Bachelor of Physiotherapy

Programme Outcomes (POs)

PO1. Professional knowledge-To possess and acquire scientific knowledge to work as a professional, optimizing human function.

PO2. Communication - To communicate effectively and appropriately with patients and within an interdisciplinary environment and society.

PO3. Evidence based practice-To devise assessment and programs that are evidence informed and aligns with professional excellence.

PO4. Clinical/Technical Skills-To demonstrate and possesses technical skills to provide quality care for athletes and teams.

PO5. Self-reflection and life-long learning to exhibit interest in enhancing knowledge and skills, which evolve over a period of time.

PO6. Entrepreneurship, leadership and mentorship displaying entrepreneurial inclination leadership and mentorship skills.

PO7. Teamwork highlighting the ability to be a team player and support shared goals within an interdisciplinary environment.

PO8. Ethical value and professionalism with high integrity displaying systematizing, defending, and recommending concepts of right and wrong conduct.

Programme Specific Outcomes (PSOs)

PSO1. Scientific knowledge and understanding of the human movement and its diseases and dysfunctions.

PSO2. Technical/Practical/Laboratory knowledge demonstrating technical handling skills in order to assess and design programs for rehabilitation of patients with dysfunctions.

PSO3. Leadership readiness and the ability to enhance a positive influence over the clients and colleagues by serving them without hierarchical boundaries

PSO4. Critical Thinking and ability to assess clinical cases to produce relevant information, with well-reasoned conclusions and practical consequences.

PSO5. Problem-solving ability to think critically in an unbiased manner and devise solutions that are feasible, affordable and positively influences all stakeholders.

PSO6. Information/digital literacy ability to adapt quickly to the changes in the technological progress in all facets of rehabilitation.

PSO7. Professional ethics and values to identify ethical issues and make an informed decision, which upholds human and organizational values.

PSO8. Research/Innovation related skills with a sense of inquiry and investigation. To raise relevant questions, synthesizing and articulating research findings.

Course Outcomes (COs)

Semester I

Subject Name	Course Outcomes
Anatomy 1 Theory	CO1: Define the following basic terms: Common anatomical terminologies, anatomical positions of body, axes, planes and movement. CO2: Describe basic principles of embryology, histology and understanding the role of embryology in growth malformations. CO3: Describe organs of thorax, abdomen & pelvis in relation to surface anatomy. CO4: Describe the main anatomical landmarks of bones and their relative positions.
Anatomy 1 Practical	CO1: Demonstrate anatomical positions of body, axes, planes and movement. CO2: Understand the basic histology of Elementary tissues. CO3: Identification and give relations of Organs of thorax, Abdomen and Pelvis. CO4: Understand the structural changes according to the development of an embryo.
Physiology 1 Theory	CO1: Understand the basics of Physiology of cell, blood, nerve muscle, cardiovascular, respiratory, digestive and reproductive system. CO2: Apply the knowledge between the nerve muscle physiology and have in depth knowledge of healthy and diseased. CO3: Apply the assessment techniques related to cardiovascular and respiratory physiology. CO4: Analyze the integration between cardiovascular and respiratory system in healthy and diseased.

Subject Name	Course Outcomes
Physiology 1 Practical	CO1: Understand and use the microscope. CO2: Demonstrate the measurement of various blood indices. CO3: Explain the properties of Nerve, Skeletal Muscle, Cardiac Muscle using the graphs. CO4: Application of measurement of blood indices with blood investigation in disease condition. CO5: Analyze the properties of muscle and apply in the field of Physiotherapy.
Psychology	CO1: Explain the term Psychology & its importance in the health delivery system and summarize the importance of psychological status of the person in health & disease. CO2: Identify the knowledge and skills required for good interpersonal communication, personality, overcome stress and situational analysis. CO3: Apply the knowledge in brief, about the pathological & etiological factors, signs / symptoms & management of various illnesses. CO4: Discuss the role of family and community in the development of human behavior and interpret the social and economic aspect of community that influences the health of the people. CO5: Distinguish the role of therapist as a member of society and the interdependence of individuals and society. CO6: Recognize and help with the psychological factors involved in disability, pain, disfigurement, unconscious patients and medical surgical patients/conditions.

