P P Savani University
School of Physiotherapy

SYLLABUS for
BACHELOR OF PHYSIOTHERAPY(B.P.T.)
DEGREE COURSE

Batch 2020

SCHOOL OF PHYSIOTHERAPY, PP SAVANI UNIVERSITY

BPT PROGRAM OUTCOME

Program Outcome: At the end of the four and a half years BPT programme, the candidate shall be able to-		
Sr No	**Name of Program**	**Program Outcome**
1	PO1	Demonstrate effective communication and interpersonal skills, which are adapted to meet the needs of diverse individuals and groups.
2	PO2	Apply principles of critical thinking and clinical reasoning to evidence-based physiotherapy practice and be able to demonstrate comprehensive knowledge of physiotherapy.
3	PO3	Understand Patho-physiological, & Psychosomatic impairments resulting in Dysfunction of movement of all ages, & occupations; as well as epidemiological sectors in the population; & arrive at the appropriate Physical & Functional diagnosis.
4	PO4	Understand the rationale & basic investigative approach of the medical & surgicalsystem, and plan & implement specific Physiotherapeutic measures effectively.
5	PO5	Select strategies for management & care; adopt preventive, restorative & Rehabilitative measures for maximum possible independence of a client/ patient, at home, workplace & in the community.
6	PO6	Develop skills to be able to implement, Cardio Pulmonary resuscitation and first-aid, providing support to the injured area, splinting etc.
7	PO7	Demonstrate skills to promote Health in general, in sports, work productivity, Geriatric & Women's health, etc. keeping in view of National and State-level Health policies.
8	PO8	Develop collaboration skills to function as one of the members of a multidisciplinary health team.
9	PO9	Develop skills to prescribe home exercise programs & compliance to follow ergonomic advice given as a preventive/adoptive measure.
10	PO10	Demonstrate the skill of administrative work along with managing a varied caseload of In and Outpatients Department, for the purpose of patient's evaluation, assessment, diagnostic procedures; & treatment; and use of appropriate skills like manipulation, mobilization methods, Neuro-physiotherapeutic maneuvers, techniques of Bronchial hygiene, breathing retraining; application of Electrotherapeutic modalities and Therapeutic exercises.
11	PO11	Develop ability to prescribe, assess (fitting) & use of appropriate orthotic & prosthetic devices; in addition to an ability to fabricate simple splints for extremities, for the purpose of prevention, support & training for ambulation & activities of daily living.
12	PO12	Capability to solve problems by using research-based knowledge and research methods and can set short-term and long-term goals for rehabilitation; further practice professional autonomy & ethical principle with referral as well as first contact client in conformity with the ethical code for Physiotherapists.

CLASSIFICATION OF COURSES IN BPT DEGREE PROGRAM: 2020 BATCH

Sem.	Foundation courses	Core courses	Allied courses	Skill Enhancement courses
I	• HumanAnatomy- I • Human Physiology -I • Exercise Therapy -I		• Psychology • Environmental Studies	• Computer Application • Linguistic Proficiency
II	• Human Anatomy -II • HumanPhysiology-II • Exercise Therapy -II		• Sociology • Biomedical Physics • First Aid and Basic Life Support	• Global Communication Skills
III	• Exercise Therapy- III • ElectroTherapy- I		• Biochemistry • Pharmacology • Pathology • Microbiology	• IPDC-1 • Foreign Language (French)
IV	• Exercise Therapy- IV • ElectroTherapy- II	• Gen. Medicine (including Cardiothoracic Conditions) • Clinical Orthopaedics &Traumatology	• Psychiatry	• IPDC-II • Foreign Language (French)
V	• Musculoskeletal Physiotherapy-I • Biomechanics and Kinesiology	• Neurology • Paediatrics • General Surgical Conditions	• Applied Radiology	• Professional Communication and Soft Skills • Foreign Language (French)

VI	• Musculoskeletal Physiotherapy-II • Physiotherapy in Neurology-I • Bioengineering and Ergonomics • Physical Diagnosis & Therapeutic Skills			• Professional Readiness
VII	• PT in Cardio-Respiratory conditions • Physiotherapy in Neurology-II • Sports Physiotherapy		• Research Methodology and Biostatistics	• Creativity, Problem Solving and Innovation
VIII	• PT in General Medical & Surgical Conditions • Preventive and Community Physiotherapy	• Evidence Based Practice	• Health Care Management and Administration • Allied and Complementary Therapies	• Research Project

- From BPT Third to Eighth Semester students have to undergo compulsory Clinical Training in associated Hospitals of the University followed by Six months rotatory clinical internship.

Syllabus Book

1st Semester BPT
Physiotherapy

Effective From: 2020-21

Authored by: P P Savani University

P P SAVANI UNIVERSITY												
SCHOOL OF Physiotherapy												
TEACHING & EXAMINATION SCHEME FOR 1st SEMESTER BPT												
Sem	**Course Code**	**Course Title**	**Offered By**	**Teaching Scheme**				**Examination Scheme**				
				Contact Hours			**Credit**	**Theory**		**Practical**		**Total**
				Theory	**Practical**	**Total**		**CE**	**ESE**	**CE**	**ESE**	
1	SPPT1010	HUMAN ANATOMY-I	Physiotherapy	06	04	10	08	30	70	30	70	200
	SPPT1020	HUMAN PHYSIOLOGY-I	Physiotherapy	04	02	06	05	30	70	30	70	200
	SPPT1030	EXERCISE THERAPY-I	Physiotherapy	04	04	08	06	30	70	30	70	200
	SPPT1040	PSYCHOLOGY	Physiotherapy	04	00	04	04	15	35	-	-	50
	SPPT1050	ENVIRONMENTAL STUDIES	Physiotherapy	01	00	01	01	30	-	-	-	30
	SPPT 1060	COMPUTER APPLICATION	Engineering	01	02	03	02	-	-	70	-	70
	CFLS 1010	LINGUISTIC PROFICIENCY	CFLS	02	00	02	02	40	60	-	-	100
					Total		**34**	**28**				**850**

***for SEPD/CFLS Subjects kindly refer to relevant booklets.**

CONTENT

Semester 1

P P Savani University

School of Physiotherapy

Course Code: SPPT1010

Course Name: HUMAN ANATOMY-I

Prerequisite Course/s: Nil

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
06	04	10	08	30	70	30	70	200	

CE: Continuous Evaluation, ESE: End Semester Exam

It is designed to provide students with a working knowledge of the structure of the human body which is an essential foundation for their clinical studies. Studies are concerned with the topographical and functional anatomy of the limb. Particular attention is paid with reference to topics of importance to physiotherapy.

Course Description:

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Understand and analyzed the necessity of studying anatomy and its possible requirement in future for diagnosing and treating various clinical conditions in physiotherapy practice.	**PO 1,2,3**
CO 2	Identify and describe the fundamentals of structure anatomy by illustrating diagrams on their body parts or charts.	**PO 2**
CO 3	Understand the fundamentals of histology and embryology of the human body.	**PO 2,3**
CO 4	Identify the functions of bones, joints and muscles along with their origin and insertion.	**PO 3**
CO 5	Describe the basic terminologies of osteology, histology, general embryology and other basic terms specific to human body.	**PO 1,3**
CO 6	Distinguish and describe the upper extremity and lower extremity components, parts and muscle, connecting tissues of the human body.	**PO 1,2**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**UPPER EXTREMITY**: 1. Osteology: Clavicles, Scapula, Humerus, Radius, Ulna, Carpals, Metacarpals, Phalanges. 2. Soft parts: Breast, pectoral region, axilla, front of arm, back of arm, cubital fossa, front of fore arm, back of fore arm, palm, dorsum of hand, muscles, nerves, blood vessels and lymphatic drainage of upper extremity. 3. Joints: Shoulder girdle, shoulder joint, elbow joints, radio ulnar joint, wrist joint and joints of the hand. 4. Arches of hand, skin of the palm and dorsum of hand	20	22
2.	**HISTOLOGY** General Histology, study of the basic tissues of the body; Microscope, Cell, Epithelium, Connective Tissue, Cartilage, Bone, Muscular tissue, Nerve Tissue – TS & LS, Circulatory system – large sized artery, medium sized artery, large sized vein, lymphoid tissue, Skin and its appendages.	05	6
3.	**EMBRYOLOGY** a) Ovum, Spermatozoa, fertilization and formation of the Germ layers and their derivations. b) Development of skin, Fascia, blood vessels, lymphatic, c) Development of bones, axial and appendicular skeleton and muscles, d) Neural tube, brain vessels and spinal cord, e) Development of brain and brain stem structures	05	6
4.	**MUSCULOSKELETAL ANATOMY** a) ***Anatomical positions***: Of body, axes, planes, common anatomical terminologies (Groove, tuberosity, trochanters etc) b) **Connective tissue**: Classification. c)***Bones***: - Composition & functions, classification and types according to morphology and development. d)***Joints***:-Definition-classification, structure of fibrous, cartilaginous joints, blood supply and nerve supply of joints. e) ***Muscles***: –Origin, insertion, nerve supply and actions f) **Lower Extremity**: 1. Osteology: Hip bone, femur, tibia, fibula, patella, tarsals, metatarsals and phalanges. 2. Soft parts: Gluteal region, front and back of the thigh (Femoral triangle, femoral canal and inguinal canal), medial side of the thigh (Adductor canal), lateral side of the thigh, popliteal fossa, anterior and posterior compartment of leg, sole of the foot, lymphatic drainage of lower limb, venous drainage of the lower limb, nerve & arterial supply of the lower limb, arches of foot, skin of foot. 3. Joints: Hip Joint, Knee joint, Ankle joint, joints of the foot.	40	45
5.	**APPLIED ANATOMY** Based on Nervous & musculoskeletal system	20	21

List of Practical:

Sr No	Name of Practical	Hours
1.	Upper extremity including surface Anatomy	20
2.	Lower extremity including surface Anatomy	20
3.	Applied anatomy	10
4.	Histology-Elementary tissue including surface Anatomy	05
5.	Embryology-models, charts & X-rays	05

Text Book:

Title	Author/s	Publication
Human Anatomy – Regional And Applied; Volume I, Volume II and Volume III.	B.D Chaurasia's	CBS Publishers

Reference Book:

Title	Author/s	Publication
Clinical Anatomy for Medical students	Richard Snell	Little Brown and Company Boston
Human Osteology.	InderbirSingh	JP Brothers
Essentials of Anatomy	InderbirSingh	JP Brothers
Gray's Anatomy	Henry Gray	Churchill Livingstone.
Principles of Anatomy & Physiology:	TORTORA	Harper & Row pub.
McMinn's color atlas of Human Anatomy	McMinn	Edinburgh : Mosby Elsevier
Cunningham manual of practical anatomy: Vol I, II, III	D. J. Cunningham; G J Romanes	Oxford University Press

Pedagogy:

The course will be delivered using lectures & practical. The lectures consist of theory content along with cadaver dissection.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

Practical

- Internal Assessment(30)
- Practical End Semester Examination will consist of 70 Marks Exam. i.e Spot(40) Viva(25) Journal (05)

P P Savani University

School of Physiotherapy

Course Code: SPPT1020

Course Name: HUMAN PHYSIOLOGY-I

Prerequisite Course/s: Nil

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
04	02	06	05	30	70	30	70	200	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Understand the fundamentals General Physiology like Cell structure and functions in the human body.	**PO 2**
CO 2	Discuss basic cell biology, blood and how it relates to fundamental physiological principles and systems.	**PO 2**
CO 3	Learn the normal functioning of all the organ systems like Nervous system, Cardiovascular system, Renal system, Respiratory system and their interaction for well-coordinated total body functions.	**PO 2,3**
CO 4	Describe and explain the physiology and functions of Nerve and Muscle, its interactions in human body. Explain Resting membrane potential, Action potential and types of muscle.	**PO 2,3**
CO 5	Distinguish and explain the physiology and functions of cardiovascular system and respiratory system. Describe the conducting system, cardiac output, blood pressure, shock and regional circulation.	**PO 2,3,6**
CO 6	Explain the physiology and functions of Respiratory system in depth with description of mechanics of breathing, spirometry, transportation of gases, pulmonary circulation and neural regulations and applied physiology of it.	**PO 2,3**
CO 7	Explain and understand the physiology of function and structure of renal system.	**PO 1,2**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**GENERAL PHYSIOLOGY** Cell: Morphology. Organelles: their structure and functions, Transport Mechanisms across the cell membrane, Body fluids: Distribution, composition. Tissue fluid – formation.	05	8
2.	**BLOOD** a) Introduction: Composition and functions of blood. b) Plasma: Composition, formation, functions. Plasma proteins. c) RBC: structure formation, functions, count and its variations. Erythropoiesis- stages, factors regulating. Reticulo-endothelial system (in brief) Haemoglobin - Anemia (in detail), types of Jaundice. Blood indices, PCV, ESR. d) WBC: Classification. Morphology, functions, count, its variation of each. Immunity: Innate and acquired. e) Platelets: Morphology, functions, count, its variations f) Haemostatic mechanisms: Blood coagulation–factors, mechanisms. Their disorders. Anticoagulants. g) Blood Groups: Landsteiner's law. Types, significance, determination, Erythroblastosisfoetalis. h) Blood Transfusion: Cross matching. Indications and complications. i) Lymph: Circulation and functions.	10	17
3.	**NERVE MUSCLE PHYSIOLOGY** a) Introduction: Resting membrane potential. Action potential – ionic basis and properties. b) Nerve: Structure and functions of neurons. Classification, Properties and impulse transmission of nerve fibers. Nerve injury – degeneration and regeneration. c) Muscle: Classification. Skeletal muscle: Structure. Neuromuscular junction: Structure. Neuromuscular transmission. Excitation- Contraction coupling. Rigor mortis. Motor unit. Properties of skeletal muscles, Length-tension relationship, fatigue, load. d) Smooth muscle: Structure, types, mechanism of contraction	14	24
4	**RENAL SYSTEM** a) Introduction: Functional anatomy of kidney, Nephrons, juxtamedullary. Juxta- glomerular apparatus. Renal blood flow and its regulation. b) Mechanism of Urine Formation: Mechanism of glomerular filtration. GFR – normal value and factors affecting. Insulin clearance. Creatinine clearance. Diuretics, dieresis. c) Tubular Reabsorption: Reabsorption of Na+, glucose, HCO3-, urea and water. Filtered load. d) Renal tubular transport. Glucose clearance: TmG. Renal threshold for glucose. e) Tubular Secretion: Secretion of H+ and K+. PAH	06	10

	clearance. f) Introduction and Mechanism of concentrating and diluting the Urine, Regulation of water excretion. g) Micturation: Mechanism of micturation. Cystometrogram. Atonic bladder, automatic bladder. h) Acid-Base balance in brief i) Artificial Kidney: Principle of haemodialysis. j) Skin and temperature regulation.		
	Section II		
1.	**CARDIOVASCULAR SYSTEM** a) Introduction: Physiological anatomy and nerve supply of the heart and blood vessels. Cardiac muscles: Structure. Ionic basis of action potential and pacemaker potential. Properties. b) Conducting system: Components. Cardiac Cycle: Definition. Phases of cardiac cycle. Heart sounds – causes, character. c) Cardiac Output: Definition. Normal value. Determinants. Stroke volume and its regulation. Heart rate and its regulation and their variations. d) Arterial Blood Pressure: Definition. Normal values and its variations. Determinants. Peripheral resistance. Regulation of BP. e) Arterial pulse. f) Shock – Definition. Classification–causes and features g) Regional Circulation: Coronary, Cerebral and Cutaneous circulation.	10	16
2.	**RESPIRATORY SYSTEM** a) Function of respiratory system: Pleura, tracheo-bronchial tree, alveolus, respiratory membrane and their nerve supply. Respiratory muscles. b) Mechanics of breathing: Intra-pleural and Intrapulmonary pressure changes during respiration. Lung compliance: Normal value, pressure-volume curve, factors affecting compliance and its variations. Surfactant – Composition, production, functions. c) Spirometry: Lung volumes and capacities. Timed vital capacity and its clinical significance. Maximum ventilation volume. Respiratory minute volume. d) Dead Space: Types and their definition. e) Pulmonary Circulation. Ventilation-perfusion ratio and its importance. f) Transport of respiratory gases: Diffusion across the respiratory membrane. oxygen-haemoglobin dissociation curve. Factors affecting it. Haldane and Bohr Effect. Carbon dioxide transport: Different forms, chloride shift. g) Neural Regulation of Respiration. Hering-breuer's reflex. Voluntary control. Chemical Regulation. h) Hypoxia: Effects of hypoxia. Types of hypoxia. Asphyxia. Cyanosis – types and features. i) Periodic breathing – definition and types. j) Artificial respiration	15	25

List of Practical:

Sr No	Name of Practical/Tutorial	Hours
1.	Hematology-[demonstration only] : RBC Count, WBC Count, Differential WBC Count, Bleeding & Clotting Time, Hb Estimation, ABO & Rh Blood Group, PCV, ESR, platelet count.	15
2.	Graphs : i) Skeletal muscle-properties ii) ECG: definition, different types of leads, waves	12
3.	Mosso's finger ergography	03

Text Book:

Title	Author/s	Publication
Essentials of Medical Physiology	Sembulingam	Jaypee Brothers
Text book of Medical Physiology	John E Hall; Arthur C Guyton	Saunders/Elsevier

Reference Book:

Title	Author/s	Publication
Concise medical physiology	Sujit K. Chaudhuri	New Central Book Agency
Human Physiology	C.C. Chatterjee	CBS Publishers & Distributors
Text of Physiology	A. K. Jain	Avichal
Exercise Physiology	McArdle, Katch&Katch	Lippincott Williams & Wilkins
Review of Medical Physiology	William Francis Ganong	Lange Medical Books
Physiological basis of Medical practice	Best, Taylor and West	Williams & Wilkins
Principles of Anatomy & Physiology	TORTORA	Harper & Row pub.

Pedagogy:

The course will be delivered using lectures & practical. The lectures consist of theory content along with application examples. During the practical, the students will have to complete the experimental verification of the theory content in the physiology laboratory.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

Practical

- Internal Assessment(30)
- Practical End Semester Examination will consist of 70 Marks Exam. i.e Practical (30)Spot (20) Viva(15) Journal (05)

P P Savani University

School of Physiotherapy

Course Code: SPPT1030

Course Name: EXERCISE THERAPY-I

Prerequisite Course/s: Nil

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
04	04	08	06	30	70	30	70	200	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description:

- In this course, the students will learn the basic principles and effects of exercise as a therapeutic modality and will learn the techniques in the restoration of physical functions.
- To give a comprehensive insight of the practical application of these in physiotherapy practice.

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Describe and present physiological and psychological effects of exercise and movements on body.	**PO 3**
CO 2	Understand and apply the knowledge of simple machines, soft tissue manipulation and yogic exercise on Human Body.	**PO 2,3**
CO 3	Comprehend biomechanical principles and appropriate uses of Therapeutic tools necessary in Physiotherapy clinical practice.	**PO 1,2,3,4**
CO 4	Learn and demonstrate various exercise therapeutic techniques on healthy subjects.	**PO 2,3,4**
CO 5	Translate basic principles of biomechanical physics on human movements.	**PO 3**
CO 6	Practice the concept of Group, Home and Individual Exercises based on patient conditions aiming rehabilitation.	**PO 3,4,5,9**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**HISTORY OF PHYSIOTHERAPY** Origin, Definition, Scope of profession, Different branches of Physiotherapy.	02	3
2.	**INTRODUCTION TO EXERCISE THERAPY** Aims, Techniques, Approach to the patient's problem, Assessment of the patient's condition, Principles of comprehensive patient management. Physiological effects and uses of exercise, Nervous control of Movement, Psychological aspects of exercise.	05	10
3.	**THERAPEUTIC EXERCISES: CONCEPTS** a) Impact on Physical Function,Components of Physical function, Types of Therapeutic Exercises, b) Classification of health status, Functioning and disability, Strategies for effective exercises c) Prevention, Health and Wellness : Role of Physical Therapist in Health promotion and wellness	08	14
4.	**SIMPLE MACHINES** Lever- Definition, types and uses, anatomical levers, functional levers in physiotherapy, pulley- types and uses, mechanical advantage, anatomical pulley- Angle of pull, pendulum, Elasticity, springs—properties of springs, springs in series and parallel, Hooke's law .	04	6
5.	**SOFT TISSUE MANIPULATION** a)Introduction, brief history, definition, classification b) Physiological effects and therapeutic uses, indications and contraindications. c) Preparation of patient, basic points to be considered prior, during and after the treatment procedure. d) Techniques, effects and uses, indications and contraindications of each. Specific effects of the techniques e) Massage for arm, leg, neck, back and face. f)Massage for Oedema, scar, tendinitis and fibrosis Cyriax transverse friction massage	10	16
6.	**YOGA** Principles of yoga, basic yogic postures and their physiological effects.	10	16
Section II			
7.	**BASIC BIOMECHANICS AND TERMINOLOGIES** Introduction to movements, Types of muscle contraction, Types of muscle work, Group action of muscle, closed chain and open chain kinematics, Active and passive insufficiency, swing and shunt muscles	03	5
8.	**KINEMATICS OF MOVEMENT** Joint movements, axis and plane. Direction of motion, Magnitude of motion, rate of motion.	03	5
9.	**KINETICS OF MOVEMENT** Force- analysis of force (parallelogram law only), tension, gravity,	07	12

	center of gravity, line of gravity, base of support, Friction- types, Importance, effects and uses, Equilibrium, Fixation and stabilization, Potential energy, kinetic energy, work, power, speed, velocity, acceleration, mass, momentum, inertia, moment arm, torque.		
10.	**THERAPEUTIC GYMNASIUM** Orientation to various equipments used in exercise therapy department with its principles, effect and uses – pulleys, springs, axillary crutches, elbow crutches, walker, finger ladder, theraband, dumbbells, weights, weight cuff, sand bags, therapeutic balls, parallel bars, shoulder wheel, shoulder ladder, pronator - supinator instrument, static cycle, rowing machine, ankle exerciser, balancing boards, springs etc and their biomechanical principles.	6	10
11.	**Group, Home and Individual Exercises**	02	3

List of Practical:

Sr No	Name of Practical/Tutorial	Hours
1.	Techniques of application of Soft Tissue Manipulation	20
2.	Yoga	20
3.	Exercises and Therapeutic Gymnasium	20

Text Book:

Title	Author/s	Publication
Principles of Exercise therapy	Dena Gardiner	i)Bell & Hyman ii) CBS Pub. & Distributors
Practical Exercise therapy	Margaret Hollis	Blackwell Science
Therapeutic Exercise	Carolyn Kisner and Colby	F.A. Davis
Principles and Practice of Therapeutic manipulation	A.G.K.Sinha	Jaypee
Yoga and Rehabilitation	Nilima Patel	Jaypee Brothers

Reference Book:

Title	Author/s	Publication
Brunnstrom Clinical Kinesiology	Houglum;Bertoti; &Brunnstrom	F.A. Davis
Massage for Therapist	Margaret Hollis	Wiley-Blackwell
Physiotherapy in Orthopaedic conditions [for the study of Basic Yogic postures]	Jayant Joshi and Kotwal	Elsevier
Yoga for Health & Peace	SadashivNimbalkar	Yoga VidyaNiketan

Pedagogy:

The course will be delivered using lectures & practical. The lectures consist of theory content along with application examples. During the practical, the students will be trained with clinical skills.

Theory:

- Continuous Evaluation Consist of One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

Practical

- Internal Assessment(30)
- Practical End Semester Examination will consist of 70 Marks Exam. i.e Two cases of (25 marks each) , Viva(20)

P P Savani University

School of Physiotherapy

Course Code: SPPT1040

Course Name: PSYCHOLOGY

Prerequisite Course/s: Nil

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
04	00	04	04	15	35	-	-	50	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Learn basic concepts of psychology and its importance in the health delivery system.	**PO 1,2**
CO 2	Describe knowledge of psychological maturation during human development, growth, and alteration during the aging process.	**PO 2,3**
CO 3	Differentiate between various types of human personality based on their traits and describe various coping strategies used by different personalities	**PO 1,3**
CO 4	Interpret the various methods of learning and problem solving utilized by human mind and apply the same learning strategies while treating patients	**PO 1,3,4**
CO 5	To understand concepts of sensation, attention, perception and motivation in view of psychology of person.	**PO 1,2**
CO 6	Explain effects of frustration and conflicts on the person and its management.	**PO 3,4**
CO 7	Explain theories of emotions and various changes in different life situations and understand stress and its management.	**PO 1,2,3,4**
CO 8	Describe theories of intelligence along with its assessment.	**PO 2,3,5**

CO 9	Illustrate different types of thinking and reasoning and outline rules in problem solving and creative thinking.	**PO 2,3**
CO 10	To understand nature and scope of social and abnormal psychology.	**PO 1,3**
CO 11	Explain psychosocial factors of pain with psychological methods in pain management.	**PO 2,5**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**INTRODUCTION TO PSYCHOLOGY** Definition, application, schools of psychology, methods of psychology, scope of psychology.	05	8
2.	**GROWTH AND DEVELOPMENT** a) Life span: Different stages of development (Infancy, childhood, adolescence, adulthood, middle age, old age) , Psychology need. b) Heredity and environment: role of heredity and environment in physical and psychological development, "Nature v/s Nurture controversy"	05	8
3.	**SENSATION, ATTENTION AND PERCEPTION** a) Sensation: Vision, Hearing, Olfactory, Gustatory and Cutaneous sensation, movement, equilibrium and visceral sense. b) Attention: Types of attention, Determinants of attention (subjective determinants and objective determinants) c) Perception: Gestalt principles of organization of perception (principle of figure ground and principles of grouping), factors influencing perception (past experience and context) d) Illusion and hallucination: different types	05	8
4.	**MOTIVATION** Definition, motivational cycle, types of motives, theories of motivation.	04	7
5.	**FRUSTRATION AND CONFLICT** a) Frustration: sources of frustration. b) Conflict: types of conflict. c) Management of frustration and conflict	03	5
6.	**EMOTIONS** a) Definition, b) Psychological and physiological changes during emotion c) Theories of emotion d) Stress and management of stress.	04	7
7.	**INTELLIGENCE** a) Definition , theories of intelligence b) Distribution of intelligence. c) Assessment of intelligence– intelligence tests	05	8

Section II			
8.	**THINKING** a) Definition , types- , concept formation , Reasoning : deductive and inductive reasoning b) Problem solving: rules in problem solving (algorithm and heuristic) c) Creative thinking: steps in creative thinking, traits of creative people	04	8
9.	**LEARNING** a) Factors effecting learning. b) Theories of learning: trial and error learning, classical conditioning, Operant conditioning, insight learning, social learning theory. c) The effective ways to learn: Massed/Spaced, Whole/Part, Recitation/Reading, Serial/Free recall, Incidental/Intentional learning, Knowledge of results, association, organization, and mnemonic methods.	07	12
10.	**PERSONALITY** a) Definition, personality development, Approaches to personality: type & trait, behavioristic, psychoanalytic and humanistic approach. b) Personality assessment: observation, situational test, questionnaire, rating scale, interview, and projective techniques. c) Defense Mechanisms: denial of reality, rationalization, projection, reaction formation, identification, repression, regression, intellectualization, undoing, introjection, acting out.	07	12
11.	**SOCIAL PSYCHOLOGY** a) Definition , nature and scope of social psychology b) Leadership: Different types of leaders. Different theoretical approaches to leadership. c) Attitude: development of attitude. Change of attitude	05	8
12.	**COMMUNICATION** a) Types, b) Effective ways of communication / teaching	02	3
13.	**PAIN PSYCHOLOGY** a) Define pain, physiology of pain b) psycho – social factors of pain c) pain management (Psychological methods)	02	3
14.	**ABNORMAL PSYCHOLOGY** a) Definition, b) Classify psychological disorders (in brief) psycho somatic disorders c) Psychotherapy and counselling.	02	3

Text Book:

Title	Author/s	Publication
Psychology for Physiotherapists.	Ramalingam& Bid	Jaypee Brothers

Reference Book:

Title	Author/s	Publication
Introduction to Psychology	Morgan CT King, Weisz and Schopler	Tata McGraw hill
Understanding Psychology	Feldman. R. H.	Tata McGraw hill

Pedagogy:

The course will be delivered using lectures. The lectures consist of theory content along with application examples.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of one Test of 15 Marks
- End Semester Examination will consist of 35 Marks Exam.

P P Savani University

School of Physiotherapy

Course Code: SPPT1050

Course Name: ENVIRONMENTAL STUDIES

Prerequisite Course/s: Nil

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
01	-	01	01	30	-	-	-	30	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description:

- To know the upcoming problems of our planet earth which is facing and going to face in future i.e. waste disposal, deforestation, global warming, ozone depletion.
- Particular attention is paid with reference to topics of importance to physiotherapists. The students will understand the basic principles of physical work environment and will be able to identify the workplace environmental problems and hazards.

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Identify the scope and importance of Multidisciplinary Nature Of Environmental Studies.	**PO 1,2**
CO 2	Understand the basic knowledge on natural resources, pollution and the ecosystem of earth.	**PO 2**
CO 3	Recall comprehensive insight of environmental stresses, hazard identification and risk control.	**PO 4,5**
CO 4	Justify the social issue of the environment and discuss management on environmental safety.	**PO 5**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**THE MULTIDISCIPLINARY NATURE OF ENVIRONMENTAL STUDIES** Definition, Scope, Importance	01	7
2.	**NATURAL RESOURCES** Renewable and Non-renewable resources	01	7
3.	**ECOSYSTEMS** Structure and function, Energy flow, Food chain, Food webs and Ecological pyramids	01	7
4.	**ENVIRONMENTAL POLLUTION** Air, Water, Soil, Marine, Noise, Thermal, Solid waste	01	7
5.	**SOCIAL ISSUES AND THE ENVIRONMENT** Water conservation, climate change, global warming, Ozone layer depletion	01	7
Section II			
6.	**ENVIRONMENTAL STRESSES** Toxicity Vs. Hazards, Federal regulations, Respiratory hazards, Biological hazards, Chemical hazards, Physical hazards, Controls.	02	12
7.	**PHYSICAL WORK ENVIRONMENT: VIBRATION IMPACT ANALYSIS** Definition, Measurements and Standards, Regulations, Cause and Effects. Risks of Vibration, Preventive Strategies, Engineering and Administrative Controls.	01	7
8.	**HEAT** Temperature, Problems and symptoms caused by Hot Environment, Heat Stress index, Safety problems, Spectrum of heat illness, Ventilation standards, Preventive strategies and Controls.	02	13
9.	**ACOUSTICS** Unwanted noise, noise measurements and standards, regulations, cause and effects. Risks of noise, preventive strategies, engineering and administrative controls.	02	13
10.	**ILLUMINATION** Illumination Analysis in work environment, Recommended illumination levels, Glare, Contrast, Controls.	01	7
11.	**ENVIRONMENTAL SAFETY & MANAGEMENT:** Case Histories	02	13

Text Book:

Title	**Author/s**	**Publication**
Textbook of Environmental Studies	Erach Bharucha	Universities Press
Physical Work Environment (Occupational Ergonomics)	Tayyari and Smith	Springer
Industrial Safety Management	LM Deshmukh	Mc Graw Hill

Reference Book:

Title	Author/s	Publication
Introduction to Ergonomics	Robert Bridger	Taylor & Francis

Pedagogy:

The course will be delivered using lectures. The lectures consist of theory content along with application examples, case studies presentation and assignments.

P P Savani University

School of Physiotherapy

Course Code: SPPT 1060

Course Name: COMPUTER APPLICATION

Prerequisite Course/s: Nil

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
01	02	03	02	-	-	70	-	70	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description:

- To understand the basic Computer Applications.
- The usual lecture will be supplemented with supervised reading and problem sessions, online lessons, websites, and computer software aided learning.

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Learn computer operating systems and software.	**PO 1,2**
CO 2	Learn computer applications by demonstrating the appropriate use of a tool including Microsoft Word, Excel, and PowerPoint.	**PO 1,2**
CO 3	Apply the knowledge through Internet sources for Research and organizes Documentation.	**PO 1.2**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**INTRODUCTION TO COMPUTERS** Introduction and Characteristics, Generation, Classification, Applications of computers, Computer Organization, input & output devices, storage devices.	03	20
2.	**OPERATING SYSTEMS** Definition, Types, and functions of operating systems, Installation and utilities. Windows: Desktop, start-menu, control panel, accessories, my computer, my documents, recycle bin, printer and mouse settings, maximizing, minimizing, restoring and closing of windows, windows explorer	02	13
3.	**WORD PROCESSING TOOLS** Typing and Editing, Finding and Replacing, Autocorrect and Auto text, Reusing Text and Graphics, use of spell-check & grammar, thesaurus and scientific Symbols, viewing of document by various ways Editing Tools, Formatting Text Formatting Text Character, Formatting Paragraphs, Formatting and Sorting Lists, Page Design and Layout. Tools for Reports and Scholarly Papers: Generating Table of contents, Inserting Table of Figures, Generating the bibliography	04	27
4.	**SPREADSHEET TOOLS** Introduction to worksheet, Calculations in sheet, Library functions such as logarithm, square root, sum, average, drawing graphs in spreadsheet line graph, histogram, pie-chart-Editing chart features such as annotation, labeling of axis, changing legends.	03	20
5.	**NETWORKING, INTERNET, AND RESEARCH** Introduction to network and networking devices, Computer networks, networking technology, components of network. Internet – Basic terms, software and hardware requirement for internet, process of internetworking, internet tools. Email- components and working, Computer and Research.	03	20

List of Practical:

Sr No	Name of Practical	Hours
1.	Introduction to Computers- Components, OS, Windows Explorer	04
2.	Word Processing Exercises	06
3.	Spread sheets Exercises	10

4.	Presentation Exercises	06
5.	E-mail writing exercises	04

Text Book:

Title	Author/s	Publication
Fundamentals of Computers	V. Rajaraman	Prentice Hall of India

Reference Book:

Title	Author/s	Publication
Office 2010 All-In-One For Dummies	Peter Weverka	Wiley Publishing, Inc.

Pedagogy:

The course will be delivered using lectures & practical. The lectures consist of theory content along with practical in IT laboratory.

