICROBIAL AGENTS	Sulphonamides, Quinolones, Beta-lactams, Aminoglycosides, Anti-tubercular Drugs, Anti-leprotic& Anti-fungal Drugs, Anti-malarial Drugs, Anti-amoebic & Anti-helmintic Drugs	6	CO5

Reference Books:

1. Dr. K.D. Tripathi Jaypee, Essential of Medical Pharmacology, Brothers Medical Publishers.
2. Gaddum Gaddum's Pharmacology
3. Dr. R.S. Satoskar & Dr. S.D. Bhandarkar, Pharmacology & Pharmacotherapeutics Revised 19th Edition 2005 by Popular Prakashan
4. Krantx, &Carr, Pharmacology principle of Medical practice, Williams &Wilkins.
5. Goodman Pharmacological basis of Therapeutics, L. S. Gilman A

e-Learning Source:

1. https://youtu.be/a0lWFQvQKw8
2. https://youtu.be/qhiMmNZjHRg
3. https://youtu.be/-znHCAu5OnY
4. https://youtu.be/t2tKyjj7u5Y

Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO4	PSO5
CO1	2	3	-	-	-	-	-	-	-	-	-	1	3	-	1	-
CO2	3	3	-	-	-	2	-	-	-	-	-	-	3	3	2	3
CO3	2	3	-	-	-	2	-	-	-	-	-	1	3	2	1	3
CO4	3	3	-	-	-	-	-	-	-	-	-	-	2	3	2	2
CO5	3	3	-	-	-	3	-	1	-	-	-	-	3	3	2	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
PT211	**PHARMACOLOGY**	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
		√		√			√	√	**3,4**

Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	**PT212**	**Title of the Course**	**THERAPEUTIC TECHNIQUES**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**IV**	3	1	0	**4**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	Demonstrate the ability to safely setup and use equipment commonly found in physical therapy clinics.						

Course Outcomes	
CO1	Physiological effects of soft tissue manipulation on the following system of the body- circulatory, nervous and others.
CO2	Aetiogenesis of joint stiffness, general technique of mobilization, effects, indication, contraindications & precautions. Principle, classification of Basic concept of Joint mobilization techniques
CO3	Utilize Contemporary and recent methods and to select the most appropriate method to moderate and alleviate pain for patients
CO4	Principles of hydrotherapy, Physiological & therapeutic effects of hydrotherapy, including joint mobility, muscle strengthening & wound care etc.
CO5	Relaxation, Muscle spasm, General causes, and signs, symptoms of tension (mental and physical).

Unit No.	**Title of the Unit**	**Content of Unit**	**Contact Hrs.**	**Mapped CO**
1	SOFT TISSUE MOBILIZATION & MUSCLES STRETCHING	History & importance of various types of soft tissue manipulation technique (Massage). Define massage, Classify and describe the techniques of stroking, effleurage, petrissage & tapotment. Physiological effects of soft tissue manipulation on the following system of the body- circulatory, nervous. Musculoskeletal, excretory, respiratory, Integumentary system and metabolism. Preparation of the patient, Preparation of the therapist, effect uses, indication and contraindication of the above manipulation techniques. Stretching: Definition of stretching; classification of stretching, Determinants of stretching exercise, Effects of stretching, Precautions, indications and contraindications of stretching. Techniques of stretching for group & individual muscles, Dosimetry of stretching.	8	CO1
2	JOINT MOBILIZATION TECHNIQUE	**Joint mobility:** aetiogenesis of joint stiffness, general technique of mobilization, effects, indication, contraindications & precautions. Principle, classification of Basic concept of Joint mobilization techniques, physiological and therapeutic effects, indication and contraindication of therapeutic exercises. Introduction to special mobilization & manipulation techniques, effects indications, effects, indications & contraindications	8	CO2
3	NEUROMUSCULAR COORDINATION AND FACILITATION	Neuromuscular incoordination: review normal neuromuscular coordination, aetiogenesis of neuromuscular incoordination & general therapeutic techniques to improve coordination–Frenkle exercise, effects, indication contraindication & precautions, Functional re-education for ADL. Static & dynamic balance exercises.	8	CO3
4	AQUATIC THERAPY & HYDROTHERAPY	**Aquatic Therapy:** Basic principles, Description of the Physiological, therapeutic effects, indication contraindication. (Including pool therapy) **Hydrotherapy:** Principles, Physiological & therapeutic effects of hydrotherapy, including joint mobility, muscle strengthening & wound care etc. Various types of hydrotherapy equipments (Description of the Various Tank), indications, and contraindications operational skills & patients preparations.	8	CO4
5	RELAXATION TECHNIQUES, & YOGA	**Relaxation Techniques:** Techniques (local and general), effect, uses and clinical application. Basic principles, type's advantages & disadvantages of Group therapy. **Yoga:** Conceptual frame work various asana (yoga) the body mind relationship, effects & precautions.	8	CO5

