

BACHELOR OF PHYSIOTHERAPY

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Paper Code- 03060801

PHYSIOTHERAPY IN GENERAL MEDICAL & SURGICAL CONDITIONS- THEORY

Periods/Week Credits

T: 4 4

TEACHING HOURS: 64

MAX. MARKS: 100

INTERNAL: 40

EXTERNAL: 60

TIME: 3 Hrs

BACHELOR OF PHYSIOTHERAPY

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Paper Code- 03060801

**PHYSIOTHERAPY IN GENERAL MEDICAL & SURGICAL CONDITIONS-
PRACTICAL**

Periods/Week Credits

P: 4 2

TEACHING HOURS: 64

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

Course Description:

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

Course Objectives:

The objective of this course is that after 128 hours of lectures, demonstrations, practical and clinics the student will be able to identify General Medical and Surgical conditions, set treatment goals and apply their skills in exercise therapy, electrotherapy and massage in clinical situation to restore patient's functional ability

Course Outcomes:

1. To set the goals and execute rehabilitation program to achieve them in different surgical conditions
2. Physiotherapy assessment and to execute prenatal and postnatal Physiotherapy, prescription of different types of exercises to maintain the women health
3. To make proper Physiotherapy assessment and design rehabilitation program for patients with organ transplantation.

4. Physiotherapy assessment and execution of appropriate Physiotherapy intervention in Wound, Ulcers, Pressure sores, Diabetes Mellitus, Burn and other skin conditions.
5. To make Physiotherapy assessment, functional assessment and application of different Physiotherapy techniques in various Pediatric conditions.
6. To implement the Physiotherapy rehabilitation program in Geriatric population according to need of the patients.
7. To implement different types of exercises in various Psychiatric conditions

Date	Theme/ Topic	Duration (Hrs)	Learning Experiences & Learning Resources	Learning Objectives
	Physiotherapy in Abdominal Surgeries	16 Hrs.	Student Interactive Session Practical Demonstration Case Discussion Principles of Physiotherapy in General Medical and Surgical Conditions- A Thangamani Ramalingam Physiotherapy: Tidy's	Explain the Incisions, indications & Pathological changes in Common Abdominal Surgery Set treatment goals for patient with Abdominal Surgeries including GIT, liver, spleen, Kidney, bladder etc Discuss the Principle of pre and post operative management by physiotherapy of the Common abdominal surgeries.
	Physiotherapy in Women Health	16 Hrs.	Student Interactive Session Students seminar Practical Demonstration Case Discussion Textbook of Physiotherapy for Obstetric & Gynecological conditions- Madhuri Physiotherapy in Obstetrics & Gynecology- Margaret Polden Physiotherapy: Tidy's	Describe the various health related issues of a female, Explain old age related health issues and role of physiotherapy Understand importance of exercise in childhood, adulthood, pre para and post pregnancy Describe the incision indications, pathological changes & Principle of pre and post operative management by Physiotherapy of the Common operation of reproductive system, including surgical intervention for child delivery. Set treatment goals for patient with Gynecological & Obstetrics Operations Learn Antenatal and Postnatal Physiotherapy
	Physiotherapy in	8 Hrs.	Student Interactive Session	Describe Incision, Indications,

	ENT surgeries		Case Discussion Principles of Physiotherapy in General Medical and Surgical Conditions- A Thangamani Ramalingam	Pathological changes & Principle of pre and post operative management by Physiotherapy of the Common operation of the ear, nose, throat & Jaw as related to Physiotherapy Set treatment goals for patient with ENT Surgery
	Physiotherapy in Organ Transplantation	8 Hrs.	Student Interactive Session Physical Rehabilitation- Braddum Cash Textbook of general medical and surgical conditions for physiotherapists- Donnie Jaypee Brothers	Describe Incision, Indications, Contraindication, Selection Criteria, Pathological changes, Principle of pre and post operative management by Physiotherapy of the Common Organ Transplantation Surgery Set treatment goals for Transplanted patients
	Physiotherapy in Wounds, Burns, Ulcers & Pressure sores	20 Hrs.	Student Interactive Session Group Discussion Poster Presentation Case Discussion Physical rehabilitation- O' Sullivan Physical Rehabilitation- Braddum	Identify types of Wounds & Ulcer Evaluate severity of Burn & type of Burn Explain the pathological changes and Physiotherapy management of wound, ulcer and burn Set treatment goals for patient with Wound, Ulcer or Burn Describe Common reconstructive surgical proceedings of the management of wounds, ulcers burns & consequent contractures & deformities
	Physiotherapy in Pediatric conditions	20 Hrs.	Student Interactive Session Students Seminar Poster Presentation Practical Demonstration Case Discussion Vertical Integrated Teaching Textbook of Rehabilitation- Sunder Physiotherapy: Tidy's	Assess the Pediatric patient. Describe the various Physiotherapy Techniques to treat Pediatric Patients. Set treatment goals in common congenital and acquired musculoskeletal, neurological, nutritional and metabolic disorders
	Physiotherapy in Geriatric population	14 Hrs.	Student Interactive Session Group Discussion Field visit to Residential Aged Care	Overview the changes associated with ageing in all of the systems important to physical performance and functioning.