P P Savani University

Centre for Language Studies

Course Name: Linguistic Proficiency

Course Code: CFLS1010

Teaching Scheme & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
				Theory		Practical		Tutorial		
Theory	Practical	Tutorial	Credit	CE	ESE	CE	ESE	CE	ESE	Total
2	0	0	2	40	60	0	0	0	0	100

CE: Continuous Evaluation, ESE: End semester Exam

Course Objective: To help the learners to

CO	**Course Learning Outcomes:** The student will be able to
CO1	Identify the concept of LSRW skills in English to deal with people in common social and /or professional situations.
CO2	Infer and respond to instructions, paragraphs, articles, formal and informal communication on reading and listening
CO3	Choose and display the correct vocabulary, grammar and pronunciation related to general social/ business situations
CO4	Analyse and demonstrate effective spoken English in a business context
CO5	Organise the thoughts to write a cohesive paragraph and prepare a script to speak
CO6	Create to speak to participate in a discussion in a small group and write

Learning Outcome: By the end of the course students will be able to

No	**Learning Outcomes**
LO1	Understand the significance of LSRW approach of learning English

LO2	Read, listen to and infer messages, letters, etc. and respond appropriately
LO3	Developbasicvocabulary;uselanguageskillstogetnecessaryinformationfromvarious sources
LO4	Infer various social and business situations
LO5	Speak and write to basic level of comprehension

Course Content

Module	Content	Weightage
1	**Listening: Descriptors/Topics** Listening to the recording on various to pics and responding. The topics may be : Personal information, Travel information, foreign cultures, online lectures and documentaries. Students will be expected to demonstrate level of listening competence as outlined learning outcomes.	25%
2	**Reading and Language; Descriptors/Topics** Reading various online articles, short stories to develop content to present and discuss	25%
3	**Speaking Skills and Non-Verbal Aspects Descriptors/Topics** Speaking Skills, Interactive Nature of Communication - Formal and Informal, Public Speech, Discussion in Pair, Group Discussion, Telephonic Skills-Conversational Manners, Effective Use of Non- Verbal aspects	25%
4	**Writing: Descriptors/Topics** Formal and informal register, learning how to write a paragraph, essay and short speeches	25%

Text Books:

	Title	Author/s	Publication
1	New Cutting Edge Elementary/ Intermediate Students' Book	Sarah Cunningham and Peter Moor	Longman

Reference Books:

	Title	Author/s	Publication
1	New Cutting Edge Elementary/ Intermediate Students' Book	Sarah Cunningham and Peter Moor	Longman
	New Cutting Edge Elementary/Intermediate Teacher's Book		

Online References:

=>https://www.academia.edu/34869668/New_Cutting_Edge_Elementary_Workbook_With_Key

Contact Hour	Topic Title	Study/HW Resource Reference
1-8	Listening	T1, R1
9-16	Reading and language	T1, R1
17-23	Speaking and Non-Verbal	T1, R1
24-30	Writing	T1, R1

Course Evaluation:

System of Assessment	Weightage
Continuous Evaluation	40
End Semester Examination	60
Total	**100**

Continuous Assessment Components	Listening, Speaking, Reading, Writing	Total-40Marks (10marks each)
End Semester Examination	Listening, Speaking, Reading, Writing	Total–60Marks (15 marks each)

Syllabus Book

2nd Semester BPT
Physiotherapy

P P Savani University

School of Physiotherapy

Authored by: P P Savani University

P P SAVANI UNIVERSITY												
SCHOOL OF Physiotherapy												
TEACHING & EXAMINATION SCHEME FOR 2nd SEMESTER BPT												
Sem	**Course Code**	**Course Title**	**Offered By**	**Teaching Scheme**				**Examination Scheme**				
				Contact Hours			**Credit**	**Theory**		**Practical**		**Total**
				Theory	**Practical**	**Total**		**CE**	**ESE**	**CE**	**ESE**	
2	SPPT1071	HUMAN ANATOMY-II	Physiotherapy	06	02	08	07	30	70	30	70	200
	SPPT1081	HUMAN PHYSIOLOGY-II	Physiotherapy	06	02	08	07	30	70	30	70	200
	SPPT1091	EXERCISETHERAPY-II	Physiotherapy	04	04	08	06	30	70	30	70	200
	SPPT1100	SOCIOLOGY	Physiotherapy	04	-	04	04	15	35	-	-	50
	SPPT1110	BIOMEDICAL PHYSICS	Physiotherapy	04	-	04	04	15	35	-	-	50
	SPPT 1120	FIRST AID AND BASIC LIFE SUPPORT	Physiotherapy	02	-	02	02	-	-	-	-	50
	CFLS 1020	GLOBAL COMMUNICATION SKILLS	CFLS	02	0	02	02	50	-	20	30	100
					Total	**36**	**32**					**850**

CONTENT

Semester 2

P P Savani University

School of Physiotherapy

Course Code: SPPT1071

Course Name: HUMAN ANATOMY-II

Prerequisite Course/s: SPPT1010

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
06	02	08	07	30	70	30	70	200	

CE: Continuous Evaluation, ESE: End Semester Exam

Course description:

It is designed to provide students with the working knowledge of the structure of the human body which is essential foundation for their clinical studies. Studies are concerned with the topographical and functional anatomy of the head & spinal cord, neck and brain including surface anatomy. Particular attention is paid with reference to topics of importance to physiotherapists.

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Identify the key concepts of the structure and function of human anatomy.	**PO 1,2**
CO 2	Understand the topographical and functional anatomy of the head & spinal cord, neck and brain including surface anatomy.	**PO 1,2**
CO 3	Correlate clinical and applied anatomy with physical diagnosis and apply in clinical practice of physiotherapy.	**PO 2,3**
CO 4	Identify and describe regional anatomical aspects of muscle, bones & joints and analyse movements of, Thorax, Abdomen, pelvic, Endocrine glands, trunk Head, Neck & Face.	**PO 1,3**
CO 5	Identify and recall the organization of Nervous system including Brain, Spinal Cord and autonomic nervous system in detail from Pathological aspects.	**PO 2,3**
CO 6	Understand and identify the Cranial nerves, Peripheral nervous syste,m and central nervous system's anatomical aspec,ts and itsapplied anatomy.	**PO 2,3**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**REGIONAL ANATOMY** **Thorax:** a) Cardio – Vascular System: Mediastinum: Divisions and contents Pericardium: Thoracic Wall: position, shape and parts of the heart; conducting System; blood Supply and nerve supply of the heart, anatomy of arteries, veins, capillaries. b) Respiratory system: Outline of respiratory passages. Pleura and lungs: position, parts, relations, blood supply and nerve supply; Lungs – emphasize on Broncho-pulmonary segments. Diaphragm: Origin, insertion, nerve supply and action, openings in the diaphragm. Intercostal muscles and Accessory muscles of respiration: Origin, insertion, nerve supply and action. **Abdomen:** a) Peritoneum: Parietal peritoneum, visceral peritoneum, folds of peritoneum, functions of peritoneum. b) Location, size, shape, features, blood supply, nerve supply and functions of the following: c) Stomach, liver, spleen, pancreas, kidney, urinary bladder, intestines, gall bladder. **Pelvis:** Position, shape, size, features, blood supply and nerve supply of the male and female reproductive system. **Endocrine glands:** Position, shape, size, function, blood supply and nerve supply of the following glands: Hypothalamus and pituitary gland, thyroid glands, parathyroid glands, Adrenal glands, pancreatic islets, ovaries and testes, pineal glands, thymus. **Trunk & Pelvis:** 1. Osteology: Cervical, thoracic, lumbar, sacral and coccygeal vertebrae and ribs. 2. Soft tissue: Pre and Para vertebral muscles, intercostals muscles, anterior abdominal wall muscles, Inter-vertebral disc. 3. Pelvic girdle and muscles of the pelvic floor	30	33
2.	**HEAD AND NECK** 1. Osteology: Mandible and bones of the skull. 2. Soft parts: Muscles of the face and neck and their nerve and blood supply-extra ocular muscles, triangles of the neck, 3. Gross anatomy of eyeball, nose, ears and tongue (not for exam).	20	22
Section II			
3.	**NEURO ANATOMY** a) Organization of Nervous system including Brain, Spinal Cord and autonomic nervous system b) Neuron, Neuroglia c) Cranial nerves (Origin, Course, Function & Test) d) Peripheral nervous system e) Central Nervous System 1. Spinal segments and areas 2. Brain Stem	40	45

	3. Cerebellum 4. Thalamus 5. Hypothalamus 6. Corpus striatum & Internal Capsule 7. Cerebral hemisphere 8. Ventricles of brain 9. Blood supply to brain 10. Basal Ganglia 11. The pyramidal system 12. Anatomical integration		

List of Practical:

Sr No	Name of Practical	Hours
1.	Demonstration of the organs in a cadaver. Thorax including surface anatomy, abdominal muscles joints	10
2.	Surface making of the cranial nerves, spinal nerves and important blood vessels.	10
3.	Points of palpation of nerves and arteries.	10

Text Book:

Title	Author/s	Publication
Human Anatomy – Regional And Applied; Volume I, Volume II and Volume III.	B.D Chaurasia's	CBS Publishers

Reference Book:

Title	Author/s	Publication
Clinical Anatomy for Medical students	Richard Snell	Little Brown and Company Boston
Human Osteology.	InderbirSingh	JP Brothers
Essentials of Anatomy	InderbirSingh	JP Brothers
Gray's Anatomy	Henry Gray	Churchill Livingstone.
Principles of Anatomy & Physiology:	TORTORA	Harper & Row pub.
McMinn's color atlas of Human Anatomy	McMinn	Edinburgh : Mosby Elsevier
Cunningham manual of practical anatomy: Vol I, II, III	D. J. Cunningham; G J Romanes	Oxford University Press

Pedagogy:

The course will be delivered using lectures & practical. The lectures consist of theory content along with cadaver dissection.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

Practical

- Internal Assessment(30)
- Practical End Semester Examination will consist of 70 Marks Exam. i.e Spot(40), Viva(25), Journal (05).

P P Savani University

School of Physiotherapy

Course Code: SPPT1081

Course Name: HUMAN PHYSIOLOGY-II

Prerequisite Course/s: SPPT1020

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
06	02	08	07	30	70	30	70	200	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Recall and understand the normal physiology and functioning of special senses like vision, Audition, taste and smell.	**PO 1,2**
CO 2	Understand and describe normal physiological aspects and functions of nervous systems and its parts like cerebrum, spinal cord,cerebellum,brain stem, thalamus and hypothalamus, basal ganglia etc.	**PO 1,2**
CO 3	Discuss and explain the physiological aspects of posture, equilibrium, vestibular apparatus ,EEG ,CSF and ANS.	**PO 2,3**
CO 4	Learn the normal physiology and functioning of male & female reproductive function, pregnancy and contraception methods in Reproductive system of human body.	**PO 2,3**
CO 5	Recall the brief knowledge on endocrine and Gastrointestinal system and its normal physiology and functioning.	**PO 2,3**
CO 6	Discuss the basic Exercise physiology its interpret results of various pulmonary and cardiovascular functions.	**PO 2,6**
CO 7	Interpret and evaluate the applied physiology for various conditions related to musculoskeletal and nervous system pathologies in humane body.	**PO 2,3**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**SPECIAL SENSES** a) Vision: Introduction: Functional anatomy of eye ball. Functions of cornea, iris, pupil, aqueous humor – glaucoma, lens – cataract, vitreous humor, rods and cones. Photopic vision. Scotopic vision. b) Visual Pathway and the effects of lesions. c) Refractive Errors: Myopia, hypermetropia, presbyopia and astigmatism in brief. d) Visual Reflexes: Accommodation, direct and indirect reflexes. Light adaptation. Dark adaptation. Color vision, color blindness. e) Audition: Functions of external ear, middle ear and inner ear. Auditory pathway. Tests for hearing. f) Taste: Taste buds, gustatory pathway. g) Smell: Olfactory pathway.	12	13
2.	**NERVOUS SYSTEM** a) Introduction: Organisation of CNS – Central and Peripheral nervous system. Functions and properties of nervous system. b) Sensory Mechanism including Sensory receptors: function, classification and properties. Sensory pathway: The ascending tracts –their origin, course, termination and functions. The trigeminal pathway. Somatic sensations: include superficial;, Deep and Cortical Sensation. Types of Pain: mechanism & Gate control theory of pain. c) Motor Mechanism: Motor Cortex. Motor pathway: The descending tracts – origin, course, termination and functions. Upper motor neuron and lower motor neuron. d) Reflex Action: definition, types and properties of reflexes in brief. e) Introduction: Spinal cord Lesion, level of injury in brief. f) Brainstem: function of Pons, midbrain and medulla oblongata. g) Cerebellum: functional anatomy of cerebellum connection and their parts. h) Thalamus and Hypothalamus: Nuclei. Functions and connection. i) Reticular Formation, internal capsule and Limbic System: Components and Functions. j) Basal Ganglia: Structures included and functions. k) Cerebral Cortex: Lobes. Brodmann's areas and their functions. Higher functions of cerebral cortex – learning, memory and speech. l) Posture and Equilibrium: Postural reflexes – spinal, medullary, midbrain,cerebral reflexes and stretch	20	23

	reflexes. m) Vestibular apparatus: Function of vestibular apparatus. n) EEG: Waves and features in brief. Sleep: REM and NREM sleep. o) CSF: Formation, composition, circulation and functions. Lumbar puncture and its significance. Blood brain barrier. p) ANS: Features and actions of parasympathetic and sympathetic nervous system.		
3.	**REPRODUCTIVE SYSTEM** a) Introduction: Physiological anatomy, reproductive organs. Sex determination and Sex differentiation. b) Male Reproductive System: Functions of testes. Pubertal changes in males. Spermatogenesis. Testosterone: action. Regulation of secretion. Seminal vesicles, seman. c) Female Reproductive System: Functions of ovaries and uterus. Pubertal changes in females. Oogenesis. Hormones: oestrogen and progesterone-action. Regulation and function of secretion. Mentrual Cycle: Phases. Ovarian cycle. Uterine cycle. ovulation. Menarche. Menopause. Pregnancy: Pregnancy tests. Physiological changes during pregnancy. Functions of placenta. Lactation. Contraception methods	10	10
	Section II		
4.	**ENDOCRINE SYSTEM** a) Introduction: Major endocrine glands. Hormone: classification, mechanism of action. Functions of hormones b) Pituitary Gland: Anterior Pituitary and Posterior Pituitary hormones: action, regulation of secretion of each hormone. Physiology of growth and development. c) Thyroid Gland: Thyroid hormone and calcitonin: secretory cells, action, function and regulation of secretion. d) Parathyroid hormones: action, function and regulation of secretion. e) Adrenal Gland: Adrenal Cortex: Secretory cells, synthesis, action, regulation of secretion of Aldosterone, Cortisol, And Androgens. Adrenal Medulla: Secretory cells, action, regulation of secretion of adrenaline and noradrenaline. f) Endocrine Pancreas: Secretory cells, action, regulation of secretion of insulin. Glucose metabolism and its regulation. g) Calcitrol, Thymus and Pineal gland in brief. h) Local Hormones in brief.	10	10
5.	**DIGESTIVE SYSTEM(in brief)** a) Introduction: Physiological anatomy and nerve supply of alimentary canal. Enteric nervous system b) Salivary Secretion: Saliva: Functions. Regulation.	08	9

	Mastication (in brief) c) Swallowing: Definition. Different stages. Functions. d) Stomach: Functions. Gastric juice: function. Gastrin: function. Gastric motility. Gastric emptying. Vomiting. e) Pancreatic Secretion: production, function. Regulation. f) Liver: Functions of liver. Bile secretion: functions and regulation. Gall bladder: Functions. g) Intestine: Succusentericus: function and regulation of secretion. Intestinal motility and its function. h) Mechanism of Defecation.		
6.	**PHYSIOLOGY OF EXERCISE** Effects of exercise on: 1) Hormonal and metabolic effect 2) Cardiovascular system 3) Respiratory system b) Physiology of Aging. 4) Muscle strength/power/endurance 5) Neuro-musculoskeletal system 6) Effect of gravity/ Altitude/ pressure on physical parameters.	12	14
7.	**APPLIED PHYSIOLOGY** More detailed study of the physiology and practical applications of the following selected topics with emphasis on aspects, which should help in understanding the nature and treatment of common clinical situations of interest in Physiotherapy. **MUSCLES AND NERVOUS SYSTEM FUNCTIONS** 1. Hypotonicity, hypertonicity, myotonia, myasthenia gravis. 2. Pathological reflexes. UMN & LMN disease. 3. Spinal cord disorder: syringomyelia, tabesdorsalis and etc. 4. Ataxia, involuntary movements, involuntary movements. 5. Cerebellar disorders. 6. Parkinson's disease, Wilson's disease. 7. Special senses disease- Vision, taste, hearing, vestibular, Olfaction	8	9
8.	**PULMONARY FUNCTIONS** 1. Brief introduction of respiratory disease including obstructive and restrictive. 2. Disorders of Respiration: Dyspnoea. Orthopnoea. Hyperpnoea, hyperventilation, apnoea, tachypnoea. 3. Artificial respiration 4. Breath sounds.	05	6
9.	**CARDIO VASCULAR FUNCTIONS** 1. Arrhythmia. 2. Hypertension, hypotension. 3. Myocardial infarction, angina pectoris.. 4. PDA. Varicose vein.	05	6

List of Practical:

Sr No	Name of Practical/Tutorial	Hours
1.	Graphs : i. Skeletal muscle-properties ii. ECG: definition, different types of leads, waves	13
2.	Mosso's finger ergography	02
3.	CLINICAL EXAMINATION Respi/cvs/nervous system including higher functions, reflexes, motor & sensory System.	15

Text Book:

Title	Author/s	Publication
Essentials of Medical Physiology	Sembulingam	Jaypee Brothers
Text book of Medical Physiology	John E Hall; Arthur C Guyton	Saunders/Elsevier

Reference Book:

Title	Author/s	Publication
Concise Medical physiology	Sujit K. Chaudhuri	New Central Book Agency
Human Physiology	C.C. Chatterjee	CBS Publishers & Distributors
Text of Physiology	A. K. Jain	Avichal
Exercise Physiology	McArdle, Katch&Katch	Lippincott Williams & Wilkins
Review of Medical Physiology	William Francis Ganong	Lange Medical Books
Physiological basis of Medical practice	Best, Taylor and West	Williams & Wilkins
Principles of Anatomy & Physiology	TORTORA	Harper & Row pub.

Pedagogy:

The course will be delivered using lectures & practical. The lectures consist of theory content along with application examples. During the practical, the students will have to complete the experimental verification of the theory content in the physiology laboratory.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

Practical

- Internal Assessment (30) Practical End Semester Examination will consist of 70 Marks Exam. i.e Practical (30)Spot (20) Viva (15) Journal (05).

P P Savani University

School of Physiotherapy

Course Code: SPPT1091

Course Name: EXERCISETHERAPY-II

Prerequisite Course/s: SPPT1030

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
04	04	08	06	30	70	30	70	200	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description:

- In this course, the students will learn the basic principles and effects of exercise as a therapeutic modality and will learn the techniques in the restoration of physical functions.
- Code of conduct and safe practice in the use of all included techniques.

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Comprehend biomechanical principles and appropriate uses of Starting and derived position necessary in Physiotherapy clinical practice.	**PO2,3,12**
CO 2	Learn and demonstrate various exercise therapeutic techniques like Active movement and passive movement on healthy subjects.	**PO2,3,10**
CO 3	Identify and apply the knowledge of joint mobility and Goniometry on healthy individual with appropriate understanding.	**PO 2,10**
CO 4	Understand and identify the causes for trick movements and apply the thorough knowledge on suspension tools for suspension therapy.	**PO 2,3,10**
CO 5	Apply the knowledge of strength testing and its application for re-education in the patient population.	**PO 2,10**
CO 6	Conduct and evaluate Gait analysis, training with various ambulatory devices/walking aid used in physiotherapy practices.	**PO 2,10,11**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**STARTING AND DERIVED POSITIONS** All fundamental and derived positions with effect, uses and muscle work.	06	10
2.	**ACTIVE MOVEMENTS** a) Free exercise-Definition, classification, principles, technique, indication, contraindication, effects and uses. b) Active assisted exercise: definition, principles, technique, indication, contraindication, effects and uses. c) Assisted- resisted exercise: definition, principles, technique, indication, contraindication, effects and uses. d) Resisted exercise: Definition, classification, principles, technique, indication, contraindication, effects and uses. Difference of manual and mechanical resistance, Specific regimes- delormes, oxford, circuit weight training, Types of isometrics.	06	10
3.	**PASSIVE MOVEMENTS** Definition, Classification, Principles& Techniques, Indication, Effects and Uses.	04	7
4.	**JOINT MOBILITY** Classification of Joints, Position of Joints- Resting position, Closed packed position, Limitation/Restriction of the Range of Joint Movement, Effect of Joint Immobilization,Prevention of Joint Stiffness, Mobilizing methods.	05	8
5.	**GONIOMETRY** Definition, uses, R.O.M.- 0-180 ,180-0, 0- 360 system, active R.O.M., passive R.O.M., Types of Goniometer, principles, techniques, limitations, Technique of measurement for all peripheral joints, spine, causes of restriction of motion, normal and abnormal end feel, distinguish between Skin, Muscle and capsular contractures.	10	17
Section II			
6.	**TRICK MOVEMENTS AND ITS TYPES**	02	3
7.	**SUSPENSION THERAPY** Definition, point of suspension, types, uses for increase joint R.O.M. and muscle power in upper limb and lower limb, indication, contraindication, limitations and benefits.	06	10
8.	**MUSCLE STRENGTH**- Causes of Muscle weakness/paralysis, Prevention of muscle weakness/paralysis, Types of muscle works and muscle contractions, Range of muscle work, Principles of Muscle Strengthening/Re-education,Early re-education of paralysed muscle	06	10
9.	**GAIT**- Definition, normal gait analysis, Limb length measurement, Anthropometric measurements, Pelvic tilt.	08	13
10.	**AMBULATORY DEVICES/WALKING AIDS** Types – crutches, canes & frames, measurement of	07	12

	different devices, uses.), uses of parallel bar in pre crutch training phase, Gait training with the help of different types of ambulatory assistive devices, progression, group of muscle responsible, Walking on even surface, slope, climbing up and down stairs.		

List of Practical:

Sr No	Name of Practical/Tutorial	Hours
1.	Techniques of application of Goniometry	12
2.	Techniques of application of Suspension Therapy	08
3.	Passive movements / Limb length / Girth Measurement / Posture / Group Exercises / Chest Expansion/ Starting OR Derived position etc.	20
4.	Gait analysis, training and Walking Aids	10
5.	Application of Yogasanas and Pranayama in Physical fitness, Flexibility, Posture, Cardio-Respiratory Rehabilitation and Relaxation	10

Text Book:

Title	Author/s	Publication
Principles of exercise therapy	Dena Gardiner	i)Bell & Hyman ii) CBS Pub. & Distributors
Practical exercise therapy	Margaret Hollis	Blackwell Science
Measurement of Joint Motion : A Guide to Goniometry	Cynthia Norkin& Joyce White	F.A. Davis
Yoga for Health & Peace	SadashivNimbalkar	Yoga VidyaNiketan

Reference Book:

Title	Author/s	Publication
Therapeutic exercise	Carolyn Kisner and Colby	F.A. Davis
Daniels and Worthingham's Muscle Testing: Techniques of Manual Examination and Performance Testing	Hislop , Avers and Brown	Saunders
Physical Rehabilitation	Susan B. O'Sullivan	F.A. Davis
Physiotherapy in Orthopaedic conditions	Jayant Joshi and Kotwal	Elsevier

Pedagogy:

The course will be delivered using lectures & practical. The lectures consist of theory content along with application examples. During the practical, the students will be trained with clinical skills.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

Practical

- Internal Assessment(30)
- Practical End Semester Examination will consist of 70 Marks Exam. i.e Long case(40) , Short case (15) Viva(10) Journal (05)

P P Savani University

School of Physiotherapy

Course Code: SPPT1100

Course Name: SOCIOLOGY

Prerequisite Course/s: Nil

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)				
Theory	Practical	Total	Credit	Theory		Practical		Total
				CE	ESE	CE	ESE	
04	-	04	04	15	35	-	-	50

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description:

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Define, Describe and apply the scientific method to sociology, and explain concepts of sociology.	**PO 1,2**
CO 2	Explain the sociological imagination and the relationship between the individual and the broader works of society.	**PO 1,2**
CO 3	To study the social causes and consequences of health and illness, including the social determinants of health and disease.	**PO 1,2**
CO 4	To know the social behaviour of patients and health care providers, the social functions of health organizations and institutions.	**PO 1,2**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**INTRODUCTION** a) Meaning- Definition and scope of sociology b) Its relation to Anthropology, Psychology, Social Psychology. c) Methods of Sociological investigations- Case study, social survey, questionnaire, Interview and opinion poll methods. d) Importance of its study with special reference to Health Care Professionals.	04	7
2.	**SOCIAL FACTORS IN HEALTH AND DISEASE SITUATIONS** a) Meaning of social factors	04	7

	b) Role of social factors in health and illness		
3.	**SOCIALIZATION** a) Meaning and nature of socialization b) Primary, Secondary and Anticipatory socialization. c) Agencies of socialization	04	7
4.	**SOCIAL GROUPS** Concepts of social groups, influence of formal and informal groups on health and sickness. The role of primary groups and secondary groups in the hospital and rehabilitation setup.	05	8
5.	**FAMILY** a) The family, meaning and definitions. b) Functions of types of family c) Changing family patterns d) Influence of family on the individuals health, family and nutrition, the effects of sickness in the family and psychosomatic disease and their importance to physiotherapy.	06	10
6.	**COMMUNITY** a) Rural community: Meaning and features –Health hazards of ruralities, health hazards to tribal community. b) Urban community: Meaning and features- Health hazards of urbanities.	04	7
Section II			
7.	**CULTURE AND HEALTH** a) Concept of Health b) Concept of Culture c) Culture and Health d) Culture and Health Disorders	06	10
8.	**SOCIAL CHANGE** a) Meaning of social change. b) Factors of social change. c) Human adaptation and social change d) Social change and stress. e) Social change and deviance. f) Social change and health programme g) The role of social planning in the improvement of health and rehabilitation.	08	13
9.	**SOCIAL PROBLEMS** Consequences of the following social problems & remedies to prevent these problems: a) Population explosion b) Poverty and unemployment c) Beggary d) Juvenile delinquency e) Prostitution f) Alcoholism g) Problems of women in employment h) Geriatric problems (Old age Problem) i) Problems of underprivileged.	10	16%
10.	**SOCIAL SECURITY** Social security and social legislation in relation to the disabled.	05	8

11.	**SOCIAL WORKER** a) Meaning of Social Work b) The role of a Medical Social Worker	04	7

Text Book:

Title	**Author/s**	**Publication**
Sociology for Physiotherapists	Bid D	Jaypee Brothers

Reference Book:

Title	**Author/s**	**Publication**
Introduction to the study of Sociology	Sachdeva and VidhyaBhushan	Newage
Textbook of Preventive & Social Medicine	K. Parks	BanarsidasBhanot Publishers
Textbook of Preventive & Social Medicine	P.K. Mahajan& M.C. Gupta	Jaypee Brothers

Pedagogy:

The course will be delivered using lectures. The lectures consist of theory content along with application examples.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of one Test of 15 Marks
- End Semester Examination will consist of 35 Marks Exam.

P P Savani University

School of Physiotherapy

Course Code: SPPT1110

Course Name: BIOMEDICAL PHYSICS

Prerequisite Course/s: Nil

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
04	-	04	04	15	35	-	-	50	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Understand the fundamentals of general physics and be able to relate its application in Physiotherapy Practice.	**PO 1,2**
CO 2	Recall the basic physical principles of sound, light and heat and their application in Physiotherapy,	**PO 1,8**
CO 3	Discuss basic aspects of electricity and electronics as related to its application in electrotherapy instruments	**PO 1,2**
CO 4	Identify the certain common electrical components such as capacitors, transformers, valves and transistors.	**PO 1,2**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**GENERAL PHYSICS AND PROPERTIES OF MATTER** a) Force: Definition, unit, resolution of forces, Newton's law of motion, types of motion, force of gravity and centre of gravity, reaction forces, equilibrium, determination of equilibrium of body, work, power, energy, torque. b) Friction: Force of friction, laws of static and dynamic friction, limits of friction, friction a necessity and evil. c) Simple machines: Definition, principle of work, mechanical advantage, velocity ratio and efficiency, lever, pulley and three	10	16

	systems of pulley, wheel and axel. d) Fluid Mechanics and Hydrodynamics: Physical properties of water, Viscosity, definition and co-efficient of viscosity, stream line and turbulent flow, effect of temperature and pressure on viscosity, surface tension, buoyancy, principle of Archimedes, laws of floatation, hydrostatic pressure. e) Elasticity: Definition		
2.	**HEAT** a) Heat transfer, emissive and absorptive power-properties of thermal radiation of a perfectly black body, Kirchoff's law. b) Specific heat, thermal capacity, water equivalent, Newton's law of cooling and specific heat by cooling specific heat of gases, Joule's law of heat production. c) Energy conservation, 1 and 2 laws of thermodynamics. d) Grothus' law. e) Physical effects of heat-expansion, evaporation, thermionic emission etc., concept of heat and temperature, measurement of heat thermometry. f) Human body temperature and its measurement. g) Biophysics of superficial heat and cold.	10	16
3.	**SOUND** a) Origin of sound, Definition-Wavelength, frequency, amplitude, time period, vibration, phases, relation between frequency and wavelength. b) Newton's formula for velocity of sound. c) Lap lace's correction d) Effect of temperature, pressure density of media, humidity and wind, loudness, pitch. e) Interference of sound waves, velocity of sound in water, resonance and velocity of sound in air by resonance method, f) Doppler Effect, echo. g) Ultrasonic – Production and its application, recording and reproduction of sound.	10	16
	Section II		
Module	Content	Hours	Weightage in %
4.	**LIGHT** a) Absorptions and emission spectra, classification of emission spectra sole spectrum and Fraunhofer lines. b) Electromagnetic spectrum-infrared and UV spectrum c) Laws of transmission, reflection, refraction, absorption, interference of light d) LASER and its application, fiber optics	08	14
5.	**ELECTRICITY** a) Conductors and insulators, fundamentals of electricity. b) Different types of capacitors, biological cell as a capacitor. c) Principal laws of electricity-Ohm's law, variable, rheostat and potentiometer. d) Effect of electric current, thermal, chemical and magnetic .	08	14

	e) Electromagnetic induction – mutual – Lenz's law, Faraday's law, Fleming's right hand rule, self-induction, mutual induction, induction coil, induction of EMF in a coil, rotating within the magnetic field, Eddy currents. f) Transformer step up – step down, long distance transmission. g) Production of electricity and mains supply, measurement of AC/DC, modified current, millimeter, voltmeter		
6.	**MODERN PHYSICS** a) Structure of atom (Bohr model) b) X-rays – Production, properties and application. c) IR rays and UV rays – Short wave and microwave diathermy. d) Electric shock – Causes and prevention e) Therapeutic currents –Impulses, definition and types, pulseduration and depletion times. f) Galvanic current, Faradic currents, Surging current, exponentially progressive current, biphasic current. g) Types of electrodes of elector diagnostic and therapeutic application.	07	12
7.	**ELECTRONICS** a) Thermionic valves, semiconductor, diode characteristics, diode as rectifier, Zener diode single stage transistor, advantage of semiconductor over thermionic valves. b) Rectifier, transistors, photo diode, light dependent resistors, light emitting diodes, integrated circuits. c) Amplifier – Production of high frequency currents (microwave) by Klystron magnetron, amplifier C.R.O., triode as amplifier and oscillator, thyratron. d) Electronic circuit – Oscillating circuit, production of shaped pulses, amplification of electrical pulses.	07	12

Text Book:

Title	**Author/s**	**Publication**
Electrotherapy Physical Principles Explained	Low & Reed	Elsevier

Reference Book:

Title	**Author/s**	**Publication**
Fundamentals of Physics	Halliday, Resnick and Walker	Wiley
Principal of Electronics	Mehta and Mehta	S. Chand
Biophysics: An Introduction	Roland Glaser	Springer

Pedagogy:

The course will be delivered using lectures. The lectures consist of theory content along with application examples.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of one Test of 15 Marks
- End Semester Examination will consist of 35 Marks Exam.

P P Savani University

School of Physiotherapy

Course Code: SPPT 1120

Course Name: FIRST AID AND BASIC LIFE SUPPORT

Prerequisite Course/s: Nil

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)				
Theory	Practical	Total	Credit	Theory		Practical		Total
				CE	ESE	CE	ESE	
02		02	02	-	-	-	-	-

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Understand the basic guidelines and directional procedures to basic life support.	**PO 2,6**
CO 2	Understand the importance of basic life support in the health care system.	**PO 6**
CO 3	Learn the applied aspect of the subject for physiotherapy practice.	**PO 2,3,10**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**INTRODUCTION TO BASIC LIFE SUPPORT** Scope and need of Basic Life Support	02	7
2.	**HEALTH AND HYGIENE SKILLS** Diseases prevention and control - e.g. hand wash, face mask, self-care, etc…Procedures for self, patients, relatives and medical staff. Decontamination of patient and the environment Patient isolation and staff protection, etc.	02	7
3.	**LIFE SUPPORT SYSTEM** Examination of Vital Signs, Level of Conciseness, Glasgow Coma Scale (GCS)	02	7
4.	**AIRWAY, BREATHING AND VENTILATION ASSESSMENT SKILLS** Instrumentation used in Emergency kit – demonstration Monitoring system - Interpretation of blood gas analysis (ABG), pulse oximetry, capnography, etc. Oxygen therapy – mode of delivery Non-invasive ventilation techniques, etc.	02	7
5.	**CARDIOVASCULAR EMERGENCIES – CARDIO**	02	7

	PULMONARY RESUSCITATION (CPR) Indication of CPR and CPR skills Cardio-pulmonary resuscitation procedures in a timely and effective manner according to the current ILCOR guidelines for adults and children, etc.		
6.	**MUSCULO-SKELETAL INJURIES** 1. Definition: Types of fractures of various parts of the body. 2. Causes, Signs and Symptoms - Rules of treatment 3. Emergency measures in dislocation of joints 4. Emergency treatment of muscle injuries, RICE	02	7
7.	**FIRST AID IN INJURIES, TRAUMA** Cleaning, Dressing, dry and wet dressing for injured areas e.g. cut, open wound, contusion injuries, Antiseptic and antibacterial treatment – external, e.g. betadine, hydrochloride. First line of action. Immobilization, Support, Bandaging - For injured components Immobilization of joint, fracture areas, neck, spine with available material, etc.	02	7
	Section II		
8.	**POSITIONING AND TRANSFERRING PATIENTS** Bed making, fowlers bed and its utility, Positioning of patient, Lifting technique in bed, Transferring from bed to wheel chair, bed to Stretcher, Feeding, tube feeding, drips, transfusion, etc.	02	7
9.	**TEMPERATURE MEASUREMENT PROCEDURES AND BASIC TECHNIQUES OF MANAGEMENT** Measuring and monitoring of body temperature, Cooling techniques (evaporative cooling, ice water or slush immersion) Warming techniques, Treatment and prevention of hyper- and hypothermia in brief, etc.	02	5
10.	**COMMON EMERGENCY AND PREVENTIVE CARE** Burns, shock, Drowning, fire, road traffic accidents (RTA), bleeding, etc. (Do and don't)	02	7
11.	**EMERGENCY MANAGEMENT FOR COMMON COMPLAINTS** 1. Dyspnoea, Headache, Vomiting 2. Pain in arms, legs, Palpitations, cramps, 3. Seizures in adults and children, Syncope	02	7
12.	**POISONING** 1. Classification (irritants, acid, alkali, narcotics), Signs 2. Symptoms, emergency treatment	02	6
13.	**DISASTER MANAGEMENT** Types of Disasters – medical preparedness, Medical preparedness in disaster management, Disaster response, Mass gatherings, etc.	02	5
14.	**BASIC LIFE SUPPORT IN SPORTS AND SPORTS INJURIES**	02	7

15.	**COMMUNITY RESOURCES INCLUDING PRIMARY HEALTH CARE SERVICES** 1. Rural and urban community centers (epidemic and non-epidemic conditions)2. E.g. Civil hospital, PHC, CHC, etc. 3. Police Assistance, Voluntary agencies (local, National, International) 4. Ambulance services (Functions)	02	7

Text Book:

Title	**Author/s**	**Publication**
First aid in emergency	St John Ambulance, St Andrew's Ambulance Association, The British Red Cross Society	Dorling Kindersley Publishers
Physiotherapy for Burns and Plastic Reconstruction of the Hand.	Nicole Glassey	Wiley

Reference Book:

Title	**Author/s**	**Publication**
Surgical and Medical Procedures for Nurses and Paramedical staff.	P. Nathan	Jaypee Publications
First aid and management of general injuries and common ailments.	Gupta and Gupta	Jaypee Publication

Pedagogy:

The course will be delivered using lectures. The lectures consist of theory content along with application examples.

