BACHELOR OF PHYSIOTHERAPY

Era University, Lucknow

Course Outline: 2024-2025

Name of the Program	**Bachelor of Physiotherapy**			**Year/ Semester:**	**I year/ II sem**
Course Name	**Human Anatomy-I**	**Course Code:**	BPT 201/ BPP 201	**Type:**	**Theory/Practical**
Credits	**05**			**Total Sessions Hours:**	**75 Hours**
Evaluation Spread	**Internal Continuous Assessment:**	**30 Marks**		**End Term Exam:**	**70 Marks**
Type of Course	Compulsory	✓ Core		Creative	Life Skill
Course Objectives	To understand the location, structural configuration of the head, neck, trunk & pelvis region, brain & its application in practice of physiotherapy.				
Course Outcomes (CO): *After the successful course completion, learners will develop following attributes:*					
Course Outcome (CO)	**Attributes**				
CO1	To understand the topographical and functional anatomy of the lower limbs & its application in practice of physiotherapy.				
CO2	To understand about the osteology of spinal vertebrae, muscle attachments and applied anatomy.				
CO3	To understand about the Head and Neck & its application in practice of physiotherapy.				
CO4	To understand about the Neuro Anatomy and its application in practice of physiotherapy..				
CO5	To understand the surface and radiological anatomy of Trunk , Pelvis , Head, Neck & its application in practice of physiotherapy.				
Pedagogy	Interactive, discussion-bases, student-centered, presentation.				
Internal Evaluation Mode	Mid-term Examination: 30 Marks Class test: 12 Marks Class participation or any other : 04 Marks Assignments/Project: 04 Marks Attendance: 04 Marks Class Presentation: 04 Marks Bed Side behavior or Interaction in Class: 02 Marks				
Session Details	**Topic**			**Hours**	**Mapped CO**
Unit 1	1. Outline the anatomical features, attachments, ossification and side determination of the bones of lower limb. 2. Fascia and Muscles of front, back and medial thigh: origin, insertion, nerve supply and action. 3. Fascia and Muscles of Gluteal region: origin, insertion, nerve supply and action. 4. Fascia and Muscles of anterior, posterior and lateral compartment of leg: origin, insertion, nerve supply and action. 5. Fascia and Muscles of soles of foot: origin, insertion, nerve supply and action. 6. Joints of inferior extremity: Hip girdle, Hip joint, Knee, Ankle and joints of foots. 7. Arches of foot and its significance. Applied anatomy of all structures of inferior Extremity			20	CO1

Unit 2	1.Osteology:- cervical, thoracic, lumbar, sacral and coccygeal, vertebrae, ribs 2.Soft tissue:- pre and para vertebral muscles, anterior abdominal wall muscles, intervertebral disc. 3.Applied anatomy:- injury related to fracture, bony deformities, nerve entrapment, spinal cord injury	05	CO2
Unit 3	1 Overview of different aspect of cranium 2 Scalp and muscles of facial expression, Layers of scalp, nerve and blood supply 3 Muscles of mastication, their origin, insertion action and nerve supply 4 Layers of deep cervical fascia, extent and attachment of investing layer, Sternocleidomastoid, digastric and strap muscles of neck. 5 Triangles of neck: Subdivision of anterior and posterior triangle and their contents. 6 Common carotid & external carotid artery & Internal Jugular vein. 7 Joints: Details of temporomandibular joint, atlantoaxial and atlanto-occipital joint..	20	CO3
Unit 4	1 General organization of C.N.S and brief outline of CNS structures, Blood supply of brain 2 Cranial nerves -Peripheral nervous system,Autonomic Nervous System -Sensory system 3 Neuro-muscular junction,Neuro-muscular integration 4 Important ascending and descending tracts. Cranial nerves 5 Brief account of visual and auditory path way 6 CSF – Formation, absorption and circulation in the ventricular system.	10	CO4
Unit 5	Surface and radiological anatomy of following:- musculoskeletal system,soft tissues and bones relevant to head, neck, thorax, abdomen, limbs and pelvis.	05	CO5

CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	1	1	1	-	-	-	-	-	-
CO2	3	-	-	1	-	1		1		1
CO3	2	2	2	-	1	-	2	-	-	-
CO4	3	2	2	1	-	1	-	1	-	-
CO5	3	2	2	1	-	1	-	1	-	-

Strongcontribution-3, Averagecontribution-2, Lowcontribution-1,

Suggested Readings:

Reference Books-

1.B.D. Chaurasia's, Human Anatomy-Volume 1, 2, 3 CBS Publishers & Distributors.
2 Inderbir Singh, Textbook of Anatomy with Colour Atlas-Vol. 1, 2,
3 Jaypee Brothers. 3 Snell-Clinical Anatomy by regions –Lippincott
4 Basic Anatomy & Physiology by Smout and McDowell
5.Cunningham Manual of Practical Anatomy Vol. I, II, III,
6 Williams & Warwick, Gray's Anatomy-Churchill Livingstone.

e-Learning Source:

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

Recapitulation & Examination Pattern

Internal Continuous Assessment:

Component	Marks	Pattern
Class Test	12	Contains **01 long question.** question carries **04**Marks. **02 Short questions.** Each question carries **02**Marks **04 multiple choice questions.** Each question carries **01**Marks
Class participation or any other	04	This to be made on activities and instruction given by subject teacher.
Marks Assignments/Project:	04	Assignment to be made on topics and instruction given by subject teacher
Class Presentation:	04	This to be made on topics and instruction given by subject teacher

Bed Side behavior or Interaction in Class	02	This to be made on activities and instruction given by subject teacher.
Attendance	04	As per policy
Total Marks	**30**	

BACHELOR OF PHYSIOTHERAPY

Era University, Lucknow

Course Outline: 2024-2025

Name of the Program	**Bachelor of Physiotherapy**			**Year/Semester**	**I year/II sem**
Course Name	**Human Physiology II**	**Course Code:**	**BPT 202/ BPP 202**	**Type**	**Theory/Practical**
Credits	**5**			**Total Sessions Hours**	**75 Hours**
Evaluation Spread	**Internal Continuous Assessment:**		**30 Marks**	**End Term Exam**	**70 Marks**
Type of Course	Compulsory		✓ Core	Creative	Life Skill
Course Objectives	1. Students will develop the understanding of elementary human physiology and will be able to demonstrate knowledge in human physiology as needed for the study and practice of physiotherapy				
Course Outcomes: (CO)	*After the successful course completion ,learners will develop following attributes:*				
CO1	Demonstrate in depth knowledge of gastro intestinal tract, its structure, function, composition & function of different juices, movements, digestion & absorption and Understand how abnormal Physiology of GIT affects human function				
CO2	Understand the physiology of excretory system and its application in practice of physiotherapy.				
CO3	Understand male and female reproductive system with reference to hormones, puberty, contraception, pregnancy, lactation & its application in practice of physiotherapy.				
CO4	To understand about Endocrine system & its application in practice of physiotherapy.				
Pedagogy	Interactive, discussion-based, student-centered, presentation.				
Internal Evaluation Mode	Mid-term Examination: 30 Marks Class test: 12 Marks Class participation or any other : 04 Marks Assignments/Project: 04 Marks Attendance: 04 Marks Class Presentation: 04 Bed Side behavior or Interaction in Class: 02				
Session Details	**Topic**			**Hours**	**Mapped CO**
Unit 1	1.**Digestive system** Introduction: physiological anatomy and nerve supply of			20	CO1