Subject Name	Course Outcomes
Introduction to National Healthcare Delivery System in India	CO1: Understand the overview of the healthcare delivery system. CO2: Understand the difference of health care delivery systems in developed countries. CO3: Understand the overview and need of alternative therapies. CO4: Understand the overview of nation health policies and National health programmes. CO5: Attain knowledge of the principles, methods and uses of demography and epidemiology. CO6: Appreciate the role of Physiotherapy in the health delivery system for the community.
English with composition	CO1: Demonstrate a coherent and systematic knowledge of the field of English literature showing an understanding of current theoretical and literary developments in relation to the specific field of English studies. CO2: Demonstrate a set of basic skills in literary communication and explication of literary practices and process with clarity. CO3: Application of the principles of communicative English in the different communications pertaining to patients.
Basics of Computers and information Science	CO1: Appreciate the role of computer technology. CO2: Focus on computer organization, computer operating system and software, and MS windows, Word processing, Excel data worksheet and PowerPoint presentation.

Semester II

Subject Name	Course Outcomes
Anatomy 2 Theory	CO1: To understand the topographical and functional anatomy of the upper limb & its application in practice of physiotherapy. CO2: To understand the topographical and functional anatomy of the lower limbs and its application in practice of physiotherapy. CO3: To understand the muscles, bones and joints of the various regions & its application in practice of physiotherapy. CO4: Brain: To understand the structures of the brain & its application in practice of physiotherapy. CO5: Neuro Anatomy: To understand the structures of CNS and PNS & its application in practice of physiotherapy.
Anatomy 2 Practical	CO1: Identify the surface anatomy and the Muscle attachments, Nerve Course and major vessels in upper and lower extremity. CO2: Identify the structures in the Brain and Spinal Cord. CO3: Understand the Clinical application of the disorders of upper and lower limbs. CO4: Apply the knowledge of osteology for reading radiological investigations like X rays. CO5: Understand the Clinical application of various disorders of Brain and Spinal cord.
Physiology 2 Theory	CO1: Understand the basic functions of CNS, Special senses, Excretory system and reproductive system. CO3: To analyze any deviation from the normal functioning of the systems. CO4: To apply the knowledge of physiology to the field of Physiotherapy.

Subject Name	Course Outcomes
Human Physiology 2 Practical	CO1: To learn the skills of assessment of CNS, breath sound, Blood pressure, respiratory rate. Heart rate and Pulmonary Function Tests, & its application in practice of physiotherapy. CO2: To understand the possible variations in the assessment with the reasoning. CO3: To understand the pathological findings in the clinical examinations.
Biochemistry	CO1: Cell & Chemistry of Biomolecules: Demonstrate comprehensive understanding of biochemistry. Acquire the knowledge in biochemistry that is required to be practiced in the community and at all levels of the healthcare system. CO2: To Understand the carbohydrate, protein and lipid metabolism. CO3: Nucleic Acid: Understand relevant Nucleic Acid which will help to know about the important medical conditions. CO4: Vitamins (Fat & Water Soluble) & Enzymes & Hormones: Demonstrate empathy and have a human approach towards patients & respect their sensibilities. CO:5 Nutrition & Special Topics: Understand relevant investigations which will help to know about the important medical conditions.
Kinesiology and Biomechanics- I	CO1: Describe the understanding of basics of mechanics, muscle structure and contraction, factors affecting muscle contraction and recruitment. CO2: Describe mechanics of chest wall during various movements and the patho-mechanics associated with various chest conditions and deformities.

Subject Name	Course Outcomes
Sociology	CO1: Demonstrate an understanding of the role of socio-cultural factors as determinants of health and behavior in health and sickness. CO2: Relates to therapeutic situations in the practice of physiotherapy. CO3: Understand the role of family and community in the development of behaviors. CO4: Develops a holistic outlook toward the structure of society and community resources. CO5: Identify the subtle influence of culture in the development of human personality, the role of beliefs and values as determinants of individual and group behaviors. CO6: Understand the social and economic aspects of community that influence the health of the people.
Basic statistics and introduction to Research methodology	CO1: Interpret the knowledge gained on the basic concepts of principles of biostatistics to be used in research studies. CO2: Interpret knowledge gained in the study of principles and methods of research methodology in research studies.
Environmental Sciences	CO1: To understand the concept and function of the environment and recognize the physical, chemical, and biological components of the earth's systems and their functions. CO2: To identify common and adverse impacts of human activities on biotic communities, soil, water and air quality and suggest sustainable strategies to mitigate the impacts. CO3: Develop an understanding of environmental pollution and hazards and general measures to control them. CO4: To realize the importance of biodiversity for maintaining ecological balance and global conservation practices and strategies.