P P Savani University

Centre for Language Studies

Course Name: Global Communication

Course Code: CFLS1020

Teaching Scheme & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
				Theory		Practical		Tutorial		
Theory	Practical	Tutorial	Credit	CE	ESE	CE	ESE	CE	ESE	Total
2	0	0	2	40	60	0	0	0	0	100

CE: Continuous Evaluation, ESE: End semester Exam

Course Objective: To help the learners to

No	Course Objectives
CO1	Recognize the concept of LSRW skills in English to deal with people in business situations, increase their knowledge of key business concepts world wide
CO2	Read and understand paragraph, articles, formal and in formal correspondence and hear and understand the instruction sin business situation, comprehend and respond.
CO3	Identify and repair the voids in his present vocabular, grammar usage and pronunciat iontar getting those specific arrays of words which create a barrier in his thought related to general business situations.
CO4	Analyse and demonstrate effective spoken English in a business context
CO5	Enabling the learner to achieve adequate linguistic skills to help them compete international certification tests of English such has BEC ,IELTS and TOEFL
CO6	I m part the correct practices of the strategies of Effective Business writing with anemphasison clarity and brevity, with correct usage of all forms of grammar and vocabulary

Learning Outcome: By the end of the course students will be able to

No	Learning Outcomes
LO1	Recognise and get familiar with the significance of LSRW approach of learning English
LO2	Read, listen to and understand messages, letters, etc. and to respond appropriately, to make summary to use lexical, grammar and grammatical resources.
LO3	Developandapplybusinessvocabulary;essentialeconomicandbusinessinformation; use language skills to get necessary inform action from various sources
LO4	Infer various social and business situations and speak/ write efficiently.
LO5	Participate and perform in BEC, IELTS, TOEFL and placement activities.

Course Content

Module	Content	Weightage
1	**Listening: Descriptors/Topics** Listening to the recording on various to pics and responding. The topics may be: Personal information, Travel information, Work information, Business transactions, Instructions, Arrangements etc. Students will be expected to demonstrate level of listening competence as outlined learning outcomes.	25%
2	**Reading and Language: Descriptors/Topics** Reading various business texts, cases, articles, letters etc. and developing content to present and discuss	25%
3	**Speaking Skills and Non-Verbal Aspects Descriptors/Topics** Speaking Skills, Interactive Nature of Communication - Formal and Informal, Public Speech, Discussion in Pair, Group Discussion, Telephonic Skills-Conversational Manners, Effective Use of Non-Verbal Aspects	25%
4	**Writing Descriptors/Topics** formal and informal register, learning how to write a	25%

	paragraph, formal e-mail, various letters.	

Text Books:

	Title	Author/s	Publication
1	Business Benchmark Pre-intermediate - Intermediate Student's Book	NormanWhitby	Cambridge University Press.

Reference Books:

	Title	Author/s	Publication
1	Business Benchmark Pre-intermediate - Intermediate Teacher's Book	Norman Whit by & Patricia Sanders	Cambridge University Press.

Online References:

https://www.academia.edu/35657288/Business_Benchmark_Pre_Intermediate_to_Intermediate_CAMBRIDGE_Answers_Copy

Contact Hour	Topic Title	Study/HW Resource Reference
1-8	Listening	T1, R1
9-16	Reading and language	T1, R1
17-23	Speaking and Non-Verbal	T1, R1
24-30	Writing	T1, R1

Course Evaluation:

System of Assessment	**Weightage**
Continuous Evaluation	40
End Semester Examination	60
Total	**100**

Continuous Assessment Components	Listening, Speaking, Reading, Writing	**Total-40 Marks (10 marks each)**
End Semester Examination	Listening, Speaking, Reading, Writing	**Total-60 Marks (15 marks each)**

Syllabus Book

3rd Semester

BPT Physiotherapy

P P Savani University

School of Physiotherapy

Authored by: P P Savani University

P P SAVANI UNIVERSITY

SCHOOL OF PHYSIOTHERAPY

TEACHING & EXAMINATION SCHEME FOR 3rd SEMESTER BPT

Sem	Course Code	Course Title	Offered By	Teaching Scheme				Examination Scheme				
				Contact Hours			Credit	Theory		Practical		Total
				Theory	Practical	Total		CE	ESE	CE	ESE	
3	SPPT2012	EXERCISE THERAPY-III	Physiotherapy	04	04	08	06	30	70	30	70	200
	SPPT2020	ELECTROTHRAPY –I	Physiotherapy	04	04	08	06	30	70	30	70	200
	SPPT2040	BIOCHEMISTRY	Physiotherapy	03	-	03	03	15	35	-	-	50
	SPPT2050	PHARMACOLOGY	Physiotherapy	03	-	03	03	15	35	-	-	50
	SPPT2070	PATHOLOGY	Physiotherapy	04	-	04	04	30	70	-	-	100
	SPPT2080	MICROBIOLOGY	Physiotherapy	02	-	02	02	15	35	-	-	50
	SPPT2060	CLINICAL TRAINING	Physiotherapy	00	04	04	02	00	00	50	-	50
	SEPD3040	IPDC-1	SEPD	02	00	02	01	40	60	-	-	100
	CFLS 3030	FOREIGN LANGUAGE (FRENCH)	CFLS	02		02	00	40	60			100
					Total	**36**	**27**					**900**

CONTENT

Semester 3

P P Savani University

School of Physiotherapy

Course Code: SPPT2012

Course Name: EXERCISE THERAPY-III

Prerequisite Course/s: SPPT1030, SPPT1091

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)				
Theory	Practical	Total	Credit	Theory		Practical		Total
				CE	ESE	CE	ESE	
04	04	08	06	30	70	30	70	200

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Describe passive and resisted movements with its types and different exercise regimen with demonstration.	**PO 1,2,3,10**
CO 2	Discuss principles, aims, indications and limitations of various methods of testing.	**PO 2,10**
CO 3	Identify indications and contraindications for manual therapy approaches related to limb/spine and differentiate between different schools of thoughts in manual therapy.	**PO 2,10**
CO 4	Demonstrate various techniques of stretching and proprioceptive neuromuscular facilitation (PNF) with proper guidelines for application and interventions.	**PO 2,10,12**
CO 5	Introduce various techniques of MFR, PRT and neurodynamic and describe the physiological effect, therapeutic use, merits/demerits of same.	**PO 10,12**
CO 6	Recall the basic principles of physics and understand the application of exercise intervention using aquatic environment.	**PO 1,2**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**PASSIVE MOVEMENTS** Causes of immobility, Specific definitions related to passive movements, Principles and Techniques of giving passive movements.	04	7
2.	**RESISTED MOVEMENTS** Definition of strength, power & work, endurance, muscle actions. Physiology of muscle performance: structure of skeletal muscle, chemical & mechanical events during contraction &relaxation, muscle fiber type, motor unit, force gradation. Causes of decreased muscle performance. Physiologic adaptation to training: Strength & Power, Endurance. Types of resisted exercises: Manual and Mechanical resistance exercise, Isometric exercise, Dynamic exercise: Concentric and Eccentric, Dynamic exercise: Constant versus variable resistance, Isokinetic exercise, Open-Chain and Closed-Chain exercise. Specific exercise regimens, Isotonic: De Lorme's, Oxford, Mac Queen, Circuit weight training, Isometric: BRIME (Brief Resisted Isometric Exercise), Multiple Angle Isometrics, Isokinetic regimens, Plyometrics.	10	16
3.	**METHODS OF TESTING** a) Functional tests b) Tests for neuromuscular efficiency Manual Muscle Testing: Introduction to MMT, Principles & Aims, Indications & Limitations, Techniques of MMT for group & individual muscles : Techniques of MMT for upper limb / Techniques of MMT for lower limb / Techniques of MMT for spine Anthropometric Measurements: Muscle girth – biceps, triceps, forearm, quadriceps, calf c) Measurement of Limb Length: true limb length, apparent limb length, segmental limb length	11	18

Section II			
4.	**MANUAL THERAPY: SPINAL & PERIPHERAL JOINT MOBILIZATION and MANIPULATION** Definitions of terms: Mobilization/Manipulation ,Self mobilization, Mobilization with movement, Physiological and Accessory movements, Schools of Manual Therapy, Principles, Grades, Indications and limitations , Contraindications and precautions, Effects and Uses , Procedure for applying Passive joint techniques, Maitland, Kaltenborn, Biomechanical basis for mobilization, Effects of joint mobilization, Principles of mobilization, Mobilization with movement, Techniques of Vertebral and Peripheral Joint mobilizations.	09	16
5.	**STRETCHING** Definition of terms related to stretching; Properties of contractile and Non- contractile soft tissues, Tissue response towards immobilization and elongation, Determinants and types of stretching exercise including PNF Stretching, Guidelines for application of stretching, Adjuncts to stretching interventions, Precautions and contraindications of stretching, Various Techniques of stretching.	08	13
6.	**PROPRIOCEPTIVE NEUROMUSCULAR FACILITATION** Definitions & goals, Basic neurophysiologic principles and techniques of PNF: Muscular activity, Diagonals patterns of movement: upper limb, lower limb, Procedure: components of PNF, Techniques of facilitation, Mobility: Contract relax, Hold relax, Rhythmic initiation, Strengthening: Slow reversals, repeated contractions, timing for emphasis, Stability: Alternating isometric, rhythmic stabilizations, Skill: timing for emphasis, resisted progression, Endurance: slow reversals, agonist reversal.	08	13
7.	**AQUATIC EXERCISE THERAPY/HYDROTHERAPY:** Goals and outcomes of aquatic exercise, Physics of aquatic Exercise and Thermodynamics, Special Equipment's, Exercise applications, Techniques of aquatic exercises, Approach to patient's problems , Planning and Progression, Contraindications and precautions,	04	7

	Exercise Intervention Using an aquatic Environment.		
8.	**INTRODUCTION TO ADVANCED TECHNIQUES** **Myofascial Release, Positional Release Techniqes and Neuro Dynamics**	06	10

List of Practical:

Sr No	Name of Practical/Tutorial	Hours
1.	Demonstrate to apply the techniques of Active and Passive movements	05
2.	Demonstrate Manual Muscle Testing	10
3.	Demonstrate the techniques for muscle strengthening based on MMT grading	05
4.	Demonstrate techniques of strengthening muscles using resisted exercises	08
5.	Demonstrate Mobilization of individual joint regions	12
6.	Demonstrate the techniques for muscle stretching in Anatomical planes of Motion	10
7.	Demonstrate the PNF techniques	10

Text Book:

Title	Author/s	Publication
Therapeutic Exercises, 7th edition	Carolyn Kisner and Colby	F.A. Davis
Practical exercise therapy	Margaret Hollis	Blackwell Science
Principles of Exercise Therapy	Dena Gardiner	i) Bell &Hyman ii) CBS Pub. &Distributors
Daniels and Worthingham's Muscle Testing: Techniques of Manual Examination and Performance Testing	Hislop , Avers and Brown	Saunders

Reference Book:

Title	Author/s	Publication
Proprioceptive Neuromuscular Facilitation: Patterns and Techniques	Knott, Voss & Myers	Lippincott Williams and Wilkins
PNF in Practice: An Illustrated Guide	Susan S. Adler , Math Buck, DominiekBeckers	Springer
New Directions in Progressive Relaxation Training: A Guidebook for Helping Professionals	Bernstein, Borkovec, Stevens	Praeger Publishers
Therapeutic Exercise: Moving Toward Function	Brody and Hall	Lippincott Williams and Wilkins

Pedagogy:

The course will be delivered using lectures & practical. The lectures consist of theory content along with application examples. During the practical, the students will be trained with clinical skills.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of One Test of 20 Marks and submission of assignment which carries 10Marks
- End Semester Examination will consist of 70 Marks Exam.

Practical

- Internal Assessment(30)
- Practical End Semester Examination will consist of 70 Marks Exam. i.e Long case(30) , Short case(20) ,Viva(15) Journal(05)

P P Savani University

School of Physiotherapy

Course Code: SPPT2020

Course Name: ELECTROTHRAPY –I Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
04	04	08	06	30	70	30	70	200	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description:

The student will learn the Principles, Techniques, Effects, Indication, Contra-Indication and the dosage parameter for various indications of electro therapeutic modalities in the restoration of physical function.

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Explain nerve-muscle physiology.	**PO 1,2**
CO 2	Acquire knowledge of basic types of currents with modifications and their technique of applications.	**PO 1,10**
CO 3	Describe the production and physiological effects, therapeutic uses, merits, demerits, indications and contraindications of various low/medium frequency currents/ modes.	**PO 2,10**
CO 4	Discuss the physiological effects and therapeutic uses of various iontophoresis and phonophoresis.	**PO 2,10**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**NERVE MUSCLE PHYSIOLOGY**: Action Potential, Resting membrane potential, Propagation of Action Potential, Motor unit, synapse, Accommodation, Stimulation of Healthy Muscle, Stimulation of Denervated Muscle, Stimulation for Tissue Repair	04	7
2.	**BASIC TYPES OF CURRENTS** a) Direct Current: types, physiological & therapeutic effects. b) Alternating Current **TYPES OF CURRENT USED IN THERAPEUTICS** a) Modified D.C : Faradic Current ,Galvanic Current b) Modified A.C : Sinusoidal Current, Diadynamic current	03	4
3.	**FARADIC CURRENT** Definition, Modifications, Techniques of Application of Individual, Muscle and Group Muscle stimulation, Physiological & Therapeutic effects of Faradic Current, Faradic foot Bath, Faradism under pressure; Pelvic floor muscle reeducation, Precautions, Indications & Contra-Indications, Dangers.	04	7
4.	**GALVANIC CURRENT** Definition, Modifications, Physiological & Therapeutic effects of Galvanic Current, Indications & Contra-Indications, Dangers, Effect of interrupted galvanic current on normally innervated and denervated muscles and partially denervated muscles.	04	7
5.	**Types of Electrical Stimulators:** NMES, Diagnostic Stimulators- Construction, components & Working Principles. Cathodal /Anodal Galvanism **Principles of Application:** Electrode tissue interface, Tissue Impedance, Types of Electrodes and Placement of Electrodes	03	5

6.	**ELECTRODIAGNOSIS** • **FG Test** • **SD CURVE**: Methods of Plotting SD Curve, Apparatus selection, Characters of Normally innervated Muscle, Characters of Partially Denervated Muscle,Characters of Completely denervated Muscle, Chronaxie & Rheobase. • **Nerve Conduction Velocity studies** • **EMG: Construction of EMG Equipment**	10	16
7.	**IONIZATION / IONTOPHORESIS** Techniques of Application of Iontophoresis, Indications, Selection of Current, Commonly used Ions (Drugs) for pain, Hyperhidrosis, Wound Healing	04	7
	Section II		
8.	**HIGH VOLTAGE PULSED GALVANIC STIMULATION** Description, Physics, Characteristics of HVPGS, Methods of Application, Indications and Contraindications	03	5
9.	**MICROCURRENTS** Description, Physics, Characteristics of Microcurrents, Methods of Application, Indications and Contraindications	03	5
10.	**TENS** Define TENS, Pain Gate Control Theory, Types of TENS, Conventional TENS, Acupuncture TENS and Electro Acupuncture, Burst TENS, Brief & Intense TENS, Modulated TENS. Types of Electrodes & Placement of Electrodes, Dosage parameters, Physiological & Therapeutic effects, Indications &Contraindications.	06	10
11.	**MEDIUM FREQUENCY CURRENTS** Interferential Therapy**:** Define IFT, Principle of Production of IFT, Static Interference System, Dynamic Interference system, Dosage Parameters for IFT, Electrode placement in IFT, Physiological & Therapeutic effects, Indications & Contraindications. **Russian Currents**	06	10

12.	**BIO-FEED BACK** Introduction, Principles of Bio-Feedback, Therapeutic effects, Procedure of Application , Criteria for patient selection For EMG Bio-Feed Back Training	04	7
13.	**FUNCTIONAL ELECTRICAL STIMULATION**	02	3
14.	**MECHANICAL SPINAL TRACTION** Description, Cervical and Lumbar Traction, Principles, Procedure, Indications, Precautions, Contraindications	04	7

List of Practical:

The student of Electrotherapy must be able to demonstrate the use of Electrotherapy modalities, methods of application and procedures with proper techniques, choice of dosage parameters and safety precautions.

Sr No	Name of Practical	Hours
1.	Demonstrate the technique for patient evaluation – receiving the patient and positioning the patient for treatment using electrotherapy.	05
2.	Collection of materials required for treatment using electrotherapy modalities and testing of the apparatus.	06
3.	Demonstrate placement of electrodes for various electrotherapy modalities	05
4.	Electrical stimulation for the muscles supplied by the peripheral nerves	12
5.	Faradism under Pressure for UL and LL	04
6.	Plotting of SD curve with Chronaxie and Rheobase	08
7.	Demonstrate FG Test	04
8.	Demonstrate treatment method using IFT for various regions	05
9.	Demonstrate treatment method using TENS, HVPGS and Microcurrents for various regions	06
10.	Demonstrate treatment method using Cervical and Lumbar Mechanical Traction	05

Text Book:

Title	Author/s	Publication
Electrotherapy Simplified 3rdEdition	Basanta Kumar Nanda	Jaypee Publications
Electrotherapy Explained 4th Edition	Robertson,Ward,Low& Reed	Elsevier
Therapeutic Modalities in Rehabilitation, 4th Edition	William E. Prentice	McGraw Hill
Physical Agents in Rehabilitation: From Research to Practice	Cameron MH	Elsevier Saunders

Reference Book:

Title	Author/s	Publication
Claytons Electrotherapy, 9th Edition	Forster &Plastanga	BailliereTindall/AITBS
Electrotherapy Evidence Based Practice: 12th Edition	Tim Watson	Elsevier
Electrotherapy in Rehabilitation (Contemporary Perspectives in Rehabilitation)	Meryl Roth Gersh	F.A. Davis
Modalities for Therapeutic Intervention	Michlovitz SL, Bellew JW, Nolan TP Jr	F.A. Davis
Integrating Physical Agents in Rehabilitation	Hecox B, Mehreteab TA, Weisberg J, Sanko J	Prentice Hall
Principles and Practice of Electrotherapy	Joseph Kahn	Churchill Livingstone
Therapeutic ElectrophysicalAgents: Evidence Behind Practice	Alain Yvan Belanger	Wolters Kluwer
Laboratory Manual for Physical Agents: Theory and Practice	Behrens BJ	F.A. Davis
Manual for Physical Agents	Hayes KW, Hall KD	Pearson
Clinical Electrotherapy	Nelson, Currier, Hayes	Pearson

Pedagogy:

The course will be delivered using lectures & practical. The lectures consist of theory content along with application examples. During the practical, the students will be trained with clinical skills.

Theory:

- Continuous Evaluation Consists total of 30 marks (One Test of 20 Marks and submission of assignments and attendance carries 10 Marks)
- End Semester Examination will consist of 70 Marks Exam.

Practical

- Internal Assessment (30)
- PracticalEndSemesterExaminationwillconsistof70MarksExam.i.eLongcase (30)Short case (20) Viva (15) Journal(0

P P Savani University

School of Physiotherapy

Course Code: SPPT2040
Course Name: BIOCHEMISTRY
Prerequisite Course/s : Nil

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
03	-	03	03	15	35	-	-	50	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description:

Itwilldealwiththemetabolismthattakesplacewithinthebodyandrelateddisorders.It also deals with nutrition and daily requirements of it and related disorders.

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Explain sources and nutritional aspects of metabolism of carbohydrates, lipids, proteins & vitamins.	**PO 2**
CO 2	Describe the Normal and abnormal findings related to Clinical biochemistry.	**PO 3**
CO 3	Determine correlation among nutrition deficiency, exercise performance and biochemical changes.	**PO 2,3**
CO 4	Describe the effects of enzymes, vitamins and minerals on body processes and physiology.	**PO 2**

Course Content:

Module	Content	Hours	Weightage in %
1.	**Bio-Physics:** Concepts of pH and buffers, Acid-base equilibrium, osmotic pressure and its physiological applications.	02	4
2.	**Carbohydrate, Proteins and lipids:-** Functions, classification and its importance. Nucleic acids: Structure and functions of DNA, RNA and its Types	04	9
3.	**Enzymes :** Classification and its mode of action	03	7
4.	**Vitamins:** Classification- Fat soluble vitamins A, D, E, K Water soluble vitamins-B Complex and Vitamin **'C'.**	03	7
5.	**Carbohydrate Metabolism:** Glycolysis, TCA Cycle, Glycogenesis, Glycogenolysis, Gluconeogenesis	06	12
6.	**Lipid metabolism (Fatty acid):** Beta and omega oxidation of fattyacids	04	9
7.	**Protein metabolism :** Transamination, Deamination, Fate of Ammonia, Urea synthesis	04	9
8.	**Mineral metabolism:** Calcium, Phosphorous; Sodium and potassium metabolism	03	7
9.	**Blood and its components**- RBC, WBC and Plasma	03	7
10.	**Clinical Biochemistry** Normal levels of blood (WBC, RBC and platelets) and urine (Glucose, Urea, Uric acid, Creatinine, Calcium, Phosphates, pH and Bicarbonate) constituents, Liver function tests, Renal function tests, ELISA test, RIA test, Serological tests, Flow Cytometer.	03	7
11.	**Nutrition**	10	22
	a) Introduction, Importance of nutrition, Calorific values,		

	b) Respiratory quotient – Definition, and its significance c) Energy requirement of a person - d) Basal metabolic rate: Definition, Normal values, factor affecting BMR e) Special dynamic action of food f) Physical activities - Energy expenditure for various activities. g) Calculation of energy requirement of a person h) Balanced diet, Recommended dietary allowances i) Role of carbohydrates in diet: Digestible carbohydrates and dietary fibers j) Role of lipids in diet. k) Role of proteins in diet: Quality of proteins - Biological value, net protein utilization, Nutritional aspects of proteins-essential and non-essential amino acids. Nitrogen balance l) Nutritional disorders j)Diet for chronically ill and terminally ill patients		

Text Book:

Title	Author/s	Publication
Essentials of Biochemistry	Satyanarayana and Chakrapani	Books & Allied (P) Ltd

Reference Book:

Title	Author/s	Publication
Lehninger Principles of Biochemistry, 7 ed	David L Nelson and Michael M Cox	Macmillan Education
Text Book of Bio Chemistry for Medical students.	Vasudevan, SreeKumari and Vaidyanathan	JP Medical
Biochemistry	Debajyoti Das	Academic Publishers

Pedagogy:

The course will be delivered using lectures. The lectures consist of theory content along with application examples.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of one Test of 15Marks
- End Semester Examination will consist of 35 MarksExam

P P Savani University

School of Physiotherapy

Course Code: SPPT2050

Course Name: PHARMACOLOGY

Prerequisite Course/s: Nil

Teaching & Examination Scheme*:*

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)				
Theory	Practical	Total	Credit	Theory		Practical		Total
				CE	ESE	CE	ESE	
03	-	03	03	15	35	-	-	50

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description:

This course introduces the student to basic pharmacology of common drugs used, their importance in the overall treatment including Physiotherapy. The student will be aware of the contribution of both drug and physiotherapy factors in the outcome of treatment.

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Describe Pharmacological effects of commonly used drugs on various systems.	**PO 1,3**
CO 2	Discuss and compare adverse effects and contraindications for drugs affecting the various systems of human body.	**PO 1,2**
CO 3	Indicate the use of analgesics & anti-inflammatory with movement disorders, efficiency & safety for individual needs.	**PO 1,2,3**
CO 4	Illustrate clinical conditions, explain and infer the appropriate use of drugs in the particular diseases.	**PO** 3

Course Content:

Module	Content	Hours	Weightage in %
1.	**General Pharmacology** Introduction, Definitions, Classification of drugs, Sources of drugs, Routes of drug administration, Distribution of drugs, Metabolism and Excretion of drugs Pharmacokinetics, Pharmacodynamics, Factors modifying drug response, Adverse effects. Rational use of Drugs, Principles of Therapeutics	05	11
2.	**Autonomic Nervous System** General considerations – The Sympathetic and Parasympathetic Systems, Receptors, Somatic Nervous System, Cholinergic and Anti-Cholinergic drugs, Adrenergic and Adrenergic blocking drugs, Peripheral muscle relaxants.	05	11
3.	**Cardiovascular Pharmacology** a) Drugs Used in the Treatment of Heart Failure: Digitalis, Diuretics, Vasodilators, ACE inhibitors b) Antihypertensive Drugs: Diuretics, Beta Blockers, Calcium Channel Blockers, ACE Inhibitors, Central Acting Alpha Agonists, Peripheral Alpha Antagonists, Direct acting Vasodilators, Anti arrhythmic Drugs c) Drugs Used in the Treatment of Vascular Disease and Tissue Ischemia : Vascular Disease, Hemostasis Lipid-Lowering agents, Antithrombotics, Anticoagulants and Thrombolytics Ischemic Heart Disease – Nitrates,Beta- Blockers, Calcium Channel Blockers d) CerebralIschemia e) Peripheral VascularDisease	05	11

4.	**Neuropharmacology** Introduction, Alcohols, Sedatives and Hypnotics, Anti-convulsants, Analgesics and Antipyretics, General anesthetic, Local anesthetic, Antianxiety Drugs: Benzodiazepines, Other Anxiolytics, Very brief introduction of Psycho Therapeutics: Treatment of Mood Disorders (Monoamine Oxidase Inhibitors, Tricyclic Antidepressants, Atypical Antidepressants, Lithium, Antipsychoticdrugs).	05	11
5.	**Disorders Of Movement** Drugs used in Treatment of Parkinson's Disease Antiepileptic Drugs, Spasticity and Skeletal Muscle Relaxants	04	9
6.	**Inflammatory/Immune Diseases** a) Non-narcotic Analgesics and Nonsteroidal Anti-Inflammatory Drugs: Acetaminophen, NSAIDs,Aspirin, Nonaspirin NSAIDs, drug Interactins with NSAIDs b) Glucocorticoids: Pharmacological Uses of Glucocorticoids, adverse effects, Physiologic Use ofGlucocorticoids c) Drugs Used in Treatment of Arthritic Diseases: Rheumatoid Arthritis, Osteoarthritis,Gout d) Drugs Used in the Treatment of Neuromuscular Immune/Inflmmatory Diseases: Myasthena gravis, Haematinics, Vitamin B,Iron. e) Very brief introduction of: idiopathic Inflammatory Myopathies, systemic lupus Erythmatosus, Scleroderma, Demyelinating Disease. Haematinics, Vitamin B,Iron. f) Respiratory Pharmacology : Upper Respiratory Tract infections-sinusitis, Laryngitis, Pharyngitis, Bronchial Asthma, COPD- effects of prolonged drugadministration, Cough suppressant	09	20
7.	**Drugs acting on G.I System** Gastrointestinal Pharmacology: Vomiting, Peptic Ulcer Disease, Constipation,Diarrhea	02	4

8.	**Drugs Used for Hormonal disorders,Supplementation andContraception** Drugs Used in Treatment of Diabetes Mellitus: Insulin, Oral Hypoglycemics Disorder of thyroid hormone: drugs for hypo and hyperthyroid Very brief introduction of sex hormone and hormonal contraceptives Corticotrophins &Gonadotrophins, Adrenaline, Prostoglandins Calcitonins, Calcium salts,Calcium Regulators	04	9
9.	**Geriatrics** Pharmacology and the geriatric Population: Adverse effects of special concern in the Elderly, Dementia, Postural Hypotension	02	4
10.	**Antibiotics** Definition, choice of agents, Narrow and Broad Spectrum Antibiotics, resistance, prophylactic groups, Very brief introduction of drugs name, mechanism, uses and specific Toxicity	02	5
11.	**Vitamins** **Vitamin A,B,C,D, E and K**	02	5

Text Book:

Title	**Author/s**	**Publication**
Essential of Medical Pharmacology	K. D. Tripathi	Jaypee Brothers Medical Publishers

Reference Book:

Title	**Author/s**	**Publication**
Text book of Medical Pharmacology	PadmajaUdaykumar	CBS Publishers
Concise Textbook of Pharmacology	N. Murugesh	Sathya Publishers
Pharmacology &Pharmacotherapeutics	Satoskar	Elsevier

Pedagogy:

The course will be delivered using lectures. The lectures consist of theory content along with application examples.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of one Test of 15Marks
- End Semester Examination will consist of 35 MarksExam.

P P Savani University

School of Physiotherapy

Course Code: SPPT2070

Course Name: PATHOLOGY

Prerequisite Course/s: Nil

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
04	-	04	04	30	70	-	-	100	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Describe the process of cell injury and its changes in various tissue.	**PO 2,3**
CO 2	Discuss pathology of different organ systems for understanding disease process and their clinical significance with system.	**PO 3**
CO 3	Explain sign and symptoms of selected disease conditions.	**PO 2,3**

Course Content:

Section I (General Pathology)			
Module	Content	Hours	Weightage in %
1.	**INTRODUCTION TO PATHOLOGY** Subdivisions of Pathology, Key terms used in pathology viz. etiology, morphological changes, lesions, primary & secondary, acute & chronic	01	2

2.	**CELLULAR INJURIES** Causes & mechanism of cell injury, reversible & irreversible cellular injuries	02	3
3.	**CELL DEATH & CELL NECROSIS** Different types of cell necrosis, its gross & microscopic appearances, gangrene & its different types; Apoptosis	02	3
4.	**CELLULAR ADAPTATIONS** Hypertrophy, hyperplasia, atrophy, Metaplasia, cellular dysplasia	02	3
5.	**CELLULAR CHANGES & INFORMATION** Cloudy swelling, hydropic change, fatty change, mucoid change, pathological calcification	02	3
6.	**AMYLOIDOSIS** Definition, classification, nature of amyloid, clinical significance	01	2
7.	**PATHOLOGY OF DIABETES MELLITUS** Definition, classification of diabetes, Pathology of - renal, cardiovascular, ophthalmic & neurological complications.	02	3
8.	**INFLAMMATION** Acute inflammation - definition, causes, vascular events, exudates formation, chemical mediators of inflammation , Chronic inflammation - general feature, Granulomatous inflammation, examples of Granulomatous inflammation	04	7
9.	**WOUND HEALING** Regeneration, repair, healing by primary & secondary union, **factors affecting healing, healing of bone fracture.**	03	5
10.	**HEMODYNAMIC CHANGES** **Oedema, hyperaemia& congestion, thrombosis, embolism, infarction, shock.**	04	7
11.	**TUMOR PATHOLOGY** **Definition, classification, characteristics of benign & malignant tumors, pathogenesis & spread of tumors.**	03	5
Section II (Systemic Pathology)			
12.	**GASTROINTESTINAL TRACT** Peptic ulcer, benign & malignant tumors of intestine, infective & inflammatory bowel diseases, typhoid ulcer, intestinal tuberculosis, 'Crohn's disease, ulcerative colitis.	02	3

13.	**LIVER DISEASE** Viral hepatitis A, viral hepatitis B, viral hepatitis c, cirrhosis of liver, portal hypertension, pathology of jaundice	02	3
14.	**GENITOURINARY TRACT** Acute &chronic renal failure, definition &classification of glomerulonephrotis, hydronephrosis, urinary calculi, classification of testicular & ovarian tumors.	02	3
15.	**MUSCULOSKELETAL SYSTEM** a) Osteomyelitis, osteoporosis, osteoarthritis,rheumatoid arthritis, gout,psoriasis b) Muscle disease – myopathic and Neurogenicdisorders, inflammatory myopathy, musculardystrophies	04	7
16.	**RESPIRATORY SYSTEM** Bronchitis, pulmonary hypertension, pulmonary tuberculosis, pneumonia, emphysema, Bronchiectasis, neonatal respiratory syndrome, adult respiratory syndrome	04	7
17.	**CARDIOVASCULAR SYSTEM** a) Blood Vessels: Atherosclerosis,aneurysm, phelebothrombosis,thrombophelebitis b) Heart Disease: Rheumatic heart disease, bacterial endocarditis, hypertensive heart disease, coronaryheart disease, congenital heart diseases	06	10
18.	**CENTRAL NERVOUS SYSTEM** Meningitis, encephalitis, hydrocephalus, cerebrovascular disease, poliomyelitis, epidural & subdural hematoma	04	8
	(Hematology)		
19.	**ANAEMIAS** Definition, classification, Fe deficiency ananemia, B12 deficiency ananemia, hemolytic ananemias, thalassemia, sickle cell ananemia, G6PD deficiency ananemia, aplastic ananemia.	03	5
20.	**LEUKEMIAS** Definition & classification, acute myeloblastic leukemia, acute lymphoblastic leukemia, chronic myeloid leukemia, chronic lymphocytic leukemia	03	5
21.	**HAEMORRHAGIC DISORDERS**	02	3

	Haemophilia, purpura, prothrombin time		
22.	**BLOOD BANKING** Blood groups, cross matching, blood transfusion reaction, selection of blood donor, blood components	02	3

Text Book:

Title	**Author/s**	**Publication**
Textbook of Pathology	Bhende, Deodhare, Kelkar	Popular Prakashan
Essential Pathology for Physiotherapy students	Harsh Mohan	Jaypee Publication
Illustrated Pathology	Fiona Roberts	Elsevier

Reference Book:

Title	**Author/s**	**Publication**
Anderson Pathology	Ivan Damjano and James Linder	Mosby
Text book of Pathology	Robbins and Kumar	Elsevier
Text book of Pathology	Harshmohan	Jaypee Publication

Pedagogy:

The course will be delivered using lectures. The lectures consist of theory content along with application examples.

Course Evaluation:

Theory:

•Continuous Evaluation Consist of one Test of 30 Marks

•End Semester Examination will consist of 70 Marks Exam.

Course Code: SPPT2080

Course Name: MICROBIOLOGY

Prerequisite Course/s: Nil

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
02	-	02	02	15	35	-	-	50	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Descriptions:

In this course, the students will learn the study of common organisms causing diseases including nosocomial infections and precautionary measures to protect one from acquiring infections.

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Elaborate the classification of microorganism and morphology of bacteria along with various viral infections (Polio, Rubella, Hepatitis, HIV)	**PO 2,3,4**
CO 2	Explain various steps of collection of clinical specimens and different sterilization and disinfection techniques.	**PO 3,4**

Course Content:

Module	Content	Hours	Weightage in %
1.	**GENERAL MICROBIOLOGY** i)Introduction and historical background ii)Classification of micro-organisms iii) Morphology of bacteria iv)Sterilization and disinfection	06	20
	SYSTEMIC MICROBIOLOGY i)Gram positive cocci- Staph, Strepto, Pneumnococci ii) Gram negative cocci-Goncocci and Meningococci iii) Gram positivebacilli- Tubercule bacilli, Lepra bacilli, Clostridium tetani, Clostridium perfrigens etc. iv) Gram negative bacilli-Salmonella, Coloforms, pseudomonas, proteus etc. v)		

2.	Anaerobic non-sporingcocci and bacilli vi) Applied microbiology as relevant to diseases of bones, joints, muscles, skin, infections andburns.	08	27
3.	i) **VIROLOGY**- General introduction, brief description of polio virus, Rubella Hepatitis-B and AIDS (diagnosis, prevention andtreatment) **ii)SPIROCHETES** – Syphilis (congenital and acquired) iii)**MALARIA**	08	26
4.	**IMMUNITY** Antigents and Antibodies, General overview of antigen antibody reaction and practical applications.	08	27
5.	**DEMONSTRATION** i) Demonstration of collection of clinicalspecimens ii) Demonstration of morphology and culture of organisms. iii) Demonstration of simple , Gram's and Ziehi-Neelsen staining iv) Sterilization and disinfectiontechniques v) Demonstration hepatitis etc. of serological tests for syphilis		

Text Book:

Title	Author/s	Publication
Short textbook of Medical Microbiology	Sathish Gupta	Jaypee Brothers
A Text book of Microbiology	Chakraborthy	New Central Book Agency
Text book of Microbiology 6th edn	C.P Baveja	Arya Medical Publishing House

Reference Book:

Title	Author/s	Publication
Microbiology & Parasitology	K. Rajeshwar Reddy	Paras Medical Publisher
Text book of Microbiology	Anantha Narayanan and JayaramPanicker	Universities Press
Microbiology	Pelczar	Tata McGraw-Hill
Microbiology	Prescott	McGraw-Hill

Pedagogy:

The course will be delivered using lectures. The lectures consist of theory content along with application examples.