			Textbook of Rehabilitation-Sunder Physiotherapy: Tidy's	Assess all aspects of a Geriatric Patient and develop a treatment programme for the individual Prepare to enhance the quality of life of geriatric patient.
Physiotherapy in skin diseases	14Hrs.	Student Interactive Session Poster Presentation Practical Demonstration Case Discussion Textbook of Rehabilitation-Sunder Physiotherapy: Tidy's	Describe the various Skin conditions. Identify the therapeutic exercises and electrotherapy modalities to treat various skin conditions. Set the treatment goals for different skin conditions: Acne, Psoriasis, Alopecia, Leucoderma, leprosy Sexually transmitted diseases	
Physiotherapy in Psychological disorders	6 Hrs.	Student Interactive Session Group Discussion Problem Based Learning Cash Textbook of general medical and surgical conditions for physiotherapists- Donnie Jaypee Brothers Principles of Physiotherapy in General Medical and Surgical Conditions- A Thangamani Ramalingam	Describe the various Psychiatric conditions. Identify the various strategies to treat Psychiatric patients. Set the treatment goals for different Psychiatric conditions: psychosis, Psychoneurosis ,Senile dementia	
Physiotherapy in Diabetes	6 Hrs.	Student Interactive Session Students Seminar Group Discussion Case Discussion Physical Rehabilitation-Braddum	Identify the types of Diabetes. Assess the patient with diabetes. Explain Types, Pathological Changes, clinical presentation, complications and principles of management by Physiotherapy in diabetic patient Set the treatment goal for Diabetic patient	
Cancer Rehabilitation& Palliative care	6 Hrs	Student Interactive Session Students Seminar Group Discussion Case Discussion Physical Rehabilitation-Braddum	Identify the types of tumors, Assess the patient with cancer. Explain Pathological Changes, clinical presentation & complications Discuss the principles of management by Physiotherapy in cancer patients Set the treatment goal for oncology patients	
Physiotherapy in Mastectomy	6 Hrs.	Student Interactive Session Practical Session Group Discussion	Identify the need of Mastectomy. Explain Pathological Changes, clinical presentation &	

			<p>Case Discussion Physical Rehabilitation- Braddum Physiotherapy: Tidy's</p>	<p>complications Discuss the principles of management by Physiotherapy in patient with Mastectomy Set the treatment goals for patient with Mastectomy</p>
	Women Health	6 Hrs	<p>Student Interactive Session Practical Session Group Discussion Case Discussion Physiotherapy: Tidy's</p>	<p>Identify the role of physical activity in maintaining physical fitness of women Assess of women health on the basis of their physical activity level Explain changes on metabolism of female after menopause and related clinical conditions Describe Role of Physiotherapy in maintenance of women health care</p>

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

Periods/Week **Credits**
T: 4 **4**

TEACHING HOURS: 64

MAX. MARKS: 100

INTERNAL: 40

EXTERNAL: 60

TIME: 3 Hrs

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

Periods/Week **Credits**
P: 4 **2**

TEACHING HOURS: 64

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

Course Description:

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

Course Objectives:

The objective of this course is that after 128 hours of lectures, demonstration, practical and clinics the student will be able to identify disability due to musculo skeletal dysfunction, set treatment goals and apply their skills gained in exercise therapy, electrotherapy and massage in clinical situations to restore musculoskeletal function.