Reference Books:

1. Kisner and Colby. F.A. Davis, Therapeutic Exercises Foundations and Techniques
2. Gardiner, Principle of Exercise Therapy, C.B.S.Delhi.
3. Norkins& White F.A. Davis, Measurement of Joint Motion: A Guide to Goniometry.
4. Wood - W.B. Saunders, Beard's Massage.
5. Kendal, Muscle testing and functions, Williams &Wilkins.
6.Bates and Hanson , Aquatic Exercise Therapy
7.Margarett Hollis, Massage for therapist: Margarett Hollis
8. Hollis, Lab Exercise Therapy, Blackwell Scientific Publications.

e-Learning Source:

1. https://youtu.be/JwYK47h5bh4
2. https://youtu.be/JJAHGpe0AVU
3. https://youtu.be/H29sC8fPXRM

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)															
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO4	PSO5
CO1	2	3	-	-	3	-	1	1	-	-	-	1	3	1	-	-
CO2	3	3	-	2	3	-	-	1	-	1	-	2	2	1	1	2
CO3	2	3	3	2	3	-	1	-	-	1	-	1	2	2	1	2
CO4	3	3	-	-	2	1	-	1	1	-	1	2	3	-	1	1
CO5	2	3	-	-	3	2	-	-	2	-	2	2	3	-	-	1

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	**Course Title**	**Attributes**							**SDGs No.**
PT212	THERAPEUTIC TECHNIQUES	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
		√	√	√			√	√	**3,4,9**

Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	**PT213**	**Title of the Course**	**ELECTROTHERAPY & ELECTRODIAGNOSIS**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**IV**	3	1	0	**4**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	Demonstrate the ability to safely setup and use equipment commonly found in physical therapy clinics.						

