



SHRI  
DHARMASTHALA  
MANJUNATHESHWARA  
UNIVERSITY

Ordinance Governing  
IV Year BPT Course  
Curriculum 2021-22

**SHRI DHARMASTHALA MANJUNATHESHWARA UNIVERSITY**

(A State Private University established under the Shri Dharmasthala Manjunatheshwara University  
Act No 19 of 2018 of Government of Karnataka and Notification No. ED 261 URC-2018 dated 19th December 2018)

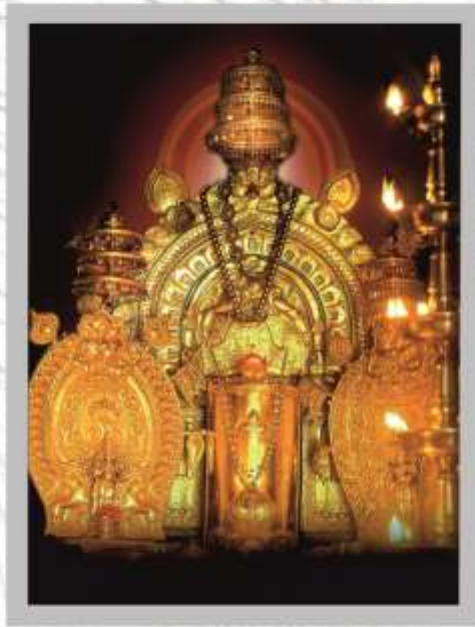
Manjushree Nagar, Sattur, Dharwad - 580 009, Karnataka, India

6<sup>th</sup> Floor, Manjushree Block SDM Medical College Campus

+91-836-2321127, 2321126, 2321125, 2321124 [sdmuniversity.edu.in](http://sdmuniversity.edu.in)

[sdmuo@sdmuniversity.edu.in](mailto:sdmuo@sdmuniversity.edu.in) ; [registrar@sdmuniversity.edu.in](mailto:registrar@sdmuniversity.edu.in)

|| Om Shri Manjunathaya Namaha ||



Shree Kshethra Dharmasthala

**Edition Year : 2021-22**

**Shri Dharmasthala Manjunatheshwara University,**  
Manjushree Nagar, Sattur, Dharwad - 580 009, Karnataka, India  
Phone: 0836-2321127  
email: [sdmuo@sdmuniversity.edu.in](mailto:sdmuo@sdmuniversity.edu.in)

**Published by**

**Registrar**

Shri Dharmasthala Manjunatheshwara University  
6<sup>th</sup> Floor, Manjushree Block SDM Medical College Campus  
Manjushree Nagar, Sattur, Dharwad - 580 009, Karnataka, India

☎ +91 836 2321127,2321126,2321125,2321124

✉ [sdmuo@sdmuniversity.edu.in](mailto:sdmuo@sdmuniversity.edu.in) ; [registrar@sdmuniversity.edu.in](mailto:registrar@sdmuniversity.edu.in)

🌐 [sdmuniversity.edu.in](http://sdmuniversity.edu.in)





SHRI  
DHARMASTHALA  
MANJUNATHESHWARA  
UNIVERSITY

## THE LOGO

Poojya Dr D. Veerendra Heggade, Hon'ble Chancellor of the University, while searching for an appropriate Logo for the University, saw a photograph picked from Temple Architecture showing Wings of a Bird, sculpted in Indian style and wanted it to be incorporated in the logo for the University, as the Wings symbolize 'Spreading of Knowledge beyond Boundaries'. Further it was felt that the Central theme of the logo should be 'Rudra' (The Linga) with three wings on each side. In this way, the logo of the University was conceptualized.

Hence:

1. The central part represents **Rudra** who Demolishes Darkness.
2. The Three **horizontal lines on The Linga** stand for Samyak Darshan (Right Belief), Samyak Gyan (Right Knowledge) and Samyak Charitra (Right Conduct).
3. The **Wings** symbolize spreading of Knowledge across the boundaries.
4. Base line "**Truth Liberates**" highlights the Purpose of Education: to liberate oneself unconditionally. It shows that it is not discipline, nor knowledge nor the efforts to freedom that liberate but Truth is what liberates you from all your conditioning and ignorance.

The overall significance of Shri Dharmasthala Manjunatheshwara University's Logo is:

**Darkness of ignorance is destroyed by the flow of knowledge to bring Liberty to everyone, by realizing the truth. And, it should spread globally without the boundaries as hindrance.**



SHRI  
DHARMASTHALA  
MANJUNATHESHWARA  
UNIVERSITY

## VISION

Shri Dharmasthala Manjunatheshwara University will set the highest standards of teaching and learning by awakening the intelligence of the students and nurturing the creativity hidden in them by creating an environment where the ancient wisdom blends with modern science, to transform them into whole human beings to face the challenges.

## MISSION

- ▶ To ensure that the journey of education is inspiring, pleasant and enjoyable.
- ▶ Attract the best of teachers and students.
- ▶ Achieve high principles of trust, love and spirituality in the students.
- ▶ Create a collaborative, diverse and exclusive community.
- ▶ Transform the student of today to be a leader of tomorrow and a better human being.
- ▶ Produce passionate teachers.
- ▶ Evolve innovative teaching techniques.
- ▶ Create a peaceful environment.
- ▶ Prepare the student to face the social challenges.
- ▶ Create a University of which the Nation is proud of.
- ▶ Be an effective partner in Nation Building.
- ▶ Create an Eco-friendly University.
- ▶ Create a University based on the principles of beauty, love and justice.

||Om Shanti! Om Shanti! Om Shanti||



SHRI  
DHARMASTHALA  
MANJUNATHESHWARA  
UNIVERSITY

6<sup>th</sup> floor, Manjushree Building, SDM College of Medical  
Sciences & Hospital Campus, Sattur, Dharwad - 580009  
Tel. No : +91 836 2477511, 2321115, 2321117  
Fax: +91836 2463400  
Email: registrar@sdmuniversity.edu.in

SDMU/ACAD/BPT/F-4/Notf-226/688/2021

Date: 31.12.2021

## NOTIFICATION

### Ordinance governing Curricula of BPT Year IV - 2021

Ref:

1. Minutes of the 5<sup>th</sup> Meeting of Academic Council  
(Ref. No. SDMU/AC/M5/F-28/626/2021 Dated: 10-12-2021)
2. Minutes of the 6<sup>th</sup> Meeting, of Board of Studies - Physiotherapy held on 17.11.2021

In exercise of the powers conferred under Statutes 1.4 (Powers and functions - Para ix & x) & 1.8 (Powers and functions - Para i) of Shri Dharmasthala Manjunatheshwara University, the Academic Council has accorded its approval for the notification on the ordinance governing the Curricula of BPT Year IV - 2021.

The ordinance shall be effective from the date of notification.

Lt. Col. U. S. Dinesh (Retd.)

REGISTRAR  
REGISTRAR,

Shri Dharmasthala Manjunatheshwara  
University, Dharwad

To: The Principal, SDM College of Physiotherapy.