Course Evaluation:

Theory:

- Continuous Evaluation Consists total of 30 marks (One Test of 20 Marks and submission of assignments and attendance carries 10 Marks)
- End Semester Examination will consist of 70 Marks Exam.

P P Savani University
School of Physiotherapy

Course Code: SPPT2060

Course Name: **CLINICAL TRAINING**

Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical/Clinical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
-	04	04	2	-	-	50	-	50	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Student should learn to be a professional with suitable attire and observe questioning and evaluation methods in clinical setup.	**PO 1,12**
CO 2	Explain & discuss the concept of detail History taking during assessing patients before giving any treatment.	**PO 2,3,4,10**
CO 3	Understand appropriate assessment chart and interpret medical file under supervision.	**PO 1,12**
CO 4	Execute application of electro physical agents on patients.	**PO 1,10**
CO 5	Learn how to communicate with patients and be able to build-up therapeutic relationships.	**PO 1,8,9,10,12**

Course Evaluation: **Practical**

In Clinical Training, Evaluation will be done based on Continuous Evaluation (submission of assignment) and Attendance which will consist of 50 marks.

P P Savani University

Centre for Language Studies

Course Code: SEPD3040

Course Name: IPDC-1

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
02	00	00	01	40	60	00	00	--	--	100

CE: Continuous Evaluation, ESE: End Semester Exam

Objective(s) of the Course:

- To provide students with a holistic education – focused on increasing their intelligence quotient, physical quotient,emotionalquotientandspiritualquotient
- Toprovidestudentswithhardandsoftskills,makingthemmoremarketablewhenenteringt he workforce
- To educate students on their social responsibilityes as citizens of India
- Toprovidestudentswithavalue-basededucationwhichwillenablethemtobesuccessfulin theirfamily,professional,andsocialrelationships.
- To teach self-analysis and self-improvement exercises to enhance the potential of the participants.

Course Content:

Lecture No.	Content	Hours
1.	• Remaking Yourself - Restructuring Yourself.	02
2.	• Remaking Yourself - Power of Habit.	02
3.	• Remaking Yourself - Developing Effective Habits.	02
4.	• Learning fromLegends - Tendulkar and RatanTata	02

5.	• From House ToHome Affectionate Relationship	02
6.	• FacingFailures - Factors AffectingFailures.	02
7.	• FacingFailures - Failures are not AlwaysBad.	02
8.	• FacingFailures - Insignificance ofFailures.	02
9.	• MassManagement - Project Management.	02
10.	• Learning fromLegends - Yogiji Maharaj and NelsonMandela.	02
11	• From House ToHome -Forgive & Forget.	02
12	• From House ToHome -Listening & Understanding.	02
13	• FinancialWisdom -Basics of Financial Planning.	02
14	Soft Skills -Teamwork, Harmony & Adaptability.	02

Course Evaluation:

Theory:

- Continuous Evaluation consists of 40 marks. There will be amid-term exam which willassess the current progress of students, it is assessed out of 20 marks and will be equivalent to 20 marks of the Continuous Course Evaluation (CCE).There will be a submission consisting 10 marks as per the guidelines of course coordinator and average of the attendance consisting 10 marks (minimum 60 percentage attendance is required).
- End semester exam (ESE)partA30marksandpartB30marks.

Course Outcomes:

After completing the IPDC course (lecture and full participation in activities / challenges), we would like to see PPSU students:

- To have gained greater sense of social responsibility

- To have gained marketable hard and soft skills that would directly apply to their future careers
- To have gained greater insight and ability to navigate their family, social, and professionalrelationshipsalongwithdifficultsituationswhichmayariseintheirlife
- To have a broader sense of self-confidence and a define did entity
- To have greater value for living a moral and ethical life based on principles taught in the course

P P Savani University

Centre for Language Studies

Course Code: CFLS3010

Course Name: Communication Skills (Foreign Language-I) French

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
02	00	00	02	100	00	00	00	00	00	100

CE: Continuous Evaluation, ESE: End Semester Exam

Introduction & Objectives of the Course:

1. To develop and integrate the use of the four Language skills i.e. listening, speaking, reading and Writing.
2. To use the language effectively and appropriately on topics of everyday life situations.
3. To develop an interest in the appreciation of French.
4. To develop an intercultural awareness.
5. To enhance the ability of the candidates to express their ideas and feelings in their own words and for them to understand the use of correct language.
6. To appreciate the language as an effective means of communication.
7. To understand language when spoken at normal conversational speed in everyday life situations.
8. To understand the basic structural patterns of the language, vocabulary and constructions.

Course Content:

Section I- Theory			
Module	Content	Hours	Weightage
1.	Introduction to French • Alphabets • French accents • Greetings • What are the similarities and differences between English and French?	3	10%

	Numbers in French • Cardinal numbers • Ordinal numbers Vocabulary part-1 • The days of the week • The months of the year • Seasons • Directions		
2.	Vocabulary part-2 • Family • Colours	3	10%
	• Day/time indicators • Body parts • Clothing • School subjects • Places • Common expressions		
3.	French grammar And verbs: • Verb etre (to be) • Verb avoir (to have)	3	30%
4.	Regular verbs First group verbs('ER' group) Regular verbs Second group verbs('IR' group) Irregular verbs • Third group verbs • du ,de l',de la./au,aux (article contactive and paritive.) possessive pronouns (mon, ma, mes..etc)	12	50%
5.	• Telling time in French • Basic introduction	3	
Section I- Practical			
Module	Content(delf book)	hours	Weightage
1.	Reading	1	10%
2.	Writing	1	10%
3.	Speaking	2	10%
4.	Listening	1	10%
5.	Role plays	1	15%

Title	Author/s	Publication
Nameste French G.MAUGER MON LIVRE FRANCAIS	Yoshita dalal	9 series publications
DELF A1	Bruno Giraedeau Nelly Mous	Goyal publishers

Web Material/Links:

- **Ciep.com**
- **www.youlearnfrench**

Course Outcomes:
Students will be able to

1. Demonstrate the level of proficiency necessary to enable them to function in an environment where French is used exclusively.
2. Demonstrate speaking, listening, reading, and writing in French.
3. Delf exam certification will be valid throughout the world.

Syllabus Book

P P Savani University

School of Physiotherapy

4th Semester BPT
Physiotherapy

PP SAVANI UNIVERSITY												
SCHOOL OF PHYSIOTHERAPY												
TEACHING & EXAMINATION SCHEME FOR 4th SEMESTER BPT												
Sem	**Course Code**	**Course Title**	**Offered By**	**Teaching Scheme**				**Examination Scheme**				
				Contact Hours			**Credit**	**Theory**		**Practical**		**Total**
				Theory	**Practical**	**Total**		**CE**	**ESE**	**CE**	**ESE**	
4	SPPT2073	EXERCISE THERAPY-IV	Physiotherapy	04	04	08	06	30	70	30	70	200
	SPPT2081	ELECTROTHRAPY –II	Physiotherapy	04	04	08	06	30	70	30	70	200
	SPPT2090	GENERAL MEDICINE INCLUDING CARDIO-THORACIC CONDITIONS	Physiotherapy	05	-	05	05	30	70	-	-	100
	SPPT2100	PSYCHIATRY	Physiotherapy	02	-	02	02	15	35	-	-	50
	SPPT2110	CLINICAL ORTHOPAEDICS & TRAUMATOLOGY	Physiotherapy	05	-	05	05	30	70	-	-	100
	SPPT2121	CLINICAL TRAINING	Physiotherapy	00	08	08	04	00	00	50	-	50
	SEPD3050	IPDC-II	SEPD	00	02	02	01	40	60	-	-	100
	CFLS3030	FOREIGN LANGUAGE (FRENCH)	CFLS	02		02	00	40	60	-	-	100
					Total	**40**	**29**					**900**

CONTENT

Semester 4

P P Savani University

School of Physiotherapy

Course Code: SPPT2073

Course Name: EXERCISE THERAPY-IV

Prerequisite Course/s: SPPT1030, SPPT1091, SPPT2012

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				**Examination Scheme (Marks)**				
Theory	**Practical**	**Total**	**Credit**	**Theory**		**Practical**		**Total**
				CE	**ESE**	**CE**	**ESE**	
04	04	08	06	30	70	30	70	200

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Analyse human posture (static & dynamic) & various normal Musculo skeletal movements during Gait & activities of daily living both in normal & abnormal conditions.	**PO 2,3**
CO 2	Demonstrate relaxation techniques on models.	**PO 10**
CO 3	Implement the techniques to assess and manage impaired balance and coordination.	**PO 10**
CO 4	Describe the basic concept of exercise and its effect on different bodily systems.	**PO 2,3**

Course Content

Section I			
Module	Content	Hours	Weightage in %
1.	**POSTURE AND GAIT** Definition, Active and Inactive Postures, factors affecting posture, Types of Posture, Postural Mechanism, Patterns of Posture, Principles of re-education: corrective methods and techniques, Patient education, Postural training, Exercises for Spine, Introduction to Pilates. Introduction to Pathological gait. Types of Paraplegic gait.	12	20
2.	**RELAXATION** Definitions: Muscle Tone, Postural tone, Voluntary Movement, Degrees of relaxation, Pathological tension in muscle, Stress mechanics, types of stresses, Effects of stress on the body mechanism, Indications of relaxation, Methods & techniques of relaxation-Principles & uses: General, Local, Jacobson's, Mitchell's, additional methods.	05	8
3.	**BALANCE** Definition, Physiology of balance: contributions of sensory systems, processing sensory information, generating motor output Components of balance (sensory, musculoskeletal and biomechanical) Causes of impaired balance, Examination & evaluation of impaired balance, Management of impaired balance: mode, posture, movement, Precautions & contraindications, Types Balance retraining	05	8
4.	**NEUROMUSCULAR CO-ORDINATION** Anatomy & Physiology of cerebellum with its pathways Definitions: Co-ordination, Inco-ordination, Causes for Inco-ordination, and Test for co-ordination: equilibrium test, non equilibrium test Principles of co-ordination exercise Frenkel's Exercise: uses of Frenkel's exercise, technique of Frenkel's exercise, progression, home	5	8

	exercise.		
Section II			
5.	**EXERCISE PHYSIOLOGY:** **BASIC CONCEPTS**: Exercise Physiology and metabolism as well as of neural control of movement and muscle structure and function, Acute response to exercise of different bodily systems with emphasis on cardio respiratory system, Chronic response to exercise, with emphasis on cardio respiratory, Muscular and Nervous system. Oxygen and Carbondioxide Transport, Oxygen debt and Oxygen Deficit Training, Fatigue and Recovery **BODY COMPOSITION ANALYSIS:** **EXERCISE TESTING:** Basic Principles of Exercise testing and guidelines for the interpretation of the most commonly used tests to assess Cardiorespiratory fitness and strength **AEROBIC EXERCISE** Definition and key terms; Physiological response to aerobic exercise, Examination and evaluation of aerobic capacity – Exercise Testing, Determinants of an Exercise Program, The Exercise Program, Normal and abnormal response to acute aerobic exercise, Physiological changes that occur with training, Application of Principles of an Aerobic conditioning program for patients – types and phases of aerobic training.	25	42
6.	**FUNCTIONAL RE-EDUCATION** Lying to sitting: Activities on the Mat/Bed, Movement and	04	7

	stability at floor level; Sitting activities and gait; Lower limb and Upper limb activities.		
7.	**EXERCISE PLANNING AND PRESCRIPTION WRITING** General concepts with special emphasis on special and Clinical Populations	04	7

List of Practical:

Sr No	Name of Practical/Tutorial	Hours
1.	Postural Evaluation	15
2.	Neuromuscular Coordination	15
3.	Exercise Physiology	15
4.	Functional Reeducation	15

Text Book:

Title	Author/s	Publication
Therapeutic Exercises, 7th edn	Carolyn Kisner and Colby	F.A. Davis
Practical exercise therapy	Margaret Hollis	Blackwell Science
Principles of Exercise Therapy	Dena Gardiner	i)Bell & Hyman ii) CBS Pub. & Distributors
Principles of exercise testing and Interpretation	Wasserman K, Hansen JE, Sue DY,	Lippincott Williams and Wilkins.
Exercise Physiology	William D McArdle, Katch , Katch	Lippincott, Williams &Wilkins
ACSM'S Guidelines for Exercise testing and Prescription	American College of Sports medicine	Wolters Kluwer/Lippincott

Reference Book:

Title	Author/s	Publication
Daniels and Worthingham's Muscle Testing: Techniques of Manual Examination and Performance Testing	Hislop , Avers and Brown	Saunders
Therapeutic Exercise in Developmental Disabilities	Barbara H. Connolly, Patricia Montgomery	Slack Incorporated
Therapeutic Exercises Using the Swiss Ball	Caroline Corning Creager	Executive Physical Therapy

Ultimate Core Ball Workout: Strengthening and Sculpting Exercises	Jeanine Detz	Ulysses Press
Therapeutic Exercises Using Foam Rollers[Paperback]	Caroline Corning Creager	Executive Physical Therapy
Therapeutic Exercises Using Resistive Bands[Paperback]	Caroline Corning Creager	Executive Physical Therapy
Therapeutic Exercise: Techniques for Intervention	William D. Bandy, Barbara Sanders	Lippincott Williams & Wilkins
Advanced Fitness Assessment and Exercise Prescription	Vivian Heyward, Ann Gibson	Human Kinetics
Progressive Exercise Therapy in Rehabilitation and Physical Education	J. H. C. Colson and F.W. Collison	Butterworth-Heinemann

Pedagogy:

The course will be delivered using lectures & practical. The lectures consist of theory content along with application examples. During the practical, the students will be trained with clinical skills.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of One Test of 20 Marks and submission of assignment which carries 10 Marks. End Semester Examination will consist of 70 Marks Exam.

Practical

- Internal Assessment(30)
- Practical End Semester Examination will consist of 70 Marks Exam. i.e Long case(40) , Short case (15) Viva(10) Journal (05).

P P Savani University

School of Physiotherapy

Course Code: SPPT2081

Course Name: ELECTROTHRAPY –II

Prerequisite Course/s: SPPT2020

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)				
				Theory		Practical		
Theory	Practical	Total	Credit	CE	ESE	CE	ESE	Total
04	04	08	06	30	70	30	70	200

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Acquire knowledge of high frequency modalities, their basic physics, working, physiological and therapeutic effects.	**PO 2,3**
CO 2	Understand the skill of Application of the Electro therapy modes like UVR and LASER on models, for the purpose of Assessment &Treatment.	**PO 2,10**
CO 3	Describe various superficial thermal agents, their physiological and therapeutic effects, merits / demerits; and acquire the skill of application.	**PO 2,10**
CO 4	Understand the applications of hydrotherapy and its various therapeutic uses with precautions and contraindications.	**PO 2,10**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**ELECTRO MAGNETIC SPECTRUM**	01	2
2.	**SWD** Define short wave, Frequency & Wavelength of SWD, Principle of Production of SWD, Circuit diagram & Production of SWD, Methods of Heat Production by SWD treatment, Types of SWD Electrode, Placement & Spacing of Electrodes, Tuning, Testing of SWD Apparatus, Physiological & Therapeutic effects, Indications & Contraindications, Dangers, Dosage parameters	08	13
3.	**PULSED ELECTRO MAGNETIC ENERGY**: Principles, Production and Paramaters of PEME, Uses of PEME	01	2
4.	**MICRO WAVE DIATHERMY** Define Microwave, Wave length & Frequency, Production of MW, Applicators, Dosage Parameters, Physiological & Therapeutic effects, Indications & Contraindications, Dangers of MWD.	04	7
5.	**IRR** Define IRR, wavelength & parameters, Types of IR generators, Production of IR, Physiological & Therapeutic effects, Duration & frequency of treatment, Indication & Contraindication.	03	5
6.	**UVR** Define UVR, Types of UVR, UVR generators: High pressure mercury vapour lamp, Water cooled mercury vapour lamp, Kromayer lamp, Fluorescent tube, PUVA apparatus. Physiological & Therapeutic effects. Sensitizers & Filters. Test dosage calculation.	06	10

	Calculation of E1, E2, E3, E4 doses. Indications, contraindications. Dangers. Dosages for different therapeutic effects, Distance in UVR lamp.		
7.	**ULTRASOUND** Define Ultrasound, Frequency, Piezo Electric effects: Direct, Reverse, Production of US, Treatment Dosage parameters: Continuous & Pulsed mode, Intensity, US Fields: Near field, Far field, Half value distance, Attenuation, Coupling Media, Thermal effects, Non-thermal effects, Principles & Application of US: Direct contact, Water bag, Water bath, Solid sterile gel pack method for wound. Uses of US, Indications & Contraindications, Dangers of Ultrasound. Phonophoresis: Define Phonophoresis, Methods of application, commonly used drugs, Uses. Dosages of US.	08	13
Section II			
8.	**LASER** Classification of LASER, Low Level and High Power LASER, Methods of applications of LASER, Physiological& Therapeutic effects of LASER, Energy density & power , Dosages of LASER & Safety precautions of LASER	07	12
Superficial heating Modalities			
9.	**HEAT AND COLD** Physiological and therapeutic effects, indications/contraindications.	02	3
10.	**MOIST HEAT THERAPY** Hydro collator packs – in brief, Methods of applications, Therapeutic uses, Indications & Contraindications.	02	3
11.	**WAX THERAPY** Principle of Wax Therapy application – latent Heat,	03	5

	Composition of Wax Bath Therapy unit, Methods of application of Wax, Physiological & Therapeutic effects, Indications & Contraindication, Dangers.		
12.	**CONTRAST BATH** Methods of application, Therapeutic uses, Indications & Contraindications.	02	3
13.	**HYDROTHERAPY** Whirl Pool Bath and Hubbard tank -Construction, Method of Application, Therapeutic Uses, Indications & Contraindications.	04	7
14.	**CRYOTHERAPY** Define- Cryotherapy, Principle - Latent heat of fusion, Physiological & Therapeutics effects, Techniques of Applications, Indications & Contraindications, Dangers, Methods of application with dosages.	03	5
15.	**OTHER PHYSICAL AGENTS AND MODALITIES** • Continuous Passive Motion Unit: Description, Physiological effects, Procedure, Indications and Contraindications • Shock Wave Therapy and its applications • Combination Therapy	06	10

List of Practical:

The student of Electrotherapy must be able to demonstrate the use of Electrotherapy modalities, methods of application and procedures with proper techniques, choice of dosage parameters and safety precautions.

Sr No	Name of Practical	Hours
1	Application of Ultrasound for different regions-various methods of application	09
2	Demonstrate treatment techniques using SWD, IRR and Microwave diathermy	12

3	Demonstrate the technique of UVR exposure for various conditions – calculation of test dose	06
4	Technique of application of LASER	09
5	Technique of treatment and application of Hydrocollator packs, cryotherapy, contrast bath, wax therapy	09
6	Demonstrate the treatment method using whirl pool bath	03
7	Demonstrate the treatment method using Continuous Passive Motion Unit,	02
8	Demonstrate the treatment method usingPneumatic Compression Therapy	03
9	Demonstrate the treatment method usingShock Wave Therapy	03
10	Winding up procedure after any electrotherapy treatment method	04

Text Book:

Title	**Author/s**	**Publication**
Electrotherapy Simplified 3rdEdition	Basanta Kumar Nanda	Jaypee Publications
Electrotherapy Explained 4th Edition	Robertson, Ward, Low& Reed	Elsevier
Therapeutic Modalities in Rehabilitation, 4TH Edition	William E. Prentice	McGraw Hill
Physical Agents in Rehabilitation: From Research to Practice	Cameron MH	Elsevier Saunders

Reference Book:

Title	**Author/s**	**Publication**
Claytons Electrotherapy, 9th Edition	Forster &Plastanga	Bailliere Tindall/AITBS Publishers
Electrotherapy Evidence Based Practice: 12th Edition	Tim Watson	Elsevier
Electrotherapy in Rehabilitation (Contemporary Perspectives in Rehabilitation)	Meryl Roth Gersh	F.A. Davis
Modalities for Therapeutic Intervention	Michlovitz SL, Bellew JW, Nolan TP Jr	F.A. Davis

Integrating Physical Agents in Rehabilitation	Hecox B, Mehreteab TA, Weisberg J, Sanko J	Prentice Hall
Principles and Practice of Electrotherapy	Joseph Kahn	Churchill Livingstone
Therapeutic Electro physical Agents: Evidence Behind Practice	Alain Yvan Belanger	Wolters Kluwer
Laboratory Manual for Physical Agents: Theory and Practice	Behrens BJ	F.A. Davis
Manual for Physical Agents	Hayes KW, Hall KD	Pearson
Clinical Electrotherapy	Nelson, Currier, Hayes	Pearson

Pedagogy:

The course will be delivered using lectures & practical. The lectures consist of theory content along with application examples. During the practical, the students will be trained with clinical skills.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

Practical

Internal Assessment (30) Practical End Semester Examination will consist of 70 Marks Exam. i.e Long case(40) , Spots (15) Equipment testing (10) Journal (05)

P P Savani University

School of Physiotherapy

Course Code: SPPT2090

Course Name: GENERAL MEDICINE INCLUDING CARDIO-THORACIC CONDITIONS

Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)				
Theory	Practical	Total	Credit	Theory		Practical		Total
				CE	ESE	CE	ESE	
05	-	05	05	30	70	-	-	100

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Discuss Etiology, Pathophysiology, Signs &Symptoms of various diseases.	**PO 2,3**
CO 2	Explain investigative procedures and medical management based on the clinical findings of the disease.	**PO 3,4**
CO 3	Differentiate and interpret medical examination based on patient's history of illness and chief complain.	**PO 3,4**

Course Content:

	Section I-GENERAL MEDICINE		
Module	Content	Hours	Weightage in %
1.	**INFECTIONS** Effects of Infection on the body , Pathology – source and spread of infection , vaccinations , generalized infections , rashes and infection , food poisoning and gastroenteritis , sexually transmitted diseases – Syphilis, Gonorrhea, HIV infections and Aids.	06	8
2.	**ENDOCRINE DISEASES** Common presenting symptoms of Endocrine disease – common classical disease presentations. Diabetes Mellitus: Etiology, pathogenesis, clinical features, Complications and its management. Hypothyroidism. Hyperthyroidism. Thyrotoxicosis.	04	5
3.	**DISEASES OF THE BLOOD** Examinations of blood disorders. Cause, Clinical manifestations, types and management of Anemia, Hemophilia, hemorrhages.	04	5
4.	**DISEASES OF THE DIGESTIVE SYSTEM** Clinical manifestations of gastrointestinal disease – Aetiology, clinical features, diagnosis, complications and treatment of the following conditions : Reflux Oesophagitis, GI bleeding, Peptic Ulcer disease, Pancreatitis, Ulcerative Colitis, Peritonitis, Infections of Alimentary Tract ; Clinical manifestations of liver diseases - Aetiology, clinical features, diagnosis, complications and treatment of the following conditions : Viral Hepatitis, Wilson's Disease, Alpha1-antitrypsin deficiency, Cirrhosis of the Liver, Gall stones, Cholycystitis.	07	9
5.	**INFECTIOUS DISEASE** Tuberculosis, malaria, typhoid, infective hepatitis, tetanus.	06	8
6.	**NUTRITIONAL DISORDER** Causes, Clinical features, Complications and treatment of: Vitamins and its deficiencies, disorders including rickets and osteomalacia, anemia.	05	7
7.	**CARDIOVASCULAR DISEASE** Anatomy & Physiology & Examination of the Cardiovascular System. Clinical manifestations of Cardiovascular disease ; Definition, Etiology, Clinical features, signs and symptoms, complications, management and treatment of following diseases and disorders of the heart : Pericarditis, Myocarditis, Endocarditis, Rheumatic Fever, valve disorders, Myocardial infection , Angina , Congestive cardiac failure, Cardiomyopathy , Ischemic Heart Disease, Coronary Valve disease, Fetal circulation , Congenital disorders of the Heart, Cardiac Arrest, diseases of arteries and veins, Hypertension.	10	13

Section II			
8.	**RESPIRATORY DISEASE** Examination of the Respiratory System. Clinical manifestations of Lung disease. Chronic Obstructive Lung Disease and Restrictive Lung Disease ; Definition, Etiology, Clinical features, signs and symptoms, complications, management and treatment of following lung diseases : Chronic Bronchitis, Emphysema, Asthma, Bronchiectasis, Cystic Fibrosis, Lung abscess &Empyma , Upper Respiratory Tract Infections, Pneumonia, Tuberculosis, Diseases of the pleura, diaphragm and chest wall, Respiratory failure.	10	13
9.	**UROGENITAL DISEASE** Structure and functions of kidney, Physiology of micturation. Upper and lower urinary tract infection and acute renal failure.	05	8
10.	**ENT** Anatomy and physiology of hearing and the use of audiometer in assessment of hearing - outline only General introduction to diseases of E.N.T., emphasis on otitis media, facial palsy classification, medical and surgical management of lower motor neuron type of facial palsy, sinusitis, rhinitis Mastoid surgery Larynx and associated functional paralysis with tracheostomy and care of tracheostomy. Causes of hearing loss, Conservative and surgery intervention including types and availability of hearing aids.	06	8
11.	**Dermatology** Structure and functions of normal skin, primary and secondary skin lesions. Scabies and pediculosis. Fungal infections of skin: Dermatophytos; Tineaversicolor. & Candidiasis. Bacterial infections of skin- Impetigo / Boil. Viral infections of skin- Herpes zoster.	12	16

	Eczema / Dermatitis / Allergies.		
	Psoriasis / Acne / Alopecia / Vitiligo and Leucoderma.		
	Leprosy / Lepra-reaction / Physiotherapy in leprosy.		
	Sexually transmitted diseases.- Syphilis - primary & secondary; Gonorrhea.; AIDS.		

Text Book:

Title	Author/s	Publication
Davidson's Essentials of Medicine	Stanley Davidson	Elsevier/Churchill Livingstone
Golwalla'sMedicine for Students	Golwalla&Golwala	The health Sciences Publisher

Reference Book:

Title	Author/s	Publication
Harrison's Principles of Internal Medicine	Anthony S. Fauci	McGraw Hill Professional
Bedside clinics in Medicine Part – 1	Arup Kumar Kundu	Academic Publishers
PJ Mehtas Practical Medicine	SP Mehta, SR Joshi, Nihar P Mehta	National

Pedagogy:

The course will be delivered using lectures. The lectures consist of theory content along with application examples.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

P P Savani University

School of Physiotherapy

Course Code: SPPT2100

Course Name: PSYCHIATRY

Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
				Theory		Practical			
Theory	Practical	Total	Credit	CE	ESE	CE	ESE	Total	Remarks
02	-	02	02	15	35	-	-	50	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Describe various Psycho-neurotic, Psychosis and psycho physiological disorders with clinical signs and symptoms.	**PO 2,3**
CO 2	Discuss various Personality, substance abuse disorders and psychiatric emergencies with clinical signs and symptoms.	**PO2,3**
CO 3	Explain and differentiate various childhood disorders.	**PO 3**
CO 4	Discuss and categorize mental health disorders and plan rehabilitation for them.	**PO 3,5,8**

Course Content:

Module	Content	Hours	Weightage in %
1.	**INTRODUCTION** History and present trends of psychiatry.Scope and role of mental health care.Concepts and views on normal, abnormal human behavior	03	10
2.	**PSYCHODYNAMICS OF ABNORMAL HUMAN BEHAVIOUR** Causes of abnormal behavior. Psychiatric disorders and their classification	03	10
3.	**PSYCHO-NEUROTIC DISORDERS** Anxiety neurosis, phobic neurosis, hysterical neurosis, obsessive compulsive disorders, hypochondriac neurosis, post traumatic disorder	03	10
4.	**PSYCHOTIC DISORDERS** Organic psychosis, Functional psychosis – Schizophrenia, Major affective disorders – depression, mania, maniac depressive psychosis	03	10
5.	**PSYCHO PHYSIOLOGICAL DISORDERS** Concepts of psychosomatic conditions and anorexia nervosa, bulimia, obesity	03	10
6.	**PERSONALITY DISORDERS** Paranoid personality disorders, Antisocial personality disorders, Borderline personality disorders	03	10
7.	**SUBSTANCE ABUSE DISORDERS** Alcoholic abuse, dependence, Drug abuse, dependence	03	10
8.	**PSYCHIATRIC EMERGENCIES** Suicidal & Aggressive behavior, Hallucinations, alcohol withdrawal	03	10
9.	**CHILD PSYCHOLOGY** Habit disorders, Childhood schizophrenia ,Autism	03	10

	,Bedwetting, encopresis, hyperkinetic disorder. Stammering / Stuttering, Juvenile delinquency, Psychiatric problems in mental retardation , Child guidance clinic		
10.	**COMMUNITY MENTAL HEALTH** a) Identification of psychological crisis situation and intervention b) Promotion of mental health. c) Prevention of potential problems of mental health in community. d) Rehabilitation of mentally ill in the community. e) Approaches to community mental health in India. f) Psychological care of geriatric patients.	03	10

Text Book:

Title	Author/s	Publication
A Short textbook of Psychiatry	NirajAhuja	JaypeeBrothers

Reference Book:

Title	Author/s	Publication
Psychiatry	James H. Scully	Waverly Info-Med

Pedagogy:

The course will be delivered using lectures. The lectures consist of theory content along with application examples.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of one Test of 15 Marks
- End Semester Examination will consist of 35 Marks Exam.

P P Savani University

School of Physiotherapy

Course Code: SPPT2110

Course Name: CLINICAL ORTHOPAEDICS & TRAUMATOLOGY

Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical/Clinical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
05	-	05	05	30	70	-	-	100	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Describe the etiology, pathology, clnical presentation, relevant investigation and medical management of common traumatic and non-traumatic orthopaedic conditions.	**PO 2,3,4,5**
CO 2	Discuss the clinical manifestations, complications & management of congenital and acquired deformities.	**PO 3,10,12**
CO 3	Perform a clinical examination & interpret finding of preoperative cases & post- operative cases.	**PO 3,4**
CO 4	Read & interpret salient features of X-ray of the spine & extremities and Correlate with the clinical findings.	**PO 3,4**
CO 5	Enumerate the complications of various orthopedic surgical procedures and use relevant bedside assessment and management.	**PO 3,10,12**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**INTRODUCTION** Introduction to orthopedics. Clinical examination of an orthopedic patient. Common investigative procedures. Radiological and Imaging techniques in Orthopedics.	02	2
2.	**TRAUMATOLOGY** Fracture: definition, types, signs and symptoms. Fracture healing. Complications of fractures. Conservative and surgical approaches. Principles of management – reduction (open/closed, immobilization etc). Subluxation/ dislocations – definition, signs and symptoms, management (conservative and operative).	02	3
3.	**FRACTURES AND DISLOCATIONS OF UPPER LIMB** a) Fractures of Upper Limb - Causes, clinical features, mechanism of injury, complications, conservative and surgical management of the following fractures: Fractures of clavicle and scapula. Fractures of greater tuberosity and neck of humerus. Fracture shaft of humerus. Supracondylar fracture of humerus. Fractures of capitulum, radial head, olecranon, coronoid, and epicondyles. Side swipe injury of elbow. Both bone fractures of ulna and radius. Fracture of forearm – monteggia, galaezzi fracture –dislocation. Chauffer's fracture.Colle's fracture. Smith's fracture. Scaphoid fracture. Fracture of the metacarpals. Bennett's fracture. Fracture of the phalanges. (Proximal and middle.) b) Dislocations of Upper Limb - Anterior and posterior dislocation of shoulder – mechanism of injury, clinical feature, complications, conservative management (Kocher's and Hippocrates maneuver), surgical management (putti plat, bankart's) etc. Recurrent	08	11

	dislocation of shoulder. c) Posterior dislocation of elbow – Mechanism of injury, clinical feature, complications & management.		
4.	**FRACTURES AND DISLOCATIONS OF LOWER LIMB** a) Fracture of Pelvis and Lower Limb - causes, clinical features, mechanism of injury, complications, conservative and surgical management of the following fractures: b) Fracture of pelvis. Fracture neck of femur, Fractures of trochanters. Fracture shaft femur, Supracondylar fracture of femur, Fractures of the condyles of femur. Fracture patella. Fractures of tibial condyles. Both bones fracture of tibia and fibula. Dupuytren's fracture Maisonneuve's fracture. Pott's fracture. Bimalleolar fracture, Trimalleolar fracture, Fracture calcaneum. Fracture of talus. Fracture of metatarsals. stress fractures Jone's fracture. Fracture of phalanges. c) Dislocations of Lower Limb - Mechanism of injury, clinical features, complications, management of the following dislocations of lower limb. Anterior dislocation of hip. Posterior dislocation of hip. Central dislocation of hip. Dislocation of patella. Recurrent dislocation of patella.	08	11
5.	**INJURIES OF SPINE** a) Fracture of Cervical Spine - Mechanism of injury, clinical feature, complications, Management-immobilization(brief introduction of collar, cast, brace, traction); Management for stabilization, management of complication (bladder and bowel, quadriplegia). b) Fracture of Thoracic and Lumbar Regions - Mechanism of injury, clinical features, management — conservative and surgical management of common fractures around thoracic and lumbar regions.	04	5
6.	**SOFT TISSUE INJURIES** a) Define terms such as sprains, strains, contusion,	04	5

	tendinitis, rupture, tenosynovitis, tendinosis, bursitis. b) Mechanism of injury and clinical features and - conservative and surgical management of the following soft tissue injuries: Meniscal injuries of knee. Cruciate injuries of knee. Medial and lateral collateral injuries of knee. Lateral ligament of ankle. Wrist sprains. c) Strains and Contusions		
7.	**HAND INJURIES** Mechanism of injury, clinical features, and management of the following - Crush injuries. Flexor and extensor injuries. Burn injuries of hand.	02	3
8.	**AMPUTATIONS** Definition, levels of amputation of lower and upper limbs, indications, complications.	03	4
9.	**DEFORMITIES** Clinical features, complications, medical and surgical management of the following Congenital and Acquired deformities. a) Congenital Deformities -CTEV. CDH. Torticollis. Scoliosis. Flat foot. Vertical talus. Arthrogryposis multiplex congenita, Klippelfeil syndrome. Osteogenesis-imperfecta, Cervical rib. b) Acquired Deformities - Acquired Torticollis. Scoliosis. Kyphosis. Lordosis. Genu varum. Genu valgum. Genu recurvatum, Coxavara. Pescavus. Hallux rigidus. Hallux valgus. Hammer toe. Metatarsalgia.	08	11
Section II			
10.	**DISEASE OF BONES AND JOINTS** Causes, Clinical features, Complications, Management-medical and surgical of the following conditions: a) Infective conditions: Osteomyelitis (Acute / chronic). Brodie's abscess. TB spine and major joints like shoulder,	06	8

	hip, knee, ankle, elbow etc. b) Arthritic conditions: Pyogenic arthritis. Septic arthritis. Syphilytic infection of joints. c) Bone Tumors: classification, clinical features, management - medical and surgical of the following tumors:Osteoma. Osteosarcoma, Osteochondroma. Enchondroma. Ewing's sarcoma. Gaint cell tumor. Multiple myeloma. Metastatic tumors. d) Perthes disease, Slipped Capital Femoral Epiphysis and Avascular Necrosis. e) Metabolic Bone Diseases: Rickets. Osteomalacia, Osteopenia. Osteoporosis.		
11.	**INFLAMMATORY AND DEGENERATIVE CONDITIONS** Causes, clinical feature, complications, deformities, radiological features, management- conservative and surgical for the following conditions : a) Osteoarthritis. Rheumatoid arthritis. Ankylosing spondylitis Gouty arthritis. Psoriatic arthritis. Hemophilic arthritis. Still's disease (juvenile rheumatoid arthritis). Charcot's joints. b) Connective Tissue Disorders- Systemic Lupus Erythematosis, Scleroderma, Dermatomyositis, Poliomyelitis	06	8
12.	**SYNDROMES** Causes, Clinical features, complications, management-conservative and surgical of the following : Cervico brachial syndrome. Thoracic outlet syndrome. Vertebro- basilar syndrome. Scalenus syndrome. Costoclavicular syndrome. Levator scapulae syndrome. Piriformis syndrome.	02	3
13.	**CERVICAL AND LUMBARPATHOLOGY** Causes, clinical feature, patho-physiology, investigations, management-Medical and surgical for the following: Prolapsed interverbral disc (PID), Spinal Canal Stenosis.	06	8

	Spondylosis (cervical and lumbar) Spondylolysis. Spondylolisthesis. Lumbago/ Lumbosacral strain. Sacralisation. Lumbarisation. Coccydynia.		
14.	**ORTHOPEDIC SURGERIES** Indications, Classification, Types, Principles of management of the following Surgeries: Arthrodesis. Arthroplasty (partial and total replacement),Arthroscopy, Osteotomy, External fixators, Implants and Instruments, Spinal stabilization surgeries Surgeries of cerebral palsy, poliomyelitis and Leprosy patients	04	5
15.	**REGIONAL CONDITIONS** Definition, Clinical features and management of the following regional conditions a) Shoulder: Periarthritic shoulder (adhesive capsulitis). Rotator cuff tendinitis. Supraspinatus Tendinitis. Infraspinatus Tendinitis. Bicipital Tendinitis. Subacromial Bursitis. b) Elbow: Tennis Elbow. Golfer's Elbow. Olecranon Bursitis (student's elbow). Triceps Tendinitis. c) Wrist and Hand: De Quervain's Tenosynovitis. Ganglion. Trigger Finger/ Thumb. Mallet Finger, Carpal Tunnel Syndrome, Dupuytren's Contracture. d) Pelvis and Hip: IT Band Syndrome. Piriformis Syndrome. Trochanteric Bursitis. e) Knee: OsteochondritisDissecans. Prepatellar and Suprapatellar Bursitis. Popliteal Tendinitis. Patellar Tendinitis. Chondromalacia Patella. Plica Syndrome. Fat Pad Syndrome (Hoffa's syndrome). f) Ankle and Foot: Ankle Sprains. Plantar Fasciitis / Calcaneal Spur. Tarsal Tunnel Syndrome. Achilles Tendinitis. Metatarsalgia. Morton's Neuroma.	10	13

Text Book:

Title	Author/s	Publication
Text book of Orthopedics	Maheswari	JPB
Clinical Orthopedic Rehabilitation	Brotzman	Elsevier
Outline of Orthopedics	John Crawford Adams	Churchill Livingstone
Outline of Fractures	John Crawford Adams	Churchill Livingstone
Essentials of Orthopedics & Applied Physiotherapy	Jayant Joshi	Churchill Livingstone
Therapeutic Exercises	Colby Kisner	

Reference Book:

Title	Author/s	Publication
Apley's System of Orthopaedics and Fractures	L. Solomon, D. Warwick, and Selvadurai Nayagam	Taylor and Francis
Orthopedic Principles - A Resident's Guide	David	Springer
Orthopedic : Principles and their Applications- Vol 1,2	Turek	
Hand Rehabilitation	James Hunter	

Pedagogy:

The course will be delivered using lectures. The lectures consist of theory content along with application examples.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

P P Savani University

School of Physiotherapy

- Course Code: SPPT 2121
- Course Name: **CLINICAL TRAINING**
- Prerequisite Course/s:
-
- **Teaching & Examination Scheme:**

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
				Theory		Practical			
Theory	Practical/Clinical	Total	Credit	CE	ESE	CE	ESE	Total	Remarks
-	08	08	4	-	-	50	-	50	

- CE: Continuous Evaluation, ESE: End Semester Exam

Course Description: The aim of this module is to further continue the students understanding about Clinical Practice in Physiotherapy.