Course Outcomes	
CO1	Know the principles, technique, and effects of electrotherapy as a therapeutic modality in the restoration of physical function in conditions
CO2	List the indications and contraindications of various types of electrotherapies, demonstrate different techniques and describe their effects.
CO3	Utilize Contemporary and recent methods and to select the most appropriate method to moderate and alleviate pain for patients
CO4	Aware of the construction, Biophysical principles and effects, dangers, safety measures, judicial use, appropriate methods of application, contraindications of the various compression & inductive equipments.
CO5	Know the principles, technique, and effects of electrotherapy as a therapeutic modality in the restoration of physical function in condition like nerve injuries. Possess knowledge of all the commonly used electro diagnostic tests like Electromyography, nerve conduction study in relevant conditions.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	THERMAL AGENTS-II	**Contrast Bath Therapy:** Contrast Bath Therapy (CBT), Principle of CBT, Physiological effects, Methods of Application of CBT. Principle of clinical application effects, uses, indications, contraindications, precautions, and patient preparation. **Whirlpool bath Therapy:** Whirlpool bath Therapy (WBT), Principle of application of WBT, Physiological effects, Methods of Application of WBT, effects, uses, indications, contraindications, precautions, and patient preparation. **Fluidotherapy:** Fluidotherapy (FDT), Principle of application of FDT, Physiological effects, Methods of Application of FDT, effects, uses, indications, contraindications, precautions, and patient preparation.	8	CO1
2	ACTINOTHERAPY	**Ultra-violet rays (UVR):** Ultra-violet rays (UVR), Wave Length, frequency, types & sources of UVR generation, technique of irradiation, physiological & therapeutic effects. Dosimetry of UVR. **Infra red rays (IRR):** Infra red rays-Wavelength, frequency, types & sources of IRR generation, technique of irradiation, physiological and therapeutic effects	8	CO2
3	THERAPEUTIC LIGHT	History & Principle of Light Amplification of Stimulation Emission and Radiation (LASER), types of LASERS, pulse widths, frequencies & intensities used as LASER applications. Principle of clinical application effects & uses, indications, contraindications, precautions, and operational skills of equipment & patient preparation. Theories of pain relief by LASER. **Prism Therapy:** types & sources of generation, physiological & therapeutic effects, technique of application and Dosimetry.	8	CO3
4	INTERMITTENT COMPRESSION DEVICES & INDUCTIVE & MAGNETIC THERAPY	**Intermittent Compression Devices:** Definition, & Principle, Physiological effects, methods of application, effects, uses, indications, contraindications, precautions, and patient preparation. Different kind of others ICD used in Physiotherapy their principal of application. **Super Inductive Devices:** Definition, & Principle, Physiological effects, methods of application, effects, uses, indications, contraindications, precautions. **Magnetic Therapy:** Definition, & Principle, Physiological effects, methods of application, effects, uses, indications, contraindications, precautions.	8	CO4
5	ELECTRICAL REACTIONS ELECTRO-DIAGNOSTIC TESTS	Electrical Stimuli and Electrical Properties of Nerve and muscle tissue. Types of lesion and development of reaction of degeneration. Basics of S.D. Curve and its interpretation, Chronaxie, Reobase & pulse ratio. Basic of NCV tests Basic of EMG.	8	CO5

Reference Books:

1.Clayton'sElectrotherapy

3.Electrotherapy Explained- Low and Reed

4.Electrotherapy in Rehabilitation-Meryl Roth Gerth

5.Electrotherapy Explained-Sheela Kitchen

6.Basic of Electrotherapy by Basant Kumar Nanda

e-Learning Source:

1. https://youtu.be/FUEow_aFy-4
2. https://youtu.be/Jzcw5YCjgN4
3. https://youtu.be/G2Mo46eLAFs
4. https://youtu.be/DeEnKiB6JvM

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)															
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO4	PSO5
CO1	1	3	-	2	-	1	-	1	-	2	-	3	3	-	1	1
CO2	1	2	-	2	-	-	-	1	-	3	-	3	3	1	2	2
CO3	2	3	-	2	-	-	-	-	-	3	-	2	2	3	2	3
CO4	1	2	-	3	-	-	-	1	-	2	-	2	2	1	2	1
CO5	1	2	3	3	-	-	-	-	-	3	-	3	3	3	3	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
PT213	ELECTROTHERAPY & ELECTRODIAGNOSIS	√	√	√			√	√	**3,4,9**

Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	**PT214**	**Title of the Course**	**BASIC OF BIOMECHANICS**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**IV**	**3**	**1**	**0**	**4**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	Evaluate an understanding of basic biomechanical concepts, including mechanical lever systems, stability, and laws of motion;						