Copy for information to:

1. Hon'ble Chancellor, Shri Dharmasthala Manjunatheshwara University, Dharwad
2. Vice Chancellor - Shri Dharmasthala Manjunatheshwara University.
3. Pro Vice-Chancellor (Academics) - Shri Dharmasthala Manjunatheshwara University.
4. Controller of Examinations, Shri Dharmasthala Manjunatheshwara University.
5. Chairperson, Board of Studies - Physiotherapy
6. University Office for Records File
7. Office of the Registrar



<b>Fourth year BPT [Duration 37 - 48 months]</b>							
Main Subjects: For University Examination (PT is Physiotherapy)							
S no	Subjects	Teaching hours					
		Weekly Class hours	Total	Theory	Practical	Clinics	Total
1.	Neurology & Neurosurgery	2	60	60			
2.	Community Medicine	2	60	60			
3.	Paediatrics	2	60	45	15		
4.	Research Methodology & Biostatistics	2	60	60			
5.	Community Physiotherapy	4	150	90	60		
6.	PT in Paediatrics	4	150	90	60		
7.	PT in Neurology & Neurosurgery	4	150	90	60		
8.	Supervised Rotatory Clinical Training	16	680			680	
Subsidiary subjects: Not for University Examination							
9.	Project	1	30		30		
	<b>Total</b>	<b>37</b>	<b>1400</b>	<b>495</b>	<b>225</b>	<b>680</b>	<b>1400</b>

### **Rotatory clinical training:**

- Students will be posted in all physiotherapy outpatient departments/ wards on rotation basis.
- Students will be posted in Neurology & Neurosurgery, Community Medicine and Paediatrics outpatient departments/ wards on rotation basis.
- Project will start in III Year, which will continue in IV Year and end in internship. Project will be executed by a group of students under the guidance of teaching staff/s.

## Scheme of Examination: Subject and Distribution of marks

BPT - IV								
Sl No	Subject	Theory			Practical		Total	
		Written		Viva-Voce	Internal Assessment	Practical	Internal Assessment	
		Time	Maximum Marks	Maximum Marks	Maximum Marks	Maximum Marks	Maximum Marks	Maximum Marks
1.	Neurology (section A)	3 Hrs	40	-	10	-	-	100
	& Neurosurgery (Section B)		40		10			
2.	Community Medicine	3 Hrs	80	-	20	-	-	100
3.	Paediatrics	1.5 Hrs	40	-	10			50
4.	Research Methodology & Biostatistics	3 Hrs	80	-	20	-	-	100
5.	Community Physiotherapy	3 Hrs	100	30	20	40	10	200
6.	PT in Pediatrics	3 Hrs	100	30	20	40	10	200
7.	PT in Neurology & Neurosurgery	3 Hrs	100	30	20	40	10	200



### **QUESTION PAPER PATTERN FOR BPT EXAMINATION**

<b>THEORY</b>		
<b>SUBJECTS HAVING MAXIMUM MARKS = 100</b>		
<b>TYPE OF QUESTION</b>	<b>NUMBER OF QUESTIONS</b>	<b>MARKS FOR EACH QUESTION</b>
MCQ	<b>20</b>	1
ESSAY TYPE	<b>2 (Any TWO out of Three)</b>	10
SHORT ESSAY TYPE	<b>8</b>	5
SHORT ANSWER TYPE	<b>10</b>	2

<b>SUBJECTS HAVING MAXIMUM MARKS = 80</b>		
<b>TYPE OF QUESTION</b>	<b>NUMBER OF QUESTIONS</b>	<b>MARKS FOR EACH QUESTION</b>
MCQ	<b>20</b>	1
ESSAY TYPE	<b>2 (Any TWO out of Three)</b>	10
SHORT ESSAY TYPE	<b>4</b>	5
SHORT ANSWER TYPE	<b>10</b>	2

<b>SUBJECTS HAVING SECTION A &amp; SECTION B [40 MARKS + 40 MARKS = 80 MARKS]</b>					
<b>SECTION A</b>			<b>SECTION B</b>		
TYPE OF QUESTION	NUMBER OF QUESTIONS	MARKS FOR EACH QUESTION	TYPE OF QUESTION	NUMBER OF QUESTIONS	MARKS FOR EACH QUESTION
MCQ	<b>10</b>	1	MCQ	<b>10</b>	1
ESSAY TYPE	<b>1</b> (Any ONE out of Two)	10	ESSAY TYPE	<b>1</b> (Any ONE out of Two)	10
SHORT ESSAY TYPE	<b>2</b>	5	SHORT ESSAY TYPE	<b>2</b>	5
SHORT ANSWER TYPE	<b>5</b>	2	SHORT ANSWER TYPE	<b>5</b>	2

<b>THEORY</b>		
<b>SUBJECTS HAVING MAXIMUM MARKS = 40</b>		
TYPE OF QUESTION	NUMBER OF QUESTIONS	MARKS FOR EACH QUESTION
MCQ	<b>10</b>	1
ESSAY TYPE	<b>1</b> (Any ONE out of Two)	10
SHORT ESSAY TYPE	<b>2</b>	5
SHORT ANSWER TYPE	<b>5</b>	2

## **PRACTICAL**

<b>MAXIMUM MARKS = 40</b>		
<b>TYPE OF QUESTION</b>	<b>NUMBER OF QUESTIONS</b>	<b>MARKS FOR EACH QUESTION</b>
<b>LONG CASE</b>	<b>1</b>	<b>20</b>
<b>SHORT CASE</b>	<b>2</b>	<b>10</b>

## **VIVA-VOCE**

<b>MAXIMUM MARKS = 30</b>
---------------------------

<b>SUBJECT NAME: NEUROLOGY AND NEUROSURGERY</b>
---

Subject Description: The subject serves to know and integrate the knowledge gained by the students in neurology and neurosurgery. The student will have a general understanding of the diseases the therapist would encounter in their practice. The objective of this course is that after 60 hrs of lectures and discussion the student will be able to list the etiology, pathology, clinical features and treatment methods for various neurological conditions.

Subject Title	: NEUROLOGY AND NEUROSURGERY
Duration	: 37- 48 Months
Total Hours	: 60 Hours
Theory/lectures	: 2 Hour / Week
Teaching Hours	: 60 Hours
Method of Assessment	: Written, Internal and University examinations



**THEORY: NEUROLOGY**

Sl. No	TOPIC	HOURS
1)	Disorders of function in the context of Pathophysiology, Anatomy in Neurology and Cortical Mapping.	1
2)	Classification of neurological involvement depending on level of lesion	1
3)	Neurological assessment: Principles of clinical diagnosis, higher mental function, assessment of brain & spinal cord function, evaluation of cranial nerves and evaluation of autonomic nervous system.	3
4)	Investigations: principles, methods, views, normal/abnormal values/features, types of following investigative procedures- skull x-ray, CT, MRI, lumbar puncture, CSF examination.	2
5)	Neuro-ophthalmology: Assessment of visual function – acuity, field, colour vision, Pupillary reflex, accommodation reflex, abnormalities of optic disc, disorders of optic nerve, tract, radiation, occipital pole, disorders of higher visual processing, disorders of pupil, disorders of eye movements, central disorders of eye movement.	1
6)	Deafness, vertigo, and imbalance: Physiology of hearing, disorders of hearing, examination & investigations of hearing, tests of vestibular function, vertigo, peripheral vestibular disorders, central vestibular vertigo	2
7)	Lower cranial nerve paralysis – Etiology, clinical features, investigations, and management of following disorders - lesions in trigeminal nerve, trigeminal neuralgia, trigeminal sensory neuropathy, lesions in facial nerve, facial palsy, bell's palsy, hemi facial spasm, Glossopharangeal neuralgia, lesions of Vagus nerve, lesions of spinal accessory nerve, lesions of hypoglossal nerve. Dysphagia – swallowing mechanisms, causes of dysphagia, symptoms, examination, and management of dysphagia.	3
8)	Cerebro-vascular diseases: Define stroke, TIA, RIA, stroke in evolution, multi infarct dementia and Lacunar infarct. Classification of stroke – Ischemic, hemorrhagic, venous infarcts. Risk factors, cause of ischemic stroke, causes of hemorrhagic stroke. Classification of hemorrhagic stroke, classification of stroke based on symptoms, stroke syndrome, investigations, differential diagnosis, medical and surgical management	4