Subject Name	Course Outcomes
Spoken Kannada	CO1: Demonstrate an understanding of Kannada literature. CO2: Relates the key concepts of linguistic trends in language. CO3: Understand the role of folk literature and human values. CO4: Develops a skill of letter writing and translation in Kannada.

Semester III

Subject Name	Course Outcomes
Microbiology	CO1: General Microbiology: Students able to understand Morphology, Nutritional Requirements, Metabolism, Growth, Classification and identification of Microbes. CO2: Immunology: Students able to understand the nature of immunity like innate and acquired. CO3: Bacteriology: Students able to understand various types of bacteria. CO4: Virology: Students able to understand investigations of various types of viruses. CO5: Miscellaneous: Students able to understand various types of parasitology and precautionary measurement against them.

Subject Name	Course Outcomes
Pharmacology	CO1: Possess a relevant knowledge in basic principles of pharmacology and its recent advances. CO2: Understand the basic pharmacology of common drugs used, their importance in the overall treatment including Physiotherapy. CO3: Understand the general principles of drug action and the handling of drugs by the body. CO4: Understand the contribution of both drug and physiotherapy factors in the outcome of treatment.
Foundation of Exercise Therapy and Massage theory	CO1: Learn the principles, technique and effects of exercise as a therapeutic modality in the restoration of physical function. CO2: Analyze the various types of therapeutic exercises, movements and demonstrate different techniques and describe their effects. CO3: Practice different exercise therapy techniques and gain confidence in performing these skills before implementing the same on the patients so that high quality patient care is ensured. CO4: Provide high quality, ethical, effective, and cost-efficient practices by students and gain expertise in the exercise prescription to patients. CO5: Practice various assessment strategies like Goniometer, tone assessment and muscle power assessment.

Subject Name	Course Outcomes
Foundation of Exercise Therapy and Massage Practical	CO1: Demonstrate various principles, technique and effects of exercise as a therapeutic modality in the restoration of physical function. CO2: Demonstrate different techniques and describe their effects on Gait and human functioning. CO3: Practice different exercise therapy techniques and gain confidence in performing these skills before implementing the same on the patients so that high quality patient care is ensured. CO4: Provide high quality, ethical, effective, and cost-efficient practices by students and gain expertise in the exercise prescription to patients. CO5: Develop assessment strategies like Goniometer, Tone assessment and Muscle power assessment.
Kinesiology and Biomechanics-II Theory	CO1: Analyzes normal mechanics of posture and gait in various planes and axes. CO2: Analyze the Patho-mechanics associated with abnormal posture and gait. CO3: Describe biomechanics of shoulder, elbow, wrist, hip, knee, ankle joint, vertebral column.
Kinesiology and Biomechanics-II Practical	CO1: Analyze normal mechanics of posture and gait in various planes and axes. CO2: Analyze the patho-mechanics associated with abnormal posture and gait. CO3: Describe biomechanics of shoulder, elbow, wrist, hip, knee, ankle joint and vertebral column.

Subject Name	Course Outcomes
Biomedical Physics	CO1: Explain various terms used in relation to biophysics, mechanics, biomechanics & kinesiology. CO2: Explain the physics principles & Laws of Electricity, & Electromagnetic spectrum. CO3: Discuss effects of environmental & man-made electromagnetic field at the cellular level & outline risk factors on prolonged exposure. CO4: Describe the Main electrical supply, electric shock, examine precautions to be taken for prevention of electric shock. CO5: Identify and describe in brief, certain common electrical components such as transistors, valves, capacitors, transformers etc.

Semester IV

Subject Name	Course Outcomes
Progressive Functional Exercises, Therapeutic Massage -Theory	CO1: Understand principles and procedures, indications, contraindications and precautions, appropriate methods of application of each of the assessment strategy and treatment techniques hands on and on models. CO2: Communicate with the patient in a professional and ethical manner. Provide high quality, cost- effective soft tissue mobilizations in order to promote health. CO3: Manages patients with proper ethical codes and respect when treating with soft tissue mobilizations. CO4: Expertise in proper positioning and contact and continuity principles.
Progressive Functional Exercises, Therapeutic Massage Practical	CO1: Demonstrate procedures, indications, contraindications and precautions, appropriate methods of application of each of the assessment strategy and treatment techniques hands on and on models. CO2: Communicate with the patient in a professional and ethical manner. Provide high quality, cost- effective soft tissue mobilizations in order to promote health. CO3: Manage patients with proper ethical codes and respect when treating with soft tissue mobilizations. CO4: Expertise in Proper positioning and contact and continuity principles.