Course Outcomes	
CO1	The student will be able to understand interaction of mechanics with human body as how a different force works in execution of particular task.
CO2	To understand basics of muscles function as a result of contraction to bring joint movement within kinetic and kinematic spectrum.
CO3	Student able to learn the joint design and its function along with mechanical properties of different soft tissue within the scope of various pathologies and exercise
CO4	The student will learn the basic of connective tissue properties and its biomechanics.
CO5	The student able to learn kinetics and kinematics of posture and gait to rule out normal and abnormal deviation as a result of any pathology.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	BASIC CONCEPTS IN BIOMECHANICS	Introduction to Biomechanics and kinesiology and related terminology. Kinematics and Kinetics & their biomechanical importance in Physiotherapy. Application of different Forces & Torque in human body. Application of Lever & Pulley in human body. Clinical & biomechanical importance of COG, LOG, BOS, Equilibrium.	8	CO1
2	MUSCLE STRUCTURE AND FUNCTION	Muscle Attachments, Muscle Names, Muscle Fiber Arrangement Functional Characteristics of MuscleTissue.Length-Tension Relationship in Muscle Tissue: Active and Passive Insufficiency Types of Muscle Contraction & Roles of Muscles, Angle of Pull & Kinetic Chains. Biomechanical of factors Affecting Muscle Function, Effects of Immobilization, Injury, and Aging.	8	CO2
3	JOINT STRUCTURE, FUNCTION AND THEIR BIOMECHANICS	Introduction: Basic Principle of Joint design, Joint Function and materials found in Human Joints. Joint Lubrication Models. General Changes with Disease, Injury, Immobilization, Exercise, and Overuse.	8	CO3
4	BIOMECHANICS OF SPECIFIC CONNECTIVE TISSUE STRUCTURES	Connective Tissue- Structure, Function, biomechanical importance and General Properties of Connective Tissue: Mechanical Behavior, Visco elasticity, Time- Dependent and Rate-Dependent Properties, Properties of Specific Tissues of Ligaments, Tendons, Bursae, Cartilage, Bone-.	8	CO4
5	ABNORMAL POSTURE & GAIT	Postural Analysis-Static and Dynamic, Kinetics and Kinematics, Normal and abnormal Standing Posture, Sitting Postures and Lying Postures. Effects of Age, Pregnancy, Occupation, and Recreation on Posture. Gait Analysis: Kinetics and Kinematics, Ground Reaction Force, Centre of Pressure, Internal and External Forces, Moments, and Conventions, Mechanical Power and Work, Muscle Activity. Biomechanical Importance of Abnormal Gait & their Analysis.	8	CO5

Reference Books:

1. Measurement of Joint Motion – A Guide to Goniometry - Norkins& White - F. A. Davis.
2. Therapeutic Exercise by Carolyn Kisner, F. A. Davis.
3.Clinical Kinesiology and Anatomy: Fifth Edition Lynn S. Lippert, MS,PT
4. Basic Biomechanics. Nordins.
5. Basic Biomechanics & clinical Kinesiology. Otis
6. Biomechanics of Human Movement. D Winter

e-Learning Source:

1. https://youtu.be/JwYK47h5bh4
2. https://youtu.be/JJAHGpe0AVU
3. https://youtu.be/H29sC8fPXRM
4. https://youtu.be/gE-5naz8DD0

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)															
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO4	PSO5
CO1	1	3	1	1	-	-	-	-	-	1	-	3	1	3	-	2
CO2	-	3	2	-	-	-	-	-	-	-	-	2	2	2	2	1
CO3	-	3	1	-	-	-	-	-	-	1	-	3	1	3	3	1
CO4	-	2	2	-	-	-	-	-	-	-	-	3	1	3	3	1
CO5	-	3	1	-	-	-	-	-	-	1	-	3	1	3	2	1

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
PT214	BASIC OF BIOMECHANICS	√	√	√			√	√	**3,4**

Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	**PT215**	**Title of the Course**	**ETHICS IN PHYSIOTHERAPY**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**IV**	**2**	**0**	**0**	**2**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	Legal and ethical considerations are firmly believed to be an integral part of medical practice in planning patient care. Advances in medical sciences, growing sophistication of the modern society's legal framework, increasing awareness of human rights and changing moral principles of the community at large, now result in frequent occurrences of healthcare professionals being caught in dilemmas over aspects arising from daily practice						