9)	Higher cortical, neuro psychological and neurobehavioral disorders: Causes of blackouts, physiological nature of Epilepsy, classification, clinical features, investigations, medical & surgical management of following disorders – Non-epileptic attacks of childhood, Epilepsy in childhood, Seizures, and Epilepsy syndromes in adult. Neural basis of consciousness, causes & investigations of Coma, criteria for diagnosis of Brain death. Etiology, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, management of Perceptual disorders and Speech disorders.	3
10)	Movement disorders: Definition, etiology, risk factors, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, surgical management and complications of following disorders – Parkinson's disease, Dystonia, Chorea, Ballism, Athetosis, Tics, Myoclonus and Wilson's disease	3
11)	Cerebellar and coordination disorders: Etiology, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, management of Congenital ataxia, Friedreich's ataxia, Ataxia telangiectasia, Metabolic ataxia, Hereditary cerebellar ataxia, Tabes dorsalis and Syphilis.	3
12)	Spinal cord disorders: Functions of tracts, definition, etiology, risk factors, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, surgical management and complications of following disorders – Spinal cord injury, Compression by IVD prolapse, Spinal epidural abscess, Transverse myelitis, Viral myelitis, Syringomyelia, Spina bifida, Sub acute combined degeneration of the cord, Hereditary spastic paraplegia, Radiation myelopathy, Progressive encephalomyelitis, Conus medullaris syndrome, Bladder & bowel dysfunction, and Sarcoidosis.	3
13)	Infections of brain and spinal cord: Etiology, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, surgical management and complications of following disorders – Meningitis, Encephalitis, Poliomyelitis and Postpolio syndrome. Complications of systemic infections on nervous system – Septic encephalopathy, AIDS, Rheumatic fever, Brucellosis, Tetanus, and Pertussis	2

14)	Motor neuron diseases: - Etiology, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, and complications of following disorders - Amyotrophic lateral sclerosis, Spinal muscular atrophy, Hereditary bulbar palsy, Neuromyotonia and Post-irradiation lumbosacral polyradiculopathy	2
15)	Multiple sclerosis - Etiology, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, and complications.	3
16)	Disorders of neuromuscular junction – Etiology, classification, signs & symptoms, investigations, management, of following disorders Myasthenia gravis, Eaton-Lambert syndrome, and Botulism.	2
17)	Muscle diseases: Classification, investigations, imaging methods, Muscle biopsy, management of muscle diseases, genetic counselling. Classification, etiology, signs & symptoms of following disorders – Muscular dystrophy, Myotonic dystrophy, myopathy, Non-dystrophic myotonia.	3
18)	Polyneuropathy – Classification of Polyneuropathies, Hereditary motor sensory neuropathy, Hereditary sensory and Autonomic neuropathies, Amyloid neuropathy, Acute idiopathic Polyneuropathies. Guillain-Barre syndrome – Causes, clinical features, management of GBS, Chronic Idiopathic Polyneuropathies, diagnosis of polyneuropathy, nerve biopsy.	2
19)	Focal peripheral neuropathy: Clinical diagnosis of focal neuropathy, neurotmesis, Axonotmesis, Neuropraxia. Etiology, risk factors, classification, neurological signs & symptoms, investigations, management, of following disorders – RSD, Nerve tumors, Brachial plexus palsy, Thoracic outlet syndrome, Lumbosacral plexus lesions, Phrenic & Intercostals nerve lesions, Median nerve palsy, Ulnar nerve palsy, Radial nerve palsy, Musculocutaneous nerve palsy, Anterior & Posterior interosseous nerve palsy, Axillary nerve palsy, Long thoracic nerve palsy, Suprascapular nerve palsy, Sciatic nerve palsy, Tibial nerve palsy, Common peroneal nerve palsy, Femoral nerve palsy.	3
20)	Paediatric neurology: Neural development, Etiology, pathophysiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, surgical management and complications of following disorders -	3

	Cerebral palsy, Hydrocephalus, Arnold-chiari malformation, Basilar impression, Klippel-Feil syndrome, Achondroplasia, Cerebral malformations, Autism, Dandy walker syndrome and Down's syndrome.	
21)	Toxic, metabolic and environmental disorders: Etiology, risk factors, classification, neurological signs & symptoms, investigations, management, of following disorders – Encephalopathy, Alcohol toxicity, Recreational drug abuse, Toxic gases & Asphyxia, Therapeutic & diagnostic agent toxicity, Metal toxicity, Pesticide poisoning, Environmental & physical insults, Pant & Fungal poisoning, Animal poisons, & Complications of organ transplantation.	3

### **THEORY: NEUROSURGERY**

Sl. No	TOPIC	HOURS
22)	Head injury: Etiology, classification, clinical signs & symptoms, investigations, differential diagnosis, medical management, surgical management and complications.	3
23)	Brain tumors and spinal tumors: Classification, clinical features, investigations, medical and surgical management.	3
24)	Introduction, Indications and Complications of following Neuro surgeries: Craniotomy, Cranioplasty, Stereotactic surgery, Deep brain stimulation, Burrhole, Shunting, Laminectomy, Hemilaminectomy, Rhizotomy, Microvascular decompression surgery, Endarterectomy, Embolization, Pituitary surgery, Ablative surgery - Thalamotomy and Pallidotomy, Coiling of aneurysm, Clipping of aneurysm, and Neural implantation.	2

S.No	Recommended Textbooks for neurology	Recommended Textbooks for neurosurgery
1.	Davidson's Principles and Practice of Medicine	Ramamurthi and Tandons Text of Neurosurgery
2.	Harrison`s Neurology in Clinical Medicine	Greenberg Handbook of Neurosurgery
3.	Textbook of Neurology- Victor Adams	Ramamurthi and Tandons Textbook of Operative Neurosurgery



4.	Brains Clinical Neurology.	Illustrated Neurology and Neurosurgery
5.	DeJong`s Neurologic Examination	
6.	Bradley and Daroff`s Neurology in Clinical Practice	
7.	Brains Diseases of Nervous System	

**SUBJECT NAME: COMMUNITY MEDICINE****Course Description:**

Subject Description: The subject serves to know and integrate the knowledge gained by the students in community medicine with skills to apply this knowledge in clinical situations encountered in their practice in the community. The objective of this course is, after 60 hrs of lectures and clinical discussion, the student will be able to demonstrate an understanding of different health diseases in the community, the methods of health administration, health education and disease preventing measures.