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Understand and increase skills in detailed assessment, management and various treatment delivery.	**PO 1,10,12**
CO 2	Conduct comprehensive assessment, diagnosis, goal formulation, treatment plan formulation, and execution of therapeutic skills.	**PO 10,12**
CO 3	Demonstrate effective communication with medical staff, and patients concerning the evaluation and management of traumatic and nontraumatic orthopedic conditions.	**PO 1,8,12**

Course Evaluation:

Practical

- In Clinical Training, Evaluation will be done based on Continuous Evaluation (Case discussions and submission of assignment) and Attendance which will consist of 50 marks.

P P Savani University

Centre for Language Studies

Course Code: SEPD3050

Course Name: IPDC-2

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
				Theory		Practical		Tutorial		
Theory	Practical	Tutorial	Credit	CE	ESE	CE	ESE	CE	ESE	Total
02	00	00	01	40	60	00	00	--	--	100

CE: Continuous Evaluation, ESE: End Semester Exam

Objective(s) of the Course:

- To provide students with a holistic education – focused on increasing their intelligence quotient, physical quotient, emotional quotient and spiritual quotient.
- To provide students with hard and soft skills, making the more market able when entering the workforce.
- To educate students on their social responsibilities as citizens of India
- To provide students with a value-based education which will enable them to be successful in their family, professional, and social relationships.
- To teach self-analysis and self-improvement exercises to enhance the potential of the participants.

Course Content:

Lecture No.	Content	Hours
1.	• Insignificance offailures	02
2.	• The power offaith	02
3.	• Practicingfaith	02
4.	• Leading withoutleading	02

5.	• From House To Home - Bonding the family	02
6.	• Words ofwisdom	02
7.	• A.P.J. Abdulkalam	02
8.	• Beginwiththeendinmind	02
9.	• Writing AResume	02
10.	• My India My Pride -GloriousPast(Part-1)	02
11.	• My India My Pride -GloriousPast(Part-2)	02
12.	• My India My Pride -Present Scenario.	02
13.	• My India MyPride -An Ideal Citizen-1	02
14.	• My India MyPride -An Ideal Citizen-2	02
15.	• Studentvoice	02

Course Evaluation:

Theory:

- Continuous Evaluation consists of 40 marks. There will be amid-term exam which will assess the current progress of students, it is assessed out of 20 marks and will be equivalent to 20 marks of the Continuous Course Evaluation (CE). There will be a submission consisting 10 marks as per the guidelines of course coordinator and average of the attendance consisting10 marks (minimum 60 percentage attendance is required).
- End semester exam (ESE) section I (30marks) and section II (30marks).

Outcomes –

- After completing the IPDC course (lecture and full participation in activities / challenges) we would like to see PPSU students:

a. To have gained a greater sense of social responsibility.

b. To havegainedmarketablehardandsoftskillsthatwoulddirectlyapplytotheirfuture

careers.

c. To have gained greater insight and ability to navigate their family, social, and professionalrelationshipsalongwithdifficultsituationswhichmayariseintheir life.

d. To have a broader sense of self-confidence and a define did entity.

e. Tohavegreatervalueforlivingamoralandethicallifebasedonprinciplestaughti nthe course.

P P Savani University

Centre for Language Studies

Course Code: CFLS3021

Course Name: (Foreign Language-2) French

Prerequisite Course/s: CFLS3010 (Foreign Language-1) French

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
02	00	00	02	100	00	00	00	00	00	100

CE: Continuous Evaluation, ESE: End Semester Exam

Introduction & Objective of the Course:

1. To develop and integrate the use of the four Language skills i.e. listening, speaking, reading and Writing.
2. To use the language effectively and appropriately on topics of everyday life situations.
3. To develop an interest in the appreciation of French.
4. To develop an intercultural awareness.
5. To enhance the ability of the candidates to express their ideas and feelings in their own words and for them to understand the use of correct language.
6. To appreciate the language as an effective means of communication.
7. To understand language when spoken at normal conversational speed in everyday life situations.
8. To understand the basic structural patterns of the language, vocabulary and constructions.

Section I – Theory			
Unit	Content	Hours	Weightage
1.	French grammar INTRODUCTION TO TENSES FUTUR PASSE COMPOSE • Verb etre(to be) • Verb avoir(to have)	10	20%
2.	• Regular verbs IN FUTUR AND PASSE COMPOSE First group verbs('ER' group)	5	25%
3.	• Regular verbs IN FUTUR AND PASSE COMPOSE • Second group verbs('IR' group)	5	25%
4.	Irregular verbs IN FUTUR AND PASSE COMPOSE • Third group verbs • du ,de l',de la./au,aux(article contactive and paritive.) • possessive pronouns(mon, ma, mes.. etc)	10	30%

Title	Author/s	Publication
Nameste French G.MAUGER MON LIVRE FRANCAIS	Yoshita dalal	9 series publications
DELF A1	Bruno Giraedeau Nelly Mous	Goyal publishers

Web Material/Links:

- **Ciep.com**
- **www.youlearnfrench**

Course Evaluation:
Based on the exam.

Course Outcomes:
Students will be able to

1. Demonstrate the level of proficiency necessary to enable them to function in an environment where French is used exclusively.
2. Demonstrate speaking, listening, reading, and writing in French.
3. Delf exam certification will be valid throughout the world.

Syllabus Book

5th Semester BPT
Physiotherapy

P P Savani University

School of Physiotherapy

Authored by: P P Savani University

P P SAVANI UNIVERSITY												
SCHOOL OF PHYSIOTHERAPY												
TEACHING & EXAMINATION SCHEME FOR 5thSEMESTER BPT												
Sem	**Course Code**	**Course Title**	**Offered By**	**Teaching Scheme**				**Examination Scheme**				
				Contact Hours			**Credit**	**Theory**		**Practical**		**Total**
				Theory	**Practical**	**Total**		**CE**	**ESE**	**CE**	**ESE**	
5	SPPT3010	MUSCULOSKELETAL PHYSIOTHERAPY-I	Physio-therapy	04	02	06	05	30	70	30	70	200
	SPPT3020	NEUROLOGY	Physio-therapy	04	-	04	04	30	70	-	-	100
	SPPT3030	PEDIATRICS	Physio-therapy	03	-	03	03	15	35	-	-	50
	SPPT3040	GENERAL SURGICAL CONDITIONS	Physio-therapy	04	-	04	04	30	70	-	-	100
	SPPT3050	BIOMECHANICS & KINESIOLOGY	Physio-therapy	04	-	04	04	30	70	-	-	100
	SPPT3060	APPLIED RADIOLOGY	Physio-therapy	02	-	02	02	50	-	-	-	50
	SPPT3070	CLINICAL TRAINING	Physio-therapy	00	14	14	07	50				50
	CFLS 3030	FOREIGN LANGUAGE(FRENCH)	CFLS	02	-	02	02	40	60	-	-	100
	SEPD3010	PROFESSIONAL COMMUNICATION & SOFT SKILLS	SEPD	01	02	03	02	-	-	50	50	100
					Total	**42**	**33**					

CONTENT

Semester 5

P P Savani University

School of Physiotherapy

Course Code: SPPT3010

Course Name: MUSCULOSKELETAL PHYSIOTHERAPY-I

Prerequisite Course/s: NIL

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
				Theory		Practical		Total	Remarks
Theory	Practical	Total	Credit	CE	ESE	CE	ESE		
4	2	6	5	30	70	30	70	200	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: This course is formulated on the "Problem based learning" method. At the end of the course, the candidate will be able to -		**PO**
CO1	Demonstrate professional behaviour, ethics and respectful communication with patients in clinical setup.	**PO 4,5**
CO2	Describe detailed evaluation and appropriate tests and perform musculoskeletal examination.	**PO 1,4,5**
CO3	Demonstrates skills of physiotherapy interventions in traumatic and non-traumatic conditions and also plan pre and post operative management in In patient department and Out patient/ Rehabilitation settings.	**PO 4,10**
CO 4	Apply a safe and effective treatment plan with short and long-term goals with rationale for selecting specific exercises for the purposes of improving patient cantered outcomes of individuals with musculoskeletal conditions.	**PO 10,12**
CO 5	Explain about ergonomics, home exercise programs and functional independence in activities of daily living, to improve quality of life of a patient.	**PO 4,10**

Course Content

Following topics are applicable to All the Musculoskeletal conditions (Adult & Paediatric)

Section I			
Module	Content	Hours	Weightage in %
1.	Evaluation, interpretation of investigations & functional diagnosis with appropriate clinical reasoning for planning & implementation of Management techniques.	2	4
2.	Planning, Prescription & Implementation of short term &long-term goals with clinical reasoning. Documentation and its importance	2	3
3.	Application of appropriate electro therapeutic modes for relief of acute& chronic pain & swelling; wound healing, re-education etc with clinical Reasoning.	2	3
4.	Application of Simple therapeutic modes for muscle strength & joint mobility	2	3
5.	Application of Advanced therapeutic modes of mobility like Mobilization Techniques [Techniques covered in B.P.T III Sem], Friction Massage, My ofascial Release, Muscle Energy Techniques & Neuro Dynamic Techniques on patients.	2	4
6.	Application of various taping methods for support & relief of pain	2	4
7.	Posture Correction & Gait Training	2	3
8.	Prescription of appropriate orthotic & prosthetic devices & fabrication of simple temporary splints	2	4
9.	Application of appropriate Therapeutic exercises using therapeutic gymnastic tools as and when necessary, for the relief of pain, structural Stability, strength & endurance & functional restoration including gait training and exercises for the preventive measures.	2	3
10.	Appropriate Home Programme & Ergonomic advisefor preventive measures & functional efficiency at home & work place, advice to Parents & Care Givers.	2	3
11	**FRACTURE AND DISLOCATION** I) Upper extremity II) Lower extremity III) Spine – Cervical, Thoracic & Lumbar Types, Pathomechanics, Mechanism of Injury, Investigations, Assessment, Functional diagnosis using ICF, conservative & surgical management ,complications, physiotherapy management -Recent advances in rehabilitation and assessment Protocols	10	17
SECTION II			

12.	**Soft tissue involvement – conservative & surgical management** I) Upper extremity II) Lower extremity III) Spine- Cervical, Thoracic & Lumbar Types, pathomechanics , assessment ,functional diagnosis based on ICF, conservative & surgical management, complications, physiotherapy management - Recent advances in rehabilitation	10	17
13.	**Management of tumors** I) Upper extremity II) Lower extremity III) spine- Cervical, Thoracic & Lumbar Classification, etiopathogenesis, assessment, functional diagnosis based on ICF, conservative & surgical management, chemotherapy, radiotherapy, complications, physiotherapy management - Recent advances in wound management,	5	8
14.	**Upper extremity (U.E)** A) Brachial plexus injuries and peripheral nerve injuries in U.E. Nerve course, mechanism of injury, electro diagnostic methods, assessment, Functional diagnosis using ICF surgical & physiotherapy management - Interpretation of EMG/NCS, Advances in rehabilitation B) Traumatic amputation- Level of amputation, assessment, functional diagnosis based on ICF, surgical &Physiotherapy management, orthotic & prosthetic management – - advances in orthotic & prosthetic management, biomechanical considerations in prescription of prosthetics C) Overuse injuries Pathomechanics, types, assessment, functional diagnosis based on ICF, surgical & physiotherapy management - Recent advances in rehabilitation D) Crush injuries Causes, classification, complications, assessment, functional diagnosis based on ICF, surgical management and physiotherapy management - recent advances in rehabilitation and assessment, Protocols of crush injury management.	5	8
15.	**Lower extremity** A) Lumbar plexuses injuries & peripheral nerve injuries Nerve course, mechanism of injury, electro diagnostic methods, assessment,	5	8

	functional diagnosis based on ICF, surgical & physiotherapy management - Recent advances in physiotherapy management, functional outcome scales, interpretation of EMG/NCS. B) Traumatic amputation- Levels of amputation, assessment, functional diagnosis based on ICF, surgical & physiotherapy management, orthotic &prosthetic management - Recent advances in orthotic & prosthetic management, biomechanical considerations in prescription of prosthetics C) Overuse injuries Pathomechanics, types, assessment, functional diagnosis based on ICF, surgical & physiotherapy management - Recent advances in rehabilitation		
16.	**Spine –** Conditions related to thoracic spine /cervical spine /lumbar spine Eg. torticollis, radiculopathy, myelopathy, mechanical pain, T.M.syndrome,Thoracic outlet syndrome, disc prolapse, lysis, listhesis, **SIjoint dysfunction (level I)** Aetiopathogenesis,assessment, functional diagnosis based on ICF, conservative & surgical management, complications, physiotherapy management, - Recent advances in rehabilitation	5	8

List of Clinical/Practical:

Clinical Evaluation, Treatment Planning, Documentation & Presentation of cases

Sr No	Name of Clinicals/Practical	Hours
1.	Conditions affecting Upper Limb including hands	10
2.	Conditions affecting lower limb including foot	10
3.	Conditions affecting the Spine –Cervical, Thoracic & Lumbar-Sacral	10

Text Book:

Title	Author/s	Publication
Essentials of Orthopedics & Applied Physiotherapy	Jayant Joshi	Elsevier India
Orthopedic Physical Therapy	Donatelli	Elsevier India
Cash's Textbook of Orthopedics &	Patricia Downie	Mosby-Year Book Europe

Rheumatology for Physiotherapists		
Clinical Orthopedic Rehabilitation	Brotzman	Elsevier India
Therapeutic exercise –7th Edition,	Carolyn Kisner , Colby & John Borstad,	FA Davis

Reference Book:

Title	Author/s	Publication
Differential Screening of Regional Pain in Musculoskeletal Practice	Deepak Sebastian	Jaypee Brothers
Hand Rehabilitation	James Hunter	Hand Rehabilitation
Orthopedic Taping, Wrapping, Bracing, & Padding	Joel W Beam,	Davis Plus
Palpation Techniques	Leon Chaitow	Churchill Livingstone
Taping Techniques	Mac Donald Rose	Elsevier India
Illustrated Manual of Orthopedic Medicine	Cyriax	BH Publication
The Mulligan Concept of Manual Therapy: Textbook of Techniques	Bill Vicenzino, Brian Mulligan, Darren A. Rivett, Toby Hall, and Wayne Hing	Elsevier Health Sciences
Handbook of Osteopathic Techniques	Lawrence Stephen Hartman	Cengage Learning
Hand: Fundamentals of Therapy	Bascheinen,Morrin, Judith	Elsevier Health Sciences
Manual of Myofacial Release	Carol Manhein	SLACK
Exercise Prescription	Kamala Shankar	Hanley and Belfus
Muscle energy techniques	Leon Chaitow	Churchill Livingstone

Pedagogy:

The course will be delivered using lectures & practical. The lectures consist of theory content along with application examples. During the practical, the students will be trained with clinical skills.

Course Evaluation:

Theory:

- Continuous Evaluation Consists of 30Marks. End Semester Examination will consist of 70 Marks Exam.

Practical

- Continuous Evaluation Consists of 30 Marks.
- Practical End Semester Examination will consist of 70 Marks Exam. i.e Long case(30) , Short case (15) Viva (20) Case Record Book/Journal (05).

P P Savani University

School of Physiotherapy

Course Code: SPPT3020

Course Name: NEUROLOGY

Prerequisite Course/s:NIL

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
04	-	04	04	30	70	-	-	100	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: By the end of course, the candidate will be able to		**PO**
CO1	Describe aetiology and patho physiology, clinical features, signs and symptoms of different neurological conditions.	**PO 2,3**
CO2	Demonstrate skills of taking history, evaluation, presentation, and documentation.	**PO 1,2,3**
CO3	Diagnose various neurological disorders based on the clinical signs and symptoms.	**PO 2,3**
CO4	Describe initial evaluation and manage patients with common neurological disorders.	**PO 2,3**
CO5	Explain about Neuro-surgical intensive care and minimal invasive surgeries.	**PO 1,2**

Course Content:

Section I			
	Content	Hours	Weightage in %
	Neurology:		
1	General Principles of neurological assessment.	2	4
2	Cerebro-vascular- diseases and accidents. - (Cerebral Thrombosis Embolism andHemorrhage. Intra-Cranial tumors.	5	8
3	Acute infections of CNS - Encephalitis. Meningitis and Poliomyelitis.	3	5
4	Traumatic Injury of Head & Spine	5	8
5	Parkinsonism and other Extra-pyramidal disorders.	5	8
6	Multiple Sclerosisand other Demyelinating disease	2	4
7	ALS (Amyotropic Lateral Sclerosis) & Other Motor Neuron disease.	2	3
8	Disease/injury of periphera1 nerves, cranial nerves & G.B.Syndrome.	5	8
9	Myasthenia Gravis	2	3
Section II			
10	Diseases of muscles like Polymyositis Muscular Dystrophy.	2	4
11	Dementia	2	3
12	Cerebral Palsy	5	8
13	Cervical & Lumbar Spondylosis and Disc Prolapse	2	3
	Neuro-Surgical Conditions		
14	Principles of Management of Cranial & Spinal trauma.	2	4
15	Orientation about Neuro-Surgical Intensive care.	2	4
16	Physiothernpeutic approach to Neurologically Disabled patients.	2	3
17	Outline of clinical presentation of Brain Tumors & Spinal Cord Compression.	2	4
18	Elementary idea about minimal invasive surgery in Neurosurgical perspective.	2	3
19	Developmental anomalies of CNS	2	3
20	Patho-physiology of peripheral nerve injury & its principles of management.	2	4
21	Degenerative diseases of spine & its physiotherapeutic management.	2	3
22	Physiotherapeutic management of Pain Syndrome.	2	3

Text Book:

Title	**Author/s**	**Publication**
Brains Diseases of Nervous System	Donaghy	Oxford
Cash Textbook of Neurology for Physiotherapists	Downie	Mosby-Year Book Europe
Clinical Neurology	Brains and Bannister's	Oxford University Press
Physical Rehabilitation	Susan Sullivan	F A Davis

Reference Book:

Title	Author/s	Publication
Movement Disorders	Shyamal K Das	Jaypee Brothers
Geriatric Physical Therapy	Guccione, Andrew A,	Mosby
Adult Hemiplegia	Berta Bobath	Elsevier
Gait analysis	Whittle, Michael W	Butterworth Heinmann
Biofeedback and Related Therapies on Clinical Practice	Marcer D	Aspen System
Bobath concept: theory and clinical practice in neurological rehabilitation	linzi meadows	Wiley
Essential Pediatrics	OP Ghai	CBS Publishers

Pedagogy:

The course will be delivered using lectures & clinical demonstrations. The lectures consist of theory content along with clinical examples. During the clinics, the students will be trained with clinical skills.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

P P Savani University

School of Physiotherapy

Course Code: SPPT3030

Course Name: PEDIATRICS

Prerequisite Course/s: NIL

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
				Theory		Practical		Total	Remarks
Theory	Practical	Total	Credit	CE	ESE	CE	ESE		
03	-	03	03	15	35	-	-	50	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Outcome:

Course Learning Outcomes: By the end of course, the candidate will be able to		**PO**
CO1	Evaluate and assess various paediatric diseases with determining normal growth and developmental milestones.	**PO 2,3,9**
CO2	Identify and recall the aetiology, pathophysiology, clinical features, signs and symptoms, of various neurological paediatric conditions.	**PO 2,3**
CO3	Discuss various community health programs and immunization schedule.	**PO 2,3**
CO 4	Identify Normal diet for new born and its nutritional level for children as a general.	**PO 2,3**

Module	Content	Hours	Weightage in %
1.	Growth and development of a child from birth to 12 yrs of age indicating physical and adaptive developments.	3	7
2.	Maternal and neonatal factors contributing to high-risk pregnancy.	3	7
3.	Neonatal and Maternal infections.	2	4
4.	Maternal heart diseases, renal failure, tuberculosis, diabetes etc.	2	4

5.	Community Health Program like PPP; Blindness; Deafness and immunization Schedule.	3	7
6.	**Cerebral Palsy**- Definition, Outline of etiology of prenatal, perinatal and postnatal causes, Classification, clinical features and assessment based on musculo-skeleta1system. Outline of associated defects like mental retardation, microcephaly, hearing and speech impairment, squint and convulsion.	6	13
7.	**Muscular Dystrophy**- Various forms mode of inheritance, clinical manifestations and its management physiotherapeutically	4	9
8.	Spina Bifida, Meningomyelocele- Outline of development clinical manifestations, bladder bowel control, hydrocephalus.	4	9
9.	**Stills Disease**- classification, pathology in brief, physical findings, course and prognosis. Prevention and correction of deformity.	3	7
10.	**Acute CNS infection**- Classification, clinical findings, sequel leading to mental retardation, blindness, deafness speech defect, motor paralysis, bladder and bowel problems, seizure disorders feeding difficulties and pressure sores.	4	9
11.	Normal diet for newborn and child, dietary calorie, fat, protein, minerals and vitamins requirements in normal child as well as in malnutritioned child.	3	7
12.	**Lung Infections**- Outline of clinical finding complications of bronchitis's lung abscess, bronchial asthma, cystic fibrosis) primary complex in infants and children.	3	7
13.	Acute pediatric distress syndrome, neonatological & pediatric surgical care.	3	6
14.	Neonatal and pediatric cardiovascular problems	2	4

Text Book:

Title	**Author/s**	**Publication**
Essential Pediatrics	OP Ghai	CBS Publishers
Physical Rehabilitation	Susan Sullivan	F A Davis

Pedagogy: The course will be delivered using lectures & clinical demonstrations. The lectures consist of theory content along with clinical examples. During the clinics, the students will be trained with clinical skills.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of One Test of 10 Marks and submission of assignment which carries 05 Marks
- End Semester Examination will consist of 35 Marks Exam.

P P Savani University

School of Physiotherapy

Course Code: SPPT3040

Course Name: GENERAL SURGICAL CONDITIONS (General Surgery Including Cardio thoracic Surgery, Plastic Surgery and Obstetrics & Gynecology)

Prerequisite Course/s:NIL

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
04	-	04	04	30	70	-	-	100	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description: The objective of this course is that the student will be able to list the etiology, pathology, clinical features and treatment methods for various Surgical conditions.

Course Learning Outcomes: The student will be able to		**PO**
CO1	Understand and clinically assess, evaluate and describe surgical management in brief of wounds and ulcers, burns and cardiothoracic surgery.	**PO 3,4**
CO2	Understand relevant aspects of Surgery and a general understanding of various surgical conditions the therapist would encounter in their practice.	**PO 3,4**
CO3	Describe normal anatomy of female genital system and pelvic floor, menstrual cycle and its disorders.	**PO 1,2,3,4**
CO 4	Acquired the skills of clinical examination of obstetrics and gynaecological conditions.	**PO 2,3,4**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
	GENERAL SURGERY:		47
1.	Principles of General Surgery and Anesthesia including blood transfusion and physiological response of the body to surgery.	8	13
2.	Pre and Post Operative complications and their management.	5	8
3.	**Wounds**: - Sinuses and Ulcers. Burns- Different degrees. Complications of Burns.	4	6
4.	Outline of Abdominal surgery, Post-Operative complications and management in- Appendisectomy, Nephrectomy, Herniorraphy, Mastectomy, Thyroidectomy, Colostomy, Adrenalectomy, Cystectomy Prostatectomy, Cholecystectomy, Ileostomy	8	13
5.	Role of Physiotherapy in General Surgery	4	7
	CARDIO THORACIC SURGERY		6
6.	Incisions for cardio thoracic surgery, General Pre and Post-Operative PhysiotherapeuticManagement patients of cardio thoracic surgery various surgical procedure for chest and cardiaccondition/disease.	4	6
Section II			
	PLASTIC SURGERY -		18
1.	Burn- Degrees of burn, General management of burn, Reconstructive surgery following burn and complications of burn.	3	6
2.	Types of Skin Grafts and Flaps.	2	3
3.	Principles of Tendon transfer.	2	3
4.	Surgery of hand with emphasis on reconstructive surgery in Trauma and in Leprosy.	3	6
	OBSTETRICS & GYNECOLOGY-		29
5.	Anatomy of Pelvic organs mechanism, physiology of pelvic floor, Sphincter muscles, Menstrual cycle, and its disorders, other hormonal disorders of females, Obesity and female hormones.	4	7
6.	Pregnancy and its stages, labour, stages of labour, delivery, Caesarian Section, Cancer of female reproductive organs, STD in females.	4	7
7.	Menopausal effects in emotion and musculo-skeletal system.	4	7
8.	Maternal physiology in pregnancy.	2	3
9.	Child birth complications, complication of multiple child birth, methods of birth control- Merits and Demerits.	2	3
10.	Hysterectomy	1	2

Text Book:

Title	Author/s	Publication
A Concise Textbook of Surgery	S Das	S Das Publications
Manipal Manual of Surgery	K Rajgopal Shenoy	CBS Publisher
D C Dutta Textbook of Gynecology		Jaypee
D C Dutta Textbook of Obstetrics		Jaypee

Reference Book:

Title	Author/s	Publication
A Short Practice of Surgery	Baley's & Love	CRC Press

Pedagogy:

The course will be delivered using lectures. The lectures consist of theory content and clinical demonstrations.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of 30 Marks
- End Semester Examination will consist of 70 Marks Exam.

P P Savani University

School of Physiotherapy

Course Code: SPPT3050

Course Name: BIOMECHANICS & KINESIOLOGY

Prerequisite Course/s: NIL

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
				Theory		Practical			
Theory	Practical	Total	Credit	CE	ESE	CE	ESE	Total	Remarks
04	-	04	04	30	70	-	-	100	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description: The course introduces the biomechanical and kinesiological principles related to human movements.

Course Learning Outcomes: At the end of this course is that the student will be able to		**PO**
CO1	Recall biomechanics of tissues and structures of the musculoskeletal system and clinical application in physiotherapy.	**PO 3**
CO2	Evaluate the movement of various joints of human bodies in relation to kinetics and kinematics.	**PO 2,3**
CO3	Understand the basic concepts of Biomechanics of joints of upper extremity and lower extremity.	**PO 2,3**
CO4	Understand the basic concepts of Biomechanics of Vertebral column.	**PO 2**
CO5	Understand the basic concepts of Kinesiology by learning and understanding analysis of posture, gait and movement.	**PO 2,3**
CO6	Evaluate and Apply the Methods of kinetics and kinematics investigation in physiotherapy.	**PO 2,3**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	Introduction, aims and objectives, scope and importance in Physiotherapy and basic concepts	2	3
2.	Kinetics and Kinematical concepts	2	3
3.	Biomechanics of tissues and structures of the musculoskeletal system and clinical application.	2	3
4.	**BIOMECHANICS OF UPPER EXTREMITY:** a. The shoulder complex: Structure and components of the shoulder complex and their integrated function b. The elbow complex: Structure and function of the elbow joint – humeroulnar and humeroradial articulations, superior and inferior radioulnar joints; mobility and stability of the elbow complex; the effects of immobilization and injury. c. The wrist and hand complex: Structural components and functions of the wrist complex; structure of the hand complex; functional position of the wrist and hand.	12	20
5.	**BIOMECHANICS OF THE VERTEBRAL COLUMN :** a. General structure and function b. Regional structure and function – Cervical region, thoracic region, lumbar region, sacral region c. Muscles of the vertebral column d. General effects of injury and aging	8	13
Section II			
1.	**BIOMECHANICS OF LOWER EXTREMITY:** a. The hip complex: structure and function of the hip joint; hip joint pathology- arthrosis, fracture, bony abnormalities of the femur b. The knee complex: structure and function of the knee joint – tibiofemoral joint and patellofemoral joint; effects of injury and disease. c. The ankle and foot complex.: structure and function of the ankle joint, subtalar joint, talocalcaneonavicular joint, transverse tarsal joint, tarsometatarsal joints, metatarsophalangeal joints, interphalangeal joints, structure and function of the plantar arches, muscles of the ankle and foot, deviations from normal structure and function – Pes Planus and Pes Cavus	12	20
2.	**Analysis of Posture: –** Static and dynamic posture, postural control, kinetics and kinematics of posture, ideal posture analysis of posture, effects of posture on age, pregnancy, occupation and recreation	6	10
3.	**Analysis of Gait:** General features of gait, gait initiation, kinematics and kinetics of gait, energy requirements,	6	10

	kinematics and kinetics of the trunk and upper extremities in relation to gait, stair case climbing and running, effects of age, gender, assistive devices, disease, muscle weakness, paralysis, asymmetries of the lower extremities, injuries and malalignments in gait;		
4.	**Movement Analysis :** ADL activities like sitting – to standing, lifting, various grips , pinches. Patient Positioning, Body Mechanics and Transfer Techniques Ergonomic Approach to lifting and handling, workspace and Environment	6	10
5.	Methods of kinetics and kinematics investigation	4	8

Text Book:

Title	Author/s	Publication
Joint Structure and Function, 6th edn	Cynthia Norkins	F.A Davis Company
Kinesiology of the Musculoskeletal System, 3rd edn	Donald A Neumann	Elsevier
Kinesiology.: Scientific basis of human motion, XII edition	Hamilton Nancy,Wendi Weimar,Kathryn Luttgens	McGraw Hill
Biomechanics the nucleus of physiotherapy	R Vinodh Rajkumar	Jaypee Publication

Reference Book:

Title	Author/s	Publication
Biomechanical Basis of Human Movement, 5th edn	Joseph Hamill , Kathleen Knutzen , Timothy Derrick	Wolters Kluwer
Kinesiology	Carol A Oatis,	Wolters Kluwer
Basic Biomechanics of the Musculoskeletal System	Nordin and Frankel	Wolters Kluwer
Biomechanics of Spine	White and Punjabi	
Basics of Biomechanics	Bahl,Ranga,Sharma	

Pedagogy:

The course will be delivered using lectures & clinical demonstrations. The lectures consist of theory content along with clinical examples. During the clinics, the students will be trained with clinical skills.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

P P Savani University

School of Physiotherapy

Course Code: SPPT3060

Course Name: APPLIED RADIOLOGY

Prerequisite Course/s: NIL

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
				Theory		Practical			
Theory	Practical/Clinical	Total	Credit	CE	ESE	CE	ESE	Total	Remarks
2	-	-	2	50	-	-	-	50	

	Course Learning Outcomes: At the end of this course is that the student will be able to	**PO**
CO1	Read and Interpret various radiological investigations like X-rays, CT scan, MRI and Ultra sonography in Clinical Physiotherapy practice.	**PO 1,4**
CO2	Understand the importance of imaging technology used in musculoskeletal, neurological and cardiorespiratory disorders.	**PO 1,4**

Course Content:

Module	Content	Hours	Weightage in %
1.	Basic outlines of X-rays, CT scan, MRI and Ultra-sonography	05	16
2.	**Basic radiology of:** a) Musculoskeletal System: Upper extremities, Lower extremities & Spine b) Nervous System	15	50
3.	**Basic radiology of:** a)Respiratory System b) Cardiac System c) Reproductive & Genitourinary System	10	34

Pedagogy:

The course will be delivered using lectures & practical. The lectures consist of theory content along with application examples. During the practical, the students will be trained with clinical skills.

Course Evaluation:

Theory:

- Only Continuous Evaluation Consisting of 50 Marks.

Text Book:

Title	Author/s	Publication
Diagnostic Imaging for Physiotherapists	James Swain & Kenneth W. Bush	Saunders
Fundamentals of Musculoskeletal Imaging	Lynn N. McKinnis, F.A. Davis	F A Davis
X-ray Diagnosis and Imaging	L.C. Gupta & A. Gupta	Jaypee Brothers

P P Savani University

School of Physiotherapy

Course Code: SPPT 3070

Course Name: **CLINICAL TRAINING**

Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical/Clinical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
-	14	14	7	50	-	-	-	50	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description:

The Clinical Training provides the students the opportunity to understand and increase skills in assessment and treatment delivery. Students will learn basic and intermediate assessment skills and treatment procedures. The student will do clinical training by practicing all the required skills needed in Physiotherapy under direct supervision of Physiotherapists. The students are expected to work for minimum 14 hours per week during the semester.