Subject Name	Course Outcomes
Physical Agents, Electrotherapy Theory	CO1 Basic of Currents & Low Frequency Currents: Know the principles, technique and effects of electrotherapy as a therapeutic modality in the restoration of physical function in conditions. CO-2: List the indications and contraindications of various types of electrotherapies, demonstrate different techniques and describe their effects. CO-3: Utilize Contemporary and recent methods of electrotherapy to 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 equipment. CO5: Practice towards Scientific excellence. CO6: Know the principles, technique and effects of electrotherapy as a therapeutic modality in the restoration of physical function in conditions.
Physical Agents, Electrotherapy Practical	CO1: Technique and effects of electrotherapy as a therapeutic modality in the restoration of physical function in conditions. CO2: Demonstrate different techniques and describe their effects. CO-3: Method to moderate and alleviate pain for patients. CO4: Appropriate methods of application, contraindications of the various High frequency equipment. CO5: Practice towards Scientific excellence. CO6: Technique and effects of electrotherapy as a therapeutic modality in the restoration of physical function in conditions.

Subject Name	Course Outcomes
Emergency medical response, Nursing, First Aid, CPR, BLS Infection Control	CO1: Demonstrates an understanding of the principles of first aid and demonstrates skill in giving first aid treatment in emergencies that may be met in the community and in their practice as therapists. CO2: Demonstrate and perform steps involved in CPR and BLS. CO3: Understand various types of modes for infection transmission and precautionary measurement against them.
Physiotherapy Law and Ethics and professional values	CO1: Understand the history and the ethical principles of the physiotherapy profession. CO2: Learn and differentiate between confidentiality, informed consent and patient rights. CO3: Professional and Personal: Elaborate about malpractice, negligence and duties of a medical practitioner. CO4: Legal Professional Ethical laws, attaining basic knowledge on legal responsibility, professional culture and role of different national professional bodies. CO5: Physiotherapy Practice: Understand basic principles and concepts of management and administration in clinical and private practice in the physiotherapy profession.

Semester V

Subject Name	Course Outcomes
General Medicine **Theory**	CO1: Interpret knowledge gained in the study of medical conditions and describe clinical features and diagnosis for those conditions. CO2: Interpret knowledge gained in the study of medical management of the conditions. CO3: Understand the respiratory related disease and skin related. CO4: Understand pediatric related problems and psychiatric disorders.
Clinical Orthopedics and Traumatology	CO1: Demonstrate an understanding of orthopedic conditions causing disability. CO2: Interpret clinical findings of orthopedics and suggest medical and surgical management for orthopedic conditions. CO3: Understand the amputation, bone, joint infection and chronic arthritis. CO4: Understand jaw pain, spinal deformities, poliomyelitis, congenital, hand and nerve injuries. CO5: Understand the traumatology of upper and lower limb fractures with their management.
Clinical Cardiology and Pulmonary Conditions	CO1: Demonstrates an understanding of the respiratory system and cardiovascular system. CO2: Interpret examination findings and outline management for cardiovascular conditions. CO3: Understand the respiratory related disease for physiotherapy importance. CO4: Understand chest related problems and physiotherapy.

Subject Name	Course Outcomes
Physiotherapy in Orthopedics and Sports -I Theory	CO1: Demonstrate a comprehensive understanding of the musculoskeletal system including bones, joints, muscles, and related structures. CO2: To apply biomechanical principles to assess and diagnose disorders of the musculoskeletal system CO3: Develop proficiency in conducting musculoskeletal assessments to identify dysfunctions and abnormalities. CO4: Apply appropriate clinical reasoning to interpret assessment findings and to formulate differential diagnosis.
Physiotherapy in Orthopedics and Sports -I Practical	CO1: Demonstrate the ability to design and implement interventions, including therapeutic exercises, manual therapy techniques, and ergonomic modifications, to improve gait symmetry and posture alignment and reduce pain and dysfunction. CO2: Explain the physiological principle underlying normal movement and function in the context of orthopedics and sports. CO3: Develop proficiency in conducting thorough sports injury assessments to identify musculoskeletal dysfunctions and abnormalities. CO4: Apply appropriate clinical reasoning to interpret assessment findings and to formulate differential diagnosis.
Physiotherapy in Cardiopulmonary and Intensive Care Theory	CO1: Interpretation of different invasive and non-invasive diagnostic investigations to make proper assessment in various respiratory and cardiovascular dysfunction. CO2: Develops the skills to execute different physiotherapy techniques used in treatment of cardio- respiratory dysfunctions. CO3: To select strategies for cure, care and prevention, adopt restorative and rehabilitative measures for maximum possible functional independence of a patient at home, workplace and in community. CO4: Design and execute an effective cardiopulmonary rehabilitation programme.