Subject Title	: <b>COMMUNITY MEDICINE</b>
Duration	: 37– 48 Months
Total Hours	: 60
Theory/lectures	: 2 Hour / Week
Teaching hours	: 60
Method of Assessment	: Written, Internal and University examinations

**THEORY**

Sl. No	TOPIC	HOURS
1)	Health and Disease: Definitions, Concepts, Dimensions and Indicators of Health, Concept of well-being, Spectrum and Determinants of Health, Concept and natural history of Disease, Concepts of disease control and prevention, Modes of Intervention, Population Medicine, The role of socio-economic and cultural environment in health and disease.	5
2)	Epidemiology, definition and scope. Principles of Epidemiology and Epidemiological methods: Components and Aims, Basic measurements, Methods, Uses of Epidemiology, Infectious disease epidemiology, Dynamics and modes of disease transmission, Host defenses and Immunizing agents, Hazards of Immunization, Disease prevention and control, Disinfection. Screening for Disease: Concept of screening, Aims and Objectives, Uses and types of screening.	7

3)	Epidemiology of communicable disease: Respiratory infections, Intestinal infections, Arthropodborne infections, Zoonoses, Surface infections, Hospital acquired infections Epidemiology of chronic non-communicable diseases and conditions: Cardio vascular diseases: Coronary heart disease, Hypertension, Stroke, Rheumatic heart disease, Cancer, Diabetes, Obesity, Blindness, Accidents and Injuries.	7
4)	Public health administration- an overview of the health administration set up at Central and state levels. The national health programme-highlighting the role of social, economic and cultural factors in the implementation of the national programmes. Health problems of vulnerable groups- pregnant and lactating women, infants and pre-school children, occupational groups.	4
5)	Health programmes in India: Vector borne disease control programme, National leprosy eradication programme, National tuberculosis programme, National AIDS control programme, National programme for control of blindness, Iodine deficiency disorders (IDD) programme, Universal Immunisation programme, Reproductive and child health programme, National cancer control programme, National mental health programme. National diabetes control programme, National family welfare programme.	4
6)	Demography and Family Planning: Demographic cycle, Fertility, Family planning-objectives of national family planning programme and family planning methods, A general idea of advantage and disadvantages of the methods.	3
7)	Preventive Medicine in Obstetrics, Paediatrics and Geriatrics: MCH problems, Antenatal, Intranatal and post natal care, Care of children, Child health problems, Rights of child and National policy for children, MCH services and indicators of MCH care, Social welfare programmes for women and children, Preventive medicine and geriatrics.	6
8)	Nutrition and Health: Classification of foods, Nutritional profiles of principal foods, Nutritional problems in public health, Community nutrition programmes.	4
9)	Environment and Health: Components of environment, Water and air pollution and public health: Pollution control, Disposal of waste, Medical entomology.	3
10)	Hospital waste management: Sources of hospital waste, Health hazards, Waste management.	3

11)	Disaster Management: Natural and man made disasters, Disaster impact and response, Relief phase, Epidemiologic surveillance and disease control, Nutrition, Rehabilitation, Disaster preparedness.	4
12)	Occupational Health: Occupational environment, Occupational hazards, Occupational diseases, Prevention of occupational diseases. Social security and other measures for the protection from occupational hazard accidents and diseases. Details of compensation acts.	4
13)	Mental Health: Characteristics of a mentally healthy person, Types of mental illness, Causes of mental ill health, Prevention, Mental health services, Alcohol and drug dependence. Emphasis on community aspects of mental health. Role of Physiotherapist in mental health problems such as mental retardation.	3
14)	Health Education: Concepts, aims and objectives, Approaches to health education, Models of health education, Contents of health education, Principles of health education, Practice of health education.	3

### **Recommended Textbooks**

1. Park K: Park's Textbook of Preventive & Social Medicine. 26 th edition, M/sBanarasida Bhanot, Jabalpur, 2021.
2. Textbook of Community Medicine, 2 nd edition. Authors: Dr Sunder Lal Dr Adarsh and Dr Pankaj. CBS Publishers and Distributors, New Delhi, 2017.
3. Gupta MC and Mahajan BK: Textbook of preventive and social medicine. 3 rd Edition, Jaypee Brothers, New Delhi, 2003.
4. Pruthvish S: Community based rehabilitation of persons with disabilities. 1 st Edition, Jaypee Brothers, New Delhi, 2006.
5. AH Suryakantha. Community Medicine with Recent advances. 5 th Edition, Jaypee Brothers, New Delhi, 2019.



**SUBJECT NAME: PAEDIATRICS**

Subject Title	<b>PAEDIATRICS</b>
Duration	: 37- 48 Months
Total Hours	: 60
Theory/lectures	: 2 Hour / Week
Teaching Hours:	: (Theory: 45 hours and Practical: 15 hours)
Method of Assessment	: Written, Internal and University examinations

<b>S. No.</b>	<b>TOPIC</b>	<b>Hours</b>
1.	Overview of Intrauterine development, Normal growth and development. Variations in normal development	1
2.	Developmental delay and High risk babies	1
3.	Overview and Bedside assessment of Pediatric neurological, cardiac, respiratory and orthopedic conditions	2
4.	Emergencies in the neonatal unit. Common medical procedures in NICU & PICU	1
5.	Preventive care in pediatrics & Vaccination schedule	1
6.	Food and Nutrition: Protein – Energy Malnutrition: Clinical features and treatment	1
7.	Problems and management of LBW infants, Perinatal problems and management, Respiratory conditions of childhood, Epilepsies – types, diagnosis and treatment; Sensory disorders – problems resulting from loss of vision and hearing; Learning and behavioural problems – Hyperactivity, Autism, Challenging behaviours, Educational delay, The Clumsy Child.	3
8.	Cerebral palsy: Definition, etiology, classification, clinical features, complications, deformities, medical management	2
9.	Respiratory Disease: Examination of the Respiratory System – Investigations: Chest Radiographs, Pulmonary Function Testing, Arterial Blood Gas Analysis; Clinical manifestations of Lung disease; Definition, Etiology, Clinical features, signs and symptoms, complications, management and treatment of following lung diseases: Asthma, Cystic Fibrosis, Upper Respiratory Tract Infections, Pneumonia, Tuberculosis, Bronchiectasis, Pleural Effusion, Diseases	4

	of the pleura, diaphragm and chest wall; Congenital tracheomalacia, Respiratory failure	
10.	Disorders of the Cardiovascular System – Definition, Clinical features, diagnosis and choice of management for the following disorders: Congenital Heart diseases – Acyanotic congenital heart disease & Cyanotic congenital heart disease: Patent Ductus Arteriosus, Coarctation of Aorta, Atrial Septal Defect, Ventricular Septal Defect, Tetralogy of Fallot, Transposition of Great Vessels	4
11.	Over view of Obesity, Juvenile diabetes, Anaemia, Hemophilia, Tracheo esophageal fistula	2
12.	Introduction and Classification of Metabolic and Genetic disorders and Genetic Counseling - Down's Syndrome, West's syndrome, Wilson's syndrome, Leigh's disease, Angelman's syndrome	2
13.	Fundamental concepts in Paediatric Orthopaedics – Causes of injuries, Classification of injuries, Fracture biomechanics and Fracture healing	1
14.	Inflammatory and Degenerative Conditions – Causes, clinical feature, complications, deformities, radiological features, management-conservative and surgical for the following conditions: Hemophilic arthritis, Juvenile Rheumatoid Arthritis (Still's disease)	2
15.	Deformities – Review the Causes, Clinical Features, Complications, radiological features, Medical and Surgical Management of the Following Congenital and Acquired Deformities: Congenital deformities - CTEV. CDH. Torticollis. Scoliosis. Flat foot. Vertical talus. Hand anomalies - syndactyly, polydactyly and ectrodactyly. Arthrogryposis multiplex congenital (amyoplasia congenita). Limb deficiencies- Amelia and Phocomelia. Klippel feil syndrome. Osteogenesis imperfecta (fragile ossium). Acquired deformities - Acquired Torticollis. Scoliosis. Kyphosis. Lordosis. Genu varum. Genu valgum. Genu recurvatum Coxa vara. Pes cavus.	8
16.	Diseases of Bones and Joints – Introduction, Causes, Clinical features, Types, Complications, Investigations and Management - medical and surgical of the following conditions: 1. Infective: Osteomyelitis, TB Spine and other major joints 2. Perthes, Slipped Capital Femoral Epiphysis, Avascular Necrosis 3. Metabolic: Rickets, Osteomalacia	2
17.	Soft tissue injuries in Paediatrics - Overview, Investigations and Management	1