	alimentary canal, Gastric Motility nervous control, blood circulation Composition, secretary function of saliva gastric juices HCL secretion, pancreas, gall bladder and small intestine, liver function,Digestion and absorption of food, Defecation and swallowing reflex Relevant applied physiology		
Unit 2	**2. Renal system** General introduction, structure and functions of kidney , Formation of urine- filtration, reabsorption and secretion, Physiology of micturition, Renal circulation, Plasma clearance test, Neurogenic bladder, Automatic bladder, Relevant applied physiology	20	CO2
Unit 3	**3. Male and female reproductive system** Physiology of ovary and testies Physiology of menstrual cycle and spermatogenesis Function of progesterone, estrogen and testosterone Puberty and menopause Physiological changes during pregnancy	20	CO3
Unit 4	**4. Endocrine system** Introduction: Major endocrine glands , Hormones: classification, mechanism of action, functions of hormone Releasing hormones from hypothalamus , Anterior & Posterior pituitary hormones – physiological actions, regulation & disorders Thyroid Hormones, Parathyroid Hormones – physiological actions, regulation &disorders, Pancreatic hormones, Adrenal cortex & medulla– physiological actions, regulation& disorders, calcitriol, thymus and pineal gland, Relevant applied physiology	20	CO4

CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	P010
CO1	3	-	-	-	1	-	2	-	-	-
CO2	3	2	-	-	1	-	2	-	-	-
CO3	3	2	-	-	1	-	2	-	-	-
CO4	3	2	-	-	1	-	2	-	-	-

Strong contribution-3, ***Average contribution-2,*** ***Low contribution-1,***

Suggested Readings:

Reference Books	1. Concise Medical Physiology by Chaudhuri, 4th Edition; New Central Book Agency. 2. Human Physiology, Sembulingam; 4th ed, Jaypee Brothers. 3. A Textbook of Practical Physiology, Ghai C L, Jaypee Brothers. 4. Practical physiology by Vijaya Joshi; Vora Medical Publication. 5. Human Physiology, Chatterjee. Vol: 1&2; 10th Edition; Medical & Allied Agency 6. Textbook of Medical Physiology by Guyton & Hall, 11th Edition; Elsevier Publication 7. Samson Wright's Applied Physiology 13ed, Keele CA,Neil E &Joels N, Oxford Medical Pub. 8. Principles of Anatomy & Physiology, Tortora, 8th Edition; Harper & Row Publication. 9. Textbook of Physiology : Ganong
Para Text	1. https://youtu.be/_jagVY0XMVk?si=LBgVS3Tc1M35pqBM 2. https://youtu.be/cXPuW6ZwcFE?si=jAfREahTvggTVWmJ 3. https://youtu.be/vLdNX5Te1Xo?si=QQC8bNsYDwmXRlUs

Recapitulation & Examination Pattern

Internal Continuous Assessment:

Component	**Marks**	**Pattern**
Class test	12	Contains **01 long question.** Question carries **04** Marks. **02 Short questions.** Each question carries **02** Marks **04 multiple choice questions.** Each question carries **01** Marks
Class participation or any other	04	This to be made on activities and instruction given by subject teacher.
Marks Assignments/Project:	04	Assignment to be made on topics and instruction given by subject teacher
Class Presentation:	04	This to be made on topics and instruction given by subject teacher
Bed Side behavior or Interaction in Class	02	This to be made on activities and instruction given by subject teacher.
Attendance	04	As per policy
Total Marks	**30**	

BACHELOR OF PHYSIOTHERAPY

Era University, Lucknow

Course Outline: 2024-2025

Name of the Program	**Bachelor of Physiotherapy**			**Year/Semester:**	**I year/II sem**
Course Name	**Basic Exercise & Yoga**	**Course Code:**	**BPT 203/ BPP 302**	**Type:**	**Theory & Practical**
Credits	**04**			**Total Sessions Hours:**	**60 Hours**
Evaluation Spread	**Internal Continuous Assessment:**		**30 Marks**	**End Term Exam:**	**70Marks**
Type of Course	Compulsory		✓ Core	Creative	Life Skill
Course Objectives	1. The objective of this course is to provide the students with an in depth knowledge of exercise therapy and yoga. 2. To understand the fundamental principles of exercise therapy and yoga. 3. To explore the theory and applications of different exercises & yoga.				