Course Outcomes:

1. Assessment of patients sustaining orthopaedic injuries.
2. Development of injury prevention program for the society.
3. Understanding and development of nutrition program for the prevention of disorders related to nutrition deficiency.
4. Student will be able to work out proper therapeutic techniques for the efficient management of the populations.

Date	Theme/	Duration	Learning Experiences	Learning Objectives
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	Topic	(Hrs)	& Learning Resources	
	Surgical Procedures Corrective Surgeries Amputation	48	Student Interactive Session Visit to OPD/IPD Case Discussion Essentials of orthopedics and applied physiotherapy - Joshi and Kotwal Physiotherapy for amputee- Engstrom & Van de van - Churchill Livingstone	Explain the Pre and post operative physiotherapy management of common corrective procedure like arthroplasty, arthrodesis, osteotomy, patellectomy, tendon transplants, soft tissue release, grafting, including post polio residual paralysis and leprosy deformities corrections Identify the level of amputation of upper limb and lower limb Describe the stump care, stump bandaging Explain Pre and post operative physiotherapy management Discuss the pre and post prosthetic management including check out of prosthesis, training
	Degenerative and infective conditions:	40	Student Interactive session Case presentation Vertical Integrated Teaching Essentials of orthopedics and applied physiotherapy - Joshi and Kotwal Tidy's physiotherapy-	Describe Etiology, pathology, clinical presentation, diagnostic criterion of Osteoarthritis of major joints, Spondylosis, Spondylitis, Spondylolisthesis, retrolisthesis, spinal stenosis, PIVD, Periarthritis of shoulder, Tuberculosis of spine, bone and major joints, and other miscellaneous orthopaedic conditions Explain the general, orthotic, and Physiotherapy Management of these conditions
	Arthritis and Allied conditions :	40	Interactive session Case presentation Vertical Integrated teaching Essentials of orthopedics and applied physiotherapy - Joshi and Kotwal Cash. textbook orthopedics and Rheumatology for physiotherapists - Downie -Jaypee brothers.	Describe Etiology, pathology, clinical presentation, diagnostic criterion of Osteo-Arthritis-generalized, Degenerative and traumatic, Rheumatoid Arthritis, Still's disease, infective Arthritis, Spondylitis, ankylosing spondylitis, Non articular Rheumatism, Fibrositis, trigger point, fibromyalgia, Perthes disease, Ganglion, Dupuytren's contracture Explain general, orthotic, and Physiotherapy Management of these conditions. Discuss the Etio pathogenesis and physiotherapy and general management of the Edema-Traumatic, Obstructive, position dependent and Paralytic Explain Deficiency disease- Rickets, Osteomalacia, Osteoporosis and other

				deficiency disorders related to Physiotherapy & their clinical presentation, etio-pathogenesis, management strategies including physiotherapy interventions
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BACHELOR OF PHYSIOTHERAPY-

PAPER CODE – 03060803

PHYSIOTHERAPY IN NEUROLOGY- II (THEORY)

Periods/Week Credits

T: 4 4

TEACHING HOURS: 64

MAX. MARKS: 100

INTERNAL: 40

EXTERNAL: 60

TIME: 3 Hrs

BACHELOR OF PHYSIOTHERAPY

PAPER CODE – 03060803

PHYSIOTHERAPY IN NEUROLOGY- II (PRACTICAL)

Periods/Week Credits

P: 4 2

TEACHING HOURS: 64

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

Course Description:

This course serves to integrate the knowledge gained by the students in Clinical Neuro;ogy, with the skills gained in assessment and physiotherapy mangement , thus enabling them to apply these in clinical situations of dysfunction due to pathology

Course Objectives:

The objective of this course in that after 64 hours of lecture, the student will be able to identify disability due to neurological dysfunction, set treatment goals and apply their skill. Students will understand the role recent therapeutic advancement in clinical situation to restore neurological function .In addition, the student will be able to fulfill with 75% accuracy to diagnose the condition.

Course Outcomes:

1. Knowledge about pediatric conditions.
2. Identify the disability due to neurological dysfunction.
3. Learn the physical assessment in Neurological conditions of the central nervous system and peripheral nervous system.
4. Understand the various Physiotherapy techniques used in management of Neurological conditions of the central nervous system and peripheral nervous system.

5. Understand the basic principles of Physiotherapy assessment, functional assessment and application of Physiotherapy in various Cranial & Spinal surgeries.