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Learn to appropriate professional behaviour in clinical settings and wear appropriate attire.	**PO 1,2**
CO 2	Explain & discuss the concept of art of interrogation with patients including history taking and assessment.	**PO 1,2,10,12**
CO 3	Understand medical case file and perform evaluation procedures in orthopaedic, neurology, musculoskeletal settingsetc.	**PO 2,3,8**
CO4	Learn how to communicate with patients and be able to build-up therapeutic relationships.	**PO 1,8,12**

Course Evaluation:

Practical : In Clinical Training, Evaluation will be done based on Continuous Evaluation (Case Presentations and submission of assignment) and Attendance, which will consist of 50 marks.

P P Savani University
Centre for Language Studies

Course Name: Foreign Language- French
Course Code: CFLS3030

Teaching Scheme & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
				Theory		Practical		Tutorial		
Theory	Practical	Tutorial	Credit	CE	ESE	CE	ESE	CE	ESE	Total
2	0	0	2	40	60	0	0	0	0	100

CE: Continuous Evaluation, ESE: End semester examination

Course Objective :- To help the learners to:

No.	Course Objectives
CO1	Understand basic skill to understand, write and speak French in a formal and informal setting.
CO2	Provide knowledge on grammar usage and pronunciation of the language.
CO3	Achieve adequate knowledge to help them have basic understanding of French as a foreign language and usage of the same for communication in day-to-day life.
CO4	Identify and understand correct words, phrases and usage. To read the written text and be able to understand the same.
CO5	Demonstrate effective spoken and written French.

Student Learning Outcome: Learning outcomes upon finishing the course:

No	**Learning Outcomes**
LO1	To recognize and get familiar with French as foreign language.
LO2	To read, listen to and understand basic day to day conversation and to respond appropriately in present, past and future tense
LO3	Develop and apply vocabulary; to comprehend and deliver information; use language skills to have correct phonetic pronunciation.
LO4	Infer various formal and informal situations and speak/write efficiently.
LO5	Participate and perform in DELF A1.1 level (diplôme d'Etudes en langue Française), TEF and TEF

Course content:

Section I			
Module	Content	Hours	Weightage
1	**Listening** **Descriptors/Topics** Listening to and replying to the audio on numerous topics. As mentioned the students will have to develop listening abilities to understand and reply		25%

2	**Reading and Language Descriptors/Topics** Developing material to present and discuss when reading small passages in French.		25%
	Section II		
3	**Speaking Skills and Non-Verbal Aspects Descriptors/Topics** Présentezvous,petitedialogue,parlezdevotrefamille, Parlezdevotreloisirs,parlezdevotreville/maison Répondez aux des questions formel et informel		25%
4	**Writing** **Descriptors/Topics**		25%
	Usage de Grammaire and making coherent sentences		

Content structure:

1.	**Listening**	
	1.1	Listening to the audio, Understanding what heo therpersonis askingorinforming.Studentswillbeexpectedtodemonstrat ea leveloflisteningcompetenceasoutlinedlearningoutcomes.
2.	**Reading and Language**	
	2.1	Reading various small formal and informal texts. Comprehending written information.
3.	**Speaking Skills and Non-Verbal Aspects**	
	3.1	Speaking Skills, Interactive Nature of Communication - Formal and Informal,Smallintroductions,likinganddis-likingsaboutoneself.To beabletocommunicateandholdintroductoryconversation Effective Use of Non-Verbal Aspects
4.	**Writing**	
	4.1	Writing French without making any grammatical errors. Make sentences and be able to express oneself.

Text Books:

	Title	**Author/s**	**Publication**
1.	Edito A2 - methode de Francais	Hamza Djimli, Violette Peitmengin, Serguei Opatski	Didier

Reference Books:

	Titl e	**Author/s**	**Publication**
1	Nouveau sans Frontières -2	Philipe Dominique	CLE International

2	Edito A2 - methode de francais	Hamza Djimli, Violette Peitmengin, Serguei Opatski	Didier

Online References:

	Titl e	link
1	Larousse web (French - English- English French) Dictionary	https://www.larousse.fr/dictionnaires/francais
2	TV5 monde - apprendre le francais FLE	https://apprendre.tv5monde.com/fr

Curriculum Topics:

Sr. No.	Topics covered	Book referred
1.	Revision - present, forme negative, interrogative	Edito - A1
2.	Revision - futur proche et passé récent	Edito - A1
3	Le passe compose	Editio A1
4.	Les fetes	Edito - A1
5.	Communication en classes - II	Edito - A1
6.	Le passe compose (avec etre)	Edito - A1
7.	Parlez de votre enfance	Edito - A1
8.	La ville	Edito - A1

9.	La maison	Edito - A1
10.	Parlez de votre ville	Edito - A1
11.	Le negative en passe compose	Edito - A1
12.	L'interrogation en passe compose	Edito - A1
13.	Les loisirs	Edito - A1
14.	Parlez de votre loisir	Edito - A1
15.	Le negative (tous)	Edito - A1
16.	Writing a postcard	-
17.	Parlez de soi, crée les petits dialogue	-
18.	Writing a letter	Edito - A1
19.	Parlez de temps passé	-
20.	Parlez de votre loisirs	-

Course Evaluation:

System of Assessment	**Weightage**
Continuous Evaluation	40
End Semester Examination	60
Total	**100**

Continuous Assessment- Rubrics:

Continuous Assessment Components	Listening, Speaking, Reading, Writing	Total-40Marks (10 markseach)
End Semester Examination	Listening, Speaking, Reading, Writing	Total–60Marks (15 markseach)

P P Savani University

School of Physiotherapy

Course Code: SEPD3010

Course Name: Professional Communication & Soft Skills

Prerequisite Course (s): --

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
01	02	00	02	00	00	50	50	--	--	100

CE: Continuous Evaluation, ESE: End Semester Exam

Objective(s) of the Course:

To help learners to

- understand multifaceted Professional Speaking Process.
- learn the writing etiquettes for professional purposes.
- gain basic knowledge, skills and the right attitude to succeed in future professional working environment.
- develop confidence, enhance their professional communication ability in civilized, harmonized manner.
- sharpen communication skills with reference to organizational structure.
- expose themselves to the modern modes of communication.

Course Content:

Section I			
Module No.	Content	Hours	Weightage in %
1.	**Self-Management & Career Building** • Self-Evaluation, discipline and criticism • SWOT analysis to identify personal strength/ weakness • Planning & Goal setting • MBTI test for self-analysis • Profiling on Online Platforms	01	7

2.	**Interpersonal Organizational Communication** • Interpersonal Behavioral Skills • Understanding empathy and comprehend other's opinions/ points of views, Managing Positive and negative emotions • Healthy and Unhealthy expression of emotions. • Mutuality, Trust, Emotional Bonding and handling situation in interpersonal relationship	04	25
3.	**Professional Communication (Speaking) - I** • **Professional Communication and Rhetorics** • **Art of Telephonic Conversation** • **Public Speaking**	03	18
	Section II		
4.	**Professional Communication (Speaking) – II** • Group Discussion (Concept, importance, Methods, Dos and Don'ts, Paralinguistic and Nonverbal Etiquettes) • Personal Interview (Concept, Importance, Methods, Dos and Don'ts, Type, Paralinguistic and Nonverbal Etiquettes)	03	20
5.	P**rofessional Communication (Writing)** • Cover Letter and Resume Building • E mail writing • Report Building • Technical/ Academic Writing (Reference/ citation/ plagiarism)	04	30

List of Practical:

Sr. No	Name of Practical	Hours
1.	SWOT analysis & Profiling	04
2.	MBTI Test	02
3.	Interpersonal Organizational Communication	02
4.	Group Discussion	04
5.	Personal Interview	04
6.	Cover Letter and Resume	06
7.	E mail and Report Writing	04
8.	Technical Academic Writing	04

Reference Book(s):

Title	Author/s	Publication
Professional Communication	Sheekha Shukla	2010, WordPress
Professional Communication Skills	Rajesh Kariya	Paradise Publication, Jaipur
Soft Skills and Professional Communication	Petes S. J., Francis.	Tata McGraw-Hill Education, 2011
Effective Communication and Soft Skills	Nitin Bhatnagar	Pearson Education India
Behavioural Science: Achieving Behavioural Excellence for Success	Dr. Abha Singh	John Wiley & Sons, 2012
The Hard Truth about Soft Skills	Klaus, Peggy, Jane Rohman & Molly Hamaker	London: Harper Collins

Course Evaluation:

Practical

- Continuous Evaluation consists of Performance of Practical to be evaluated out of 10 for each practical and average of the same will be converted to 30 marks.
- Internal viva consists of 20 marks.
- Practical performance/quiz/drawing/test/submission of 25 marks during End Semester Exam.
- Viva/Oral performance of 25 marks during End Semester Exam.

Course Outcome(s):

After completion of the course, the student will be able to

- understand the importance self-analysis for career building.
- learn tactics of communication in professional/ organizational ambience.
- master the art of conversation and public speaking.
- expose themselves for placement processes.
  develop writing etiquettes pertaining to placement and organizational context.

Syllabus Book

6th Semester BPT
Physiotherapy

P P Savani University

School ofPhysiotherapy

Authored by: P P Savani University

P P SAVANI UNIVERSITY												
SCHOOL OF PHYSIOTHERAPY												
TEACHING & EXAMINATION SCHEME FOR 6th SEMESTER BPT												
Sem	**Course Code**	**Course Title**	**Offered By**	**Teaching Scheme**				**Examination Scheme**				
				Contact Hours			**Credit**	**Theory**		**Practical**		**Total**
				Theory	**Practical**	**Total**		**CE**	**ESE**	**CE**	**ESE**	
6	SPPT 3081	MUSCULOSKELETAL PHYSIOTHERAPY-II	Physio-therapy	4	2	6	5	30	70	30	70	200
	SPPT 3091	PHYSIOTHERAPY IN NEUROLOGY-I	Physio-therapy	4	2	6	5	30	70	30	70	200
	SPPT 3100	BIO-ENGINEERING & ERGONOMICS	Physio-therapy	4	0	4	4	30	70	0	0	100
	SPPT 3110	PHYSICAL DIAGNOSIS & THERAPEUTICS SKILLS	Physio-therapy	4	2	6	5	30	70	30	70	200
	SPPT3120	CLINICAL TRAINING	Physio-therapy	0	14	14	7	50	0	0	0	50
	SEPD 3020	CORPORATE GROOMING & ETIQUETTE	Physio-therapy	1	2	3	2	0	0	50	50	100
			Total				**39**	**28**				**850**

CONTENT

Semester 6

P P Savani University

School of Physiotherapy

Course Code: SPPT 3081

Course Name: **MUSCULOSKELETAL PHYSIOTHERAPY-II**

Prerequisite Course/s: Nil

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
				Theory		Practical			
Theory	Practical	Total	Credit	CE	ESE	CE	ESE	Total	Remarks
4	2	6	5	30	70	30	70	200	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: The student will be able to…		**PO**
CO1	Assess and evaluate orthopaedic conditions and acquired deformities.	**PO 1,2,11**
CO2	Be able to identify, discuss & analyse, the Musculoskeletal Dysfunction in terms of Biomechanical & Kinesiological bases.	**PO 3,2**
CO 3	Identify and correlate provisional diagnosis, routine radiological & other investigations & arrive at appropriate Diagnosis with Clinical Reasoning.	**PO 2,3**
CO4	Apply a safe and effective treatment plan with short and long-term goals with rationale for selecting specific exercises for the purposes of improving patient centred outcomes of individuals with Spinal conditions, Leprosy.	**PO 1,9,12**
CO5	Plan and prescribe a treatment protocol by selecting appropriate modes of electrotherapy, exercise therapy, and manual therapy techniques.	**PO 1,11,12**
CO6	Enumerate the complications of various orthopaedic surgical procedures and use relevant bedside assessment and PT management.	**PO 11,12**

Course Content:

Section I			
Module	Content	Hours	Weightage in %
1.	**PT assessment for Orthopedic conditions** -Prescription of home program. Documentation of case records, and follow up.	6	10
2.	**Degenerative and inflammatory conditions**: Definition, signs and symptoms, clinical features, patho physiology, radiological features, deformities, medical, surgical management. Describe the PT assessment and management and home program for the following conditions – Osteoarthritis , Rheumatoid Arthritis, Ankylosing spondylitis, Gout, Perthes disease, Periarthritic shoulder.	12	20
3.	**PT assessment and management of the following Congenital Deformities**: CTEV, CDH, Torticollis, pes planus, pes cavus and other common deformities.	6	10
4.	**PT assessment and management of the following Acquired Deformities:** Scoliosis, Kyphosis, Coxa vara and valga, Genu varum, valgum and Recurvatum.	6	10
SECTION II			
5.	**Spinal conditions:** Review the causes, signs and symptoms, investigations, radiological features, neurological signs. PT assessment, aims, and management and home program of the following conditions: Spondylosis, Spondylolisthesis, Spondylolysis , Spinal canal stenosis, Neurogenic Claudication, Sacro-iliac joint dysfunction, Sacralisation, Lumbarisation and Coccydynia	10	16
6.	**Orthopedic surgeries:** Pre and post-operative PhysioTherapy assessment, goals, precautions and PhysioTherapy management of following surgeries such as : Arthrodesis, Osteotomy, Arthroplasty- partial and total replacement; Tendon transplant, Soft tissue release- tenotomy, myotomy, lengthening; Arthroscopy, Laminectomy, Discectomy, Spinal stabilization, Re-attachment of limbs.	8	13
7.	**Leprosy:** Definition, cause, clinical features, medical and surgical management. PT assessment, aims, and management after surgical procedures such as tendon transfer both pre and post operatively	4	7
8.	Physiotherapy assessment & management of Hand injuries	5	8
9.	Osteoporosis- causes, predisposing factors, investigations and treatment.	3	6

List of Practical:

Sr No	Name of Practical	Hours
1.	Treatment Planning, Documentation & Presentation of cases - Conditions affecting Upper Limb including hands	10
2.	Treatment Planning, Documentation & Presentation of cases -Conditions affecting lower limb including foot	10
3.	Treatment Planning, Documentation & Presentation of cases -Conditions affecting the Spine –Cervical, Thoracic & Lumbar	10

Text Book:

Title	Author/s	Publication
Therapeutic exercise	Carolyn Kisner & Colby	Jaypee Publication
Essentials of Orthopedics & Applied Physiotherapy	Jayant Joshi	Elsevier
Orthopedic Physical Therapy	Donatelli	Elsevier
Physical Rehabilitation	Susan O'Sullivan	Jaypee Publication

Reference Book:

Title	Author/s	Publication
Clinical Orthothopedic Rehabilitation	Brotzman	Elsevier
A Practical Approach to Musculoskeletal Medicine	Atkins	Elsevier
Hand Rehabilitation	James Hunter	Elsevier
Tidy's Physiotherapy	Stuart Porter	Elsevier

Pedagogy:

The course will be delivered using lectures & practical.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

Practical

- Internal Assessment(30)
- Practical End Semester Examination will consist of 70 Marks Exam. i.e Long case(30) , Short case (15) Viva (20) Case Record Book/Journal (05).

P P Savani University

School of Physiotherapy

Course Code: SPPT 3091

Course Name: Physiotherapy in Neurology-I

Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical/Clinical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
4	2	6	5	30	70	30	70	200	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description:

The student will be able to demonstrate and understand neurologic conditions causing disability, list the etiology, clinical features and methods of investigations and physiotherapy management.

Course Learning Outcomes: The student will be able to understand		**PO**
CO1	Assess, identify & analyze neuro-motor & psychosomatic dysfunction in adult & paediatric & co-relate the finding with provisional diagnosis, interpretation of routine neurological investigations & arrive at diagnosis with clinical reasoning.	**PO 2,3**
CO2	Understand the principles & acquire Neuro therapeutics skills	**PO 2,3,5**
CO3	Diagnose and evaluate abnormalities in motor and sensory development in neurological conditions.	**PO 2,3,5,11**
CO4	Formulate realistic and acceptable therapeutic goals that are patient centred, and implement a safe and effective treatment plan with short and long-term goals according to various stages of neurological disease.	**PO 11,12**
CO5	Determine appropriate tests, measures, and outcome measures to utilize for a physiotherapy examination based on patient presentation, environmental and personal factors, and best supportive evidence.	**PO 11,12**

Section I			
Module	Content	Hours	Weightage in %
1.	**Neurological Assessment** – adult and pediatrics Paediatric Examination, Developmental milestones, developmental reflexes, Neuro developmental screening tests. Assessment and Management of various Neurological Gaits	8	13
2.	**Neuro physiological Techniques** – Concepts, Principles, Techniques, Effects of following Neuro physiological techniques: NDT, PNF, Brunnstorm movement therapy, Rood's Sensory motor Approach	8	13
3.	Cerebro-Vascular Accidents	6	10
4.	Spinal cord injury	6	10
Section-II			
5.	Traumatic Brain Injury	5	9
6.	**Degenerative Disorders** – Parkinson's Disease , Dementia and Alzheimer's Disease	6	10
7.	**Congenital and Childhood Disorders** – Cerebral palsy, Hydrocephalus and Spina Bifida.	8	13
8.	Motor Neuron Diseases	4	7
9.	Muscular dystrophies and myopathies	5	8
10.	Polyneuropathies- Gullian Barre Syndrome, Diabetic neuropathy	4	7

Practical:

Sr No	Name of Practical	Hours
1.	**Neurology Assessment – Adult and Paediatric** To teach motor assessment (tone, ROM, MMT, girth measurement, voluntary control testing), reflex assessment, sensory assessment, cranial nerve assessment, higher mental function assessment. To teach balance, coordination assessment and training, PNF techniques. Application of various scales used for neurological conditions.	10
2.	**Physiotherapy in Adult Neurology** To teach positional strategies for stroke patient, specific hand rehabilitation exercises for stroke patients. Teach Mobilization, Shifting techniques and mat activities for spinal cord injury patients.	10
3.	**Physiotherapy in Paediatric Neurology** To teach developmental screening and neonatal reflex assessment. To teach movement facilitation exercises for child with delayed milestone. - Application of various scales and checklist used for neurological conditions.	10

Text Book:

Title	Author/s	Publication
Cash Textbook of Neurology	Patricia A Downie	Jaypee
Physical Rehabilitation	Susan O Sullivan	Elsevier
Neurological Rehabilitation	Darcy Umphred	Mosby
Steps to follow	Patricia Davies	Springer Verlag
Pediatric physical therapy	Jan Stephen Tecklin	LWW
Physiotherapy in Neuro Conditions	Glady Samuelraj	Jaypee

Reference Book:

Title	Author/s	Publication
Treatment of CP & motor delay -	Sophie Levitt	Thomas
Occupational Therapy	Pediattri	**Elsevier**
Occupational Therapy	Trombly	LWW
Right in the Middle	Patricia Davies	Springer Verlag
Tetraplegia & Paraplegia	Ida Bromley	**Elsevier**
Starting again	Patricia Davies	Springer Verlag
Spinal cord injury	Buchanan & Nawoczenski	LWW
Adult Hemiplegia	Bobath	Churchill Livingstone
Stroke Rehabilitation	Margaret Johnstone	Churchill Livingstone

Pedagogy:

The course will be delivered using lectures & practical. The lectures consist of theory content along with application examples. During the practical, the students will be trained with clinical skills.

Course Evaluation:

Theory:

- Continuous Evaluation Consists of 30 Marks. End Semester Examination will consist of 70 Marks Exam.

Practical:

- Continuous Evaluation Consists of 30 Marks. Practical End Semester Examination will consist of 70 Marks Exam. i.e Long case(30) , Short case (15) Viva (20) Case Record Book/Journal (05).

P P Savani University

School of Physiotherapy

Course Code: SPPT 3100

Course Name: BIO-ENGINEERING & ERGONOMICS

Prerequisite Course/s: Nil

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
4	0	4	4	30	70	0	0	100	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes (BIOENGINEERING): At the end of this course student will be able to		**PO**
CO1	Identify and differentiate the usage and indication of orthotics and prosthetics according to the various musculoskeletal and neurological conditions.	**PO 9**
CO2	Assess the functional improvement after prescribing the orthosis and prosthesis.	**PO 9,11**
CO3	Plan the rehabilitation protocol and modify whenever required	**PO 9,11,12**

Course Learning Outcomes (ERGONOMICS) : At the end of this course student will be able to		**PO**
CO1	Use various assessment, diagnostic tool and software for workplace analysis.	**PO 9,11,12**
CO2	Modify the workplace design with suggestions and anthropometric requirement for the workplace	**PO 8,9,11**

CO3	Describe the biomechanical principles of application of variety of aids & appliances used for ambulation, protection & prevention.	**PO 8,9,11,12**
CO4	Describe how work environment be related to ergonomics and reduction of risks	**PO 9,11**
CO5	Discuss theoretical and practical concept of posture assessment and anthropometric measurements of human body	**PO 9,11,12**
CO6	Detect work hazardous assessment as related to occupation and its environment and evaluate work hazardous practice for various industries.	**PO 11,12**

Course Content:

BIO-ENGINEERING Section -I			
Module	Content	Hours	Weightage in %
1.	**Prosthetics & Orthotics:** a) Definition and Biomechanical principles in designing of appliances & assessment b) Classification of Aids & appliances c) Differences between prosthesis and orthoses d) Prostheses – For Lower limb and upper limb indications and checkout.	08	13
2.	e) Introduction to Splints / Orthoses – For spine, upper & lower limb f) Upper Limb Orthoses: - Knuckle Bender splint, Cock Up Splint, Opponens splint, finger splints, wrist hand orthoses g) Spinal Orthoses: Head Cervical Orthoses, Cervical, Thoraco-lumbar, Lumbo – sacral Orthoses (Knight brace, Taylors's Brace, Milwawkee Brace, Collars) h) Lower Limb Orthoses: HKAFO, KAFO, AFO, Foot Orthoses (Shoe Modification) i) Wheel Chair – Parts and prescription	10	16
3.	**Architectural Barriers:** Modifications physical and architectural barriers for disabled. Wheel Chair – Parts and prescription	04	7
	ERGONOMICS Section-II		
4.	**Ergonomics and Human Factors Fundamentals** Introducing ergonomics**:** Domain, philosophy and objective Journey, fitting task to man	04	7
5.	**Human Physical Dimension Concern**	05	8

	Human body: structure and function anthropometrics Measuring Technique: Statistical treatment of data and percentile calculations.		
6.	**Posture and Movement** Ergonomic Postural analysis and job relation	05	8
7.	**Manual Material Handling** NIOSH Lifting equations	02	3
8.	**Office Ergonomics and Work System Design** Workstation design Performance support and design intervention Decision support system Work Physiology for task easiness	07	12
9.	**Cognitive ergonomics** Psychosocial behavior aspects Human error and risk perception	04	7
10.	**Occupation safety and stress at workplace** Health, Stress and lifestyle management to reduce fatigue, errors and discomfort Occupational Hazards and accidents	04	7
11.	**Environment Factors** Environment Factors influencing human performance Illumination, Heat, Vibration, Noise	05	8
12.	**Design Ergonomics** Checklists	02	4

Textbooks:

Title	**Author/s**	**Publication**
Orthoses, Prostheses & Assistive Devices for Physiotherapists	Sinha Akhoury Gourang, Tripathy Subrat Kumar, Sharma Raju	Jaypee Publications
Textbook of Rehabilitation	Sunder	Jaypee Publications
Physical Rehabilitation	Susan B. O'Sullivan and Thomas J. Schmitz	Jaypee Publications
Ergonomics for Therapists	Karen Jacobs	
Introduction to Ergonomics	Robert Bridger	Taylor & Francis
Fundamentals and Assessment Tools for Occupational Ergonomics	William S. Marras, Waldemar Karwowski	CRC Press

Reference Books:

1. A textbook on physical medicine and rehabilitation by Howard A Rusk (1964)

2. Physical Medicine and Rehabilitation: Principles and Practice (2 Volume Set) by Joel A DeLisa, Bruce M Gans, Nicolas E Walsh, and William L Bockenek

3. Essentials of Physical Medicine and Rehabilitation: Walter R. Frontera MD PhD, Julie K. Silver MD, and Thomas D. Rizzo Jr. MD (2008)

4. Orthotics and Prosthetics in Rehabilitation by Michelle M. Lusardi and Caroline C. Nielsen (2006)

5. Ergonomics for Beginners: A Quick Reference Guide, Third Edition by Jan Dul and Bernard

6. Occupational Ergonomics by Tayyari and Smith, Pub.Springer

7. Ergonomic Living : How to Create a User-Friendly Home & Office: Gordon Inkeles and Iris Schencke

Pedagogy:

The course will be delivered using lectures &demonstrations.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of total 30 marks (CE of 20 Marks and submission of assignment which carries 10 Marks)
- End Semester Examination will consist of 70 Marks Exam

P P Savani University

School of Physiotherapy

Course Code: SPPT 3110

Course Name: **PHYSICAL DIAGNOSIS & THERAPEUTICS SKILLS**

Prerequisite Course/s: Nil

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
				Theory		Practical		Total	Remarks
Theory	Practical	Total	Credit	CE	ESE	CE	ESE		
4	2	6	5	30	70	30	70	200	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes:At the end of the course, the student will be able to understand		**PO**
CO1	Acquire the skill of Evaluation & objective documentation of the Neuro-Musculoskeletaldys functions such as Pain, altered muscle power, mobility, endurance, limb length, posture, gait, hand function & A.D.L. in adult & paediatric conditions	**PO 1,11,12**
CO2	Perform and evaluate Functional diagnosis for Musculoskeletal Dysfunctions, Anthropometry assessment to Interpret Physical diagnosis.	**PO 11,12**
CO3	Acquire basics of the neuro therapeutics skills on models/patients.	**PO 8,11, 12**
CO4	Learn basics of various therapeutic skills essential in Physiotherapy like Maitland, Mulligan, Cyrix techniques and Neural Mobilization techniques.	**PO 10,11**
CO 5	Learn basics of various therapeutic skills essential in Physiotherapy like Bobath, Motor relearning and Roods approaches in neurological conditions managements.	**PO 10,11**
CO 6	Learn and practice Trigger point assessment & its treatment with Positional Release Techniques	**PO 10,11**

Course Content:

SECTION I			
Module	Content	Hours	Weightage in %
1.	1. Problem oriented Medical Record-History, Concept & Advantages 2. Communication with patient - Principles and methods 3. Investigation & Clinical Implications: Vital parameters – Assessment of blood pressure, respiratory rate, Breath Sounds, Cardiac Sounds, Heart rate, peripheral pulses, SpO2 ,X-ray, PFT, ABG, ECG, ABI, claudication time, pulses, auscultation, postural hypotension Stress testing i. 6 Minute Walk test & Harward Step test ii. Shuttle Walk Test & Modified Bruce Protocol (should be interpretation only) 4. Clinical Reasoning Process 5. Rationale of plan of Physiotherapeutic Management	8	14
2.	**Assessment of Musculoskeletal Dysfunction** i. Shortening of soft tissues-Tests for evaluating flexibility ii. Joint Mobility- including spinal mobility, measurement of cervical spine mobility using measure tape, Schober's test for lumbar spine mobility iii. Special Tests for Upper Extremity and Lower Extremity and Spine iv. Numerical Pain Rating Scale, VAS and Mc Gill's modified Questionnaire	16	26
3.	**Assessment of Hand** i) Sensations ii) Mobility of Joints iii) Strength iv) Special Tests like Froment's Sign, Bunnel – Littler's Test, Phalen's Test, Tinel's Sign, Wartenberg's Sign v) Hand Function – Precision & Power Grips	3	5
4.	**Assessment of Obesity** i) Pathophysiology ii) Assessment – BMI, Waist – Hip Ratio, Skin fold Caliper, Girth measurements and Anthropometry	3	5
SECTION-II			
5.	**Physical approaches: Musculo-skeletal system-** 1. Maitland's Concept 2. Cyriax Approach 3. Mobilization of Nervous system and NeuroDynamics 4. Mulligans Concept	10	16
6.	**Physical approaches :Neuro-Muscular System (for CNS problems.)** 1. Bobath approach/NDT 2. Motor Relearning Process 3. Brunnstrom approach 4.Roods approach	10	16
7.	Trigger point assessment & treatment	2	4

8.	Introduction to Neuromuscular Techniques & Positional Release Techniques	8	14

List of Practicals:

Sr No	Name of Practical	Hours
1.	Practice of Manual Therapy in Maitland, Cyriax, Mulligan & Neural Mobilization. Neurodynamic testings- ULTT, Slump test, SLR & its variants & prone knee bend test and other special tests	10
2.	Practice of Neuro Therapeutic Skills of NDT, PNF & Brunnstrom on models/patients	10
3.	NMT and other Techniques (Demonstration on patients, practice on models) Indications for Application	10

Text Book:

Title	Author/s	Publication
Orthopedic Physical Examination	Magee	Jaypee
Physical Rehabilitation	O'Sullivan	Jaypee
Orthopedic physiotherapy	Donatelli	Churchill Livingstone
Manual Therapy	Mulligans	Spinal Pubs
Mobilization of the Nervous System	David Butler	Springer Publications
Neuro-Dynamics	Michael Shacklock	Elsevier
Maitland's Peripheral Manipulation	Elly Hengeveld	Churchill Livingstone
Maitland's Vertebral Manipulation	Maitland	Churchill Livingstone
Textbook of Orthopedic Medicine Vol-1, Vol-2	James Cyriax	Churchill Livingstone

Reference books:

Title	Author/s	Publication
Positional Release Techniques	Leon Chaitow	Elsevier
Neuromuscular Techniques	Leon Chaitow	Elsevier
Occupational Therapy	Pedettri	Elsevier
Occupational Therapy	Trombly	LWW
Optimizing motor control	Carr & Shepherd	Elsevier

Pedagogy:

The course will be delivered using lectures & practical.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

Practical

- Continuous Evaluation (30 marks)
- Practical End Semester Examination will consist of 70 Marks Exam. i.e Long case(30) , Short case (15) Viva (20) Case Record Book/Journal (05)

P P Savani University

School of Physiotherapy

Course Code: SPPT 3120

Course Name: **CLINICAL TRAINING**

Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
				Theory		Practical			
Theory	Practical/Clinical	Total	Credit	CE	ESE	CE	ESE	Total	Remarks
-	14	14	7	50	-	-	-	50	

CE: Continuous Evaluation, ESE: End Semester Exam

.The Clinical Training provides the students the opportunity to understand and increase skills in assessment and treatment delivery. Students will demonstrate competence of intermediate treatment procedures. The student will do clinical training by practicing all the required skills needed in Physiotherapy under direct supervision of Physiotherapists. The students are expected to work for minimum 14 hours per week during the semester.

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Communicate effectively with patients, family/carers and multidisciplinary team.	**PO 1,2**
CO 2	Assess pain, joint integrity, mobility, ligament laxity, accessory movement and neural tension tests.	**PO 1,2,5,10,12**
CO 3	Assess and evaluate hand functions and integumentary assessment for obesity.	**PO 5,10**
CO 4	Auscultate heart and breath sounds and assess BP, HR, SPO2, ECG and assess other clinical parameters.	**PO 6,10,12**
CO 5	Understand and apply physical approaches like Mulligans concept, Neurodynamics, Cyriax, Bobath, Brunnstrom etc.	**PO 10,12**

CO 6	Modify elements of the plan of care and goals in response to changing patient's status, as needed	**PO 10,12**
CO 7	Provide patient and caregiver clear and concise home program instructions as their levels of learning and ensure the patient's understanding of home program.	**PO 9,11,12**

Course Evaluation:

Practical

In Clinical Training, Evaluation will be done based on Continuous Evaluation (Case Presentations and submission of assignment) and Attendance which will consist of 50 marks.

P P Savani University

Centre for Skill Enhancement & Professional Development

Course Code: SEPD 3020
Course Name: Corporate Grooming & Etiquette
Prerequisite Course(s): --

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
01	02	00	02	0	0	50	50	--	--	100

CE: Continuous Evaluation, ESE: End Semester Exam

Objective(s) of the Course:

To help learners to

- learn corporate and professional structure and mannerisms.
- acquire self-development skills to balance casual and formal situation.
- polish their personal skills for apt behavior in the context of corporate structure.
- develop adequate Skill set required for the workplace.
- become aware about the professional etiquettes and tactics to follow them.

Course Content:

Section – I			
Module No.	Content	Hours	Weightage in %
1.	**Corporate Grooming** • Introduction to corporate culture • Corporate Expectations • Need of Self-Grooming to the Corporate Expectations • Understanding and importance of Professionalism	03	25

2.	**Personal Skills** • Behavioral skills • Language Skills • Knowledge Skills • Problem Solving Skills • Developing professional attitude	04	25
Section – II			
1.	**Management Skills** • Self-management/ SWOT analysis of self • Time management • Work life balance	04	25
2.	**Organizational Etiquettes** • Workplace Etiquettes/ Interpersonal Etiquettes • Presentation Etiquettes • Meeting Etiquettes • Video Conferencing Etiquettes	04	25

List of Practical:

Sr. No	Name of Practical	Hours
1.	Corporate Grooming (Video session/ Role Play/ Skit)	04
2.	Personal Skills (Games/ Quiz/ Activities)	08
3.	Management Skills (Management Activities/ Video Sessions)	06
4.	Organizational Etiquettes (Case Study/ Activities/ Video Sessions)	06
5.	Computer Assisted Activities of Corporate Grooming	06

Reference Book(s):

Title	Author/s	Publication
Grooming and Etiquette for Corporate Men and Women	John Chibaya Mbuya	LAP
Effective Communication Skills for Public Relations	Andy Green	Kogan Page, 2006 Per
Personality Development and Soft Skills	Barun Mitra	Oxford University Press, 2016

The EQ Edge: Emotional Intelligence and Your Success	Stein, Steven J. & Howard E. Book	Wiley & Sons, 2006.
Cross Cultural Management: Concepts and Cases	Madhavan	Oxford University Press, 2016
Corporate Grooming and Etiquette	Sarvesh Gulati	Rupa Publications India Pvt. Ltd., 2012
Behavioural Science: Achieving Behavioural Excellence for Success	Dr. Abha Singh	John Wiley & Sons, 2012

Course Evaluation:

Practical

- Continuous Evaluation consists of Performance of Practical to be evaluated out of 10 for each practical and average of the same will be converted to 30 marks.
- Internal viva consists of 20 marks.
- Practical performance/quiz/drawing/test/submission of 25 marks during End Semester Exam.
- Viva/Oral performance of 25 marks during End Semester Exam.

Course Outcome(s):

After completion of the course, the student will be able to

- understand the importance of professional etiquettes and ways to improve the same.
- gain the knowledge and practice of skill sets required in corporate set up.
- learn personal management skills in the organizational context.
- develop an awareness about the corporate etiquettes.