CourseOutcomes(CO):*Afterthesuccessfulcoursecompletion,learnerswilldevelopfollowingattributes:*

CO1	Describe the terms and basic principles and anatomical movements in exercise therapy.
CO2	Explain the therapeutic exercises and effects of exercise therapy.
CO3	Explain the physiological and therapeutic effects of exercise therapy techniques.
CO4	Describe the ancient and modern historical perspectives of yoga and meditation.
CO5	Demonstrate the effective exercise therapeutic skills and yogas with strong theoretical knowledge on patients.
Pedagogy	Interactive, discussion-based, student-centered, presentation.
Internal Evaluation Mode	Mid-termExamination:30Marks Class test: 12 Marks Classparticipationoranyother:04Marks Assignments/Project: 04 Marks Attendance:04 Marks ClassPresentation:04 BedSidebehaviororInteractioninClass:02

Session Details	**Topic**	**Hours**	**Mapped CO**
Unit1	**Basics of Exercise Therapy** Introduction to exercise therapy Principles of exercise therapy: COG, LOG, BOS, Equilibrium, Lever, Planes and axes Motion: Translatory, rotatory Anatomical movement Range of motion: Definition, normal ROM for all peripheral joints	10	CO1

	Range of muscle work and muscle action Kinematic chain Types of muscle work		
Unit2	**Introduction to Therapeutic Exercises** Therapeutic Exercises: Definition and types of therapeutic exercises interventions. Components of physical function: Balance, cardio-pulmonary fitness, coordination, flexibility, mobility, muscle performance, neuromuscular control, postural control, stability.	05	CO2
Unit3	**Techniques of Exercise Therapy** Starting positions: Fundamental positions and derived positions. Goniometry: Definition, types, procedures, uses, techniques for measurement of ROM for all peripheral joints. Manual Muscle testing [MMT]: Overview, types, principles, indications and contra-indications	10	CO3
Unit4	**Introduction to Yoga** Introduction to yoga: History and development of yoga Types of yoga and stream Introduction of meditation and its types Stress management through yoga [Meditation, Asanas, Pranayams]	10	CO4
Unit5	**Concepts** Concept of body in yoga [Pancha Kosha Theory] Concept of health and disease in yoga: prevention and promotion of positive health through yoga. Definition and physiological effects of Shatkriyas: Asanas, pranayamas, relaxation techniques, meditation.	10	CO5
Practical	Assessment procedures & techniques of exercises with patients positioning & approaches. Anatomical movements Goniometry Overview of manual muscle testing Different asanas & pranayamas & meditation Different Shatkriyas: Asanas, pranayamas, relaxtion techniques & meditation	15	

CO-PO and PSO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	-	-	-	-	1	-	-	3
CO2	3	3	-	-	-	-	2	-	1	3
CO3	3	3	3	-	2	2	3	2	1	3
CO4	3	3	3	2	1	2	3	2	1	3
CO5	3	3	3	2	1	2	3	2	1	3

Strongcontribution-3, Averagecontribution-2, Lowcontribution-1,

Suggested Readings:

Reference Books	1. Therapeutic exercise by Carolyn Kisner 2. Principles of exercise therapy by M. Dena Gardiner.
Para Text	1. https://youtu.be/cCA3BhL4tko?si=LUWso6vtOrmnP5d- 2. https://youtu.be/_dcQW2L_i64?si=bMdgxtlzEEAVGKY_ 3. https://youtu.be/RmJJ4T_FG5M?si=apktimCv61cGIq7i 4. https://youtu.be/y9RyLI1obFE?si=WQmpAJjP8IzqDXUD 5. https://youtu.be/aIIEI33EUqI?si=Bvtu8v6_FN-nc_Mb

Recapitulation & Examination Pattern

Internal Continuous Assessment:

Component	Marks	Pattern
Class test	12	Contains**01longquestion.**questioncarries**04**Marks. **02 Short questions.** Each question carries **02**Marks **04multiple choicequestions.**Eachquestioncarries **01**Marks
Class participation or any other	04	This to be made on activities and instruction given by subject teacher.
Marks Assignments/Project:	04	Assignment to be made on topics and instruction given by subject teacher
Class Presentation:	04	This to be made on topics and instruction given by subject teacher
Bed-Side behavior or Interaction in Class	02	This to be made on activities and instruction given by subject teacher.
Attendance	04	As per policy
Total Marks	**30**	

BACHELOR OF PHYSIOTHERAPY

Era University, Lucknow

Course Outline: 2024-2025

Name of the Program	**BPT**			**Year/Semester:**	**I year/ II sem**
Course Name	**BASIC BIOMECHANICS**	**Course Code:**	**BPT 204/ BPP 204**	**Type:**	**Theory & Practical**
Credits	**04**			**Total Sessions Hours:**	**60 Hours**
Evaluation Spread	**Internal & Continuous Assessment**	**30 Marks**		**End Term Exam:**	**70 Marks**
Type of Course	○ Compulsory	◉ Core		○ Creative	○ Life Skill
Course Objectives	1. Understand the principles and concepts of biomechanics to analyze human movement and function. 2. Apply biomechanical principles to enhance performance, prevent injury, and optimize rehabilitation strategies 3. Comprehend the structural composition and functional properties of joints, including the roles of connective tissues, specific joint structures, and their motion 4. Understand the anatomical and physiological aspects of muscles, including their structure, function, and adaptations in response to factors such as immobilization, injury, aging, and exercise 5. Understand the biomechanics of specific anatomical regions, such as the thorax and temporomandibular joint, including their structural components, functions, and common impairments				

Course Outcomes (CO): *After the successful course completion, learners will develop following attributes:*

Course Outcome (CO)	Attributes
CO1	Ability to identify and describe mechanical factors influencing human movement, such as force vectors, motion types, and equilibrium
CO2	Develop a thorough understanding of fundamental concepts in biomechanics, including equilibrium, levers and pulleys, enabling analysis and application in human movement and mechanical systems
CO3	Gain insight into elasticity principles, including Hooke's Law, and understand the properties and configurations of springs for various applications
CO4	Comprehensive understanding of joint and muscle structures, functions, and their responses to conditions like disease, injury, and aging, aiding in effective rehabilitation planning
CO5	Proficiency in analyzing the biomechanical principles underlying the structure, function, and movement patterns of the thorax and temporomandibular joint.

Pedagogy	Interactive, discussion-bases, student-centered, presentation.		
Internal Evaluation Mode	Mid-term Examination:12 Marks Class test: 05 Marks Online Test/Objective Test: 05 Marks Assignments/Presentation: 05 Marks Attendance: 05 Marks		
Session Details	**Topic**	**Hours**	**Mapped CO**
Unit1	**Foundational Concepts of Biomechanics** 1. **Mechanics -** Definition of : - Biomechanics ; Kinetics & Kinematics ; Anatomic Pulleys, Action Lines, Moment Arm, Total Muscle force Vector, Identification of Joint Axis 2. **Motion -** Definition, Types of Motion, Plane and Axis of Motion, Location, Direction & Magnitude of Displacement 3. **Force -** Definition, Force Vectors, Shear & Friction Forces, Concurrent Force System, Parallel Force System	10	CO1 & CO2
Unit2	1. **Gravity –** Equilibrium & its types, Equilibrium in static & dynamic state, Supporting base, Force of Gravity, Centre of Mass of Human Body, Centre of Mass, Line of Gravity & Stability, Alteration in Mass of an Object or Segment. 2. **Levers -** Definition, Classification and Application of Levers. 3. **Pulleys –** System of pulleys, types & application,	5	CO2
Unit 3	1. **Elasticity –** Definition, stress, strain, HOOKE'S Law. 2. **Springs –** Properties of springs, Springs in series & parallel, Elastic material in use	5	CO3
Unit 4	1. **Joint Structures and Functions** Joint design, General Properties of Connective Tissue, Properties of Specific Tissues, Joint Function, Joint Motion, General changes with Disease, Injury, Immobilization, Exercise, Overuse. 2. **Muscle Structure and Functions** Elements of Muscle structure, Muscle Function, Effect of Immobilization, Injury & Aging	10	CO4
Unit 5	1. **Biomechanics of Thorax & Chest Wall** General structure & function, Rib cage & muscles associated with the rib cage, Ventilatory Motions : Its coordination & Integration, Developmental Aspects of Structure & Function, Changes in normal structure & Function. 2. **Biomechanics of Temporomandibular Joint** Joint Structure, Joint Function, Common impairments & Pathologies	15	CO5
PRACTICALS	1. Analysis of Joint movements in Planes & Axis 2. Identification of CoG, LoG, BoS & their Effects 3. Identification of Levers in human body 4. Identification of role of pulleys in human body **5.** Role of springs.	15 Hrs.	