Date	Theme/ Topic	Duration (Hrs)	Learning Experiences & Learning Resources	Learning Objectives
	Cerebral palsy	16 hrs	<p>Student Interactive Session Practical demonstration Group discussion Patient assessment Vertical and horizontal Integrated teaching Motor assessment of Developing Infant - Piper & Darrah - W B. Saunders.</p> <p>Pediatric Physical therapy- Teckling Lippincott</p> <p>Treatment of cerebral Palsy and motor Delay - Levitts-Blackwell Scientific Publications, London.</p> <p>Physiotherapy in Pediatrics - Shepherd - Butterworth Heinman</p>	<p>Describe the cerebral palsy & its topographical classification, monoplegia, diplegia, paraplegia, hemiplegia & tetraplegia</p> <p>Explain its different types & etiology</p> <p>Assess reflex activity at different levels: Cortical, mid brain, brain stem, spinal</p> <p>Assess developmental milestones from birth to five years,</p> <p>Assess functional ability: Prone to supine (roiling) Coming to sitting, quadruped, crawling, kneeling, kneel stand, stand with support and walking.</p> <p>Examine for contractures of upper limb, lower limb & spinal deformities</p> <p>Demonstrate the PT treatment: Passive movement, stretching of soft tissue tightness, use of ice to reduce spasticity, positioning the child to prevent soft tissue contractures, to inhibit abnormal reflexes and to facilitate' volitional movement</p> <p>Describe and demonstrate techniques of carrying of different type of CP children, encouraging bimanual activities in different starting positions like prone sitting and standing and activities across the midline.</p> <p>Describe appropriate home program for positioning the child, handling them and assisting improvement of function.</p>
	Basal ganglionic disorders	16 hrs	<p>Student Interactive Session Practical demonstration Group discussion Geriatric physical</p>	<p>Describe the basal ganglionic disorders in relation to posture and movement, natural history, course and prognosis</p> <p>Identify and assess problems in posture sitting, kneeling and standing balance, voluntary and automatic movement rigidity, Tremor and gait.</p> <p>Assess hearing, speech and finger dexterity</p>

			<p>therapy- Gucciona- Mosby</p> <p>Aging the Health care Challenge - Levis- FA Davis.</p> <p>Neurological Rehabilitation - Urmpherd – Mosby</p>	<p>Describe disability grading according to Yulu. Demonstrate PT treatment: postural awareness and relaxation training.</p> <p>Demonstrate Gait training techniques: associated reactions, heel-toe gait, overcoming obstacles, start and stop on command, turning and walking backwards, forwards and sideward.</p> <p>Describe an appropriate home exercise programme</p> <p>Describe assessment and rehabilitation in detail of Parkinsonism, Huntingtons Diseases, Wilsons Diseases, Tardive Dyskinesia, Dystonias.</p>
Spinal Cord Lesions	16 hrs	<p>Student Interactive Session Practical demonstration Group discussion Neurological Rehabilitation - Urmpherd – Mosby Tetraplegia and paraplegia - A guide for physiotherapist- BromleyChurchill Livingstone.</p> <p>Neurological physiotherapy - A, Problem solving approach – Susan Edwards- Churchill Linvigstone.</p>	<p>Describe the types of Spinal Cord Lesions</p> <p>Describe sign of tract and root Interruptions</p> <p>Describe positioning of the patient in acute spinal cord injury.</p> <p>Assess motor system tone, power of specific muscle range of motion and limbs girth.</p> <p>Assess sensory system and reflexes.</p> <p>Describe assessment of functional ability and balance reactions in appropriate cases.</p> <p>Describe assessment of respiratory function</p> <p>Muscles of respiration, coughing ability and vital capacity</p> <p>Describe how the level of lesion is ascertained.</p> <p>Describe the stages of immobilization & stage when weight bearing is allowed,</p> <p>Describe spinal orthosis.</p> <p>Demonstrate motor reeducation program and program for respiratory care in high level paraplegics and quadriplegics</p> <p>Demonstrate progressive ambulation, mat exercises, various strengthening program, methods of decreasing spasticity and improving sitting balance</p> <p>Demonstrate paraplegic gaits and reeducation in functional activities, transfer and protective falling.</p> <p>Describe common ambulatory aids used in paraplegics and common splints used in tetraplegics.</p> <p>Describe the use of Hydrotherapy in paraplegics.</p> <p>Describe the concept of team approach in</p>	