Course Outcomes	
CO1	Understand the history and the ethical principles of physiotherapy profession.
CO2	Learn and differentiate between the confidentiality, informed consent and patient rights
CO3	Elaborate about malpractice, negligence and duties of a medical practitioner.
CO4	Provides basic knowledge on legal responsibility, professional culture and role of different national professional bodies.
CO5	Understand basic principles and concepts of management and administration in clinical and private practice in physiotherapy profession.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	INTRODUCTION	• History of Physiotherapy • Medical Ethics and code of conduct. • Rules of professional conduct and their medicolegal & moral implications	4	CO1
2	ETHICS OF TRUST VS ETHICS OF RIGHTS	• Basic principles of physiotherapy ethics • Confidentiality. Autonomy and informed consent. Rights of Patient, Equality and Non-discrimination	4	CO2
3	PROFESSIONAL AND PERSONAL	• Malpractice, Negligence • Duties of Medical Practioner	4	CO3
4	LEGAL PROFESSIONAL ETHICAL ISSUES	• Legal issues • Consumer protection act • Functioning of the World Confederation of Physical therapy (WCPT) & its various branches. • Role of WHO & WCPT S	4	CO4
5	PHYSIOTHERAPY PRACTICE	• Clinical and Private Practice • Administration and Management • The need of Council Act for Physiotherapy. • Constitution and Functions of the Indian Association of Physiotherapists.	4	CO5

Reference Books:

1.Medical Ethics by C. M. Francis

2.Ethical Issues by K. Raja, F. Davis Shivkumar T

3.Consumer Protection Act & The Medical Profession by R. K. Chaube

4. Hollis, Lab Exercise Therapy, Blackwell Scientific Publications.

e-Learning Source:

1. https://www.youtube.com/watch?v=bf1Wzy1amuw
2. https://www.youtube.com/watch?v=jSXwECJ6yiI
3. https://www.youtube.com/watch?v=iapU3Oviw_E
4. https://www.youtube.com/watch?v=uKAsGYS3YMM

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)															
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO4	PSO5
CO1	-	-	-	-	-	1	-	2	1	-	-	-	-	-	-	-
CO2	-	-	-	-	-	2	-	3	2	-	-	-	-	-	-	-
CO3	-	-	-	-	-	1	-	2	1	-	-	-	-	-	-	-
CO4	-	-	-	-	-	2	-	3	2	-	-	-	-	-	-	-
CO5	-	-	-	-	-	1	-	2	2	-	-	-	-	-	-	-

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
PT215	ETHICS IN PHYSIOTHERAPY	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
		√	√	√	√		√	√	**3,4**

Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	**PT221**	**Title of the Course**	**INDIAN HUMAN MOVEMENT SCIENCE & YOGA**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**IV**	**2**	**0**	**0**	**2**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	To learn about the Indian yogic sciences in modern era. Students learn about the fitness through the yoga.						

Course Outcomes	
CO1	Understand the history and the ethical principles of Yoga and its philosophy.
CO2	Learn about Disease prevention and promotion of positive health through yoga.
CO3	Elaborate about Surya Namaskar
CO4	Provides basic knowledge on Yogic Kriyas.
CO5	Understand basic principles and concepts of Techniques and Equipment.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	FOUNDATIONS OF YOGA	• Introduction to Yoga and its philosophy • Brief history, development of Yoga • Philosophical foundations of Yoga • Types of Yoga	4	CO1
2	YOGA AND HEALTH	• Concept of body in yoga • Concept of Health and Disease in yoga • Stress management through yoga • Disease prevention and promotion of positive health through yoga	4	CO2
3	SURYA NAMASKAR	• Loosening exercises of each part of the body particularly of the joints • Pranamasana, Mantra, Padahastasana, Ashwa Sanchalanasana • Parvatasana, Bhujangasana, Benefits of Surya Namaskar	4	CO3
4	YOGIC KRIYAS	• Neti (Jala Neti, Sutra Neti) • Dhauti (Vamana Dhauti, Vastra Dhauti) • Shankaprakshalana (Laghu & Deergha)	4	CO4
5	TECHNIQUES OF YOGA	• Tad asana • Padahastasana • Ardha Kati chakrasana • Utkat asana • Ardha chakrasna	4	CO5

Reference Books:

1. Anatomy and physiology of yogic practice, gore, M.M, New age book
2. Asana why and how, Tiwari O.P, Kaivalyadhama
3. Bhartiya yoga parampara ke vividh aayam, Radha publication

e-Learning Source:

1. https://youtu.be/X5RUFXZZBH4
2. https://youtu.be/06o_XNKwuOE
3. https://youtu.be/4Sab-2E4ZDI

Course Articulation Matrix: (Mapping of COs with POs and PSOs)

PO-PSO / CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO4	PSO5
CO1	1	3	1	1	-	-	-	-	-	1	-	3	1	3	-	2
CO2	-	3	2	-	-	-	-	-	-	-	-	2	2	2	2	1
CO3	-	3	1	-	-	-	-	-	-	1	-	3	1	3	3	1
CO4	-	2	2	-	-	-	-	-	-	-	-	3	1	3	3	1
CO5	-	3	1	-	-	-	-	-	-	1	-	3	1	3	2	1

2- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
PT221	INDIAN HUMAN MOVEMENT SCIENCE-YOGA	√	√	√			√	√	3,4

Integral University, Lucknow

Effective from Session: 203-24							
Course Code	**PT216**	**Title of the Course**	**THERAPEUTIC TECHNIQUES LAB**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**IV**	0	0	4	**2**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	Course involves a detailed study of physiological effects, application techniques, effects, indications, and contra-indications, precautions for exercises used in Physiotherapy.						

Course Outcomes	
CO1	Physiological effects of soft tissue manipulation on the following system of the body- circulatory, nervous.
CO2	Aetiogenesis of joint stiffness, general technique of mobilization, effects, indication, contraindications & precautions. Principle, classification of Basic concept of Joint mobilization techniques
CO3	Utilize Contemporary and recent methods and to select the most appropriate method to moderate and alleviate pain for patients
CO4	Principles of hydrotherapy, Physiological & therapeutic effects of hydrotherapy, including joint mobility, muscle strengthening & wound care etc.
CO5	Relaxation, Muscle fatigue, Muscle spasm, General causes, and signs, symptoms of tension (mental and physical).

Unit No.	**Title of the Unit**	**Content of Unit**	**Contact Hrs.**	**Mapped CO**
1	SOFT TISSUE MOBILIZATION AND MUSCLES STRETCHING	Preparation of the patient, Preparation of the therapist, effect uses, indication and contraindication of the above manipulation techniques Application of techniques of stretching for group & individual muscles, Dosimetry of stretching.	8	CO1
2	JOINT MOBILIZATION TECHNIQUE	Application of joint mobilization technique on patients on different joints. Introduction to special mobilization & manipulation techniques.	8	CO2
3	NEUROMUSCULAR COORDINATION AND FACILITATION	Practical Aspects on Neuromuscular in coordination, Functional re-education, Balance.	8	CO3
4	AQUATIC THERAPY & HYDROTHERAPY	Types of hydrotherapy equipments, indications, and contraindications operational skills & patient's preparations.	8	CO4
5	RELAXATION TECHNIQUE & YOGA	Demonstration of relaxation technique, demonstration on different types of Group therapy and demonstration of different types of Asanas for body mind relationship.	8	CO5

Reference Books:

1. Kisner and Colby. F.A. Davis, Therapeutic Exercises Foundations and Techniques
2. Gardiner, Principle of Exercise Therapy, C. B. S. Delhi.
3. Norkins& White F.A. Davis, Measurement of Joint Motion: A Guide to Goniometry.
4. Wood - W.B. Saunders, Beard's Massage.
5. Kendal, Muscle testing and functions, Williams &Wilkins.
6.Bates and Hanson, Aquatic Exercise Therapy
7.Margarett Hollis, Massage for therapist: Margarett Hollis
8. Hollis, Lab Exercise Therapy, Blackwell Scientific Publications.

e-Learning Source:

1. https://youtu.be/JwYK47h5bh4
2. https://youtu.be/JJAHGpe0AVU
3. https://youtu.be/H29sC8fPXRM
4. https://youtu.be/gE-5naz8DD0

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)															
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO4	PSO5
CO1	1	3	-	-	2	-	1	2	-	-	-	1	2	1	-	-
CO2	2	3	-	2	3	-	-	1	-	1	-	1	2	1	1	2
CO3	1	3	3	2	3	-	1	-	-	1	-	1	2	2	1	2
CO4	3	3	-	-	2	1	-	1	1	-	1	2	3	-	1	1
CO5	2	3	-	-	3	2	-	-	2	-	2	2	3	-	-	1