CO-POMapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	3	3	-	1	2	-	2	-	-	1
CO2	3	3	-	1	2	-	2	-	-	1
CO3	3	3	-	1	2	-	2	-	-	1
CO4	3	3	-	1	2	-	2	-	-	1
CO5	3	3	-	1	2	-	2	-	-	1

Strongcontribution-3, Averagecontribution-2, Lowcontribution-1,

Suggested Readings:

Text-Books	1. Joint Structure and Function – A comprehensive Analysis, By Cynthia Norkins 2. Basic Biomechanics Explained - Low & Reed – Butterworth Heinmann 3. Basic Biomechanics. Nordins
Reference Books	1. Kinesiology: Applied to Pathological Motion - Soderberg Lippincott 2. Basic Biomechanics & clinical Kinesiology. Otis 3. Biomechanics of Human Movement. D Winter
ParaText	1. https://youtu.be/-zP5YTnKk_g 2. https://youtu.be/aG3136DpLv4 3. https://youtu.be/_qnQC34uq8c?list=PLS-ocxImwSG_VODKg-Ow12FsyGfDC9cnz 4. https://youtu.be/EfbqbpS7j9g 5. https://youtu.be/xx7gwY6fRUM

Recapitulation&ExaminationPattern

InternalContinuousAssessment:

Component	Marks	Pattern
Class test	12	Contains 01 long queation. question carries 04 marks 02 short questions. each question carries 02 marks 04 multiple choice questions. each question carries 01 marks
Class participation or any other	04	This to be made on activities and instruction given by subject teacher
Marks assignments/project	04	Assignment to be made on topics and instruction given by subject teacher
Class presentation	04	This to be made on topics and instruction given by subject teacher
Bed side behavior or interaction in class	02	This is to be made on activities and instruction given by subject teacher
attendance	04	As per policy
Total marks	**30**	