Syllabus Book

7th Semester BPT
Physiotherapy

P P Savani University

School of Physiotherapy

P P SAVANI UNIVERSITY

SCHOOL OF PHYSIOTHERAPY

TEACHING & EXAMINATION SCHEME FOR 7th SEMESTER BPT

Sem	Course Code	Course Title	Offered By	Teaching Scheme				Examination Scheme				
				Contact Hours			Credit	Theory		Practical		Total
				Theory	Practical	Total		CE	ESE	CE	ESE	
7	SPPT 4010	PT IN CARDIO RESPIRATORY CONDITIONS	Physio-therapy	5	2	7	6	30	70	30	70	200
	SPPT 4022	PHYSIOTHERAPY IN NEUROLOGY-II	Physio-therapy	4	2	6	5	30	70	30	70	200
	SPPT4030	SPORTS PHYSIOTHERAPY	Physio-therapy	4	2	6	5	30	70	30	70	200
	SPPT 4040	RESEARCH METHODOLOGY & BIOSTATISTICS	Physio-therapy	4	0	4	4	30	70	0	0	100
	SPPT 4050	CLINICAL TRAINING	Physio-therapy	0	14	14	7	0	0	50	0	50
	SEPD 4010	CREATIVITY, PROBLEM SOLVING AND INNOVATION	SEPD	3	0	3	3	100	0	0	0	100
	Total					**40**	**30**					**850**

CONTENT

BPT Semester 7

P P Savani University

School of Physiotherapy

Course Code: SPPT 4010

Course Name: PHYSIOTHERAPY IN CARDIO-PULMONARY CONDITIONS

Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical/ Clinical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
5	2	7	6	30	70	30	70	200	

CE: Continuous Evaluation, ESE: End Semester Examination

Course Learning Outcome: At the end of the course the candidate will be able to:		**PO**
CO1	Understand anatomical and physiological principles of Cardiovascular and Respiratory system.	**PO 6**
CO2	Acquire knowledge of rationale of basic investigative approaches in the medical system and surgical intervention regimes related to cardio vascular and pulmonary Dysfunctions.	**PO 4,6**
CO3	Execute various physiotherapy techniques to increase lung volume, decrease work of breathing and to clear secretion and maintain bronchial hygiene.	**PO 4,6,10**
CO4	Demonstrate physiotherapeutic measures with appropriate clinical reasoning to improve common cardiac surgeries and use of drug therapy in various cardiac and pulmonary conditions with its ICU and ICCU Management.	**PO 6,10**
CO5	Conduct the physiotherapy assessment and management for obstructive, Restrictive and cardiovascular conditions.	**PO 6,10,12**
CO6	Develop Pulmonary and cardiac rehabilitation of various conditions.	**PO 4,6,10**

COURSE CONTENT: -

	SECTION-I		
Module	Content	Hours	Weightage in %
1.	**Anatomy and physiology of respiratory system** Anatomy of thorax, biomechanics of thoracic cage, muscles of	4	4

	respiration, ventilation-perfusion matching /mismatching, compliance		
2.	**Investigations and tests** Sub maximal /maximal exercise tolerance testing, Cardiac & Pulmonary radiographs, PFT, ABG, ECG, hematological and biochemical Tests	6	8
3.	**Physiotherapy techniques to increase lung volume** Positioning, breathing exercises, Neurophysiological facilitation of respiration, mechanical aids - Incentive spirometry, CPAP, IPPB	5	7
4.	**Physiotherapy techniques to decrease the work of breathing** Measures to optimize the balance between energy supply and demand, positioning, Breathing re-education – Breathing control techniques, mechanical aids: IPPB, CPAP, BiPAP	5	7
5.	**Physiotherapy techniques to clear secretions** Hydration, Humidification & Nebulization, Mobilization and breathing exercises, postural drainage, Manual techniques: Percussion, vibration and shaking, ACBT, Autogenic Drainage, Mechanical aids: PEP, Flutter, IPPB, facilitation of cough and huff, suctioning	6	8
6.	**Physiotherapy in common complications following cardiac surgeries.**	4	5
7.	**Drug therapy** Drugs to prevent and treat inflammation, drugs to treat bronchospasm, drugs to treat breathlessness, drugs to help sputum clearance, drugs to inhibit coughing, drugs to improve ventilation, drugs to reduce pulmonary hypertension, drug delivery doses, inhalers and nebulizers	5	7
	SECTION-II		
8.	**Introduction to ICU & mechanical ventilator** ICU monitoring – apparatus, airways and tubes used in the ICU - Physiotherapy in the ICU – common conditions in the ICU. Mechanical ventilator: types, modes of ventilator, advantages and disadvantages Oxygen therapy, CPR, aseptic precautions	6	8
9.	**Physiotherapy assessment & management techniques in Obstructive lung conditions** Chronic bronchitis, emphysema, asthma, bronchiectasis, cystic fibrosis	4	5
10.	**Physiotherapy assessment & management techniques in Restrictive lung conditions** Rib fracture, Pleural effusion, pleurisy and empyema, pulmonary embolism, pulmonary tuberculosis, atelectasis, pneumothorax, bronchopulmonary fistula, pneumonia, ARDS	5	7
11.	**Physiotherapy following Lung surgeries** Pre and post operative physiotherapy assessment and management in Lobectomy, Pneumonectomy, decortication, thoracoplasty	5	7
12.	**Pulmonary Rehabilitation** Definition, aims and objectives, team members, benefits, principles of exercise prescription and techniques of	6	8

	rehabilitation		
13.	**Anatomy and physiology of cardiovascular system** Anatomy, blood supply and conduction system of heart	2	2
14.	**Physiotherapy assessment & management for cardiovascular disorders** Cardiovascular disease, congestive heart failure, myocardial infarction, valvular diseases of heart, cyanotic and acyanotic congenital heart diseases, endocarditis	7	10
15.	**Cardiac Rehabilitation** Definition, aims and objectives, team members, benefits, principles of Exercise prescription and techniques of rehabilitation	5	7

List of Practical:

Sr. No.	Name of Practical	Hours
1.	To plan, perform and execute rehabilitative measures for maximum possible functional independence of a patient.	5
2.	To execute the effective Physio Therapeutic measures (with appropriate clinical reasoning) with special emphases to Breathing retraining, nebulization , humidification, bronchial hygiene, General Mobilisation & Exercise conditioning.	10
3.	To acquire knowledge of physical evaluation and planned patients care at the Intensive care unit, artificial ventilation suctioning, positioning for bronchial hygiene & continuous monitoring of the patient at the Intensive care units.	10
4.	To acquire the skill of basic Cardio-pulmonary resuscitation	5

Textbooks:

Title	Author/s	Publication
Physiotherapy in Respiratory care	Alexander Hough	CENGAGE Publishers
Cardiovascular and pulmonary physical therapy: evidence to practice	Donna Frownfelter	Elsevier
Cash's Textbook for Physiotherapists in Chest, Heart & Vascular diseases	Patricia Downie	Jaypee Pub.

Reference Book:

Title	Author/s	Publication
Essentials of Cardiac-pulmonary Physical Therapy	Hillegass and Sandowsky	Churchill Livingstone
Respiratory Care	Eagans	Churchill Livingstone
Physical Rehabilitation	O'Sullivan	F A Davis
PT for Resp & cardiac problems	Pryor & Prasad	Churchill Livingstone
Cardiopulmonary physical Therapy	Irwin Scott	Elsevier
Exercise testing & Exercise prescription for special cases	J. Skinner	Lippincott Williams & Wilkins

Pedagogy:

The course will be delivered using lectures & practical.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of Total (30 marks)- One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

Practical

- Internal Assessment(30marks)
- Practical End Semester Examination will consist of 70 Marks Exam. i.e Two cases(25 each-25*2=50 marks) and Viva (20 marks)

P P Savani University

School of Physiotherapy

Course Code: SPPT 4022

Course Name: **Physiotherapy in Neurology-II**

Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical/ Clinical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
4	2	6	5	30	70	30	70	200	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcome:- At the end of the course, the student will be—		**PO**
CO1	Able to detect abnormalities in motor and sensory development in neurological patients.	**PO 3,10,12**
CO2	Able to assess, identify & analyse neuro-motor & psychosomatic dysfunction in adult & paediatric & co-relate the finding with provisional diagnosis, interpretation of routine neurological investigations & arrive at diagnosis with clinical reasoning	**PO 4,10,11,12**
CO3	Able to understand the principles & acquire Neuro therapeutics skills	**PO 10,11**
CO4	Able to plan, prescribe & execute short term & long-term goals with appropriate therapeutic interventions & be able to modify treatment techniques according to various stages of neurological disease.	**PO 11,12**

Course Content:

Module	Content	Hours	Weightage in %
	SECTION -I		
1.	Demyelinating Diseases – Transverse Myelitis and Multiple Sclerosis.	8	13
2.	Peripheral Nerve Disorders – Peripheral Nerve Injuries, Entrapment Neuropathies	8	13
3.	Physiotherapy management in Cerebellar disorders – Cerebellar ataxia and Sensory ataxia.	2	4
4.	Assessment and management of Neurological Gaits	2	4
5.	Neurosurgery: Post Surgical Physiotherapy in Neurosurgical Procedures – Craniotomy, Shunts, SOL Resection, Surgical Treatment of Spasticity.	8	13
	SECTION II		
6.	Neuropsychiatric Disorders- The Autistic Spectrum Disorders, Attention Deficit/ Hyperactivity Disorder	6	10

7.	Infections – Tuberculosis, Infections of Central Nervous System - Meningitis, Encephalitis and Poliomyelitis.	8	13
8.	Other Conditions- Movement disorders , Myasthenia Gravis, Cranial Nerve Lesions, Epilepsy, Craniovertebral Junction Anomalies, Arthrogryposis Multiplex Congenita, Inborn errors of metabolism and syndromes.	6	10
9.	Learning Disabilities: Dyslexia, Dysgraphia, Dyscalculia	4	7
10.	Sensory Integration Approach, Constraint induced movement therapy, Vojta therapy, Motor control theories and Motor relearning program	8	13

List of Practical:

Sr. No.	Name of Practical	Hours
1.	Physiotherapy in Adult Neurology To teach assessment and management of conditions by clinical reasoning and application of approaches in neurologically disabled patients.	15
2.	Physiotherapy in Paediatric Neurology Assessment and management of various conditions and relevant treatment approaches to pediatric patients with neurological conditions.	15

Text Books:

Title	Author/s	Publication
Physical Rehabilitation	Susan O Sullivan	F A Davis
Neurological Rehabilitation	Darcy Umphred	Elsevier
Steps to follow	Patricia Davies	Springer
Cash Textbook of Neurology	Patricia A Downie	Lippincott
Lifespan Neurorehabilitation	Dennis W. Fell, Karen Y. Lunnen, Reva P. Rauk	F A Davis
Physiotherapy in Neuro Conditions	Glady Samuelraj	Jaypee Brothers Medical Publishers
Paediatric Physical therapy	Jan Stephen Tecklin	Lippincott

Reference Book:

Title	Author/s	Publication
Treatment of CP & motor delay -	Sophie Levitt	Churchill Livingstone
Neurological Conditions	Glady Samuel Raj	Jaypee Brothers Medical Publishers
Stroke Rehabilitation	Margaret Johnstone	Churchill Livingstone
Right in the Middle	Patricia Davies	Springer
Tetraplegia & Paraplegia	Ida Bromley	Churchill Livingstone
Optimizing motor control	Carr & Shepherd	Churchill Livingstone
Starting again	Patricia Davies	Springer
Spinal cord injury	Buchanan	Williams & Wilkins
Adult Hemiplegia	Bobath	Elsevier

Occupational Therapy: Practice Skills for Physical Dysfunction	L W Pedretti	Mosby
Occupational Therapy for Physical Dysfunction	Radomski, Trombly Latham	Wolters Kluwer, LWW
Mosby's field guide to occupational therapy for physical dysfunction	Mosby	Mosby
Neurological Rehabilitation	Carr & Shepherd	Churchill Livingstone
Motor control	Shumway Cook, Anne	Churchill Livingstone

Pedagogy:

The course will be delivered using lectures & practicals.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of Total (30 marks)- One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

Practical

- Internal Assessment(30 marks)
- Practical End Semester Examination will consist of 70 Marks Exam. i.e Two cases (25 each- 25*2=50marks) and Viva (20 marks)

P P Savani University

School of Physiotherapy

Course Code: SPPT 4030

Course Name: **SPORTS PHYSIOTHERAPY**

Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
				Theory		Practical			
Theory	Practical/Clinical	Total	Credit	CE	ESE	CE	ESE	Total	Remarks
4	2	6	5	30	70	30	70	200	

CE: Continuous Evaluation, ESE: End Semester Exam

Course description: This subject provides an opportunity to study sports medicine, prevention of athletic injuries, recognition, evaluation, and immediate care of athletic injuries, rehabilitation and management skills, taping and wrapping techniques, emergency procedures, nutrition, sports psychology, therapeutic modalities, and therapeutic exercises.

Course Learning Outcome: - At the end of the course, the student will—		**PO**
CO1	Discuss the role of Physiotherapists in Sports injuries, exercise prescription, and analyze biomechanical principles related to various sports.	**PO 7,11**
CO2	Demonstrate and conduct on field and off-field physiotherapy assessment and fitness testing of athletes.	**PO 11,12**
CO3	Explain various concepts and methods of Sports Training programs. Describe basic energy system concepts with physical adaptations post-exercise and overtraining and detraining effects.	**PO 7,12**
CO4	Understand concepts of injury prevention, and recovery from Sports Injuries and return to sports	**PO 7,11,12**
CO5	Describe common sports emergencies, their assessment, and management.	**PO 11,12**
CO6	Acquire concepts of evaluation of sports and sports injuries. Conduct assessment, diagnosis, decision-making, and management of various sports injuries using the best supportive evidence	**PO 11,12**
CO7	Explain Nutritional requirements, and psychological considerations in Sports; and various methods of Doping.	**PO 11,12**
CO8	Formulate an effective treatment plan for sports-specific injuries with short and long-term goals including a rationale for selecting specific exercises for the purpose of Sports Specific Rehabilitation.	**PO 7,11,12**
CO9	Practice skilled intervention based on the physiotherapist examination and diagnostic process and findings including contextual factors of patients/ athletes with sports injuries.	**PO 11,12**

Course Contents:

Module	Content	Hours	Weightage in %
	SECTION I		
1.	Evidence Based Practice in Sports Physiotherapy Role of the Team Sports Physiotherapist	2	3
2.	**Physical Evaluation:** On field assessment, Fitness testing in sports- Flexibility, Strength & Endurance, Agility, balance and Coordination.	3	5
3.	Physical Activity Counselling and Exercise Prescription	2	3
4.	Biomechanical aspects of Injury in specific sports (in brief)	4	6
5.	**Training programming and prescription:** Principles of Training Sports specific training and conditioning Methods of training: Interval training, Cross training, circuit training, Plyometric Training, Fartlek training, Heart Rate Precision. Overtraining Syndrome: Signs, Symptoms, Prevention and Management	6	10
6.	Strategies for Injury Prevention, Protective Equipment's in Sports Strategies to expedite recovery for enhanced Sports Performance	3	5
7.	**Sports Emergencies:** Approach to on-field Concussion, ABCs Approach	2	3
8.	Sports Nutrition and the Athlete	2	4
9.	Psychological considerations in Sports	2	3
10.	Pharmacological considerations in Sports	4	8
	SECTION-II		
11.	Principles of Sports Injury Rehabilitation Sports Injuries: Acute and Overuse Injuries Initial management of Acute Sports injuries Management of Overuse injuries in sports.	12	20
12.	Sports Concussion, Neck Pain, Thoracic and Chest Pain, Lower Back Pain, Facet Syndrome, Myofascial Pain Syndrome.	6	10
13.	**Sports Specific Injuries and Rehabilitation**: Cricket, Basketball, Soccer, Hockey, Wrestling, Boxing, Swimming, Throwing and Running injuries.	8	13
14.	**Sports in Special age groups:** Female athlete problems Younger athlete-Musculo-skeletal problems and management	4	7

List of Practical:

Sr. No.	Name of Practical	Hours
1.	Physical Evaluation, Fitness testing in sports-Flexibility, Strength & Endurance, Agility, balance and Coordination.	5
2.	To plan management of various Sports injuries To plan strategies for Injury Prevention and Rehabilitation	10
3.	To plan strategies to expedite recovery for enhanced Sports Performance To plan criteria for return to play.	5
4.	Therapeutic and Prophylactic Strategies: Taping, Wrapping and Bandaging.	10

Textbooks:

Title	Author/s	Publication
Clinical Sports Medicine	Peter Brukner , Karim Khan	McGraw Hill
Athletic and Sport Issues in Musculoskeletal Rehabilitation	David J. Magee, Robert C. Manske J	Elsevier
Musculoskeletal and sports medicine for the primary care practitioner	Richard B Birrer, Francis G O Connor, Shawn F Kane	CRC Press

Reference Book:

Title	Author/s	Publication
Sports Injury Assessment and Rehabilitation	David C. Reid	Churchill Livingstone
Managing sports injuries: a guide for students and clinicians	Christopher M Norris	Churchill Livingstone
Sports-Specific Rehabilitation	Robert A. Donatelli	Elsevier Health Science
Physical Rehabilitation of the Injured Athlete	James R Andrews, Harrelson	Elsevier
Decision Making and Outcomes in Sports Rehabilitation : Evidence-based Practice	John V. Basmajian , Dinesh Kumbhare	Elsevier Health Sciences
Physical Therapies in Sports and Exercise	Kolt, G.S and Mackler S, Chhurchill Livingstone	Churchill Livingstone
Handbook of sports medicine & science: sports injury prevention	Bahr	Wiley- Blackwell
My ofascial Pain and Dysfunction-The Trigger Point Manual Vol-1, Vol-2	Janet G Travell and David Gsimons	Churchill Livingstone
A practical approach to musculoskeletal medicine: assessment, diagnosis, treatment 4/e	Atkins	Elsevier
Orthopaedic Manual Physical Therapy: From Art to Evidence	Christopher H. Wise	F A Davis
Orthopedic Rehabilitation of Athlete	Bruce Reider, George Davies	Elsevier
Principles of Manual Sports Medicine	Steven J Karageanes	Lipincott Williams & Willkins
Taping Techniques	Rose Mc Donald	Churchill Livingstone
Sports Injury Prevention and Rehabilitation	David Joyce & Daniel Lewindon	Routledge, Taylor & Francis
Clinical Applications of Neuromuscular Techniques- Vol I&II	Leon Chaitow	Churchill Livingstone
Movement, stability & lumbopelvic pain: integration of research and therapy	Vleeming, Andry	Churchill Livingstone
Athletic Injuries and Rehabilitation	James E. Zachazewski and Magee David J, William S. Quillen	Saunders
Conservative Management of Sports Injuries	Thomas E. Hyde; Marianne S. Gengenbach	Jones and Barlett

Pedagogy:

The course will be delivered using lectures &practical.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of Total (30 marks)- One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

Practical

- Internal Assessment(30marks)
- Practical End Semester Examination will consist of 70 Marks Exam. i.e Two cases(25 each-25*2=50marks) and Viva (20marks)

P P Savani University

School of Physiotherapy

Course Code: SPPT 4040

Course Name: **RESEARCH METHODOLOGY & BIOSTATISTICS**

Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
				Theory		Practical			
Theory	Practical/Clinical	Total	Credit	CE	ESE	CE	ESE	Total	Remarks
4	-	4	4	30	70	-	-	100	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description: The objective of this module is to help the students understand the basic principles of research and methods applied to draw inferences from the research findings.

Course Learning Outcome: At the end of the course, the learner should be able to:		**PO**
CO1	Describe the basic concepts of Research Methodology and Biostatistics & its importance in physiotherapy practice.	**PO 1,2,12**
CO2	Describe different study designs, Sampling designing ,measurement of scales , methods of Data collection and use of computer technology in research.	**PO 1,2,12**
CO3	Understand the importance of statistics in healthcare practices and management and application of tabulation of data with graphical representation,	**PO 2,12**
CO 4	Understand and calculate the Measures of central tendency, Probability and standard distributions.	**PO 12**
CO 5	Understand the parametric and non-parametric test and application of various tests based on the required analysis.	**PO 2,12**
CO 6	Explain basic principles of ANOVA and its type and application of various tests of correlation and regression.	**PO 2,12**
CO 7	Understand and apply the knowledge of statistics and its interpretation for research purposes.	**PO**2,12

	SECTION I **RESEARCH METHEDOLOGY**		
Module	Content	Hours	Weightage in %
1.	**Introduction to Research methodology:** Objectives of research, Types of research & research approaches, Research process, Research methods vs methodology, Criteriafor good research, Research Proposal	2	4
2.	**Research problem** Statement of research problem., Statement of purpose and objectives of research problem, Necessity of defining the problem	3	5
3.	**Research design** Meaning of research design, Components of Research Design, Need for research design, Features for good design, Types of research designs, Principles of research design, Effective Design, Clinical Study Design	3	5
4.	**Sampling Design:** Criteria for selecting sampling procedure, Implications for sample design, steps in sampling design, characteristics of good sample design, Different types of sampling design. Important sampling Distributions	5	8
5.	**Measurement & scaling techniques** Measurement in research- Measurement scales, sources of error in measurement, Technique of developing measurement tools, Meaning of scaling, its classification. Important scaling techniques.	5	8
6.	**Qualitative Research and Survey Research**	2	3
7.	**Methods of data collection** Collection of primary data, collection data through questionnaires & schedules, Difference between questionnaires & schedules.	2	4
8.	**Processing & analysis of data** Processing operations, problems in processing, Types of analysis, Statistics in research.	3	5

	SECTION-II BIOSTATISTICS		
1.	**Introduction** Statistics in Physiotherapy Research, Parameters and Estimates, Descriptive and inferential statistics in research, Variables and their types, Measurement scales.	3	5
2.	**Tabulation of Data** Basic principles of graphical representation, Types of diagrams – histograms, frequency polygons, smooth frequency polygon, cumulative frequency curve, Normal probability curve.	2	3
3.	**Measures of Central Tendency:** Need for measures of central Tendency, Definition and calculation of mean – ungrouped and grouped, Meaning, interpretation and calculation of median ungrouped and grouped., Meaning and calculation of mode, Comparison of the mean, median and mode, Guidelines for the use of various measures of central tendency. Measures of shapes: Skewness, Kurtosis.	5	8
4.	**Distributions and sampling** Meaning of discrete probability distribution, Binominal and Poisson, continuous probability distribution: normal distribution.	4	7
5.	**Hypotheses testing** Testing of Hypotheses about single population parameters, analyzing difference in two populations	3	5
6.	**Non-Parametric and Parametric Tests** Non-Parametric Tests: Chi-Square test, Wilcoxon signed rank Test, Mann-Whitney U Test, Kruskal- Wallis Test, Friedman Test Parametric Test: Two sample t-test, Paired t-test, Pearson coefficient of correlation Analysis of variance: Analysis of variance (ANOVA), what is ANOVA? Basic principle of ANOVA, ANOVA technique, One-Way ANOVA, Two way ANOVA.	10	17
7.	Correlation and Simple Linear Regression	2	3
8.	**Interpretation of Statistics:** P value, Confidence Interval, Clinical Significance and Statistical significance, Effect size, Standard Error of Measurement, Minimally Clinically Important difference, Efficacy Introduction to Statistical software like SPSS, MS Excel.	4	7

Textbooks:

Title	Author/s	Publication
Research Methods for Clinical Therapists	Carolyn M Hicks	Churchill Livingstone
Foundations of clinical research: Applications to practices	L.G. Portney, M.P Watkins	F.A Davis
Statistics: Theory Methods and Applications	Sancheti and Kapoor	Sultan Chand sons

Reference Book:

Title	Author/s	Publication
Research for Physiotherapists, Project design & Analysis	Carolyn M Hicks	Churchill Livingstone
Research Methodology - Methods & Techniques	C.R. Kothari	New Age International
Essentials of Research Methodology	Thangamani Ramalingam	Jaypee Publications
Physical Therapy Research	Domholdt	Elsevier
Rehabilitation research: principles and applications 5/e	Russell Carter, Lubinsky	Elsevier

Pedagogy:

The course will be delivered using lectures.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of Total (30 marks)- One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

P P Savani University

School of Physiotherapy

Course Code: SPPT 4050
Course Name: **CLINICAL TRAINING**

Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
				Theory		Practical			
Theory	Practical/Clinical	Total	Credit	CE	ESE	CE	ESE	Total	Remarks
-	14	14	7	-	-	50	-	50	

CE: Continuous Evaluation, ESE: End Semester Exam

The Clinical Training provides the students the opportunity to understand and increase skills in assessment and treatment delivery. Students will demonstrate competence of intermediate treatment procedures. The student will do clinical training by practicing all the required skills needed in Physiotherapy. The students are expected to work for minimum 14 hours per week during the semester.

Course Learning Outcomes: The student will be able to		**PO**
CO 1	Explain & discuss the concept of detail History taking during assessing patients before giving any treatment.	**PO 2,6,10,11,12**
CO 2	Understand, assess and treat various conditions in orthopaedic, sports medicine, neurology, community, surgical, cardio respiratory, etc.	**PO 2,6,10,11,12**
CO 3	Learn how to communicate with patients and be able to build-up therapeutic relationships.	**PO 10,11,12**
CO 4	Able to determine the dosage of treatment and make efficient clinical decision.	**PO 11,12**
CO 5	Educate the patient and caregiver about the patient's current health condition/examination findings, plan of care and expected outcomes, utilizing their feedback to modify the plan of care and expected outcome as needed.	**PO 6,10,11,12**

Course Evaluation:

Practical

In Clinical Training, Evaluation will be done based on Continuous Evaluation (Case Presentations and submission of assignment) and Attendance, which will consist of 50 marks.

P P Savani University

Centre for Language Studies

Course Code: CFLS4010

Course Name: Creativity, Problem Solving & Innovation

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)						
Theory	Practical	Tutorial	Credit	Theory		Practical		Tutorial		Total
				CE	ESE	CE	ESE	CE	ESE	
03	00	00	03	100	00	00	00	00	00	100

CE: Continuous Evaluation, ESE: End Semester Exam

Objective(s) of the Course:

To help learners to

- gainfamiliaritywiththemechanicsofcreativityandproblemsolving
- developanattitudeforinnovation
- developcreativethinkingskillsusingconeoflearningcomponentsleadingtounderstanding of strategiesofcreativity,problemsolvingandinnovation
- explore applications of the concepts of creativity and problem-solving skills in personal, social, academic, and professional life.

Course Content:

Section I			
Module No.	Content	Hours	Weightage in %
1.	**Introduction to Creativity, Problem Solving and Innovation** • Definitions of Creativity and Innovation • Need for Problem Solving and Innovation • Scope of Creativity in various Domains • Types and Styles of Thinking • Strategies to develop Creativity, Problem Solving and Innovation skills	06	20

2.	**Questioning, Learning and Visualization** • Strategy and Methods of Questioning • Asking the Right Questions • Strategyof Learning and its Importance • Sources and Methods of Learning • Purpose and Value of Creativity Education in real life • Visualization strategies-Making thoughts Visible • Mind Mapping and Visualizing Thinking	06	20
3.	**Creative Thinking and Problem Solving** • Creative Thinking and its need	06	20
	• Strategy of Thinking Fluency • Generating all Possibilities • SCAMPER Technique • Divergent Vs Convergent Thinking • Lateral Vs Vertical Thinking • Fusion of Ideas for Problem Solving • Applying strategies for Problem Solving		
Section II			
Module No.	Content	Hours	Weightage in %
1.	**Logic,Language and Reasoning** • Basic Concepts of Logic • Statement Vs Sentence • Premises Vs Conclusion • Concept of an Argument • Functions of Language: Informative, Expressive and Directive • Inductive Vs Deductive Reasoning • Critical Thinking &Creativity • Moral Reasoning	06	20
2.	**Contemporary Issues and Practices in Creativity and Problem Solving** • Cognitive Research Trust Thinking for Creatively Solving Problems • Case Study on Contemporary Issues and Practices in Creativity and Problem Solving	06	20

Text Book(s):

Title	Author/s	Publication
Zig Zag, The Surprising Path to Greater Creativity	R Keith Sawyer	Jossy-Bass Publication 2013
Crackling Creativity, The Secrets of Creative Genus	Michael Michalko	Ten Speed Press 2001

Reference Book(s):

Title	Author/s	Publication
Thinker Toys	Michael Michalko	Random House Publication 2006
DeBeno'sThinking Course,Six ThinkingHats	Scott Berkum	Penguin Publication 1999
How to Mind Map	Tony Buzan	Thorsons Publication 2002
The Myths of Innovation	Scott Berkum	Berkun Publication 2010
Creative confidence: Unleashing the creative Potential within us all	Tom Kelly and David Kelly	William Collins Publication 2013
The all Laughed	Ira Flatow	Harper Publication 1992
The Ultimate Lateral & Critical Thinking Puzzle book	Paul Sloane, Des MacHale & M.A. DiSpezio	Sterling Publication 2002

Course Evaluation:

Theory:

- Continuous Evaluation consists of two tests each of 50 marks.

Course Outcome(s):

After completion of the course, the student will be able to

- Demonstrate creativity in their day to day activities and academic output
- Solve personal, social and professional problems with a positive and an objective mindset
- Think creatively and work towards problem solving in a strategic way
- Initiate new and innovative practices in their chosen field of profession.

Syllabus Book

8th Semester BPT
Physiotherapy

P P Savani University

School of Physiotherapy

Authored by: P P Savani University

P P SAVANI UNIVERSITY

School of Physiotherapy

TEACHING & EXAMINATION SCHEME FOR 8thSEMESTER BPT

Sem	Course Code	Course Title	Offered By	Teaching Scheme				Examination Scheme				
				Contact Hours			Credit	Theory		Practical		Total
				Theory	Practical	Total		CE	ESE	CE	ESE	
8	SPPT 4062	PT IN GENERAL MEDICAL & SURGICAL CONDITIONS	Physio-therapy	04	02	06	05	30	70	30	70	200
	SPPT4070	PREVENTIVE & COMMUNITY PHYSIOTHERAPY	Physio-therapy	05	-	05	05	30	70	-	-	100
	SPPT 4080	HEALTH CARE MANAGEMENT & ADMINISTRATION	Management & Physio-therapy	04	-	04	04	30	70	-	-	100
	SPPT 4090	EVIDENCE BASED PRACTICE	Physio-therapy	02	-	02	02	15	35	-	-	50
	SPPT 4100	ALLIED & COMPLEMENTARY THERAPIES	Physio-therapy	04	02	06	05	50	-	50	-	100
	SPPT 4110	RESEARCH PROJECT	Physio-therapy	0	4	4	2	0	0	100	0	100
	SPPT 4120	CLINICAL PHYSIOTHERAPY PRACTICE	Physio-therapy	0	14	14	7	0	0	30	70	100
						Total	**41**	**30**				

CONTENT

Semester 8

P P Savani University

School of Physiotherapy

Course Code: SPPT 4062

Course Name: PHYSIOTHERAPY IN GENERAL MEDICAL-SURGICAL CONDITIONS

Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)				
Theory	Practical	Total	Credit	Theory		Practical		Total
				CE	ESE	CE	ESE	
04	02	06	05	30	70	30	70	200

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: At the end of the course candidate will be able to		**PO**
CO 1	Explain and Demonstrate assessment and management to vascular diseases.	**PO 2,3,4**
CO 2	Discuss, assessment and management for abdominal and oncology surgeries.	**PO 3,4**
CO3	Explain role of physiotherapy management in obstetrics and gynecological conditions.	**PO 2,4**
CO4	Assess and Execute PT management in wounds, ulcers and pressure sores etc.	**PO 3,4**
CO5	Assess and Execute PT management in burns, skin grafts and reconstructive surgical conditions.	**PO 2,3,4**
CO 6	Explain and Demonstrate Physiotherapy in ENT, Integumentary conditions Psychiatric conditions and preparing home programs and preparing education in family members.	**PO 3,4**

Section I			
Module	Content	Hours	Weightage in %
1.	**Physiotherapy assessment & management of vascular diseases** Venous: Thrombosis, phlebitis and phlebo-thrombosis, varicose veins, DVT, venous Ulcers, Arterial: Buerger's disease, acute and chronic arterial occlusion, Lymphedema	12	20
2.	**Physiotherapy assessment & management for abdominal surgeries** Operations on upper gastro- intestinal tract - oesophagus- stomach-duodenum, operation on large and small intestine – appendicectomy, cholecystectomy, partial colectomy, illieostomy, nephrectomy ,Hernia: herniotomy, herniorraphy,hernioplasty	06	10
3.	**Physiotherapy Assessment & management in Oncology surgeries** Physiotherapy intervention in the management of Medical, Surgical and Radiation Oncology Cases ,Mastectomy: simple, radical ,Hysterectomy, prostatectomy, neck dissection	3	5
4.	**Physiotherapy in Obstetrics** Electrotherapy and exercise therapy measures following caesarean section and for the re-education of Ano-Urethral sphincters.	6	10
Section II			
5.	**Wounds, local infections, ulcers, pressure sores** UVR and other electrotherapeutic modalities for healing of wound, prevention of hyper granulated scars, relief of pain and mobilization	6	10
6.	**Physiotherapy in burns, skin grafts and re-constructive surgery**	6	10
7.	**Physiotherapy in ENT conditions** Nonsuppurative otitis media, chronic suppurative otitis media, otosclerosis, labyrinthitis and mastoidectomy resulting into facial palsy, laryngectomy, pharyngeo – laryngectomy, tracheostomy and its care, sinusitis	6	10
8.	**Physiotherapy in Integumentry conditions** Physiotherapy management in Wound –Use and application of electrotherapeutic modalities for wound management, Vitiligo, Psoriasis, Scleroderma, Scar management, Skin care in neurological conditions	6	10
9.	**Physiotherapy in psychiatric conditions** Schizophrenia, depression, psychosis, anxiety	6	10
10.	Home program and education of family members in patient care	3	5

List of Practical:

Sr. No.	Name of Practical	Hours
1.	Physiotherapy assessment & management of vascular diseases, abdominal surgeries, onco-surgeries and obstetrics conditions	15
2.	Physiotherapy in burns, skin grafts and re-constructive surgery	6
3.	Physiotherapy in Integumentary conditions	6
4.	Home program and education of family members in patient care	3

Textbooks:

Title	Author/s	Publication
Cash's Textbook for Physiotherapists in Chest, Heart & Vascular diseases	Patricia Downie	Lippincott
Cash's Textbook in Gen. Medical & Surgical conditions	Patricia Downie	Lippincott
Chest Physical Therapy & Pulmonary Rehabilitation	Donna Frownfelter	Yearbook Medical Publishers
Exercise Physiology	Mc Ardle	Lippincott Williams & Wilkins
Physical Rehabilitation	O'Sullivan	F.A. Davis
Exercise testing & Exercise prescription for special cases	J. Skinner	Lippincott Williams & Wilkins
PT for Respiratory & cardiac problems	Pryor & Prasad	Elsevier Health Sciences
Cardiopulmonary physical Therapy	Irwin Scott	Elsevier Health Sciences
Physical Therapy for the Cancer patient	M.C Garvey	Books on Demand
Wound Healing Evidence-Based Management, 4e	Joseph M. McCulloch, Luther C. Kloth	F.A. Davis

Pedagogy:

The course will be delivered using lectures & practical.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of Total (30 marks)- One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

Practical

- Internal Assessment(30)
- Practical End Semester Examination will consist of 70 Marks Exam. i.e Two cases(25 each-25*2=50) and Viva (20)

P P Savani University
School of Physiotherapy

Course Code: SPPT 4070

Course Name: **PREVENTIVE & COMMUNITY PHYSIOTHERAPY**
Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
05	-	05	05	30	70	-	-	100	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description:

The subject serves to integrate the knowledge gained by the students in Community Physiotherapy and other areas with skills to apply these in clinical situations of health and disease and its prevention. The objective of the course is that after the specified hours of lectures and demonstrations the student will be able to identify rehabilitation methods to prevent disabilities and dysfunctions due to various disease conditions and plan and set treatment goals and apply the skills gained in rehabilitating and restoring functions. Be able to execute the effective Physio Therapeutic interventions with appropriate clinical reasoning.