				rehabilitation of these patients
Stroke	20 hrs	Student Interactive Session Practical demonstration Group discussion Visit to OPD/IPD Cash's textbook of neurology for physiotherapists - Dowani - J P Brothers. Adult Hemiplegia - Evaluation & treatment - Bobath - Oxford Butterworth Heinman Neurological Rehabilitation - Carr & Shepherd - Butterworth Heinman		Describe the Hemiplegia & its syndromes Identify the Sensory disturbance, alterations in tone, loss of selective movement, loss of balance reactions and communications problems Describe the unilateral and bilateral approaches to treatment. Describe positioning in the supine position, on the affected and on the unaffected sides. Demonstrate activities in the recumbent position arm mobilization. Trunk elongation-scapular movement, arm elevation, activities for a recovering arm activities for the lower limb i.e. hip and knee flexion over the side of the bed, knee extension with dorsi flexion, hip control, and isolated knee extension Demonstrate Mat activities, rolling on to affected and unaffected sides, sitting and kneeling. Describe the technique of making a patient sit passively and active assisted in sitting: Demonstrate Transfer Technique Describe activities in sitting equal weight transference on buttocks, shuffling on buttocks. weight transfer through arms balance reaction on trunk & head. Demonstrate activities in the standing position: standing from plinth, from chair (assisted and independent), weight bearing an affected leg, knee, control in stand weight transfers forward, backward and side wards, Gait training and stair climbing. Describe tilt board activities in the lying and sitting positions Describe additional methods of stimulation using verbal cues, ice, pressure & tapping. Describe management of shoulder pain and shoulder hand syndrome Identify 'and describe hemiplegics gait, identify synergy, Components and abnormal reflex activities. Demonstrate reeducation of gait, motor relearning

				techniques functional approach and use of orthosis.
Cerebral lesion.	12 hrs	Student Session Interactive Practical demonstration Group discussion Neurological Rehabilitation - Urmpherd - Mosby.		Identify and assess abnormal tone, decomposition of movement Rapid alternate movements, proprioception, dysmetria. posture and gait. Demonstrate exercises for In coordination-Frenkel's and weighted exercises. Demonstrate techniques for reeducation of balance and equilibrium reactions by visual compensation Describe use of appropriate aids far ambulation depending in the severity of affection - walker, elbow crutches, quadruped, walking sticks, etc
Polio-myelitis	12 hrs	Teachers seminar Practical demonstration Group discussion Neurological Rehabilitation - Urmpherd - Mosby. Pediatric Physical therapy- Teckling Lippincott		Define poliomyelitis Describe its stages & post Polio syndromes Describe treatment in the acute stage, chest care, positioning. Describe the assessment of a patient in the recovery stage: active and passive range of motion, soft tissue tightness, muscle power & spinal deformities Demonstrate PT treatment in the recovery stage: muscle strengthening- progress resistive exercises. Describe the role of suspension and hydrotherapy Describe the treatment of soft tissue tightness by passive stretching, auto-stretching, Pre-operative assessment of contractures: hip flexion, TA contracture, knee flexion and foot deformities. Describe orthotic aids commonly used the management of polio. Describe tendon transfer operations commonly performed, Describe functional retraining for self care, gait training and posture correction.
Multiple Sclerosis	10 hrs	Student Session Interactive Practical demonstration Group discussion		Define Multiple Sclerosis, Describe etiopathology, sign & symptoms, stages, Describe physiotherapy treatment goals and treatment techniques

			Neurological Rehabilitation - Carr&Shepherd - ButterworthHeinrnan	
	Vestibular Disorders,	10 hrs	Student Interactive Session Practical demonstration Group discussion Physical Rehabilitation: O' Sullivan	Describe basic physiology and balance control Explain common vestibular disorder Assess the balance Set the therapeutic goals and Demonstrate the treatment techniques
	Neuro- surgery	16 hrs	Student Interactive Session Role model Practical demonstration Group discussion Neurological Rehabilitation – Carr & Shepherd – Butterworth Heinrnan	Describe the principle of pre and post operative management by physiotherapy of Common surgeries of the cranium & brain, vertebral column & spinal cord, peripheral nerves & Surgical interventions in traumatic head injuries

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

Periods/Week Credits
T: 4 4
100

TEACHING HOURS: 64
MAX. MARKS:

INTERNAL: 40
EXTERNAL: 60
TIME: 3 Hrs

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

Periods/Week Credits
P: 4 2

TEACHING HOURS: 64

MAX. MARKS: 50
INTERNAL: 20
EXTERNAL: 30

Course Description:

Following the basic sciences and clinical science course, this course will enable the students to understand their role in the management of disability within the rehabilitation team within their ethical rules and regulations. Students may also be able know the management and organizational

aspect of Health care system.