18.	Fractures and dislocations of Upper extremity, Lower extremity and Spine in Paediatrics - Introduction, Investigations and Orthopedic management	1
19.	Low back pain and neck pain in Paediatrics - Introduction, Causes, Types, Investigations and Management	1
20.	Paediatric sports injuries - Introduction, Types, Investigations and Management	1
21.	Amputations, Ilizarov	4
22.	Surgeries for cerebral palsy (Rhizotomy, Tendon lengthening, osteotomies, arthrodesis)	
23.	Poliomyelitis - Definition, etiology, types, pathophysiology, clinical features, deformities, medical and surgical management.	
24.	Neural Tube defects	
25.	Cardio-Thoracic surgeries – Thoracotomy – Definition, Types of Incisions with emphasis to the site of incision, muscles cut and complications. Lung surgeries: Pneumonectomy, Lobectomy segmentectomy – Indications, Physiological changes and Complications; Thoracoplasty, Pleurectomy, Pleurodesis and Decortication of the Lung. An overview of cardiac surgeries in paediatrics	
26.	Abdominal Surgeries	
27.	Cleft lip and Cleft Palate	

### Suggested Readings

1. Ghai essential pediatrics by Ghai, O. P
2. Nelson textbook of pediatrics by Nelson, Waldo E.
3. Clinical Methods in Pediatrics by Gupta P.
4. Pediatric Clinical Methods by Singh, Meherban.
5. Child Neurology by Menkes, John H.; Sarnat, H. B.
6. Essential Orthopaedics by Maheshwari, J.
7. Textbook of Orthopedics and Traumatology by Natrajan M. V.
8. Textbook of Orthopedics by Ebnezar J.
9. Tachdjian`s Pediatric Orthopaedics by Tachdjian, Mihran O.
10. Practice of Pediatric Orthopedics by Stahelli, Lynn T.
11. Lovell and Winter`s Pediatric Orthopaedics by Lovell, Wood W.; Winter, Robert B.
12. Clinical Pediatric Neurology by Fenichel, Gerald M.
13. Care of the Newborn by Singh, Meharban

**SUBJECT NAME: RESEARCH METHODOLOGY AND BIostatISTICS**

**Subject Description:** The course of research methodology and biostatistics will introduce the student to understand the basics of methodologies in research, and statistical concepts, methods of statistical analysis and interpretation of the research data.

Subject Title Duration Total Hours Theory/lectures Teaching Hours	RESEARCH METHODOLOGY AND BIostatISTICS 37– 48 Months : 60 : 2 Hour / Week : 60
Method of Assessment	: Written, Internal and University examinations

**THEORY:****RESEARCH METHODOLOGY [30 Hours]**

Sl. No	TOPIC	HOURS
1)	Introduction to Research methodology: Meaning of research, objectives of research, Motivation in research, Types of research & research approaches, Research methods vs methodology, Criteria for good research, Problems encountered by researchers in India.	4
2)	Research problem: Statement of research problem., Statement of purpose and objectives of research problem, Necessity of defining the problem	3
3)	Research design: Meaning of research design, Need for research design, Features for good design, Different research designs, Basic principles of research design	3
4)	Sampling Design: Criteria for selecting sampling procedure, Implications for sample design, steps in sampling design, characteristics of good sample design, Different types of sample design	4
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.	4

6)	Methods of data collection: collection of primary data, collection data through questionnaires & schedules, Difference between questionnaires & schedules.	3
7)	Sampling fundamentals, need for sampling & some fundamental definitions, Important sampling distributions	2
8)	Processing & analysis of data: Processing operations, problems in processing , Types of analysis, Statistics in research, Measures of central tendency, Dispersion, Asymmetry, relationship.	4
9)	Testing of hypothesis: What is hypothesis? Basic concepts concerning testing of hypothesis, Procedure of hypothesis testing, measuring the power of hypothesis test, Tests of hypothesis, limitations of the tests of hypothesis	4
10)	Computer technology: Introduction to Computers, computer application in research, computers & researcher.	3
11)	Evidence Based Practice (EBP) in Physiotherapy 1) Goals of Evidence Based Practice(EBP) 2) Components of evidence-based practice, formulating answerable clinical questions, and accessing and performing critical appraisals of evidence relevant to clinical practice. 3) Steps in Evidence Based Practice 4) A Selection of Databases for EBP Searching 5) The Interpretation of Evidence Based Practice 6) Strength and Challenges of Implementing EBP in physiotherapy 7) Evidence Informed Practice	4
12)	Ethics: Definition, code of conducts, principles, informed consent, plagiarism, legal terms and issues in Physiotherapy practice	3
<b>BIOSTATISTICS [30 Hours]</b>		
13)	Introduction: Meaning, definition, characteristics of statistics., Importance of the study of statistics, Branches of statistics, Statistics and health science including physiotherapy, Parameters and Estimates, Descriptive and inferential statistics, Variables and their types,	3

<i>Measurement scales.</i>		
14)	Tabulation of Data: Basic principles of graphical representation, Types of diagrams – histograms, frequency polygons, smooth frequency polygon, cumulative frequency curve,. Normal probability curve.	3
15)	Measure 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.	4
16)	Probability and Standard Distributions: Meaning of probability of standard distribution, The binominal distribution, The normal distribution, Divergence from normality – skew ness, kurtosis.	3
17)	Sampling techniques: Need for sampling - Criteria for good samples, Application of sampling in community, Procedures of sampling and sampling designs errors, Sampling variation and tests of significance.	3
18)	Analysis of variance & covariance: Analysis of variance (ANOVA), what is ANOVA? Basic principle of ANOVA, ANOVA technique, Analysis of Co variance(ANACOVA).	2
19)	Psychometric properties for patient related outcome measures: sensitivity, specificity , reliability and validity	1

**Recommended Textbooks:**

1. Elements of Health Statistics: Rao.N.S.N
2. An introduction of Biostatistics: Sunder Rao.P.S.S.
3. Methods in Bio-Statistics 6th Edn. 1997: B.K. Mahajan
4. Biostatistics : A manual of Statistics Methods: K. Visweswara Rao
5. Elementary Statistics 1st Edn, 1990. in Medical Workers: Inderbir Singh
6. Research: principles and methods : L Denise F. Poli Hungler.
7. Fundamentals of Research, 4<sup>th</sup> edition: David J. Fox