Subject Name	Course Outcomes
Physiotherapy in Cardiopulmonary and Intensive Care Practical	CO1: Interpretation of different invasive and non-invasive diagnostic investigations to make proper assessment in various respiratory and cardiovascular dysfunction. CO2: Develops the skills to execute different physiotherapy techniques used in treatment of cardio- respiratory dysfunctions. CO3: To select strategies for cure, care and prevention, adopt restorative and rehabilitative measures for maximum possible functional independence of a patient at home, workplace and in community. CO4: Design and execute an effective cardiopulmonary rehabilitation programme.

Semester VI

Subject Name	Course Outcomes
General Surgery	CO1: List the indications for surgery, etiology and clinical features for different medical conditions. CO2: Interpret knowledge gained in the study of different conditions and diseases, with the surgical procedures for those conditions. CO3: Understand the disease of arteries, veins, burn and treatment for physiotherapy. CO4: Understand women's health, MC, labor pain and ENT related problems.

Subject Name	Course Outcomes
Physiotherapy in General Medicine and General Surgery-Theory	CO1: List the indications for surgery, etiology and clinical features for different medical conditions. CO2: Interpret knowledge gained in the study of different conditions and diseases, with the surgical procedures for those conditions. CO3: Understand the disease of arteries, veins, burn and treatment for physiotherapy. CO4: Understand for women's health, MC, labor pain and ENT related problems. CO5: Interpret knowledge gained in the study of medical conditions and describe clinical features and diagnosis for those conditions. CO6: Interpret knowledge gained in the study of medical management of the conditions.
Physiotherapy in General Medicine and General Surgery-Practical	CO1: List the indications for surgery, etiology and clinical features for different medical conditions. CO2: Interpret knowledge gained in the study of different conditions and diseases, with the surgical procedures for those conditions. CO3: Understand the disease of arteries, veins, burn and treatment for physiotherapy. CO4: Understand women's health, labor pain and ENT related problems. CO5: Interpret knowledge gained in the study of medical conditions and describe clinical features and diagnosis for those conditions. CO6: Interpret knowledge gained in the study of medical management of the conditions.

Subject Name	Course Outcomes
Physiotherapy in Orthopedics and Sports -II Theory	CO1: Comprehensive understanding of the musculoskeletal system, including bones, joints, muscles, and related structures. CO2: Detailed analysis of various physiological principle underlying normal movement and function in the context of orthopedics and sports. CO3: Develop proficiency in conducting thorough orthopedic assessments to identify musculoskeletal dysfunctions and abnormalities. CO4: Apply appropriate clinical reasoning to interpret assessment findings and to formulate differential diagnoses.
Physiotherapy in Orthopedics and Sports -II Practical	CO1: Apply theoretical knowledge of musculoskeletal surgeries to the assessment, goal-setting, and management of patients. CO2: Analyze pre-post-operative scenarios of various orthopaedic surgeries, evaluate the effectiveness of PT interventions, setting appropriate goals, and identifying precautions to prevent complications. CO3: Develop proficiency in conducting thorough orthopedic assessments to identify musculoskeletal dysfunctions and abnormalities. CO4: Apply appropriate clinical reasoning to interpret assessment findings.
Genetics	CO1: Develop a solid comprehension of the fundamental principles and concepts in genetics, including the structure and function of DNA, genes, and chromosomes. CO2: Identify and characterize genetic disorders, including their genetic basis, clinical manifestations, and potential therapeutic interventions. CO3: Recognize and evaluate the ethical implications of genetic research, applications, and emerging technologies.

Subject Name	Course Outcomes
Nutrition and Dietetics	CO1: Understand the functions and role of different nutrients, their role in making food choices and obtaining an adequate diet. CO2: Able to apply basic nutrition knowledge on macronutrients, their requirements and the effect of deficiency and excess.