Course Objectives:

The objective of this course is that the student will be able to demonstrate an understanding of:

- A. The concept of team approach in rehabilitation will be discussed and implemented, through practical demonstration, with contributions from all members of the team.
- B. Observation and identification of diagnostic features in physical conditions will be practiced through clinical demonstration.
- C. Medical and surgical aspects of disabling conditions will be explained in relation to rehabilitation.
- D. Identification of residual potentials in patients with partial or total disability (temporary or permanent).
- E. Formulation of appropriate goals (long & short term) in treatment & rehabilitation will be discussed.
- F. To know about evolution of Physiotherapy, identify various laws and regulation that should be followed during clinical practice of Physical Therapy.

Course Outcomes:

- A. To understand the team approach in rehabilitation of disability.
- B. To understand the role of community and other institutions for rehabilitation.
- C. Identification of residual potentials in patients with partial or total disability (temporary or permanent).
- D. Formulation of appropriate goals (long & short term) in treatment & rehabilitation will be discussed.
- E. Application of various orthosis, prosthesis, wheelchairs and other assistive devices for different medical and Physical conditions.
- F. To understand the importance of administration in setting of department.
- G. To understand the organizational structure of a department or an organization.
- H. To understand the relationship between juniors, seniors and supervisors of an organization
- I. Understand the importance of Ethics in the relative field.
- J. Understand the basic concepts of Ethics

Date	Theme/ Topic	Duration (Hrs)	Learning Experiences & Learning Resources	Learning Objectives
	Disability and rehabilitation	14 hrs	<p>Student Interactive session</p> <p>Group Discussion</p> <p>Community programme visit and execution</p> <p>Rehabilitation -Evans.</p> <p>Directory for disabled people.</p> <p>Community diagnosis & Health action- Bennerth</p> <p>Textbook of Rehabilitation: Sunder</p> <p>Physical Rehabilitation: O' Sullivan</p>	<p>Understand the concept of disability, phases of disability process & Rehabilitation</p> <p>Define Impairment , functional limitation and disability</p> <p>Describe preventive aspects of disability and rehabilitation principles of physical medicine, rehab team and members</p> <p>Explain CBR</p> <p>Describe Present Rehabilitation services & various community services programmes</p> <p>Explain Reservation and legislation , rehabilitation services for disabled</p> <p>Discuss the Principles of prescription writing and referral services</p>
	Bioengineering	14 hrs	<p>Student interactive session</p> <p>Practical training on wheelchair Mobilization.</p> <p>Practical implication of Orthosis and Prosthesis.</p> <p>Physical Rehabilitation: O' Sullivan</p> <p>Physical Rehabilitation: Braddum</p>	<p>Know the importance of bioengineering</p> <p>Describe Designing and construction of orthosis and prosthesis of upper limb, lower limb and spine</p> <p>Demonstrate wheelchair training</p>
	Physical Medicine	14 hrs	<p>Student interactive Session.</p> <p>Student seminar.</p> <p>Physical Rehabilitation: Braddum</p> <p>Physical medicine & rehabilitation- Okawata</p>	<p>Explain the Principles of physical medicine & Rehabilitation</p> <p>Evaluate the disability</p> <p>Calculate the percentage of disability.</p>
	Communication Rehabilitation	10 hrs	<p>Student Interactive session</p> <p>Student seminar</p> <p>Physical Rehabilitation: O' Sullivan</p> <p>Physical Rehabilitation: Braddum</p>	<p>Explain the Principle of speech production</p> <p>Describe Communication disorder secondary to brain damage</p> <p>Discuss the Principle of assessment & management of communication disorder: Non aphasic language disorders, Aphasia & Dysarthria</p>
	Social Rehabilitation	4 hrs	<p>Student Interactive session</p> <p>Group discussion</p> <p>Rehabilitation: Sunder</p>	<p>Know the importance of social rehabilitation and role of social worker in society.</p> <p>Explain Principle in management of</p>