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	**Course Title**	**Attributes**							**SDGs No.**
PT216	THERAPEUTIC TECHNIQUES LAB	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
		√	√	√			√	√	**3,4,9**

Integral University, Lucknow

Effective from Session: 2023-24							
Course Code	**PT217**	**Title of the Course**	**ELECTROTHERAPY &ELECTRODIAGNOSIS LAB**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**IV**	0	0	4	**2**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	Know the principles, technique and effects of electrotherapy as a therapeutic modality in ourse involves a detailed study of application techniques, effects, indications, contra-indications, precautions, operational skills of equipment, patient preparation of physical agent modalities used in Physiotherapy						

Course Outcomes	
CO1	Know the principles, technique and effects of electrotherapy as a therapeutic modality in the restoration of physical function in conditions
CO2	List the indications and contraindications of various types of electrotherapy, demonstrate different techniques and describe their effects.
CO3	Utilize Contemporary and recent methods and to select the most appropriate method to moderate and alleviate pain for patients
CO4	Aware of the construction, Biophysical principles and effects, dangers, safety measures, judicial use, appropriate methods of application, contraindications of the various compression and inductive equipment's.
CO5	Know the principles, technique and effects of electrotherapy as a therapeutic modality in the restoration of physical function in condition like nerve injuries. Possess knowledge of all the commonly used electro diagnostic tests like Electromyography, nerve conduction study in relevant conditions.

Unit No.	**Title of the Unit**	**Content of Unit**	**Contact Hrs.**	**Mapped CO**
1	THERMALAGENTS-II	• Contrast bath therapy, its operation and methods of application - region wise. • Paraffin bath therapy, its operation and methods of application - region wise. • Fluidotherapy therapy, its operation and methods of application - region wise.	8	CO1
2	ACTINOTHERAPY	• Different types of Ultra violet units, their operation, and assessment of test dose and application of UVR - region wise. • Different types of Infra Red units, their operation, and assessment of test dose and application of IRR - region wise.	8	CO2
3	THERAPEUTIC LIGHT IN PHYSIOTHERAPY	• LASER unit, its operation and methods of application - region wise. • Prism Therapy unit, its operation and methods of application.	8	CO3
4	INTERMITTENT COMPRESSION DEVICES, INDUCTIVE & MAGNETIC THERAPY	• Different types of application of ICD devices in human body. • Different types of application of Inductive devices in human body. • Different types of application of magnetic therapy devices in human body.	8	CO4
5	ELECTRICAL REACTIONS ELECTRO-DIAGNOSTICTESTS	• Plot strength duration curves. • Methods of application NCV. • Application of EMG in different cases.	8	CO5

Reference Books:

1.Clayton'sElectrotherapy
2.Clinical Electrotherapy- Nelson and Currier
3.Electrotherapy Explained- Low and Reed
4.Electrotherapy in Rehabilitation-Meryl Roth Gerth
5.Electrotherapy Explained-Sheela Kitchen
6.Basic of Electrotherapy by Basant Kumar Nanda

e-Learning Source:

1. https://youtu.be/FUEow_aFy-4
2. https://youtu.be/Jzcw5YCjgN4
3. https://youtu.be/G2Mo46eLAFs
4. https://youtu.be/DeEnKiB6JvM

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)															
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO4	PSO5
CO1	1	2	-	3	-	2	-	1	-	2	-	2	3	-	1	1
CO2	1	3	-	1	-	-	-	1	-	3	-	3	3	1	3	2
CO3	2	3	-	2	-	-	-	-	-	3	-	2	2	3	2	3
CO4	1	2	-	3	-	-	-	1	-	2	-	2	2	1	2	1
CO5	1	2	3	3	-	-	-	-	-	3	-	3	3	3	3	3

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	**Course Title**	**Attributes**							**SDGs No.**
PT217	ELECTROTHERAPY & ELECTRODIAGNOSIS LAB	Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	**3,4,9**
		√	√	√			√	√	