BACHELOR OF PHYSIOTHERAPY

Era University, Lucknow

Course Outline: 2024-2025

Name of the Program	**BPT**			**Year/Semester:**	**I year/ II sem**
Course Name	**COMPUTER INFORMATICS**	**Course Code:**	**BPT 205/ BPP 205**	**Type:**	**Theory/ Practical**
Credits	**04**			**Total Sessions Hours:**	**60 Hours**
Evaluation Spread	**Internal& Continuous Assessment**	**30 Marks**		**End Term Exam:**	**70Marks**
Type of Course	○ Compulsory	◉ Core		○ Creative	○ Life Skill
Course Objectives	1. To introduce students to fundamental concepts of computer hardware, operating systems, and word processing using MS-Word. 2. Introduce students to the basics of Excel spreadsheet software. 3. Introduce students to the fundamentals of creating and managing presentations using PowerPoint 4. Provide an understanding of medical record keeping, health informatics, and the applications of computers in clinical settings 5. Introduce robotics and AI in physiotherapy for improved patient care				
Course Outcomes (CO): *After the successful course completion, learners will develop following attributes:*					
Course Outcome(CO)	**Attributes**				
CO1	Enable students to proficiently use MS- Word for document creation, editing, formatting and advances functions like mail merge				
CO2	Enable students to effectively enter, save, format, and print data in Excel worksheets, as well as create and customize graphs for data visualization				
CO3	Equip students with the skills to create, manipulate, format and enhance presentation including adding text, images, and graphs to slides for effective communication				
CO4	Equip students with knowledge of digital equipment, medical electronics, and the integration of technology to optimize medical record management and healthcare delivery				
CO5	Familiarize students with AI-enabled devices and platforms and their applications in enhancing physical therapy through deep learning frameworks				
Pedagogy	Interactive, discussion-bases, student-centered, presentation.				
Internal Evaluation Mode	Mid-term Examination: 30 Marks Class test: 12 Marks Class participation or any other : 04 Marks Assignments/Project: 04 Marks Attendance: 04 Marks Class Presentation: 04 Marks Bed Side behavior or Interaction in Class: 02 Marks				

Session Details	Topic	Hours	Mapped CO
Unit1	Introduction to computer: I/O devices, operating systems, introduction to MS-Word: introduction, components of a word window, creating, opening and inserting files, editing a document file, page setting and formatting the text, saving the document, spell checking, printing the document file, creating and editing of table, mail merge.	10	CO1
Unit2	Introduction to excel: introduction, about worksheet, entering information, saving work books and formatting, printing the worksheet, creating graphs.	10	CO2
Unit 3	Introduction to power point: introduction, creating and manipulating presentation, views, formatting and enhancing text, slide with graphs.	10	CO3
Unit 4	Medical record keeping and health informatics. Applications of computers in clinical settings, digital equipment, medical electronics.	05	CO4
Unit 5	Robotics in physiotherapy. Artificial intelligence in physical therapy: what is artificial intelligence? AI enabled device, SWORD, otion coach, phsitrack, AI – enabled robotics, deep learning frameworks.	10	CO5

CO-PO Mapping

CO	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10
CO1	-	-	-	-	3	2	-	-	-	-
CO2	-	-	-	-	3	2	-	-	-	-
CO3	-	-	-	-	3	2	-	-	-	-
CO4	-	-	-	-	3	2	-	-	-	-
CO5	2	-	2	3	3	2	2	2	2	2

Strongcontribution-3, ***Averagecontribution-2,*** ***Lowcontribution-1,***

Suggested Readings:

Text-Books	1. Fundamentals of Computer science - M. Afshar Alam 2. Fundamental of Information Technology by D. S. Yadav- New age International
Reference Books	1. A First Course in Computers: Saxena, Vikas Publishing House 2. Basic computer and information science for physiotherapy students – Priyanka Randhir
ParaText	1. https://youtu.be/GZgASI5lGFs?list=PLI5-Z8OApDjjnkxEeTVdhIPjGy655Vubf 2. https://youtu.be/OX-iyb-21tk 3. https://youtu.be/l5Ij7nUy9UQ 4. https://youtu.be/isJWl02XpT4

Recapitulation & Examination Pattern

InternalContinuousAssessment:

Component	Marks	Pattern
Class test	12	Contains 01 long question. question carries 04 marks 02 short questions. each question carries 02 marks 04 multiple choice questions. each question carries 01 marks
Class participation or any other	04	This to be made on activities and instruction given by subject teacher
Marks assignments/project	04	Assignment to be made on topics and instruction given by subject teacher
Class presentation	04	This to be made on topics and instruction given by subject teacher
Bed side behavior or	02	This is to be made on activities and instruction given by subject

interaction in class		teacher
attendance	04	As per policy
Total marks	30	