<b>SUBJECT NAME: PHYSIOTHERAPY IN NEUROLOGY &amp; NEUROSURGERY</b>
--

**Course Description:**

The subject serves to integrate the knowledge gained by the students in neurology and neurosurgery with skills to apply these in clinical situations of dysfunction and neurological pathology. The course will serve to educate and train students to independently evaluate, prescribe and plan comprehensive physiotherapy management using evidence based neurological physiotherapy approaches and treatment strategies for the adults with neurological dysfunctions

Subject Title	PHYSIOTHERAPY IN NEUROLOGY & NEUROSURGERY
Duration	: 37-48 Months
Total Hours	: 150
Theory	: 90 Hrs
Practical	: 60 Hrs
Total Hours / Week	: 3 Hrs/Week
Seminars / Tutorials	: 1 Hour / Week
Method of Assessment	: Written, Oral and Practical, Internal and University examinations

**THEORY (100 Hours)**

Sl. No	TOPIC	HOURS
1)	Neurological evaluation a. Protocol for neurological evaluation b. Assessment techniques including history taking, observation, higher mental functions, cranial nerves, sensory system, motor system, reflexes, coordination, balance, gait and functional evaluation in people with neurological disorders c. Assessment of Cognitive and Perceptual disorders	6

2)	<p>Stroke</p> <ul style="list-style-type: none"> <li>a. Define Stroke</li> <li>b. Causes, risk factors and clinical features of stroke and stroke syndromes</li> <li>c. Physiotherapy evaluation findings of people with stroke</li> <li>d. Plan physiotherapy management in acute, sub- acute and chronic stages of stroke recovery</li> <li>e. Physiotherapy techniques based on evidence for management of people with stroke</li> </ul>	7
3)	<p>Traumatic Brain Injury</p> <ul style="list-style-type: none"> <li>a. Classify TBI and summarize the presentation and sequelae following traumatic brain injury</li> <li>b. Outline physiotherapy evaluation and plan management for patients following traumatic brain injury</li> </ul>	5
4)	<p>Physiotherapy in Ataxic conditions</p> <p>Causes and pathophysiology, physiotherapy assessment and management of ataxic disorders with emphasis on improving balance, coordination, posture and gait in</p> <ul style="list-style-type: none"> <li>a. Cerebellar Disorders</li> <li>b. Fredericks Ataxia</li> <li>c. Sensory Ataxia</li> </ul>	5
5)	<p>Extrapyramidal diseases</p> <ul style="list-style-type: none"> <li>a. Physiotherapy evaluation findings in patients with Parkinson disease</li> <li>b. Physiotherapy management and strategies for people with Parkinson Disease and Parkinson plus syndromes</li> </ul>	4
6)	<p>Movement Disorders</p> <p>Sydenham's Chorea, Huntington's disease, Athetosis,</p>	2



	Myoclonus, Dystonia, Hemiballismus, Tics, Tremors	
7)	<p>Multiple Sclerosis:</p> <ul style="list-style-type: none"> <li>a. Classify the types and clinical features of Multiple sclerosis</li> <li>b. Plan the physiotherapy assessment and management for persons with Multiple sclerosis</li> </ul>	2
8)	<p>Brain Tumor Rehabilitation</p> <ul style="list-style-type: none"> <li>a. Clinical features, medical and surgical management following brain tumours</li> <li>b. Assessment and management for a patient with brain tumour following surgery or radiation therapy or chemotherapy</li> </ul>	2
9)	<p>Spinal Tumors</p> <ul style="list-style-type: none"> <li>a. Classify spinal tumors</li> <li>b. Clinical features, prognosis, Physiotherapy following medical and surgical management of spinal tumors</li> </ul>	2
10)	<p>Traumatic Spinal Cord Injury</p> <ul style="list-style-type: none"> <li>a. Causes of spinal cord Injury</li> <li>a. Mechanisms of Injuries, clinical features and complications of Spinal cord injury</li> <li>b. Assessment and outcome measures for patients with spinal cord injury</li> <li>c. Rationale for prescribing mobility aids and orthosis</li> <li>d. Physiotherapy management based on levels of spinal injury in people with complete and incomplete spinal cord injuries</li> </ul>	5
11)	<p>Diseases of the Spinal Cord:</p> <ul style="list-style-type: none"> <li>a. Physiotherapy management in people with Transverse myelitis and Syringomyelia and compressive myelopathies</li> <li>b. Physiotherapy management for people following spinal decompression surgeries</li> </ul>	4

12)	<p>Neurogenic bladder</p> <ul style="list-style-type: none"> <li>a. Define neurogenic bladder</li> <li>b. Classify and explain the clinical features of types of neurogenic bladder</li> <li>c. Management strategies for people with neurogenic bladder</li> </ul>	2
13)	<p>Motor Neuron Disease (MND)</p> <ul style="list-style-type: none"> <li>a. 1. Definition, classification, and features of MND</li> <li>b. 2. Physiotherapy evaluation findings, goals and principles of physiotherapy management for people with MND</li> </ul>	2
14)	<p>Peripheral Nerve Injuries and Disorders</p> <ul style="list-style-type: none"> <li>a. Causes, clinical features and complications</li> <li>b. Assessment and physiotherapy management for Bell's Palsy, Thoracic outlet syndrome, Median nerve palsy, Ulnar nerve palsy, Radial nerve palsy, Musculocutaneous nerve palsy, Anterior &amp; Posterior interosseous nerve palsy, Axillary nerve palsy, Long-thoracic nerve palsy, Suprascapular nerve palsy, Sciatic nerve palsy, Tibial nerve palsy, Common peroneal nerve palsy, Femoral nerve palsy, Obturator nerve palsy, and Pudendal nerve palsy.</li> <li>c. Role of splints and orthotics</li> </ul>	10
15)	<p>Polyneuropathy</p> <ul style="list-style-type: none"> <li>a. Clinical features, assessment and physiotherapy management of Alcoholic, Diabetic, Metabolic, Toxic, Inflammatory (GBS) and infective neuropathy (Hansen's disease)</li> </ul>	3
16)	<p>Myopathies and Muscular dystrophies</p> <ul style="list-style-type: none"> <li>a. Classification, Clinical features and Management of Myopathies and Muscular Dystrophies in adults- Becker's Muscular Dystrophy, Limb Girdle dystrophy, Fascio-scapulothoracic Dystrophy</li> </ul>	3

17)	<p>Approaches in neurological physiotherapy Principles, assumptions and techniques of the following approaches in neurological rehabilitation.</p> <ul style="list-style-type: none"> <li>a. Roods, Proprioceptive Neuromuscular Facilitation (PNF), Neuro Developmental Techniques (NDT), Motor Re-learning program (MRP) Constraint Induced Movement Therapy (CIMT) and Brunnstrom movement therapy</li> <li>b. Application of approaches in the rehabilitation of various neurological dysfunctions.</li> </ul>	11
18)	<p>Physiotherapy for diseases of Brain and Spinal cord</p> <p>Clinical features, Evaluation and Physiotherapy management in the following conditions</p> <ul style="list-style-type: none"> <li>a. Meningitis and Encephalitis</li> <li>b. Poliomyelitis and Post- polio syndrome</li> <li>c. Transverse Myelitis</li> <li>d. Syringomyelia</li> <li>e. Arnold Chiarri Malformation</li> <li>f. Compressive Myelopathies</li> </ul>	4
19)	<p>Assessment and Physiotherapy management of Neurological gaits: Quantitative and Qualitative (Kinetic &amp; Kinematics) analysis</p> <ul style="list-style-type: none"> <li>a. Hemiplegic gait</li> <li>b. Parkinson gait</li> <li>c. Ataxic (Cerebellar) gait</li> <li>d. High step gait</li> <li>e. Hyperkinetic gait</li> <li>f. Hypokinetic gait</li> <li>g. Waddling gait</li> <li>h. Myopathic Gait</li> </ul>	4
20)	<p>Definition, Pathophysiology, Classification and Physiotherapy management of</p> <ul style="list-style-type: none"> <li>a. Myasthenia Gravis</li> <li>b. Eaton Lambert Syndrome</li> </ul>	1