				<p>social problem</p> <p>Identify the Social need of the patient</p> <p>Explain Role of social worker in rehabilitation</p> <p>Discuss Rehabilitation centre environment</p>
	Vocational Rehabilitation	6 hrs	Student interactive session Rehabilitation: Sunder	<p>Now the Importance of Vocational Rehabilitation</p> <p>Explain Principle in management of Vocational problems</p> <p>Evaluate the Vocational problems.</p> <p>Set the Vocational Goals for the disabled from community resources</p>
	Administration	8 hrs	Student Interactive session Group Discussion Rehabilitation: Sunder	<p>Describe various rehabilitation institutions, centres and attached to hospitals or otherwise in India and abroad</p> <p>Know the importance of administration in setting of department.</p> <p>Explain Basic principles of administration and organization philosophy and approach</p> <p>Identify Space locations , climatic and environmental conditions</p> <p>Prepare a scheme for set up of rehabilitation units in a hospital or outside hospital with a given number of patients and specific condition</p> <p>Understand Organizational structure of the rehabilitation units of the handicapped including Finances, Budgets, income and expenditure statement</p>
	Organization	6 hrs	Student Interactive session Student Seminar Rehabilitation: Sunder	<p>Know the importance of organizations in maintaining relationship between organizers.</p> <p>Explain Principle or relationship between personnel of rehabilitation unit and other department</p> <p>Explain Relationship between staff and his supervisors, equals and junior.</p> <p>Describe Personnel management & recruitment</p>
	History of Physiotherapy	4 Hrs.	Student Interactive session Poster Presentation Professionalism in Physical Therapy- Swisher	<p>Describe the History of Rehabilitation treatment (including therapeutic exercises) from ancient times.</p> <p>Describe the History of Physical Therapy Profession</p> <p>Explain the Division of Special Hospitals & Reconstruction</p> <p>Describe the Development of Professional Organization,</p>

				Professional & Educational Development Explain the Social Development of Physical Therapy & Expansion of Physical Therapy Profession
	Philosophical statements of Physiotherapy	4 Hrs.	Student Interactive session Professionalism in Physical Therapy- Swisher	Explain the Philosophy and Philosophical statements of Physiotherapy
	Ethical Principles in health care	4 Hrs.	Student Interactive session Group Discussion Professionalism in Physical Therapy- Swisher Medical Ethics- By. CM. Francis.	Describe Major Ethical principles applied to moral issue in health care Develop to act in the best interest of the patient/client.
	Professional conduct	8 Hrs.	Student Interactive session Group Discussion Professionalism in Physical Therapy- Swisher Medical Ethics- By. CM. Francis.	Know the importance of relevant ethical, moral, legal and professional considerations that underpin the thinking behind the Rules of Professional Conduct and should be referred
	Scope of practice	4 Hrs.	Student Interactive session Group Discussion Professionalism in Physical Therapy- Swisher	Describe the need to work safely and competency. Identify the common law, duty of care to patients Explain Scope of practice of the profession & individual Discuss the Competence/continuing professional development, Extension of practice/innovation & Professional liability insurance, delegation
	Relationship with patients	4 Hrs.	Student Interactive session Group Discussion Professionalism in Physical Therapy- Swisher Medical Ethics- By. CM. Francis.	Describe the respect of patient in all aspects of the Physiotherapeutic relationship Explain the legal framework within which Physiotherapists practice
	Relationship with colleagues	4 Hrs.	Student Interactive session Group Discussion	Explain Relationship with medical colleagues in terms of the right,