Course Learning Outcomes: This subject provides the knowledge about conditions the therapist would encounter in their practice in the community. The student will be able to-		**PO**
CO 1	Identify the concept of health and disease, its dimensions, preventive measures and apply the health promotion strategies for the community rehabilitation.	**PO 7,5**
CO 2	Identify the need of community-based rehabilitation, CBR Team, its work, WHO's policies for rehabilitation and role of physiotherapist in it.	**PO 7**
CO3	Explain and recall the epidemiological studies and it methods and can enumerate the epidemiology of communicable and non-communicable disease.	**PO 5**
CO 4	Understand Health System of India And Healthcare Programmes implemented in India.	**PO 7,5**
CO 5	Understand the concepts of disability, international organizing committee, family planning, and occupational health and its relation with disease.	**PO 7,5**

CO 6	Describe and apply the anatomical and physiological changes occurring in various conditions in Women's Health relevant to Physiotherapy, and plan physiotherapy management for fitness.	**PO 7,5**
CO 7	Assess and identify physiological changes in Geriatrics with systemic changes and implementation of various intervention program for disease in geriatric science.	**PO 5,7**
CO 8	Identify Appropriate Plans of Care for various neuro-musculoskeletal, cardiothoracic and developmental disabilities.	**PO 10,12**
CO 9	Explain principles of communication and its management in physiotherapy for community dwell personals.	**PO 10,12**

Course Content:

Section I			
Module	**Content**	**Hours**	**Weightage in %**
1.	**HEALTH PROMOTION** a. W.H.O. definition of health and disease. b. Health Delivery System c. Physical Fitness: definition and evaluation related to: i. Effect in Growing Age ii. Effect in Obesity iii. Physical Fitness in women -Pregnancy, Menopause, Osteoporosis iv. Physiology of Aging –Related to physiological changes in Aging Preventive Measures in all the above groups of community with their related complications of physiological changes, growth, degenerative changes and lifestyle diseases.	5	7
2.	Concepts of Health & Disease Concepts of health, World Health Organization definition of health, Dimensions of health, determinants of health, ecology of health, responsibility of health, indicators of health, levels of health care, Physical Quality of Life Index Concepts of disease causation, natural history of disease, risk	5	6

	factors, iceberg phenomena Disease control, elimination, eradication, levels of prevention, modes of intervention		
3.	Introduction to **Community Based Rehabilitation**: Definition, Criteria ,Components, Concept & Principles of CBR program, Multi sectoral Approach to CBR, Need for CBR, Models of CBR, Members of CBR team, Value of Physiotherapist in CBR.	4	5
4.	W.H.O.`s policies-about rural health care-concept of primary /tertiary health centers-district hospitals etc-Role of P.T.-Principles of a team work of Medical person/P.T./O.T. audiologist/speech therapist /P.&O/vocational guide in C.B.R. of physically handicapped person.	3	4
5.	**Principles of Epidemiology & Epidemiological Methods** Definition, Aims of epidemiology, epidemiological approach, incidence, prevalence, descriptive epidemiology, case control study, cohort study, use of epidemiology, infectious disease epidemiology, disease prevention & control, investigation of an epidemic, screening	4	5
6.	**Epidemiology of Communicable & Non Communicable Disease** Tuberculosis, Polio, Leprosy, Acquired Immunodeficiency Syndrome, Cardiovascular Disease, Diabetes, stroke, accidents & injuries, ChronicObstructive Pulmonary Disease	3	4
7.	**Health Programmes in India** Revised National Tubercular Control Programme, national Acquired Immunodeficiency Syndrome control programme, Reproductive & Child Health, National vector borne disease control programme-Dengue, Malaria & Chickungunya, community nutrition programmes, National leprosy elimination programme, National Rural Health Mission, Universal Immunisation Programme, Pulse Polio	3	4
8.	**Demography & Family Planning** Demographic cycle, contraceptive methods, Medical Termination of Pregnancy act	2.	3
9.	**Occupational Health** Occupational hazards, pneumoconiosis, health problems due to industrialization, measures for health protection of workers, prevention of occupational disease including Employees State Insurance Scheme & factories act. Lead poisoning, occupational cancers & dermatitis, sickness absenteeism, accidents in industries, occupational hazards of agriculture workers	4.	5
10.	**Health Systems of India** Levels of health care, definition of primary health care, elements of health care, principles of health care, health care delivery system	2	3
11.	International Health Organizations: WHO, UNICEF, UNDP, UNFPA, FAO, ILO, USAID, SIDA, DANIDA, Rockfeller, Ford foundation, CARE, RED CROSS.	2	3
12.	Disability: Definition of Impairment, Handicap and Disability, Difference between impairment, handicap and disability, Causes of disability, Types of disability, Prevention of disability.	6	

	Disability Surveys: Need, Uses of Disability Survey data. Disability Evaluation: Introduction, Uses of evaluation findings Screening and Prevention of Disability		8
	Section II		
1.	Role of Physiotherapy in Community: Prescribing exercise programme, Prescribing and devising low cost locally available assisstive aids, Modifications physical and architectural barriers for disabled, Disability prevention, Strategies to improve ADL, Rehabilitation programmes for various neuro-musculoskeletal and cardiothoracic disabilities.	4	5
2.	Developmental Disorders, Developmental monitoring and screening. Early detection of high risk babies, Immunization programmes, Maternal nutrition and education, Genetic counselling.	4	5
3.	**Health Care Prevention**, Health Promotion and Restoration in various sectors of community: A). Woman and child care – I. Antenatal exercises , Specific Breathing exercises, Relaxation, Postural Training, Pelvic floor strengthening exercises with clinical reasoning II. Physiotherapy during labor III. Postnatal exercises program after normal labor / labor with invasive procedures with clinical reasoning. Child birth complications, investigations and management, Diastases Recti. Physiotherapy management of Incontinence. IV. Menopause -Osteoporosis & Physiotherapy intervention V. Nutritional disorders in women and children B). Lifestyle Disorders: 1. Stress 2. Hypertension 3. IHD 4. Diabetes 5. Over weight/ Obesity	10	14
4.	**GERIATRICS** a. Senior citizens in India b. NGO's and Health related Legal rights and benefits for the elderly. c. Institutionalized & Community dwelling elders d. Theories of Aging f. Scheme of evaluation & role of PT in Geriatrics. Environmental changes and adaptations, Balance and falls, Fall prevention strategies, Physiotherapy management, Role of Physiotherapy in prolonged bed rest and in Home for the aged, Institution based Geriatric Rehabilitation. Few Geriatric conditions:- Alzheimer's disease, Delirium, Dementia, Parkinsonism, Hemiplegia, Arthritis, Osteoporosis and Incontinence etc.	10	14

5.	**Principles of Communication & its problems**: - • Speech Production • Communication disorders secondary to Brain Damage. • Aphasia & its treatment. • Evaluation of Language. • Disarthria & its treatment • Non-Aphasic language disorders	4	5

Textbooks:

Title	Author/s	Publication
Textbook of Prevention and Community Medicine	Dr. Bharati Vijay Bellare	Jaypree Pub.
Essentials of Community Based Rehabilitation	Satya Bhushan Nagar	Jaypee Pub.
Textbook of Rehabilitation	S Sunder	Jaypee Pub
Physical Medicine & Rehabilitation	Bryan O' Young	Elsevier Publication.
Textbook of Community Medicine& Community Rehabilitation	Bhasker Rao	Paras Medical Publisher

Reference Books:

Title	Author/s	Publication
Geriatric Physical therapy	Andrew Guccione	Elsevier Publication.
Elements in Pediatric Physiotherapy	Pamela M Eckersley	Churchill Livingstone
Textbook of Women's Health	Ruth Sapsford	Elsevier Publication.
Legal Rights of Disabled	RCI	
Locomotor disabled	RCI	
Rehabilitation Medicine	Howard A Rusk	C. V. Mosby
Preventive &Social Medicine	K Park	
Community Based Rehabilitation of Person with Disabilities	S Pruthvish	Jaypee Pub.
Physiotherapy in Community health and Rehabilitation	Waqar Naqvi	Jaypee Pub.
Physiotherapy in obstetrics & Gynecology	J. Mantle	Elsevier Publication
Textbook of Work Physiology	Astrand	Human Kinetics
Rehab Medicine-Part I/II	Delisa	Lippincott Williams & Wilkins
Ergonomics: Man in working environment	Mural	Chapman & Hall
Ergonomics	Karen Jacobs	Elsevier Publication
Occupational disorders	Hunter	Hodder Arnold
Occupational injuries	Herrington	John Wiley & Sons
Msk disorders in the work place	Nordin	Elsevier Publication
Textbook of preventive & Social Med	Gupta & Mahajan	Jaypee Brothers
Exercise testing & Exercise prescription for special cases	J. Skinne	Lippincott Williams & Wilkins

A Short Book of Public Health	V K Muthu	Jaypee Pub.

Pedagogy:

The course will be delivered using lectures.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of Total (30 marks)- One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

P P Savani University

School of Physiotherapy

Course Code: SPPT 4080

Course Name: **HEALTH CARE MANAGEMENT & ADMINISTRATION**

Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
				Theory		Practical		Total	Remarks
Theory	Practical	Total	Credit	CE	ESE	CE	ESE		
04	-	04	04	30	70	-	-	100	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description:

The course is organized to introduce the concept of health care management and administration issues in Health Services. It will help them in assuming a leadership role in their profession and assume the responsibility of guidance to team members. It will help them assume wider responsibilities at all levels of health services.

Course Learning Outcomes: Student will be able to…		**PO**
CO 1	Illustrate the concept of healthcare management and administration issues in health services.	**PO 7,8**
CO 2	Discuss the principles of hospital administration and its applications in various healthcare departments.	**PO 7,8**
CO3	Prepare and practice resource and quality management.	**PO 7,10**
CO4	Discuss and execute various administration activities like staffing, communicating, coordination and budgeting of healthcare services.	**PO 7,8**
CO5	Understand nuances of effectively conducting meetings and planning negotiation.	**PO 7,8**
CO6	Explain about basic principles of personnel management and material management	**PO 7,8,11**
CO7	Interpret ethical principles related to physiotherapy, research, code of conduct and medical ethics in clinical decision making.	**PO 2,10,11**
CO8	Confidentiality, medico legal aspects regarding malpractice, negligence and ways to deal with it, describe legal responsibilities as a physiotherapist.	**PO 7,11**
CO9	Understand and analyse quality assurance in hospital settings.	**PO 7**

SECTION-I			
Module	Content	Hours	Weightage in %
1.	**Introduction**: Branches of administration, Nature and scope of administration, How to be an effective administrator, Planning hospital administration as part of a balanced health care program.	04	6
2.	Principles of Hospital administration and its applications.	04	6
3.	**Planning and organization:** Planning cycle, Principles of organizational charts, Resource and quality management, Planning change -innovation	04	6
4.	Financial issues including budget and income generation	02	4
5.	Hospital administration: Organization, Staffing, Information, Communication, Coordination, Cost of services, Monitoring and evaluation.	02	4
6.	Organization of physiotherapy department: Planning, Space, Manpower, Other basic resources.	04	6
7.	Organizing meetings, committees, and negotiations	02	4
8.	**Personnel management:** Personnel performance appraisal system, Quality care delivery from the staff	02	4
9.	**Material management:** Pharmacy, Hospital waste disposal	02	4
10.	**Quality assurance** Hospital acquired infection, Quality assurance through record review and medical audit. Public relations in hospital and human resource management.	04	6
	SECTION-II		
11.	**PRINCIPLES OF MANAGEMENT** The course is intended to provide a knowledge about the basic principles of Management. 1. Introduction to management 2. Strategic Management 3. Foundations of Planning 4. Planning Tools and Techniques 5. Decision Making, conflict and stress management	10	17
12.	1. Managing Change and Innovation 2. Understanding Groups and Teams 3. Leadership 4. Time Management 5. Cost and efficiency	10	17
13.	Ethical principles in health care, Ethical principles related to physiotherapy, Scope of practice, Enforcing standards in health profession-promoting quality	04	6

	care, Professional ethics in research, education and patient care delivery, Informed consent issues, Medical ethics and Economics in clinical decision-making.		
14.	Rules of professional conduct Physiotherapy as a profession, Relationship with patients, Relationship with health care institutions, Relationship with colleagues and peers, Relationship with medical and other professional.	04	6
15.	Confidentiality and Responsibility, Malpractice and negligence, Provision of services and, advertising, Legal aspects: Consumer protection act, Legal responsibility of physiotherapist for their action in professional context and understanding liability and obligations in case of medico-legal action	02	4

Recommended books:

Title	**Author/s**	**Publication**
Hospitals: Facilities Planning and Management,	GD Kunders	Tata Mc GrawHill Company
Hospital Administration	Francis C M	Jaypee Pub.
Hospital Planning and Adminstration	Davies, R and Macaulay	WHO
Health Services Management, Analysis& Application		Wadsworth Publishing Company, Belmont
Medical Ethics	C M Francis	Jaypee Pub.
Current Problems in Medical Ethics	George V Lobo	Philpapers
Textbook of management	Philip Kotler	Prentice Hall Business

Pedagogy:

The course will be delivered using lectures & practical.

Course Evaluation:

Theory:

- Continuous Evaluation Consist of Total (30 marks)- One Test of 20 Marks and submission of assignment which carries 10 Marks
- End Semester Examination will consist of 70 Marks Exam.

P P Savani University

School of Physiotherapy

Course Code: SPPT 4090

Course Name: **EVIDENCE BASED PRACTICE**

Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
				Theory		Practical			
Theory	Practical	Total	Credit	CE	ESE	CE	ESE	Total	Remarks
2		2	1	15	35	-	-	50	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Learning Outcomes: The students will be able -		**PO**
CO1	Understand the Importance of evidence-based physiotherapy.	**PO 2,12**
CO2	Search the various medical literature databases and acquire relevant research articles.	**PO 2,12**
CO3	Critically appraise their search with respect to its relevance to physiotherapy practice.	**PO 2,12**
CO4	Apply the findings of the research in the management of individual patients.	**PO 10,12**
CO5	Understand concepts of Virtual Rehabilitation and recent evidence based practice in Physiotherapy.	**PO 2,10,12**
CO 6	Apply principles of critical thinking and clinical reasoning to evidence based physiotherapy practice.	**PO 2,10,12**

Module	Content	Hours	Weightage in %
1.	**INTRODUCTION TO EVIDENCE BASED PRACTICE** Definitions Why evidence based practice? History of Evidence based practice	2	7
2.	**FORMULATING A FOCUSED CLINICAL QUESTION** Types of clinical questions: Foreground and background questions Components of a focused clinical question: The PICO format	3	10
3.	**FINDING CURRENT BEST EVIDENCES** Information resources: Medline/ PubMed, Cochrane Library, PEDro, Google and Google scholar Developing a search strategy: identifying Keywords, Combining keywords using AND, OR and NOT	3	10

4.	**ANATOMY OF A PUBLISHED RESEARCH PAPER** Abstract, Introduction Section, Methods Section, data analysis, results, discussion and conclusions	3	10
5.	**LEVELS OF EVIDENCE AND ITS SIGNIFICANCE** Systematic reviews and Meta-analysis Randomized Controlled trials Clinical practice guidelines Cohort studies and cross sectional studies Case reports and case series	4	13
6.	**BARRIERS AND LIMITATIONS OF EBP**	2	7
7.	**CRITICAL APPRAISAL OF EVIDENCE** Process of critical appraisal Critical appraisal of evidence about the effects of intervention (treatment) Critical appraisal of evidence about diagnostics tests Critical appraisal of evidence about prognosis Critical appraisal of clinical practice guidelines	5	16
8.	Application of evidence about the effects of intervention (treatment) in actual patient scenario with clinical case examples.	2	13
9.	**VIRTUAL REHABILITATION** 1. Virtual Reality history: 2. Virtual Reality basic concepts a. Presence b. Immersion c. Cybersickness d. Interactivity e. Simulation f. Augmented Reality g. Augmented Virtuality 3. Virtual Reality as a way of communication 4. Virtual Reality´s narrative5. Virtual Reality´s architecture Therapeutic tasks to enable training in all rehabilitation domains: Neuroplasticity and Virtual Reality Motor Learning and Virtual Reality Vision, Perception, and Object Manipulation in Virtual Environments. Sensorimotor Recalibration in Virtual Environments Rehabilitation Applications Using Virtual Reality for Persons with Residual Impairments Following Stroke. Virtual Reality Augmented Training for Improving Walking and Reducing Fall Risk in Patients with Neurodegenerative Disease. Virtual Reality Reveals Mechanisms of Balance and Locomotor Impairments. Applications of VR Technologies for Childhood Disability	6	20

Pedagogy:

The course will be delivered using lectures & practical demonstrations.

Course Evaluation:

Theory:

- There will be only one Continuous Evaluation Examination which consist of Total 50 marks-- One Test of 40 Marks and submission of assignment which carries 10 Marks.

Textbooks:

Title	Author/s	Publication
Practical Evidence-Based Physiotherapy	Rob Herbert	Elsevier Publication
Virtual reality for physical and motor rehabilitation	Patrice L. (Tamar) Weiss	Springer

Recommended books:

Title	Author/s	Publication
Netter's OrthopaedicClinical Examination An Evidence-Based Approach,	Joshua A. Cleland	Elsevier Publication
Evidence-Based Practice inSport and Exercise	Brent L. Arnold	F A Davis Company
Evidence-BasedManagement of Low Back Pain	Simon Dagenais	Elsevier Publication
Virtual Reality: Rehabilitation in Motor, Cognitive and Sensorial Disorder	Paul M. Sharkey and Joav Merrick	Nova Publishers

P P Savani University

School of Physiotherapy

Course Code: SPPT 4100

Course Name: **ALLIED & COMPLEMENTARY THERAPIES**

Prerequisite Course/s:

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
04	02	06	05	50	-	50	-	100	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description:

At the end of the course, the student will be able to understand the utility of various allied and complementary therapies in comprehensive management of patient.

Course Learning Outcomes: The student will be able to-		**PO**
CO1	Explain basic concepts of Acupuncture and Traditional Chinese Medicine (TCM), fundamental theories of Acupuncture.	**PO 10**
CO2	Describe Acupuncture Meridians, Channels, Points and their locations and uses of Acupuncture points.	**PO 3,10**
CO3	Apply practical knowledge of Acupuncture, Moxibustion and Cupping therapy for treatment of common conditions.	**PO 10**
CO4	Understand basic principles and concepts of Osteopathic and Chiropractic techniques.	**PO 10**
CO5	Apply various techniques of Osteopathic and Chiropractic in treatment of peripheral and spinal conditions.	**PO 3,10**

Module	Content	Hours	Weightage in %
A	**BASICS of ACUPUNCTURE**		
1.	Introduction to Acupuncture • Principles and Practice of Acupuncture • Meridians and Acupuncture • Theories of Acupuncture	5	8
2.	• Actions and Indications of Acupuncture • Limitations, Precautions and Contraindications • Material and Techniques used in Acupuncture • Meridian System: 14 main channels	12	20
3.	• Extra and new Acupuncture points • Key to remember Acupuncture points	4	7
4.	• Types and Uses of Acupuncture Points • Principles of Acupuncture point selection • Acupuncture Therapeutics	6	10
5.	Moxibustion and Cupping Therapy	4	6
6.	Auricular Therapy	4	6
7.	Common disorders treated by Acupuncture: Cervical and Lumbar Spondylosis, Sciatica, Knee Pain, Heel Pain, Frozen Shoulder, Bell's Palsy, Wrist Drop, Foot Drop, Hemiplegia, Obesity, Constipation, Indigestion etc.	5	9
B	**MANUAL MEDICINE**		
8.	Introduction to models of Osteopathic Diagnosis and treatment: • Principles and Concepts • Principles of Technique • Technique Procedures for Spine and Extremity • Clinical Integration and Correlation	10	17
9.	Foundation of Chiropractic manipulative skills**:** • Principles and Concepts • Principles of Technique • Technique Procedures for Spine and Extremity • Clinical Integration and Correlation	10	17

List of Practical:

Sr. No.	**Name of Practical**	**Hours**
1.	Basics of Acupuncture Techniques and clinical applications	20
2.	Basics of Osteopathy and Chiropractic Techniques and clinical applications	10

Textbooks:

Title	Author/s	Publication
Practical Approach to Acupuncture	Dr Prabha Borwankar	B.Jain Publishers, Delhi
Acupuncture a Complete Textbook	Dr P.B Lohiya,	IAAS, Aurangabad
Acupuncture in Physiotherapy: key concepts and Evidence-based practice	Val Hopwood	Churchill Livingstone
Muscle Energy Techniques	Leon Chaitow	Churchill Livingstone
Atlas of Osteopathic Techniques	Alexander S Nicholas, Evan A	Wolters Kluwer

Reference Books:

Title	Author/s	Publication
Acupuncture, trigger points and musculoskeletal pain 3/e	Baldry	Elsevier
Clinical Practice of Acupuncture	Arjun Lal Agrawal, GN Sharma	CBS Publishers & Distributors Pvt Ltd,
Clinical Acupuncture	Anton Jayasuriya	B. Jain Publishers
Trigger point Dry needling	Jan Dommerholt	Elsevier
Greenman's Principles of Manual Medicine	Greenman	Wolters Kluwer
Osteopathy: Models for Diagnosis Treatment and Practice	John Parsons	Elsevier
A practical approach to Osteopathic Medicine	Elaine Atkins	Churchill Livingstone

Pedagogy:

The course will be delivered using lectures & practical.

Course Evaluation:

Theory:

Continuous Evaluation Consist of Total (50 marks)- One Test of 40 Marks and submission of assignment which carries 10 Marks

Practical

Evaluation will be done by Continuous Evaluation (Internal Examiners) only and will consist of 50 marks.

P P Savani University

School of Physiotherapy

Course Code: SPPT 4110

Course Name: **RESEARCH PROJECT**

Prerequisite Courses: BIOSTATISTICS & RESEARCH METHODOLOGY

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
0	4	4	2	0	0	100	0	100	

CE: Continuous Evaluation, ESE: End Semester Exam

COURSE DESCRIPTIONS: In this course, students will learn in detail about how to do research project and will do one project. It can be a case report or a case study in a selective group of patients and normal subjects. After correction and edition of manuscripts by the project guide and his approval, the student will submit it to the School of Physiotherapy.

The students will do their project work during 8th semester and it has to be submitted three weeks before the End Semester Examination. The student will be formally evaluated at the end of semester through Viva voce examinations by internal examiners.

Course Learning Outcomes: Students should be able to .		**PO**
CO1	Prepare the research proposals of the study.	**PO 2**
CO2	Understand research process and be able to conduct review of literature on research work and prepare study design.	**PO 2**
CO3	Develop skills in data collection, data analysis and other related work (under supervision of Research guides)	**PO 2,10**
CO 4	Analyze and interpret data and draw conclusions.	**PO 2,10**

RESEARCH PROJECT OBJECTIVES:

By carrying out a research project and presenting his work in the form of thesis, the student shall be able to:

1. Identify a relevant research question

2. Conduct a critical review of literature

3. Formulate a hypothesis

4. Determine the most suitable study design

5. State the objectives of the study

6. Prepare a study protocol

7. Undertake a study according to the protocol

8. Analyze and interpret research data, and draw conclusions

9. Write a research paper

Guidelines

While selecting the topic, following should be kept in mind:

1. The scope of study is limited to enable its conduct within the resources & time available

2. The study must be ethically appropriate

3. The emphasis should be on the process of research rather than the results

4. The protocol, interim progress and final presentation is made formally to the department

Course Evaluation:

Practical

- Evaluation will be done by Internal Examiners only and will consist of 100 marks.

P P Savani University

School of Physiotherapy

Course Code: SPPT 4120

Course Name: **CLINICAL PHYSIOTHERAPY PRACTICE**

Teaching & Examination Scheme:

Teaching Scheme (Hours/Week)				Examination Scheme (Marks)					
Theory	Practical/ Clinical	Total	Credit	Theory		Practical		Total	Remarks
				CE	ESE	CE	ESE		
-	14	14	7	-	-	30	70	100	

CE: Continuous Evaluation, ESE: End Semester Exam

Course Description:

The objective of this module is to help students understand in detail about Clinical Practice in Physiotherapy. The students are expected to work for minimum 14 hours per week during the semester.

Course Learning Outcomes: The Clinical Physiotherapy Practice provides the		**PO**
CO1	Develop skills of physical diagnosis and plan appropriate treatment dosage.	**PO 10,12**
CO2	Measure and monitor patients' response to intervention.	**PO 2,10,12**
CO3	Identify outcome measures of progress relative to patient and plan further.	**PO 11,12**
CO 4	Student will gain skill in clinical training by practicing all the required skills needed in various specialties of Physiotherapy	**PO 2,9,11,12**
CO 5	Provide patient and caregiver clear and concise home program instructions at their levels of learning and ensure the patients understanding of home program.	**PO 5,9,11,12**

Course Evaluation:

Practical

- Continuous Evaluation (30marks) Evaluation (Case Presentations and submission of assignment)
- Practical End Semester Examination will consist of 70 Marks Exam. i.e Two cases(25 each-25*2=50 marks) and Grand Viva (20marks

---

P P SAVANI UNIVERSITY

SCHOOL OF PHYSIOTHERAPY
B.P.T.-INTERNSHIP GUIDELINES

GUIDELINES FOR INTERNSHIP TRAINING PROGRAMME

INTRODUCTION:

- Internship is a phase of training wherein a graduate is expected to conduct actual practice of
- Physiotherapy and health care and acquire skills under supervision so that he/she may become capable of functioning independently.
- Internship is a phase of training where in a candidate is expected to conduct actual Physiotherapy practice, with fair independence in clinical decision making in low risk cases where as to work under supervision at high risk areas; so that at the end of Internship he/ she is capable to practice Physiotherapy independently.
- The Internship programme shall mainly focus on acquisition of specific skills listed in the major areas of training by —hands on experience & also on ability to conduct a scientific project.

GENERAL OBJECTIVES:

1) The Principal/HOD shall be responsible for implementation of Internship programme & also for the issue of Internship completion certificate.

2) Internship shall commence **not later than 15 days** from the day of declaration of results of

B.P.T- VIII (eighth) semester End Semester Evaluation Examination

3) Compulsory Internship shall include rotational clinical assignments, administrative skills & a project over a period of **6 months**; as per the Rules & Regulations applicable to Internees regarding attendance, attitude, performance & evaluation.

INTERNSHIP- COURSE OUTCOMES

❖ At the end of Internship programme, the candidate shall be able to-

1) Detect & evaluate Anatomical, Patho-physiological, & Psycho-somatic impairments resulting in Dysfunction of movement of all the ages, & occupations; as well as epidemiological sectors in the population; & arrive at the appropriate Physical & Functional diagnosis.

2) Understand the rationale & basic investigative approach to the Medical system & surgical intervention regimens & accordingly, Plan & implement specific Physiotherapeutic measures effectively or make a timely decision for referral to appropriate specialty.

3) Select strategies for cure & care; adopt preventive, restorative & Rehabilitative measures for maximum possible independence of a client/ patient, at home, work place & in the community.

4) Help in all types of emergencies medical, surgical, neonatal, & paediatric by appropriate therapeutic procedures & shall be able to implement, as a first level care Cardio Pulmonary resuscitation and first-aid providing support to the injured area, splinting etc., in the situation when medical aid is not available.

5) Demonstrate skill to promote Health in general as well as competitive level, such as sports, work productivity, Geriatric & Women's health etc., and keeping in mind National and state levelHealth policies.

6) Develop skill to function as an essential member in co-partnership of the health team organized to deliver the health & family welfare services in existing socioeconomic, political & cultural environment.

7) Develop communication skill for purpose of transfer of suitable techniques to be used creatively at various stages of treatment, compatible with the psychological status of the beneficiary & skill to motivate the client & his family to religiously carry out prescribed home exercise programme & compliance to follow ergonomic advice given as a preventive / adoptive measure.

8) Demonstrate skill of administrative work, managing patients attending Physiotherapy services, by developing skills to use appropriate manipulative mobilization methods, Neurophysiologic manoeuvres, techniques of Bronchial hygiene, Breathing retraining; application of Electrotherapeutic modalities & Therapeutic exercise; for the purpose of, evaluation, assessment, diagnostic procedures ; & for the purpose of treatment as well, bearing in mind their indications & contraindications.

9) Develop ability to prescribe, assess (fitting) & use of appropriate orthotic & prosthetic devices; in addition to an ability to fabricate simple splints for extremities, for the purpose of prevention, support & training for ambulation & activities of daily living.

10) Develop ability to do Functional Disability evaluation of Movement; & recommend for rest or alternative work substitution during the period of recovery or in case of permanent disability.

11) Practice professional autonomy & ethical principle with referral as well as first contact client in conformity with ethical code for Physiotherapists and as per the guideline of GSCPT.

INTERNSHIP SCHEDULE:

Candidate shall be posted to **Rotational Clinical assignments of total 26 weeks/6 months**, including administrative skills pertaining to Physiotherapy practice

The schedule of Internship shall be as follows:

S. No.	Discipline	Duration (in days)
1	ORTHOPEDICS/ MUSCULOSKELETAL UNIT	30
2	NEUROLOGY/ NEUROSURGERY/ PEDIATRIC UNIT	30
3	CARDIOPULMONARY UNIT/ CARDIOTHORACIC SURGERY/ ICU / CCU/ OTHER INTENSIVE CARE UNITS	30
4	GENERAL MEDICINE/ GENERAL SURGERY/ WARDS/ OPD	30
5	SPORTS MEDICINE CENTERS	30
6	OBS-GYNEC/ BURNS/ SKIN UNIT/ / PLASTIC SURGERY	15
7	GERIATRIC UNIT/ COMMUNITY MEDICINE	15

* Clinical Posting in Community P.T can also be conducted at the rural set up with prior permission from the HOD and the Principal of the institution. Internee must work under supervision of qualified registered physiotherapist.

* Duration in different discipline can be changed/modified by the head of the institute as per requirements in some special situations.

- Candidates seeking entry to the internship period must have passed all examinations in all subjects

- Duration: 6 months inclusive of posting in rural setup/CBR/similar setup.
- During the internship candidate shall have to work full time average 7 hours per day (each working day) for 6 Calendar months (**total Credit hours –1050**).

Each candidate is allowed **maximum of 6 holidays** during entire Internship Program and in case of any exigencies during which the candidate remains absent for a period more than 6 days (including medical leave), he/she will have to work for the extra days during which the candidate has remainedabsent. However, if any student wants to attend any state/national/international conference, workshop or seminar then maximally **5 days** "Study leave" can be granted to the students with production of the proper documents or certificate. It should not be more than **5 days** in any conditions.

- Assessment: The interns/candidate shall maintain the record of work/ Internship Log-book, which will be verified and certified by the Head of the Department/ In-charge under whom he/she works. Apart from scrutiny of the record of work, the Head of the Department shall undertake assessment and evaluation of training in attendance, discipline, Case Presentation / Assignments and clinical skills for the duration of training. The assessment report of the candidate shall be sent to the Principal, School Of Physiotherapy, PP Savani University.
- Based on the completed record of work/ Internship Duration and evaluation the Principal shall issue **'Certificate of Satisfactory Completion'** of training following which the University shall award the Bachelor of Physiotherapy Degree or declare the candidate eligible for the same.
- In the event of unsatisfactory report, the said intern/ student shall have to repeat the internship for the period to be decided by the Head of the Institutionconcerned.
- Intern will abide by all the rules & regulations of Institution/Hospital where they are posted.
- Intern shall be responsible for proper use of equipments of the Institute/Hospital where they are posted. He/ She shall be liable to pay for damages caused to the equipments resulting from improper use byhim/her.
- Internship duration can be extended by the Principal on thegrounds:

i. Remaining absent in excess of the permitted 6 days leave period, whichis due: An intern will compensate by working extra for each day leave taken.

ii. Unsatisfactory performance during the period: If there are unsatisfactory reports in terms of performance of the intern, submitted by the Department In-charge, the said intern shall have to repeat the internship for a period at least one month further.

iii. Case of indiscipline at any level: A Discipline and Action Committee will be formed in the college / Institution convened by Internship coordinator/HOD PT & headed by Principal. In case of any lack of discipline, breach of trust or indulgence in any anti-social activity on the part of the interns when reported by the concerned departments of Hospitals/Institutions where the interns have been posted, the defaulting Intern shall be called back immediately and subjected to disciplinary proceedings by the Disciplinary Action Committee.

iv. Punishments:

a. Suspension of Internship for a period of 3-4 weeks for the reasons to be recorded. Following this disciplinary suspension, internship can be resumed only after submission of an appropriate undertaking/guarantee/surety from both parents and students. Period of suspension shall be considered as Break in Internship. Disciplinary Action Committee shall decide the period of suspension and resumption of Internship for a specified period.

b. Rustication & Termination: In case of a serious complaint of indiscipline or breach of trust against intern or any criminal activity done by intern according to the law of the country, he/she may be rusticated along with termination of Internship.

- Following parameters / guidelines are recommended:

    a. It is mandatory for the Hospital/Institution where BPT Internship Program has to be conducted; should have its own Physiotherapy clinic fully furnished with all the necessary equipments as per the curriculum of the Program.

    b. The Institutes & the Hospitals should have the Physiotherapy OPD/IPD with all the necessary infrastructure facilities.

c. Senior Physiotherapist/ In-charge with sufficient clinical experience should manage the physiotherapy departments in the Institutes/Hospitals.

d. Principal of School of Physiotherapy can at his discretion grant NOC to the students to do the Internship at the place of his choice provided, the concerned Hospital fully satisfies the above criteria. For the purpose of granting NOC the candidate shall have to submit to the Institution the status of Physiotherapy Services available at the place where he intend to do his Internship.

EVALUATION:

During the rotational posting, student shall treat all kinds of patients & also undertake skills of maintaining administrative records & Maintenance of equipment.

The candidate shall maintain a log book & record all the events of the respective posting. He /She shall be closely monitored by the senior Physiotherapy staff / In-charge throughout the posting & the same shall also sign in the Log book on completion of the assignment.

There shall be an assessment at the end of each of the posting given in the schedule & score will be given to the student based on the respective assignment/ case discussions.

EXTERNSHIP:

- Ordinarily rotatory internship must be undertaken in the University Physiotherapy centre or associated Hospitals/ approved Institutions. However, a student can do internship in GSCPT approved hospital/institution for which the following guidelines may be followed:

Externship in Gujarat:

i) A student must apply for permission to do internship outside from its parent institute along with the desired documents. Before considering the student's application to do internship in another hospital physiotherapy college, he/she will be required Permission from the institutions where the student wishes to do internship.

ii) Student can do internship from 1 month to 6 months according to the permission granted by the both institutes.

P P SAVANI UNIVERSITY

Performa for Evaluation of Students undergoing Internship

S. No.	Description	Satisfactory/ Unsatisfactory
1.	Attendance	
2.	Discipline and general behavior in the Department	
3.	Approach to patients	
4.	Inquisitiveness regarding the subject	
5.	Knowledge about evaluation of conditions	
6.	Knowledge about various therapeutic modalities	
7.	Knowledge about actual application of therapeutic skills	

Signature of H.O.D./ In-charge of Clinical Posting

Signature of Principal

Date:

BPT	Discipline	Duration	Hours	Credits
SPPT 5010 CLINICAL INTERNSHIP POSTING	**Orthopaedics/Musculoskeletal Unit OPD/IPD**	**30 days**	**175**	**5**
	Sports injury/Hand Rehabilitation/Wound and Skin Care/ Industrial Health/Fitness Clinic	**30 days**	**175**	**5**
	Neurology / Paediatrics Unit OPD/IPD	**30 days**	**175**	**5**
	Cardiopulmonary Unit/ ICU/CCU/Other Intensive Care Units	**30 days**	**175**	**5**
	Surgical Unit/ Medical Unit/ General Surgery/ Wards/ Plastic Surgery/Burns	**30 days**	**175**	**5**
	Community Physiotherapy Obsteritics-Gynec/ Women's Health Geriatrics Unit / Cancer Rehabilitation	**30 days**	**175**	**5**
	TOTAL INTERNSHIP	**6 Months**	**1050 Hours**	**30**
		*35 Internship Hours=1 Credit		