21)	Basics of electrodiagnosis- EMG, NCV	1
22)	Introduction to Vestibular and Balance disorders a. Clinical features, Evaluation and Physiotherapy management	2
23)	Introduction to Advanced treatment techniques in neurological rehabilitation Indications, concept/rationale, mechanism and procedure for following treatment techniques in neurological rehabilitation a. Functional Electrical Stimulation (FES), b. Body Weight Support Treadmill Training (BWSTT) c. Mirror therapy d. Mental imagery e. Virtual reality	2
24)	Evidence based practice (desirable to know)	1

### **PRACTICALS [ 60 HOURS]**

1. Neurological evaluation skills
2. Application of transfer and functional re-education exercise, postural exercise and gait training.
3. Principles of co-ordination and balance exercise- evaluation and management
4. Understand and application of neurotherapeutic skills like PNF, NDT, Carr & Shepherd, Brunnstrom, Rood approach
5. Knowing principle in using tools of therapeutic gym such as vestibular ball, tilt board, bolsters.
6. Principles of use of ambulatory aids and wheelchair skills in neurological conditions –UMN lesion, LMN lesion, cerebellar dysfunction,
7. Principles of use of splints and braces in spastic UMN lesion and in flaccid LMN lesion in Both UL & LL.
8. Review the management of chronic pain in neurological condition with respect to the type of pain, treatment modalities available, and selection criteria for each modality.
9. Treatment of altered tone – hyper tonicity and hypo tonicity
10. Motor re-education – strengthening exercises, co-ordination exercise, joint mobilization exercise, use of PNF technique.
11. Treatment to improve function/ functional re-education – free exercise, activities of daily living, mat exercise, Mobilization exercise.

## **Recommended Textbooks**

1. Bickerstaff's Neurological Examination in Clinical Practice (7th Adapted Edition)- Kameshwar Prasad, Ravi Yadav, John Spillane. Wiley
2. Physical Rehabilitation (5th Edition)- Susan O Sullivan & Thomas J Schmitz
3. Umphred's Neurological Rehabilitation- 6th Edition
4. DeJong's The neurologic examination. 8th Edition. William W Campbell
5. Neurology and Neurosurgery Illustrated. 5th Edition. Kenneth W. Lindsay, Ian Bone, Geraint Fuller

<b>SUBJECT NAME: PHYSIOTHERAPY IN PAEDIATRICS</b>
---

**Course Description ;** At the completion of the course students will be able to describe the role of Physiotherapy management and principles of rehabilitation of common pediatric conditions. Perform assessment (clinical examination skills) & plan management of common pediatric conditions routinely encountered by Physiotherapists.

Subject Title	: PHYSIOTHERAPY IN PAEDIATRICS
Duration	: 37-48 Months
Total Hours	: 150
Theory	: 90 Hrs
Practical	: 60 Hrs
Total Hours / Week	: 4 Hrs/ Week
Method of Assessment	: Written, Oral and Practical, Internal and University examinations

S. No.	TOPIC	Hours
1.	Anatomical and Physiological differences between the Adult and Pediatric lung	2
2.	Bedside PT assessment of the Pediatric patient	5
3.	Neonatal and Pediatric Physiotherapy – Chest physiotherapy for children, The neonatal unit, Modifications of chest physiotherapy for specific neonatal disorders	3
4.	Overview of Theories of motor control and theories of motor learning.	2
5.	Treatment approaches in neurological rehabilitation: Bobath, NDT, SI, Roods, Vojta, and other conventional approaches (Phelps, Fay, Peto's conductive education, CIMT	10
6.	Gait assessment and deviations in children	4
7.	Postural Drainage for pediatric population and modifications at home	1

8.	Therapeutic tools, Equipment's, Aids and appliances in Pediatric Physiotherapy rehabilitation	2
9.	Intensive care unit and Physiotherapy – Equipments, instruments, Common Physiotherapy procedures in Neonatal and pediatric intensive care	2
10.	Developmental assessment scales (Motor, sensory, cognitive, neurological, functional scales used for neonates like Brazelton, TIMP, MAI, NBA, AIMS etc.). Overview of speech, cognition and social development	3
11.	PT assessment and management of Developmental delay and High risk babies	3
12.	Exercise testing protocols/ tests – Common protocols used in pediatric in Obesity and Juvenile Diabetes	2
13.	Pre and post-surgical PT assessment and management of Traumatic brain injury, spinal cord disorders (Traumatic and nontraumatic spinal cord injuries, Spina Bifida), Brachial Plexus Injury, peripheral nerves (Chemical Neuritis of Upper and Lower extremities) and cranial nerves (Bell's Palsy), Hydrocephalus	3
14.	Physiotherapy management for disorders of the muscles – Myopathies – congenital and acquired. Muscular dystrophy (Duchenne's, Becker's, Spinal Muscle atrophy)	8
15.	Paediatric neurology – Developmental disorders, Learning disabilities, Meningitis and encephalitis, Gullain Barre syndrome, Autism, Down's syndrome, ADHD, Poliomyelitis, Bell's palsy, congenital facial palsy	10
16.	Physiotherapy management of Neuropsychiatric disorders, Cerebral & Craniovertebral anomalies & metabolic disorders of nervous system	3
17.	PT assessment and management of following musculoskeletal disorders and Deformities: Congenital: CTEV, CDH, Torticollis, pes planus, pes cavus and other common deformities. Acquired: scoliosis, kyphosis, lordosis, coxa vara, genu varum, valgum and recurvatum. Soft tissue injuries in children, Perthe's diseases, Arthrogyrosis multiplex congenita, Rickets, Osteogenesis imperfecta	5
18.	Home program and education of family members in patient care	1
19.	PT assessment and management of Cerebral palsy child and home program with special emphasis on carrying techniques. PT management after surgical corrections	5
20.	PT assessment and management after surgical corrections and	2

	reconstructive surgeries in Poliomyelitis - emphasis on tendon transfer and home program	
21.	Physiotherapy assessment and management in Pediatrics Cardiac conditions	3
22.	Physiotherapy assessment and management in Respiratory conditions in Pediatrics - Childhood asthma, Respiratory distress syndrome, Hyaline membrane disease/Bronchopulmonary dysplasia, Meconium aspiration syndrome, Pneumonia, Cystic fibrosis, Bronchiectasis, Congenital diaphragmatic hernia	4
23.	Physiotherapy assessment and management in Metabolic disorders - West's syndrome, Wilson's syndrome, Leigh's disease, Angelman's syndrome	2
24.	Health Fitness and Promotion: Fitness Evaluation, Analysis of Body composition, Evaluation and prescription of Exercise, Factors affecting exercise Performance, Exercise Prescription for Children.	2
25.	CBR in paediatrics	2
26.	Evidence based practice (desirable to know)	1

### **Practical Contents (60hours)**

1. Developmental Assessment - Neurological examination in children & neonates (Developmental milestones, growth measurements, Motor, sensory, cranial nerves, DTRs, balance and co-ordination, posture & gait & function)
2. Application of basic Neuro Developmental Techniques including various facilitatory & inhibitory techniques used in pediatric disorders
3. Various assessment & treatment techniques.
4. Assessment and management of various neuro-musculo-skeletal & cardio-respiratory disorders in children
5. Assessment and management of gait deviations in pediatric disorders
6. Determine the patient need for adaptive and assistive devices & aids and appliances.