Integral University, Lucknow

Effective from Session: 2016-17							
Course Code	**PT218**	**Title of the Course**	**BASIC OF BIOMECHANICS LAB**	**L**	**T**	**P**	**C**
Year	**II**	**Semester**	**IV**	**0**	**0**	**2**	**1**
Pre-Requisite	Nil	**Co-requisite**	Nil				
Course Objectives	• Understand the principles of Biomechanics • Acquire the knowledge of kinetics and kinematics of human body. • Acquire the knowledge of Musculoskeletal movements during normal Gait and Activities of Daily Living • Describe the properties of connective tissue, & effect of mechanical loading, & factors which influence the muscle strength, & Mobility of articular & periarticular soft tissues.						

Course Outcomes	
CO1	The student will be able to understand interaction of mechanics with human body as how a different force works in execution of particular task.
CO2	To understand basics of muscles function as a result of contraction to bring joint movement within kinetic and kinematic spectrum.
CO3	Student able to learn the joint design and its function along with mechanical properties of different soft tissue within the scope of various pathologies and exercise
CO4	The student will learn the basic of connective tissue properties and its biomechanics.
CO5	The student able to learn kinetics and kinematics of posture and gait to rule out normal and abnormal deviation as a result of any pathology.

Unit No.	Title of the Unit	Content of Unit	Contact Hrs.	Mapped CO
1	BASIC CONCEPTS IN BIOMECHANICS	• Understand and application the principles of Biomechanics. • Acquire the knowledge of kinetics and kinematics of human body.	4	CO1
2	MUSCLE STRUCTURE AND FUNCTION	• Acquire the knowledge of musculoskeletal movements during normal Gait and activities of Daily Living.	4	CO2
3	JOINT STRUCTURE, FUNCTION AND THEIR BIOMECHANICS	• Describe the properties of connective tissue, & effect of mechanical loading, & factors which influence the muscle strength, & mobility of articular & periarticular soft tissues.	4	CO3
4	BIOMECHANICS OF SPECIFIC CONNECTIVE TISSUE STRUCTURES	• Demonstration of muscle, joint ligaments, Tendon, disc, Bursa etc	4	CO4
5	ABNORMAL POSTURE & GAIT	• Demonstration of Posture & Gait analysis. • Demonstration of different types of joints.	4	CO5

Reference Books:

1. Measurement of Joint Motion – A Guide to Goniometry - Norkins& White - F.A. Davis.
2. Therapeutic Exercise by Carolyn Kisner, F. A. Davis.
3. Clinical Kinesiology and Anatomy: Fifth Edition Lynn S. Lippert, MS,PT
4. Basic Biomechanics. Nordins.
5. Basic Biomechanics & clinical Kinesiology. Otis
6. Biomechanics of Human Movement. D Winter

e-Learning Source:

1. https://youtu.be/JwYK47h5bh4
2. https://youtu.be/JJAHGpe0AVU
3. https://youtu.be/H29sC8fPXRM
4. https://youtu.be/gE-5naz8DD0

	Course Articulation Matrix: (Mapping of COs with POs and PSOs)															
PO-PSO CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2	PSO4	PSO5
CO1	1	3	2	1	-	-	-	-	-	1	-	3	1	3	-	2
CO2	-	3	2	-	-	-	-	-	-	-	-	2	2	2	2	1
CO3	-	3	1	-	-	-	-	-	-	1	-	3	1	3	3	1
CO4	-	2	2	-	-	-	-	-	-	-	-	3	1	3	3	1
CO5	-	3	1	-	-	-	-	-	-	1	-	3	1	3	2	1

1- Low Correlation; 2- Moderate Correlation; 3- Substantial Correlation

Attributes & SDGs

Course Code	Course Title	Attributes							SDGs No.
		Employability	Entrepreneurship	Skill Development	Gender Equality	Environment & Sustainability	Human Value	Professional Ethics	
PT218	BASIC OF BIOMECHANICS LAB	√	√	√			√	√	**3,4**