			Professionalism in Physical Therapy- Swisher Medical Ethics- By. CM. Francis.	knowledge and skills of colleagues and other health care Professionals
Professional standard	4 Hrs.	Student Interactive session Group Discussion Professionalism in Physical Therapy- Swisher		Identify the professional standards of Physical Therapist in terms of Practice, Professional Education, Continuing Education & Research
Sale of goods	4 Hrs.	Student Interactive session Professionalism in Physical Therapy- Swisher		Know about the various rules in sales of goods in terms of Contract of sale, Transfer of property, Goods, Conditions & Warranties, Delivery of Goods to buyer, Rights of unpaid seller against the goods & Measure for compensation & damages
Licensing & Accreditation	4 Hrs.	Student Interactive session Group Discussion Professionalism in Physical Therapy- Swisher		Know about various Professional & Government Licensing, Accreditation
Laws & Legal concepts	8 Hrs.	Student Interactive session Group Discussion Professionalism in Physical Therapy- Swisher Medical Ethics- By. CM. Francis.		Understand the laws & Regulations to be followed in Physical Therapy Practice: Confidentiality and responsibility, Law, Legal concepts, Protection from Malpractice claims & Consumer protection Act, Liability and Documentation

BACHELOR OF PHYSIOTHERAPY

PAPER CODE- 03060805
BIOSTATISTICS

Periods/Week **Credits**
T: 2 **2**

TEACHING HOURS: 32

MAX. MARKS: 50

INTERNAL: 20

EXTERNAL: 30

TIME: 3 HOUR

Course Description:

Introduction to Biostatistics provides an introduction to selected important topics in biostatistical concepts and reasoning. This course represents an introduction to the field and provides a survey of data and data types. Specific topics include tools for describing central tendency and variability in data; methods for performing inference on population means and proportions via sample data; statistical hypothesis testing and its application to group comparisons; issues of power and sample size in study designs; and random sample and other study types. While there are some formulae and computational elements to the course, the emphasis is on interpretation and concepts.

Course Objectives:

- Use basic statistical methods, such as descriptive statistics, graphical plots, hypothesis testing, ANOVA models, and linear regression models.
- Distinguish, calculate, and interpret measures of occurrence of diseases, including prevalence, incidence, risk, and odds of disease.
- Distinguish, calculate, and interpret measures of association, including odds ratio, relative risk, and risk difference.
- Distinguish and interpret several study designs, including cross-sectional study design, cohort study design, and case-control study design.
- Use nonparametric methods and regression methods to analyze categorical data and time-to-event data in biostatistics.

Course Outcomes:

- Interpret differences in data distributions via visual displays
- Calculate standard normal scores and resulting probabilities
- Calculate and interpret confidence intervals for population means and proportions
- Interpret and explain a p-value
- Perform a two-sample t-test and interpret the results; calculate a 95% confidence interval for the difference in population means
- Select an appropriate test for comparing two populations on a continuous measure, when the two sample t-test is not appropriate

- Understand and interpret results from Analysis of Variance (ANOVA), a technique used to compare means amongst more than two independent populations
- Choose an appropriate method for comparing proportions between two groups; construct a 95% confidence interval for the difference in population proportions
- Understand and interpret relative risks and odds ratios when comparing two populations
- Understand why survival (timed to event) data requires its own type of analysis techniques
- Interpret the result of a log-rank test in the context of comparing the "survival experience" of multiple cohorts

Date	Theme/ Topic	Duration (Hrs)	Learning Experiences & Learning Resources	Learning Objectives
	Introduction to biostatistics	8 Hrs.	Student Interactive Session Problem solving exercises Biostatistics The manual for Statistical methods for in health and nutrition-KV Rao. JP Methods in Biostatistics- Mahajan- J P	Know about the purpose of basics concepts Descriptive statistics & Inferential statistics techniques in health care
	Types of statistics	6 Hrs.	Student Interactive Session Group discussion with an example Workshop Biostatistics The manual for Statistical methods for in health and nutrition-KV Rao. JP Methods in Biostatistics- Mahajan- J P	Describe the different tests used to compare means(Application of tests with specific research design) Know to apply Non-parametric statistics & Parametric statistics
	Analysis of Variance	10 Hrs	Student Interactive Session Group discussion with an example Workshop Biostatistics The manual for Statistical methods for in health and nutrition-KV Rao. JP Methods in Biostatistics- Mahajan- J P	Describe the tests used for multiple comparisons(Application of tests with specific research design) Explain one way analysis of variance & two way analysis of variance
	Correlations	8 Hrs.	Student Interactive Session Group discussion with an example	Describe the parametric and nonparametric test used for correlation research design (Application of tests with

			Workshop Biostatistics The manual for Statistical methods for in health and nutrition-KV Rao. JP Methods in Biostatistics- Mahajan- J P	specific research design)
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