**SUBJECT NAME: COMMUNITY PHYSIOTHERAPY**

**Course description:** The subject serves to integrate the knowledge gained by the students in community medicine 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.

<b>Subject Title</b>	<b>: COMMUNITY PHYSIOTHERAPY</b>
Total Hours	150
Duration	37-48 Months
Theory	: 90 Hours
Practical	: 60 Hours
Total Hours / Week	: 4 Hrs
Lecture	: 2 Hours / Week
Practical	: 2 Hours / Week
Method of Assessment	: Written, Oral and Practical, Internal and University examinations

Sl. No	TOPIC	HOURS
1)	Concepts of Rehabilitation (must know) - a. Rehabilitation: Definition, need, approaches, stakeholders, team, types and barriers. – (2 hour) b. National policies for rehabilitation- (2 hour) (good to know) c. National district level rehabilitation program: primary rehabilitation unit, regional training center, district rehabilitation center, primary health care, village rehabilitation worker, anganwadi worker -(4 hours) (good to know) d. Role of family members in the rehabilitation of people with disability (2 hours) (good to know)	10

2)	<p>Introduction to Community based rehabilitation (CBR)</p> <ol style="list-style-type: none"> <li>a. Definition of Community, multiplicity of communities, difference between community based rehabilitation and community physiotherapy, the community based approach, community entry strategies, community initiated verses community oriented programme, community participation and mobilization, program sustainability, promoting and developing public policies (6 hours) (must know)</li> <li>b. Community Based Rehabilitation: Definition, historical review, Principles, concept, need, objectives, scope, team, and models of CBR, influence of communication and coordination in developing public policies (4hours) (must know)</li> <li>c. Difference between CBR and IBR, Extension services and Mobile units, Camp approach (4 hours) (must know)</li> <li>d. National district level: primary rehabilitation unit, regional training center, district rehabilitation center, primary health center, ASHA workers, Anganwadi workers, self-help groups (4hours)</li> </ol>	18
3)	<p>Planning and Management of CBR programmer (Must know)</p> <ol style="list-style-type: none"> <li>a. Role of Government: laws, policies, human rights, legal aspects, WHO's policies about rural healthcare, primary/secondary health centers, agencies involved in rehabilitation of physical handicapped, decentralization, (6 hours) (good to know)</li> <li>b. Role of voluntary organizations in CBR: voluntary health agencies-national and international level NGO's, various international health organizations including WHO, UNICEF, WORLD BANK, UNDP, ILO, RED CROSS (4hours) (good to know)</li> <li>c. Role of Physiotherapy in CBR: screening for disabilities, prescribing exercise programme,</li> </ol>	18

	<p>prescribing low cost locally available assistive aids, modifications physical and architectural barriers for disabled, strategies to improve ADL, rehabilitation programmers' for various neuromusculoskeletal and cardiopulmonary disabilities (6 hours) (must know)</p> <p>d. Role of social workers in CBR: Definition of social work, Methods of social work, Role of social worker in rehabilitation (2 hour)</p>	
4)	<p>Prevention and Rehabilitation -Physiotherapy role (must know)</p> <p>a. Disability definition and difference between impairment, disability and handicap, causes of disability, types of disability prevention of disability (types and levels), PWD act, (5hours) (good to know)</p> <p>b. ICF- overview, components, classification (3hours) (must know)</p> <p>c. Screening and rehabilitation of pediatric disorders in community: early detection of high risk babies, maternal nutrition and education, rehabilitation of cerebral palsy, downs syndrome, muscular dystrophies etc., prevention and rehabilitation of behavioral disorders in community settings, immunization programmes, early intervention in high-risk babies, genetic counseling, Community Based Rehab in common pediatric conditions (8 hours) (must know) geriatrics: Physiology of ageing/degenerative changes-musculoskeletal / neuromata / cardio-respiratory / metabolic, endocrine, cognitive, immune systems. Theories of ageing, Role of PT in home-based care, half-ways homes, residential homes, meals on wheels etc., home for aged, institutional based geriatric rehabilitation, ethics of geriatric rehabilitation, few conditions like Parkinson's diseases, stroke, dementia, falls, incontinence etc, (9hours) (must know)</p>	24

5)	<p>Industrial health &amp; Ergonomics (must know)- Occupational hazards in the industrial area due to</p> <ul style="list-style-type: none"> <li>✓ Physical agents- e.g heat cold, light, noise, vibration, U.V radiation, ionizing radiation,</li> <li>✓ chemical agents-inhalation, local action, ingestion</li> <li>✓ biological hazards</li> <li>✓ mechanical hazards-overuse/fatigue injuries due to ergonomic alteration &amp; ergonomic evaluation of work place <ul style="list-style-type: none"> <li>i. sedentary table work- executives, clerical</li> <li>ii. inappropriate seating arrangement-vehicle drivers</li> <li>iii. constant standing-watchman, defense forces, surgeons</li> <li>iv. over exertion in laborers-common accidents- role of P.T-stress management</li> </ul> </li> <li>✓ psychological hazards-dissatisfaction in job, anxiety of work completion with quality, role of P.T in industrial setup, stress management and relaxation modes (good to know)</li> </ul>	10
6)	Vocational training in rehabilitation: Introduction, need, vocational evaluation and rehabilitation services (must know)	4
7)	Lifestyle disorders: Physiotherapy role in planning, execution of lifestyle diseases like hypertension, obesity and diabetes mellitus, developing awareness programs (must know)	5
8)	Evidence based practice (Desirable to know )	1

**Practical:** 60 hours

Field visits to urban and rural PHC's, visits to regional rehabilitation training center, regular mobile camps, disability surveys in villages, disability screening, demonstration of evaluation and physiotherapy prescription techniques for musculoskeletal, neuromuscular, cardiorespiratory, pediatric, gynecological and geriatric problems in community, demonstration of evaluation and prescription techniques for ambulatory and assistive devices, fabrication of low cost assistive devices with locally available materials, visits to old age home.

**Recommended books:**

1. Textbook of Preventive & Social Medicine, Dr. J E Park
2. Rehabilitation Medicine by Howard A Rusk.
3. Rehabilitation Medicine by Joel A De lisa
4. Community- Based Rehabilitation, Health component by WHO
5. Community Based Rehabilitation of person s with Disabilities, S pruthvish.
6. Community Based Rehabilitation by Malcolm Peat



SDM College of Medical Sciences & Hospital



SDM College of Dental Sciences & Hospital



SDM College of Physiotherapy &  
SDM Institute of Nursing Sciences



Shri Dharmasthala Manjunatheshwara University



SDM Research Institute for Biomedical Sciences



Panoramic View of Campus